

Canoeing Ancient Songlines

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Master of Philosophy

I certify that the substance of this thesis has not already been submitted for any degree and is not currently being submitted for any other degree or qualification.

I certify that any help received in preparing this thesis and all sources used have been acknowledged in this thesis.

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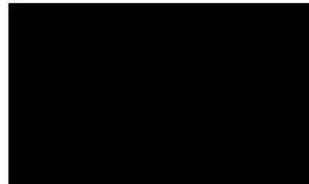


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Preface

This narrative is built around a story that was told to me by my uncle Tim over a decade ago. It is a story told about the relationships between Australian Aboriginal people and Indigenous Hawaiians in the far distant past. For various reasons, this story cannot be proven. But that does not matter to me, because in my Aboriginal way of being and knowing, stories like my uncle's does not need scientific proof in our modern world to have validity. Before I go on to explain more about the role of story in Indigenous community, I will introduce myself.

I am a Gumbayngirr/Gamilaroi man born in Gamilaroi country. Both my father's and my mother's sides are all Aboriginal. We lived in and around the New England region of NSW. I have grown up in departmental housing my whole life, and moved between Armidale and Tamworth for most of my childhood. I have a huge family, with many extended cousins from my grandmothers' sisters' and brothers' families and their children's siblings, and my grandfather's side and his brothers' families with their children and siblings. We were always visiting the towns of Tingha, Inverell, Guyra, Armidale, Tamworth and Tabulam. Travelling between these communities gave me an all-round emphasis on country and its layout. I got to know the New England landscape like the back of my hand, just like my old people did.

From my old people, I was given strong community values rather than individual ones. My grandfather Victor Briggs and all his brothers were fluent Gumbaynggirr speakers. They held their Aboriginal culture and identity in high esteem. The same culture and identity were passed onto us children, and this was how it was mainly transmitted: within our family we practised culture by a communion of equality and shared storytelling. In the daytime, all us kids would play around the house and in the parks and bushlands. We would go out and touch and taste

the many beautiful things in our environment and play amongst it; smelling the flowers, the trees and the many bushes, catching the frogs and ants and lizards, seeing the birds fly and hearing the kookaburras sing. Around the rivers and creeks we would watch the tadpoles, fish and eels swim. We would play in the trees and amongst the many rocks and throw sticks into the creeks and watch them go down stream. Our old people would let us roam and wander, because the community never lived in the institutional fear that it did later on. But we were always told to be home before the town's street lights came on, so that we would not get a hiding. I wish I had a dollar for every time *that* happened when I got home late.

Whether I got a hiding or not, the whole family would sit down and eat together, and we would hear the many stories of the spiritual lives that our ancestors led. We heard stories of ghosts and we heard of certain places you could not go: rocks, rivers and creeks that were sacred, special areas for men's and women's business. We heard stories of how our old people used to live, and we tried to keep our old ways of living as much as we could in today's modern world. For example, as kids, for food we would catch yabbies, and catch eels and fish in the Mann River. We caught porcupines and rabbits, and sometimes chased goannas if we saw them around the house. We cooked all these in the old way in the coals of the fire, out in the open. Our uncles gave us kangaroo to eat, and for a child it was really tough and rich, a lovely tasting meat.

We lived in a loving community where everybody was important and valued. The deep Indigenous way of all my early life included spiritual intuition, belief in the metaphysicals of life, the sense of belonging to country, and using your own instincts such as seeing, hearing, touching, smell and taste. This was all we knew, this is how we survived as a family: looking

after one another, loving one another, with kids coming first and our elders being respected and cherished. This was our way of life. We felt special, and I loved my family because this was all I knew and to me, my family was everything.

When I was getting older, we were made to go to church. We learnt of Jesus and the stories of the Bible. I thought these stories were similar to some of our traditional stories, like Birrugin our hero ancestor of the Gumbaynggirr, who came up out of the ocean and gave our people our languages (Morelli *et al.* 2016: pp.37-60). This was one of our Creation stories. I began to understand that our culture was mingling with the white culture of today, and we were learning more about their ways of doing and seeing things as we got older.

As time went on, our old fullas were dying. We were being pushed into church and schooling so that the welfare board stayed away from us. The welfare mob was frightening back in those days, because we heard stories that they would come and take Aboriginal children away. We always lived in fear of the police, because the police and the welfare board worked together, so we behaved whenever they were driving around. The government and the police was our new law, not the law of the land or our cultural law. It was the police we now feared and respected, not our grandparents and their culture, because they had the power to take us away. I came to know this for sure later when I found out my older sister had been taken away before I was born.

The white school system taught us English vocabulary and language. It taught us all about English history and this fellow named Captain Cook, who came and took possession of Australia and established the new colony under the crown. Then we were being taught nationalism in school, and it made me feel insignificant and inferior every time they spoke about it. All the

white kids would look at me when they taught about the Aboriginal people who lived in the country as 'wild natives,' 'primitive natives' who never had 'proper' houses or dwellings, and never had bridges or ports or designed great man-made structures. These were a stone-tool people who lived in the ways of old. It was always white achievements that were celebrated first, not our Aboriginal culture or way of life. I did not know what to think, and I was sometimes dumbfounded. I thought I was special and beautiful in my mothers' eyes, but in school I was being taught to dislike and to hate that which I knew in my heart was good. Then we were taught that the colour black came with being negative and ugly and dangerous, and that brought on a foul way of thinking amongst my white friends. This meaning of 'black' was listed in dictionaries found all around the school system.

Nearly everyone in school believed what they were being taught, and for half the time so did I. Eventually I came to learn that this system was not for me or about me. It discriminated against me and labelled me and made me feel no good. Some of my white friends felt sorry for me and they comforted me, while others who came from stronger landholding white families called me a 'coon' and an 'abo,' and I wore those labels right through the public school system. This was my memory of the institutions that were designed to teach me and protect me and show me pastoral care. In fact, they taught me how to hate and how to disrespect.

I was never taught this sort of hate by my family, because I was loved unconditionally. Out of all the education I was receiving, I learnt to be resilient and live with it. Some of my friends and cousins could not handle it, and rebelled against the way they were made to feel, and some got thrown out of school. I guess it all built up deep inside. So my experiences back then with white institutions never helped me succeed.

As an adult, I worked for many years in labouring during the week, and I played Rugby League on weekends. I decided eventually that I needed to get an education on my own terms. One day when I was at a Redfern All Blacks football party (I was playing fullback for them at the time), I was privileged to meet and talk with Lorenzo Kom'boa Ervin, a former Black Panther who was visiting Australia on a lecture tour. I told Lorenzo that I was a street entertainer and that I wrote rap music songs. 'What do you write and sing about?' Lorenzo asked me. I told him that I wrote about stuff like life experiences; chasing girls, being confronted by racism, street politics and so forth. I realise now that this was not 'big-thinking stuff'. Lorenzo must have thought the exact same thing, because he told me about certain authors who changed the world with their opinions on science, love, politics, and pursuing an alternative way of life. Lorenzo encouraged me to read the books written by these people, and to start educating myself in a philosophical and political manner.

This inspired me to search in libraries and bookshops for the authors whose names Lorenzo wrote down for me. I read the books and felt enlightened; I started to see things differently. I began to 'think big'; I realized I was changing. I kept reading books, which prepared me to enrol at university, where I studied world history, Aboriginal culture and history, world politics, philosophy, and environmental advocacy. Eventually I was awarded my degree. When the day came to graduate, my family attended the ceremony and declared happily, 'yes, we got a degree!' That's how much we live with community values rather than individual ones.

Over all the years spent reading, thinking, and researching, I have come to the conclusion that there is an Aboriginal way of seeing and doing things that has to be considered valid in an

academic environment. In this thesis I have written a narrative that reveals to the reader an untold history of Australia's Indigenous maritime achievements. Although there is no concrete proof that Uncle Tim's story is completely accurate, I have gathered and presented evidence that shows that the maritime achievements were certainly possible. Given that story telling in Aboriginal culture is of paramount importance, and our stories do not need to be proven in a scientific way, then I believe that my uncle's story can stand on its own. I have given Uncle Tim's story support with the evidence I found of the technologies and cultural relationships between the Indigenous peoples of the geographical locations throughout the Pacific. Similar work has been done by Tim Severin, who proved that the voyages of medieval Irish monks, known only from old stories, were possible, even though these voyages had been regarded as mere fable (Severin 1978). Thor Heyerdahl also showed that old traditional Polynesian stories about maritime achievements could have basis in fact (Klein 2014: para. 3). Although they could not provide concrete proof that the ancient voyages actually occurred, both these researchers' works are held in high esteem.

The conviction I have about Aboriginal story has been backed up by the TribalCrit theory developed by Bryan McKinley Jones Brayboy, a Lumbee tribe scholar from the United States.

Brayboy writes that:

Contrary to recent calls for "scientifically based" research as being the only justifiable form of research, the eighth tenet of TribalCrit honors stories and oral knowledge as real and legitimate forms of data and ways of being. Stories are not separate from theory; they make up theory (Brayboy 2006: p.439).

I will take my lead from B. M. J. Brayboy in standing up for Indigenous ways of telling story in an academic environment.

Chapter One: Uncle Tim's Story

One evening I sat at the dinner table with my Uncle Tim Edwards, who comes from Innisfail in North Queensland. We were with my aunty Diane Edwards and my Grandmother Christina Briggs. Uncle Tim told us a story about when he had previously been in Hawaii, where he had worked as an international Indigenous minister. My uncle had finished a trip around the United States where he was working for the Australian Council of Churches. Before he travelled there he was appointed as an Apostle by the church elders in Canberra, a position he holds in high esteem, as he has been doing this type of leadership work since I was a little boy. My grandmother is his mother in-law, and we are all pretty close, our family, in culture, connection and the church, as my grandfather Victor Briggs was also a minister. We were talking about numerous interesting topics, such as his recent visit to the Empire State Building in New York City, when he mentioned that, while he was on one of the Hawaiian Islands, an old Indigenous elder there had approached him and asked him was he from Australia. Because of his Australasian appearance, he knew my uncle was from the Australian region of the South Pacific. My uncle told us he said 'yes', and then the local Indigenous Hawaiian man began to tell him a story; that a long time ago Indigenous Australian seafarers had sailed to Hawaii on the trade winds. When they got there they had helped the Hawaiians with resources such as information and technology, as well as liaising strategies in warfare which had developed between hereditary chiefs on the islands.

Aboriginal people had helped the Hawaiians with these extensive resources - that was never acknowledged in history, which had truly amazed me. I was made to believe that we Aboriginal people had never achieved such great feats, and that we were a low class and race of people who sat around camp fires and had never had successes of any kind. This was according to our colonial masters' academic opinions. I was systematically and socially programmed into accepting this through my schooling and life experiences as an Aboriginal person from childhood right through to adulthood. It was not until I educated myself that I found out this was not true.

As a result of the Indigenous networking from the past, the Hawaiian man said that the Hawaiian people were so happy with the Aboriginal people, that they let them stay on an island while they were travelling throughout the Pacific regions. My uncle was surprised to hear this, because the man was serious about it, saying that his grandfather's grandfather had told him this story and it was passed down to him and that it was true. This knowledge was held to inform the younger Hawaiian generations that Aboriginal people from Australia had centuries of history travelling the South Pacific. They sailed in catamaran-type canoes such as double outriggers equipped for ocean voyages over large distances, island hopping the southern seas. My uncle was attending a church event in Hawaii when he had met this Hawaiian elder who shared with him this fascinating story, which was about to flower because unbeknownst to Uncle Tim, this story was to become my thesis topic. I was bent on wanting to research this story and find out if Aboriginal people were actually master navigators of one of the world's largest oceans, the South Pacific.

Initial support from recent archaeological studies around the Pacific

According to conventional history, the idea that Aboriginal people sailed to Hawaii is far-fetched. When I was thinking about this myself, I came across several pieces of information that seemed to align with Uncle Tim's story, and made the idea that Aboriginal people voyaged overseas to new lands more feasible. The latest archaeological opinion in the United States is that the first Americans colonised the continent from the sea rather than overland, as people had previously thought (Wade 2017). In a recent BBC video (2012), it was revealed that French archaeologists had discovered America's oldest skulls in Brazil. These skulls were found not to be of a mongoloid nature, but were considered to be of Australian heritage, and that they pre-dated the migration of Native Americans from across the Bering Land Bridge. Richard Gray reports that the researchers say that 'their findings echo suggestions that skeletons of early Native Americans found in Brazil have skulls that have Australasian features' (Gray 2015: p.3; see also Lahaye *et al.* 2013). Archaeologists and anthropologists W. A Neves and H. M.

Pucciarelli commented that their research revealed 'morphological affinities between early South Americans and early Australians' (Neves & Pucciarelli 1991: p.270) and will generate ongoing study into the origins of the people of South America (Neves & Pucciarelli 1991: p.271).

Other evidence from ancient cooking fires and cave paintings suggests, according to archaeologists, that Aboriginal people from Australia had sailed to South America and populated Brazil before being wiped out by migrating Native Americans. The researchers believe these first colonists were a seafaring people who, after hopping between the islands that extend from Asia to Australia, crossed the wide ocean spaces all the way from Australia to South America (Gray 2015: p.2).

As the scientists pointed out, Asiatic peoples migrated down through the Americas from the Bering Strait, possibly wiping out the Australasians, given there are not people of obvious Australasian appearance living there now. Researchers have asked a question though; were these Australians really wiped out or did they interbreed into the new population in South America? They have carefully pointed out that the people of Tierra Del Fuego on the southern tip of the continent probably are a product of the mixture of the two groups (BBC 2012). This assumption has been challenged by other academics who assert that there is no strong evidence linking Patagonians with Australian Aboriginal people (Piana & Orquera 2009: p.113; also see No Author n.d.: 'Is the theory of Fuegian people being descended from Australian Aborigines legitimate?').

When I heard this news and saw the video on South American history, it made me think that if Aboriginal people could have sailed to South America then they would have possibly sailed to places such as Hawaii also. More evidence supporting the French archaeologists' view appeared not very long after their findings were published. Genetic researchers have found Australian DNA in populations of Brazilian Amazonian rainforest people. Pontus Skoglund and others write that 'some Amazonian Native Americans descend partly from a Native American founding population that carried ancestry more

closely related to Indigenous Australians, New Guineans and Andaman Islanders than to any present-day Eurasians or Native Americans' (Skoglund *et al.* 2015: p.104). As Gray reports,

Researchers found people belonging to the Surui, Karitiana and Xavante peoples in the Amazon are more closely related to Indigenous populations in Australasia than to any other modern group (Gray 2015: p.1).

Scholars of genetics are now asking the same questions that the archaeologists have asked: did Aboriginal Australians sail to South America a long time ago? Geneticists are examining a new theory that Australian Aboriginal people sailed to South America before the continent was colonised by any other peoples, and then intermarried with groups that came to the continent at a later stage (Gray 2015: p.2). It is possible that this DNA found its way into the Amazonian populations from Australasians who had come to South America as part of the original worldwide diaspora out of Africa. But because the evidence *is not* settled, I believe it is valid to interpret the evidence as relating to people who had lived in Australia for thousands of years before sailing to South America, long after the diaspora occurred.

Another piece of evidence linking pre-British tropical Australia with the American continent is that the Mimosa bush *Acacia (s.l.) farnesiana*, which is native to South and Central America, had been transported to Australia prior to European colonisation (Gammage 2012: p.114). Scientists are unsure how this occurred, and tests are being carried out by the Royal Botanic Gardens of Victoria to try to answer this question:

It is unknown to what extent *A. farnesiana* had dispersed throughout the global tropics prior to colonial times. Natural ocean currents and *Indigenous traders may have played a role in earlier dispersal*. At RBG Melbourne, we are using genetic data to determine whether the dispersal of this plant to populations outside the Americas occurred before or after European settlement –

or even human settlement – of the Americas (Royal Botanic Gardens Vic n.d. para 3, italics added).

There has been similar discussion surrounding the discovery of Minotogawa Man on Okinawa. Minotogawa Man refers to a group of late Pleistocene Homo sapiens skeletons found in the Japanese islands in the 1970s. These skeletons are considered to originate from Greater Australia, which shows that seafaring upper Paleolithic peoples reached the Ryukyu Islands between Taiwan and Japan as much as 35,000 years ago (Erlandson & Braje 2011: p.1; Rowland 1995: p.7).

Not only might South America have been settled by Indigenous Australians, but New Zealand has evidence to suggest an earlier occupation by Aboriginal people there also. The Maori people, who are famous for their oral history, have several stories, one of which was written down and published in a scholarly article in 1915. Maoris from the North Island recorded that they found people already living there when they first arrived to New Zealand. Their story described these prior inhabitants as having come on westerly winds from a hot country. Their appearance was noted as being tall, very dark, slim, with bushy hair, and prominent overhanging eyebrows with flat noses. They were said to wear no clothes and built temporary dwellings and never cultivated crops, which makes them unlike Polynesian people (Best 1915). Apparently the first Maori colonisers to New Zealand could not understand the speech of the prior inhabitants, which was considered not to be Polynesian in origin (Downes 1933: p.164). Some commentators believe that this description must relate to Australian Aboriginal people (Silver Bull Channel: n.d.). The oral history, which comes from three ancient sources, documented that these people, called the Muruiwi, were exterminated by the Maori, but not before there had been intermarriages between the two peoples (Best 1915; Downes 1933: p. 165; Williams 1937: pp.113-114), which 'introduced a Melanesian strain into the whole Maori race' (Williams 1937: p.114). Some scholars have proposed that this strain is accounted for by Polynesian populations mixing with Australasians on their diaspora out of Asia in the far distant past. However it's quite possible from the story of the

Muruiwi that the genetic mixing could have come a lot later, after an Aboriginal migration from Australia to New Zealand (Downes 1933: p.158; Williams 1937: p.114).

Discrimination against Aboriginal capabilities

All this information provided support for me to build an argument that Indigenous Australians had successfully island-hopped and colonized distant lands outside of Australia. It did raise the question though; did Aboriginal people have the technology to achieve this? Technology which included not only material tools but knowledge systems on navigation, astronomy and geography as well. Conventional history has always painted Aboriginal people as incapable of such accomplishments, because these have never been recorded by Western experts. In Western history, and in colonial times, all Indigenous Australian history was dumbed down by white European anthropologists, archaeologists and historians. The Aboriginal people's history was made to look quite insignificant compared to Western achievements (Kirch 2000: p.5), especially those of adventurer-legends such as Marco Polo, Christopher Columbus, and Captain James Cook. The Western historical achievements have been made to look superior, extravagant and victorious, while Indigenous history remains a footnote in a dominant colonial discourse littered with ignorance, bigotry, and xenophobia. One recent academic for example, believes that Aboriginal people were never sea voyagers and that they had never achieved the necessary level of canoe craftsmanship (Bellwood 2005: p.141).

Jared Diamond, a well-known historian, says that Aboriginal people are a race below that of their Sahul cousins from the North, who are the people of Papua New Guinea (Diamond 2005: p.298). Diamond is writing within a longstanding western European tradition which describes Australian Aboriginal people as 'the most backward and miserable of savages' (Freud 2001: p. 2). But I was never about to believe Jared Diamond's analysis on the Indigenous people of Australia, as well as the analysis of other historians and their 'racist opinions' (as criticized by Kirch 2000: p.5). This includes the many

detractors of seafaring achievements of Aboriginal people, who were thought incapable of sea travel up to the standards of Polynesian seafaring (as criticized by Rowland 2000: p.7). I remember studying Indigenous history and some archaeology in my undergraduate degree. My lecturers told me that, before the rise of sea levels Australia and Papua New Guinea were once a great continent named Sahul, also called 'Greater Australia,' where Papua New Guinea and Australia were linked together some couple of thousand years ago during the Pleistocene (Flood 2004: p.35). I thought, well how can Jared Diamond say this if Papuans and Aboriginal Australians both lived as neighbors with land bridges once linking them? How could they not be on the same level playing field, with shared environmental history, marriage history, trade history, technology and farming?

History was always written by those who had the bigger cannons and the bigger guns (Orwell 1944; Benjamin 1940), and I remembered a statement by Dan Brown that,

'History is always written by the winners. When two cultures clash, the loser is obliterated, and the winner writes the history books-books which glorify their own cause and disparage the conquered foe' (Brown 2003: p.15).

Western European writers with their negative assumptions have always downplayed Australian Aboriginal people's history and achievements which has directly undermined Aboriginal people in their cause to achieve constitutional recognition, native title, land rights, and a treaty of sovereignty within Australia (Pascoe 2014). Aboriginal people have always been pushed to the back of the line, ostracized and vilified in their own country, while most have lived as fringe dwellers in their respective communities and cities. Aboriginal people's social and economic rights today are appalling, and they have never been rightfully accepted into wider Australian institutions, therefore leaving them severely disadvantaged. Even such a brilliant philosopher and inventor as David Unaipon was marginalized, his being illustrated on the bank note just an illusion of inclusion (Leane 2015).

In defence of Aboriginal ways of knowing and how they can work with western scholarship

Not only have Aboriginal achievements been underplayed, Aboriginal ways of telling history have always been discounted in terms of the academic white way, so the validity of oral history has been questioned. But that's the way Aboriginal people convey their history. Therefore it's important to give Uncle Tim's story and the Muruiwi story some credibility as a starting point. In all my years studying at university, I have been presented with an academic way of researching and assessing history. The ethics of researching history has to be achieved by rigid notetaking and checking the reliability of sources, as well as requiring visible documents in written form. Now I have been presented with something different to mainstream history; this is an oral story that goes back in time, pre-dating European records. The question I was left with was how could I check this, seeing there is no documented evidence? I believe there are ways to do this, and more and more, Indigenous historians are working to come to grips with this same question, and there is a chance of being able to integrate the two styles of researching methods. For example, there is the work of the Maori historian Aroha Harris, who says,

Yet the potential of oral history has sometimes been down-played, reduced to the role of offering perspective or examples of personal experience against the administratively constrained views of the state. In fact, oral histories offer much more: an access to understanding the concurrency of Māori and state narratives. Apparently inseparable yet clearly discordant, they are the narratives of peoples who arrived in the present by way of separate historical trajectories. At the moment, one narrative, and its trajectory, is at risk - straight-jacketed and un-remembered by the other (Harris, n.d.).

The philosophical ways of my own thinking, which were expressed above and in the preface, have come to me from my lifetime experiences of being on country and in community with my own people. My philosophy is traditional and it has been this way since time immemorial. It is different to European social

theory as it acknowledges the spiritual and metaphysical component of life's existence, and is therefore placed beyond questions of proof of validity. If I was to justify this approach by referring to other people's theorizing, then I would point to the work of Japanangka Errol West and Lester-Irabinna Rigney that has been summarized by Dennis Foley (Foley, D. 2003: 47-50). Where my philosophy and my writing intersects with theirs can be seen in the following four standpoints:

This examination acknowledges the validity of Aboriginal philosophical approaches;

This examination is based on resistance to an oppressive colonialist narrative;

Indigenous voices are privileged in this study and,

This research has been undertaken for the benefit of the wider Aboriginal community.

I would go one step further than West and Rigney to include how the research contributes to the spiritual growth of those involved in the work.

My Aboriginal philosophical approach to research acknowledges the role, equal to that of scholarly sources, that dreams can play in guiding this enquiry. My researching journey had begun some time before an important dream I had. For several weeks I had been wrapped in research at Dixson Library, compressed, weighed down with many extensive materials. I had studied and witnessed writings on Polynesia and Micronesia and their great achievements as seafaring peoples. I had thought to myself, where are the Aboriginal people within these stories? Indigenous Australian history and culture is older and more prominent geographically; these other regions are but satellite states to Australia, like the rings of Saturn. And surely Aboriginal Australians had a seafaring history in order to get to Australia in the first place. So I figured there was quite a lot more to this story. I had extracted what materials I could from the University of New England's library, but I had hit a wall in my research in trying to understand Australia's part in the region's maritime history. Then I had the dream.

I was on an island somewhere in the north of Australia. I jumped from the land into the water and slowly dog paddled to a neighbouring islet where I understood there was a female crocodile who had laid her eggs here. I was careful not to disturb her because I knew she was around here somewhere, protecting her eggs. I then entered the water and swam to another island, where three Torres Strait Islander men, dressed in traditional ceremonial attire, were standing with a depth gauge. The men were using the gauge to jump in to the water and reveal what depths they were diving at. I walked over to them and they threw the gauge in the water and in I jumped. I understood that these men wanted me to do likewise. I went something like 30 metres into the water to get the gauge back. I then came out of the water and conversed with the men with the gauge in my hand.

Not long after this I woke from my dream wondering what it was all about. It amazed me, because I have never dreamed of crocodiles or swimming, let alone about the fear I felt when I knew there was a crocodile there but I couldn't see it. Even diving into the water to retrieve the gauge, this was all new to me.

Aboriginal people take dreams seriously, it's part of our culture. You listen to a dream like it's a sixth sense, because we rely on a sixth sense for our spirituality, it's like your attachment to it. Dreams tell you what to do, what not to do, where to go, where to stay away from. Dreams are an important component in Indigenous ways of knowing. This is another area in which western academics downplay the Aboriginal way of looking at the world. As Glen McCabe says,

Proponents of Western science look at most indigenous knowledge as anecdotal at best, and witchcraft at worst (McCabe 2008: p.143).

I was left wondering whether the dream was telling me that there was more to find out, that I had to go deeper into my research to obtain more information about the history of the northern Australian people's achievements and cultures. I interpreted the men in the dream as ancestral figures.

In this walk towards clarification, I feel I was being guided by my ancestors and even the ancestors of the people from Cape York of Australia and Torres Strait. That I was being guided to tell this story. This made me feel stronger, and it reminded me of something that happened whilst I was living in Cairns in 2007, something that tied me to the land of Cape York. I was living in Cairns and working at a Night Owl chain as a night manager. I had met an Aboriginal man who came from Injinoo on Cape York, he had kept coming into the shop over a period of a year and buying numerous goods. Over this time he shared stories with me; knowledge of Injinoo and the people there, who he told me are connected to islands within the Torres Strait, such as the Prince of Wales Island, Thursday Island and others. The man told me that these islands are culturally linked to the Australian mainland. He wanted me to go on country to show me his land and the people there. He knew I was from NSW, but he had seen something within me that motivated him to reveal this culture and his connections to the country there. This makes me feel and think that a seed was planted early, and that my meeting with the man from Injinoo, hearing Uncle Tim's story, and my crocodile dream are all connected. I feel that I have a role in restoring what I can of this story as a piece of a bigger puzzle. I now felt a responsibility to my ancestors.

I have an older cousin through marriage, a man from Badu Island in central Torres Strait. Nathan is a minister in the Christian church, and I asked him about my dream. He told me that 'the gauge was a sign that you have come so far, and that you have to seek a new area to observe and to look at, and you need to learn more.' He told me this because he believes in the bible, and according to theology, apparently the gauge reveals a person's walk, a next stage or journey in this person's life, and he shared this interpretation with me. My cousin validated in his interpretation what I had been thinking for myself (Sedan, N. 2015: *pers. comm.*).

Not long after this, I went to Canberra to do more research. While there, I came across the following account of a creation myth that apparently is shared by Yolngu, Torres Strait and Papuan peoples. The myth is about a crocodile who created the world:

Before creation, there was water everywhere. Then a crocodile appeared and split in two, its lower jaw becoming the earth, its upper jaw the sky. This cleavage explains the subsequent division of society of the earth and sky moieties. Next, the first pair of brothers came into existence, and from their descendants additional pairs of brothers by repeated processes. These pairs of brothers were the founders of the present clan associations. The first brother of the pair is the founder of the second clan group. Their sons and grandsons founded the numerous individuals one or two generations later (Rumsey & Wiener 2001: p.45).

The finding of this myth gave me evidence to link the stories and dreams that I was experiencing. It associated my crocodile dream to the Creation Dreaming of the region of Greater Northern Australia. It also showed something really important about the history of the regions and their close connections through clan moiety and kinship. Because I now knew that Australia was intricately connected to Melanesia, I felt that I could extend what I found out in libraries about northern seafaring to include Australia, even though, because of Western bias, there were very few direct references to it. I now felt really strong to continue to search deeper for evidence to support Uncle Tim's story and to bring it to light. I began by finding out what I could about Greater Australia.

Introductory summary of thesis findings

The following sections summarise the bigger picture that I realised from my researching. After drawing this broad picture, later chapters will provide examples in much greater detail of what I have discovered.

As before mentioned, Greater Australia is also known as Sahul. Sahul was a large mega-continent (Kirch 2000: p.45) that linked Papua New Guinea and Australia. This huge land mass had lakes, rivers and creeks, and different watercourses such as lagoons and ponds and small inland oceans. There was mega-fauna living there the size of small cars, including large wallabies, kangaroos and emus and

goannas. The Aboriginal people had successfully lived here and adapted to their many environments. This was the Pleistocene era, 20,000 years ago. Over time, environmental changes were taking place (Kirch 2000: p.4), and the Indigenous people had to traverse country and waters to co-habit with other mobs in certain different terrains because rising sea levels swamped their own countries (Chappell 1977: p.69; Mulvaney & Kamminga 1999: p.72,73). Aboriginal people already had knowledge of watercraft manufacture (Rose 1968: p.134); they knew how to make them and how to traverse these waters. As an Indigenous academic, I am making the assumption that rising sea levels stimulated greater development in boat building, which meant that Aboriginal people could travel further and further as the sea levels rose. Archaeologists have long realised that Aboriginal people were able to respond in a conscious, logical and effective way to changing circumstances. Mulvaney and Kamminga comment that once sea levels rose,

Regions larger than modern tribal territories would have disappeared. Clearly Aboriginal culture was sufficiently flexible to adjust to the demographic effects of marine transgression.

Nonetheless, adjustment would have required strenuous efforts... (Mulvaney & Kamminga 1999: p. 121).

In the absence of evidence one way or the other, these efforts could well have involved watercraft development.

Many islands littered around the Australian coastlines have human histories as places where Aboriginal people lived for a time and moved on. Such places show histories of the effects of the sea levels rising. Kangaroo Island is one of these places. It has a massive spiritual component and Dreaming stories that link it with Ngurunderi, the Creation Spirit who chased two Aboriginal women from the mouth of the Murray River to the Kangaroo Island shores. People have not lived on Kangaroo Island for thousands of years, but stone tools and flakes from the original inhabitants are found scattered all over

the island (Flood 2004: pp.140-141). The Bass Straits region was once a large lake called Lake Bass and here, Aboriginal people have been island hopping around it for the last 3000-4000 years according to the archaeological records (Hiscock 2008: p.141). Once the sea levels rose during the Holocene, this place became known as Bass Strait. Flinders Island too was inhabited by Aboriginal people for a period of time, and the Aboriginal people have since moved on.

Even though Indigenous Australians have not been acknowledged as seafarers, scholars recently have shown that Aboriginal people were the world's first sea voyagers by thousands of years (McKnight 1994). Once Australia had been first colonised, Aboriginal people continued to use watercraft to sail creeks and rivers and lagoons in order to find food sources, and to also visit many islands littered closely around the coast. In this bottom half of the country, the people kept with mainly bark canoes, as the waters there were colder and supported more diverse food resources. Most Aboriginal groups in southern Australia had never needed more than they could extract from their immediate environment, and as a result they had never had to develop dugout canoe technology. People had their resources all around them; the environment was a part of them. Taking the example of the Gumbaynggirr people from Northern NSW, my grandfather's mob, one of their totems is the sea, 'Gaagal' is its name (Morelli *et al.* 2016: p.304). The Gumbaynggirr have a Dreaming Creation story where two women came up from the sea to establish the tribe (Morelli *et al.* 2016: pp.73-79). The other story they hold is of Birrugin, the hero Ancestor Creator Being who came up from the ocean and who created the rivers and creeks and the many clans and groups of people and their languages as he went around the periphery of the land (Morelli *et al.* 2016: pp.37-60). The Gumbaynggirr people had everything they needed right there in their own country, so they did not need to travel across the sea in sturdy canoes.

In the north on the other hand, Aboriginal people made dugout canoes, and these canoes were mainly used for longer ocean voyages. Around this area, dugout canoes were found in the thousands. To own a dugout canoe meant you were someone of high importance, as the life of the tribe or clan

depended on your technology to maintain life (Sharp 1993: p.67). Over time, as canoe technology continued to change, the Macassans came to Northern Australia, and Aboriginal people adopted their techniques. They used them to modify their canoes, building bigger outriggers to stabilize their vessels on choppy waters (Mulvaney 1999: p.8).

In the Torres Straits region, catamaran-type vessels were being designed with double outriggers never before seen, and this technology enabled more people and animals to travel across the ocean (Pascoe 2014: p.70). Before the Macassans came, Torres Strait Islanders had already developed their sea-craft capable of sailing to distant lands, but academic researcher Peter Hiscock believes that Macassar influences led to building better dugouts along with smarter technologies given to the Indigenous people (Hiscock 2008: p.280). The outriggers had a mast with a sail and up to 23 people could be carried at one time. The sight of these vessels at sea in a fleet of 20 or more would have been a spectacle of prowess to the uninitiated. Along with human cargo, plants and medicines were traded, and also ochres and spears as well as bows and arrows and chickens and pigs (Yen 1973: p.71). All types of flora and fauna were brought across the seas (Hynes 1982: p.38). Even wives were traded for marriage, which extended relationships (Langton 2011: p.37-49) with far away tribes. People throughout the region from Cape York to Papua New Guinea, 180 Kilometres apart, were brought together in this way. Ideas and technological know-how were traded along with resources, and as a result, double outriggers were seen right down the Queensland coast as far as the Whitsundays (Rowland 1995: pp.9-10).

Along the entire Queensland coast from Hinchinbrook to Dunk Island to the Whitsundays, Aboriginal people were living on these islands in permanent to semi-permanent settlements. These were all canoe people. Some use of ocean-going vessels was apparent right around the Australian coast (Vanderwal 2004: p.257), but within the north, the technology was more suitable and advanced to enable successful sea voyages to more faraway distant lands. The technology there demonstrates this. It has also been clearly shown by researchers that Northern Australian people shared extensive religious

knowledge with Torres Strait Islanders and Papua New Guineans, and that this sacred dimension to life had everything to do with stars and celestial bodies (Swain 1993: p.84). All these peoples had a vast knowledge of the night sky, and they used it for navigation purposes (Norris & Harney 2014: p.149). The Torres Strait Islanders developed massive vessels capable of island-hopping to Papua New Guinea, Vanuatu, and New Zealand. They also had the navigational skill to back them up. It will be seen, once the evidence of the following chapters has been considered, that Hawaii could be successfully reached from Australia, because Aboriginal people had the technology and the navigational knowhow to achieve this. The weather patterns and currents would have assisted them. To begin with, there were the prevailing westerly winds. Then people could also use the monsoonal winds that come every season. And of course they used the star systems at night. Once the winds have finished and monsoon season is over, the North-easterlies then start to develop, allowing Indigenous Australian sea-farers, sailing without the use of a compass, to circumnavigate Oceania (Feinberg 1995: pp.44-45). The following chapter will be concerned chiefly with canoes; their history, construction and design, and their use amongst the people of Oceania.

Chapter Two: Canoes in Aboriginal Australia.

This chapter shows that the history of Aboriginal seafaring has been systematically downplayed by historians. There are many reasons for this, but mainly because Aboriginal people have always been regarded as occupying a low position in humanity. This has influenced the attitude of modern historians who have consistently underestimated the achievements of Australian Indigenous people. Without racist biases and assumptions, it is possible to show that Aboriginal Australians possessed the canoe technology that would allow them to sail to Hawaii.

Canoe technology

The technology of canoe making has been passed down to numerous generations for over 50 thousand years within greater Australia. Aboriginal people have been using bark canoes in both Australia's northern and southern regions. In the north of Australia, Aboriginal Australians used bark canoes in estuaries, rivers, creeks and inlets, as well as lakes and lagoons. Aboriginal people have even used bark canoes to island hop to small islands off their coastlines from distances of 20 kilometres to up to 50 kilometres or more. Dugout canoe technology varied throughout Australia's top end. In the Torres Strait region, dugout technology was more advanced than any other part of Australia. The Torres Strait Islanders obtained ideas from Papuans, and other seafaring traders, and their technology was modified over the years to create larger ocean going vessels such as catamaran-type canoes with double hulls and masts big enough to sail the open seas. These canoes were large, seating at least 23 people, along with chickens and pigs and other reliable resources to sustain life. Dugout canoe technology was seen in the north of Australia from the Torres Straits right down the Queensland coast to the Whitsunday Islands and as far West as the Kimberley regions in northern Australia. It is within the north of Australia that dugout technology was highly developed. The design ideas came from Torres Strait and Papua but Aboriginal people benefited by being able to change from using stone tools to using steel implements.

The Macassar visits in Australian waters facilitated extensive relationships with Aboriginal Australians. Aboriginal people in the Northern Territory, in regions such as Arnhem Land, gained access to dugout canoe technology when Macassans traded with their people (Broome 1982: p.11). Aboriginal people traded stone tools for steel implements strong enough to design big canoes equipped with lashings to hold a skiff to act as a counter weight, and make for a smooth ocean-going craft with the use of paddles to skim through water. The Macassar stories and histories, along with their communications with Aboriginal people, gave the locals more opportunity and purpose for island hopping and for sailing to distant places around Australia. The visits of Macassan trepangers from South East Asia gave trade, marriage, and technology substance, as relationships flourished through dialogue and cultural awareness.

The racism of historians

Throughout Australia's history British colonialism has widely affected the Indigenous people of this land. While the story of the Macassan relationship has been acknowledged, many other historic cultural achievements of the tribes and clans communicating with one another and their deep-rooted history into their country have been downplayed and disregarded as insignificant (Freud 2001). Aboriginal people have been systematically attacked by western institutions, and their name tarnished as a people with no subsequent political order or discipline. According to the academics on Australian history, Aboriginal people have been said to have not achieved greater forms of agriculture and horticulture and have never been equal to that of other races such as their neighbors the Papuans, or the people of South East Asia (Diamond 2005: pp.312-317). White anthropologists and archaeologists have written Indigenous history as being somewhat inferior, unsophisticated and 'primitive' in nature. Specifically, academic historians have denied or ignored Indigenous Australians' abilities as sea-farers. One academic, Patrick V. Kirch says that, throughout the South Pacific area, 'racism blinds researchers' eyes to Melanesian travel achievements' (Kirch 2000: p.5), and the same could be said for Australia. M.J.

Rowland writes that Aboriginal people have been thought of as incapable of sea travel of the standard of Polynesian sea-faring, and that this is probably a case of blind bias (Rowland 1995: p.7). Finney describes this process of racist assumptions when he says that:

Anthropologists trained to sift through ethnographical, historical, and archaeological evidence to reconstruct past cultures, have built in bias towards privileging their analyses over what they might regard as ill-informed native beliefs (Finney 2003: p.59).

Racial bias has ensured that white Australian historians have ignored the fact that Indigenous people were just as much a culture of the sea as they were of the land (Smith 2008).

Aboriginal people have had long and close connections to the Australian continent; in fact they have lived in Australia for over 60 thousand years. They are today, the world's oldest living culture with numerous clans and tribes littered around the Australian mainland (Broome 1982: pp.10-11). These Australians sailed to many different islands and as I wrote in the last chapter, might have even made it to South America and New Zealand.

Aboriginal Australians' cultural achievements across Australia are a natural phenomenon where elders are the knowledge holders of their country and place (Eckermann 2011: pp.2-3). It is the responsibility of elders to educate youth to become warriors, then through generational life-cycles one day becoming elders themselves to again re-educate youth (Broome 1982: pp.14-16). Aboriginal people have over thousands of years obtained the knowledge of ancient canoe building techniques so that they can pass them down and teach other members of their tribe for survival purposes. The Aboriginal people of Australia have continued to maintain their moiety and kinship systems across country, and even across the oceans to islands off the coasts of Australia. The close attention to detail in storytelling and ancient song lines passed down generation to generation (Broome 1982: p.15) explains the close connections with the communications of people who live distances apart and how they sang these songs

on their long ocean voyages. Andrew Sharp believes that even with the Trobriander people of East Papua, their canoes too went long distances out to sea making their vessels important instruments connecting their cultures and people through trade and marriage (Sharp 1993: p.32).

Colonial historians also believed Aboriginal people were never socially and economically great, never displayed western systems of agriculture or horticulture, and never built dwellings (Broome 1982: p.12). Bruce Pascoe, in *Dark Emu*, has recently called all that history into question. Pascoe's work suggests that Aboriginal technological achievements generally have been downplayed (Pascoe 2014) and this could also apply to canoe making. As I have already demonstrated, Aboriginal Australians, all throughout their history, have developed many different forms of canoe-making technology. Australia's position as the main island continent in the South Pacific, suggests that it would have had a seafaring culture, just as Melanesia and Polynesia do.

One of the main ways in which white academics downplay the Aboriginal achievement is in saying that the original voyages where they first came to Australia were accidental. They claimed that Aboriginal people just floated on currents or were blown by the wind and merely found themselves in a new country. Sharp (1963) argued that Indigenous navigation methods and knowledge were too crude and primitive to allow planned voyages to distant islands. He believed that 'ocean islands that were more than 300 miles apart could not be found by navigation but by accident' (Sharp 1963: p.7).

M. J. Rowland disagrees with this and says that 'most watercraft voyagers were planned, not accidental and the winds and the tides and the moon cycle and seasonal cycles were all taken into account' (Rowland 1995: p.8). Rowland goes on to say that this intentional colonisation was carried out with sophisticated vessels, probably dugout canoes. Levison *et al.* tells of a constructed computer model to examine the theory of unintentional drift voyages. They concluded that drift voyagers were very unlikely and it is very probable that voyages of colonisation of the Pacific were intentional (Levison *et al.*

1973: pp.234-244). DavidsLewis makes a parallel point very strongly when he says that ‘the probability of drifts occurring was negligible or zero across the following sea ways; Western Melanesia to Fiji, Eastern Polynesia to Hawaii, New Zealand or Easter Island’ (Lewis 1973: p.28).

Scholars who believe that voyages of discovery were accidental argue that there were not many deep sea canoes seen in Australia by the European colonisers. So they believed that sort of canoe technology never existed in Australia. But Rowland explains that, in Polynesia, ‘by the time of European contact the canoes of Hawaii, New Zealand and the Chatham Islands were inshore types or constructed for short trips between islands’ (Rowland 1995: p.13). Rowland continues that it was the same situation in Australia, and that, ‘as people adapted to the continental landmass, watercraft may have become less significant in some areas’ (Rowland 1995: p.13). Lewis agrees with Rowland, saying that after the initial colonisation in the Pacific, ‘specialized deep sea canoes become obsolete’ (Lewis 1973: p.28). So the absence of canoes after colonisation voyages cannot be seen as the absence of technological ability.

The same could be said about Aboriginal people’s navigational abilities, which would have been invisible to the European colonisers. This was because there were no maps in existence as the navigational knowledge was kept within the memories of the people:

While star maps do exist in Aboriginal paintings and possibly rock engravings, no Aboriginal star maps intended for navigation have been recorded. Instead, all the knowledge is committed to memory in the form of song lines which may therefore be regarded as “oral maps” (Norris & Harney 2014: p.150).

The invisibility of ocean-going canoe technology and the navigational knowledge to accompany it meant that the racism of the Europeans towards Aboriginal skills and knowledge was not overturned until very recently.

In the next sections, I will examine a less biased history of Australian canoe technology, beginning with the original colonisation 60 thousand years ago.

The beginnings

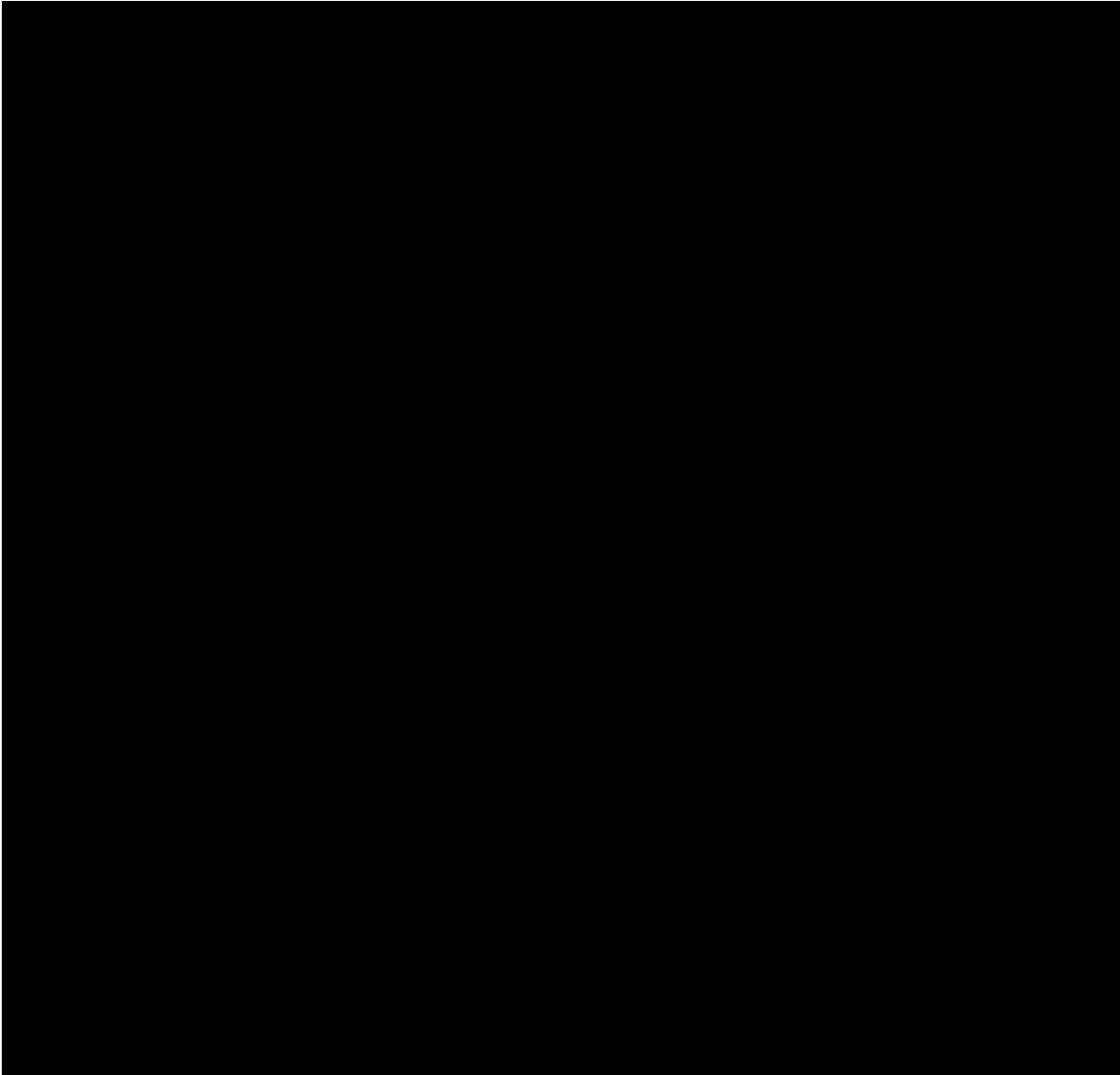
Human sea voyages began a long time ago. Josephine Flood writes in *Archaeology of the Dreamtime* that homo-erectus made sea-voyages over 19 kilometres on bamboo rafts, 800 thousand years ago (Flood 2004: p.3). While details of the original colonisation of Australia remain controversial (Rowland 1995: p.5), the Aboriginal Memorial at the National Gallery of Australia states that ‘the fore-bears of Aboriginal Australians crossed the ocean to Australian shores in simple watercraft at least 60 thousand years ago’ (National Gallery of Australia: n.d.). That date now goes back to 65 to 80 thousand years according to recent archaeological research at Kakadu (Davidson 2017: para 6). Studies in Africa show that humans possessed fully modern capabilities 125 thousand years ago, and were capable of building boats (Roberts 2009: p.118). As the Science Daily says:

While the ancestors of Europeans and Asians were sitting somewhere in Africa or the Middle East, yet to explore the world further, the ancestors of Aboriginal Australians spread rapidly; the first modern humans traversing unknown territory in Asia and finally crossing the sea into Australia. It was a truly amazing journey (Science Daily: 2011).

McKnight says that Australians were the first sea voyagers anywhere in the world (McKnight 1994: p.40). This is backed up by Geoffrey Blainey, who describes Australians as the first in the world’s history to sail across the seas and discover a livable continent (Blainey 2015: p.3). This achievement is made even more remarkable if you consider Thor Heyerdahl’s words that ‘watercraft were the very first vehicles, they were also the first major tool in the history of man’ (Heyerdahl 1978: p.19). Contrary to the writings of historians who downplay the achievements of Indigenous Australians, those earliest people must have had the knowledge and skills to construct large and sea-worthy watercraft. Peter

Hiscock believes that, 'original ocean voyages to Australia probably involved more sophisticated sea-craft than we think' (Hiscock 2008: p.141). M. J. Rowland, says that even 35 thousand years ago mainland Aboriginal people made sea voyages of up to three hundred kilometres. This has become evident after an Austronesian skeleton was found on Okinawa, proving that open sea voyages were made from this region in ancient times (Rowland 1995: p.7). These oceanic voyages may have been made by raft, dugout or double-hulled canoes (Kirch 2000: p.2). All of this evidence goes to show that Aboriginal people had the necessary expertise in designing and building watercraft for various purposes and conditions.

Closer to home and in more recent times, a lot of evidence has been gathered to show that Aboriginal people were making significant voyages around Australia's coastline. Keith Cole researched canoe technology on Groote Eylandt and classed the Groote Islanders as 'definitely a sea people'(Cole 1950: p.52). Cole reported that bark canoes enabled the initial migration from the Australian mainland to Groote, and is a distance of 54 kilometers (Cole 1950: p.27). This parallels to something I heard from Aboriginal people of the Crocodile Islands off the coast of Arnhem Land who talk about sea voyages in bark canoes for distances of over 40 kilometres (James *pers. comm.* 10/05/2017). Cole goes on to say that the Aboriginal people on Groote Eylandt were able to make sea trips because Island hopping 'enabled longer voyages' (Cole 1950: pp.31-37). M. J. Rowland writes that Australian Aboriginal people made sailing voyages between Rockhampton and Papua New Guinea (Rowland 1995: pp.9-10). This must have involved island hopping. Their evidence is supported by the study of Peter Hiscock who concludes that evidence from South Molle Island shows that 'open sea voyaging began six to seven thousand years ago' (Hiscock 2008: p.168). Hiscock also says that either Tasmanian or mainland Aboriginal people travelled in their watercraft to Hunter Island four thousand years ago (Hiscock 2008: p.141).



Mercury navigators September 7 2015,

<http://mercuryandmaia.blogspot.com.au/2015/09/modern-polynesia-navigation-navigation.html>

The reports of early Europeans

British explorers observed Aboriginal people sailing around the coast over two hundred years ago and they provided two sorts of evidence: the types of watercraft Aboriginal people were using and how they were being used. Pascoe writes that outrigger canoes were seen hunting well out to sea off northern Australia by explorers (Pascoe 2014: p.70). Rowland continues that Captain Cook noticed two types of canoe on Cape York, double and single hull outriggers (Rowland 1995: p.11). In roughly the same area, Mathew Flinders saw Aboriginal people in the Gulf helping Macassans. Apparently Flinders saw praus and dugouts working together (Macknight 2011: p.1). Two Portuguese explorers, Pedro Fernandes de Queirós and Luís Vaz de Torres, witnessed Aboriginal people in the north of Australia, two hundred years before the British did, making long inter-island voyages in their outrigger canoes (Beckett 1987: p.25; Lever 1963: p.24).

How Canoe technology was distributed around the continent: small stuff in the south, and bigger stuff within the north

Canoes in the north of Australia were designed bigger and more complex than canoes from the south, and these canoes sometimes had rigging and sails. Canoe technology in the south seems to have been restricted to the bark canoe. Although bark canoes must have been used off the coast of Southern Australia, most of the evidence points to these watercraft being used in rivers, creeks, inlets, estuaries, lagoons and swamps, as well as lakes (Blomfield 1986: pp.23-24; Pascoe 2014: p.70; Smith 2008: p.8; Rowland 1995: p.5). The reason that canoes were smaller in the south was that people did not have to travel as far for their food, as the colder southern oceans produced a greater variety of sustenance (Martin 1922: p. 457). There are other reasons for this difference, relating to trade and kinship ties with other tribes and nations; these will be dealt with in another chapter. In the present chapter I will be concentrating on describing canoes from the north of Australia.

Canoe construction

Apparently outriggers of several types were common forms of canoe in the north of Australia.

Sharp comments that,

unlike the people living along the coast of Papua (Op Peduai), who had single outriggers, the islanders' sea going canoes, sometimes fifty feet long were equipped with double outriggers (Sharp 1993: p.28).

M. J. Rowland points out that there was an evolution in canoe design that began with logs, went to rafts and then proceeded to the bark canoe (Rowland 1995: p.7). But while sea-going vessels were being developed, the less durable earlier designs were always kept for estuarine voyages. As Lewis says:

The word canoe is rather misleading in this context, conjuring up as it does a picture of some tiny craft hollowed from a tree trunk. There were many distinct varieties of these little craft (especially in Polynesia) that were adapted to particular fishing techniques, lagoon transport, and in short every purpose except long deliberately mounted voyages (Lewis 1973: p.253).

Reynolds documents, for Australia, the use of bark catamarans for short voyages (Reynolds 2006: p.75), and James describes bark canoes with sails around the Crocodile Islands (James 2017: pers. comm. 10/05/2017). The rest of the developments seem to have left the bark canoe behind in favour of the dugout, which was heavier, longer, more stable, more durable, and much more capable of longer open sea voyages (Cole 1980: p.9). In general, the dugout canoes could carry more people. Cole says that bark canoes from Groote Eylandt could only carry about six people (Cole 1980: p.8). Around the Groote Eylandt archipelago, sea-going dugouts were built up to 25 feet long, eight feet wide, and could seat up to 12 people (Cole 1980: p.9).

Rowland writes that the next big development in canoe technology, the addition of outrigger hulls, may even have been invented in Australia (Rowland 1995: p.11). Lewis believes that the Micronesians made the very first outrigger canoes, but thinks these were not as efficient for long sea voyages as the Polynesian double canoes (Lewis 1973: p.254). The outrigger technology spread right throughout the Pacific, but it was the Micronesian vessels that were always the most sophisticated (Feinberg 1995: p.3). These were large canoes 'well able to accommodate crew and ample provisions' (Lewis 1973: p.254). Goetzfridt writes that it is generally agreed that 'Micronesian sailing canoes derived largely from East Asian craft were by far the best in the world and were better able to sail close to the wind than other vessels' (Goetzfridt 1992: p.26).

In the Torres Strait, ocean-going canoes were built that were just under 20 metres long and equipped with double outriggers and rigging. Beckett and Sharpe both say that the Islanders were able to exploit a great variety of resources with these canoes, even more than the people from Papua New Guinea or the Australian mainland could (Beckett 1987: p.26; Sharp 1993: p.28). Whether or not Sharp and Beckett are correct here, Mulvaney does point out that Aboriginal people in North Queensland were building double-outrigger canoes at least 50 feet long (Mulvaney 1999: p.10). The same thing occurred on the Solomon Islands with outrigger dugouts 55 feet long carrying 35 men on voyages (Lever 1963: pp.22-23), and it is known that 30-foot catamaran-type double canoes were built in Papua New Guinea to carry people and cargo (Lewis 1973: p.193). Apparently Malinowski observed in detail the canoes in the Trobriand Islands, writing that their style of construction allowed the crossing of long stretches of open sea (Sharp 1993: p.32).

The design of canoes developed to take into account both the purpose that the canoe was going to be put through, and environmental factors. Feinberg points out that watercraft need modifications to counter strong sideways currents in deeper waters, so that they can tack into the wind effectively. So canoe designers added a keel to their craft to enable it to beat into the wind. This strategy is for a canoe

to sail in deeper waters, because in shallow water a keel can be dangerous (Feinberg 1995: p.5). Long distance sea journeys were also made easier and safer if the hull of the canoe was designed in the shape of a deep-V (Feinberg 1995: p.5). Groetzfridt reports on modern modelling experiments that were carried out to test the most efficient canoe designs for various purposes. He agrees with Feinberg that the best designs have a 'V-bottom hull or a round bottom with a very large steering oar' (Groetzfridt 1992: p.3). Feinberg summarises these findings by saying that long distant voyaging normally requires an outrigger or double-hulled canoe with a deep-V hull design, and in the most sophisticated cases steering was facilitated by a sail or large steering oar fastened to the hull (Feinberg 1995: pp.3-5).

But it should be noted that colonising sea voyages may have been successfully carried out in small less sophisticated craft. As Groetzfridt points out, because the Pacific Islands were colonised by a Neolithic people who travelled over great distances, the canoe technology that the settlers possessed was obviously sufficient for the job (Groetzfridt 1992: p.26). Heyerdahl comments from experience that less sophisticated vessels shorter than 30 feet 'have greater chance of survival in a stormy sea than similar vessels with larger dimensions' (Heyerdahl 1978: p.44). He goes on to say that it is a mistake to think that the safety of a canoe increases with its length or height above the waves. Apparently even a watertight hull 'is not the only, nor is it the best solution for security at sea' (Heyerdahl 1978: p.45).

While it is not known just how sophisticated the vessels were that the first colonisers of Australia sailed in, perhaps the canoe shown in the Guion Guion rock art of the Kimberley (discussed in Chapter 3) was representative. This canoe seems to be designed for open sea voyaging, and may have been similar to canoes described by Hoover that were built in Papua New Guinea and 'could have been used across the North Pacific to the Americas' (Goetzfridt 1992: pp.23-24).

The influence of the Macassans in canoe technology

A major factor in the development of canoe technology on the Australian mainland was the influence of the Macassan traders. Cole writes that the Macassans visited the top end of Australia from about 1650 to 1906 in search of Trepang (Cole 1980: p.6). They carried dugout canoes on their praus (Cole 1980: p.9), and they introduced the techniques for building dugouts to the local Aboriginal people (Hiscock 2008: p.280). They also introduced the iron tools that were necessary for this purpose, and brought knowledge of the outside world (Cole 1980: p.52). Langton describes in general how readily the Aboriginal people adopted Macassan canoe making technology (Langton 2011). Apparently, the local people copied the Macassans closely, and as well as building dugouts, they also added rudders, rigging and sails to their own bark canoes (Cole 1950: p.16; Rose 1968: p.134).

The effects of this new technology included a better ability to exploit new resources, and meant that people could visit their relatives on the mainland or other islands more regularly (Cole 1950: p.16). It also enabled Groote Islanders and mainlanders to develop deep relationships with the Macassans and this relationship flourished into inter-generational marriages, religious exchange, and language diversity. Most importantly for this study, the new technology, as Mulvaney points out, had a cumulative effect which produced for Aboriginal people greater sea-faring sophistication and competence in navigation (Mulvaney 1999: p.8).

The political motivation behind the demeaning of Aboriginal cultural achievements

A dominant culture, when it takes over another culture, demonizes the previous culture, making them look insignificant or inferior by attacking their achievements, systems of knowledge and accomplishments. This systematic breaking down belittles the previous culture over periods of time, fracturing their way of life in order to impose the new colonising culture. This is done by demolishing languages, identity, kinship, religion, and relationship and entitlement. All the stories of the new culture

are highlighted in a 'hero way' of adventure, just like the cowboys and Indians movies and stories. The former culture is now stereotyped, degraded and demeaned, and this includes the stories of their cultural achievements. Up until the 21st century, white people were writing all the black history. Today Indigenous academics are researching their own histories and telling them the right way. This chapter has shown how old-school white historians were not open to the possibility that Aboriginal people sailed the open seas, despite the fact that the Aboriginal people had the necessary technology for ocean voyages. The next chapter will illustrate how the mainstream historical interpretation of the Guion Guion art work, especially in its depiction of Aboriginal seafaring technology, has a political motivation behind it.

Chapter Three: The Guion Guion Rock Art Canoe of the Kimberleys

A very interesting story concerning rock art in the Kimberley is told in this chapter. This story illustrates how racist attitudes towards Aboriginal people have influenced the way that mainstream historians understand the Aboriginal past, and how that understanding acts to deny Aboriginal rights and achievements, in this case seafaring achievements especially. It is seen that these attitudes have a political basis, and that political action has been necessary to disprove them.

Public disagreement surrounding the ancestries of the Guion Guion paintings illustrates very clearly how Aboriginal cultural achievements have been articulately demeaned, and highlights the political purposes this has served. This chapter will first describe the Guion Guion rock art, and then outline an analysis of them by Grahame Walsh, a leading non-Indigenous Australian researcher working on the Guion Guion paintings, whose opinions have been very controversial. Of particular interest is the picture of a sea-going canoe painted in the Guion Guion style. Walsh's and other researchers' ideas about this canoe and associated paintings will be discussed. So will the way Walsh's advice about the origins of Guion Guion was used by the Pastoralists and Graziers Association in their opposition to a Native Title claim over Guion Guion country. This created a great deal of controversy which was finally settled by the High Court of Australia. The details of this legal case will be described below. This chapter will conclude that the Guion Guion painting of a sea-going canoe forms an excellent focus to illustrate how and why non-Indigenous researchers have claimed that Aboriginal people did not possess canoe technology to enable them to make purposeful ocean voyages.

Archaeologists and historians have argued for a long time on just how the first colonisers journeyed to Australia 50 thousand to 60 thousand years ago. On the one hand the original voyages from Asia to Australia were regarded as accidental, carried out by log rafts and bundles of makeshift floating devices, and which didn't involve group planning, strategies, or conceptualization (Balme 2013:

p.70). Balme on the other hand argues that the archeological evidence shows that people possessed the necessary intellectual and symbolic capacity at the time, and that the voyages may well have been purposeful (Balme 2013: p.70). She continues to point out that the vessels used must have been very seaworthy, maybe even having sails and oars (Balme 2013: p.71). The fact that no evidence for these sorts of boats were seen by early European colonists is easily explained:

The watercraft used by Aboriginal people when Europeans arrived here are not representative of those used in the Pleistocene. Once they arrived here the colonisers may well have no longer (been) reliant on the coastal and marine resources and so would have no need to continue to invest in seaworthy boats (Balme 2013: p.71).

A close perspective on this argument is given by the Guion Guion paintings of northwest Western Australia. In 1891 these cave paintings were stumbled across by a European pastoralist named Joseph Bradshaw. Ever since then there has been a lot of controversy over who had painted this art work. This is because the style of the painting has been considered radically different to all other rock art within Australia. For example, the subject matter focuses on human beings rather than on animals. Also the style of painting is very fine and sophisticated and shows people dressed in ways that Aboriginal people no longer use or practice (Morwood 1996: p.47). The age of the paintings is also controversial; they could be anywhere between 20 and 70 thousand years old (Morwood 1996: p.47).

Graham Walsh was instrumental in bringing the Guion Guion artwork to worldwide attention. Walsh spent decades examining and researching the backgrounds of the paintings, and concluded that they were very ancient maybe going back to 50 thousand years (Lewis 1997: p.14). He considered that the paintings were not created by the ancestors of modern-day Aboriginal people (Barry & White 2004: p.37). Walsh believes that the Guion Guion painters may have come from Indonesia, that they pre-dated Aboriginal occupation of the area and that they have subsequently become extinct (McNiven & Russell

1997: p.801). In fact, Walsh contrasted the 'primitiveness' of contemporary Aboriginal culture to the greater sophistication of the Guion Guion painters (Amelia 2011: n.p.). This has caused huge arguments between traditional Aboriginal landowners and pastoralists. Redmond says that:

This theory of a radical disjunction between contemporary Indigenous peoples and the painters of the 'Bradshaws' finds very little support among most Ngarinyin, Worrorra and Wunambal peoples, those knowledgeable in local law can elaborate a body of belief linking their current cultural repertoire to these figures, which they call *Gwion Gwion* (Redmond 2002: p.56).

Why is this matter so important? It is important because the Western Australian Pastoralists and Graziers Association opposed the local peoples' native title claims on the grounds that the Aboriginal people were not the first occupants of the area, the Indonesian Guion Guion painters were. As Vigilante *et al.* point out that native title claimants have to demonstrate that:

The claimed land and waters were traditionally owned by their ancestors under a system of laws and customs which has continued to be observed through to the present... (Vigilante *et al.* 2013: p.153).

Those who opposed this claim argued that the Aboriginal people would not be able to demonstrate cultural continuity if the paintings were made by non-Aboriginal people (Amelia 2011: n.p). In the end, Justice Sundberg recognized the native title rights of the traditional claimants and in doing so acknowledged the Aboriginal authorship of the Guion Guion paintings (Barry & White 2004: p.44).

Academics and researchers have also argued against Walsh's findings. Darrell Lewis shows that the Guion Guion paintings were not so unique in Australia, because they demonstrate close resemblance to Arnhem Land Dynamic Style art. He also questioned Walsh's dating of the paintings and makes his own evaluation that they are no older than fifteen thousand years (Lewis 1997: p.15). Barry & White determine that there is no reason to argue for the 'exotic origin of Gwion images' and that they

were created by Australian Aborigines (Barry & White 2004: p.44). McNiven & Russell go further and accuse Walsh of interpreting the paintings from a racist and outdated colonial theory. This theory holds that because Aboriginal people were themselves colonisers of an inhabited land, then Europeans could lawfully recolonize Australia.

Walsh, in refueling a diffusion debate has resurrected a colonialist stand point that has played into the hands of political conservatives and again placed Aboriginal people in the position of having to demonstrate cultural authenticity and legitimacy (McNiven & Russell 1997: p.807).

One of the most interesting paintings in the Guion Guion artwork is that of a boat, a four man canoe with upswept prow and stern that is considered to be quite possibly the world's oldest depiction of a boat (Robinson 2017: p.7; also see O'Connor & Arrow 2008). Not only is it the world's oldest boat, it shows a technology that never existed in Australia at the time of European invasion. In fact, the technological sophistication of the Guion Guion canoe was not believed to have come into existence anywhere in the world until as late as two thousand years ago (No Author, *The Lost World of the Bradshaws* 2017: para.8). The canoe painting portrays a high prow and a high stern and has what appears to be a rudder and a keel. This means that the canoe is unlikely to have been made out of bark or animal skin or other makeshift materials. It is likely that this is a picture of a solid wooden dugout canoe. As was seen in chapter two, experts agree that sea-going craft could be recognized as possessing a wooden dugout design with sail, keel, and steering oar. All this information makes the Guion Guion canoe appear to be a vessel designed for deep ocean sailing (No Author, *The Lost World of the Bradshaws* 2017: para.11).

Could the Guion Guion canoe be a picture of the sort of boat that the Aboriginal colonisers sailed to Australia in 50 thousand years ago? Apparently Grahame Walsh did not notice another painting on a rock alongside the boat picture. This second image reveals a line of 26 antlered deer. This evidence

suggests that the Aboriginal people must have sailed throughout Wallacea and seen placental hoofed mammals of this kind, not found in Australia. Peter Robinson explains the significance of this:

To have depicted deer, the Bradshaw artist would therefore have had to voyage across the Timor Strait ... (which has) profound implications for the Bradshaw people's capability to voyage by boat between South East Asia and North West Australia. It also demonstrates that the artists were painting from memory (Robinson 2017: p.7).

While Robinson and others accept that Aboriginal people painted this boat, and that the ideas about Aboriginal seafaring should change, Walsh saw the opposite, that the Guion Guion boat is evidence that Aboriginal people could not have painted it, as he assumed Aboriginal Australians did not possess this maritime technology.

In an interview for the program *Australian Story*, Walsh describes the Guion Guion paintings in the following way:

They have got to be in excess of 17 thousand five hundred years old. Everything that's in this panel is sort of four to five times the age of classic Egypt and the Pyramids. That is a pretty staggering date for any paint to last on the wall. For a culture to appear in a developed form at that time period, one would think it would have to have boats and more people, it's not somebody drifting on a log to get to Australia to have that art form. So that's the mystery of it all (Australian Story 1994: p.1).

By describing the first colonists as drifting on a log, Walsh obviously believed that Australian Aboriginal people did not possess refined watercraft technology, nor did he think that they were capable of such planned voyages. He makes this clear in the following passage about the Guion Guion canoe painting:

Once you've got watercraft that far back, it adds a whole new dimension of how people may have migrated around the world. The most logical thing is, when there's nothing like it anywhere in Australia, basically it must have come from either another country like South East Asia or somewhere like that, or else from an area that now is sunk beneath the rising sea-levels which is another possibility (Australian Story 1994: p.6).

The controversy around the Guion Guion canoe painting demonstrates plainly the point made in the previous chapter about how non-Indigenous scholars have consistently demeaned Aboriginal technological seafaring capabilities. The story around the Guion Guion canoe shows that this attitude has a political stimulus. Walsh gave his opinion to the Pastoralists and Graziers Association to aid their resistance to native title claims (Amelia 2011: p.3), and McNiven and Russell demonstrate that Walsh's understanding of Guion Guion represents a colonial attitude that justifies the European annexation of Australia (McNiven & Russell 1997: p.807). There has been a strong negative reaction to this interpretation from both the High Court of Australia, who declared the Guion Guions as painted by the ancestors of modern-day Aboriginal people, and also from the Australian Archaeological Association who made the following declaration:

The human prehistory of the Kimberley region certainly involved cultural, technological, linguistic, artistic, and genetic changes ... to argue for human cultural and genetic continuity in the Kimberley region for a minimum of 40 thousand years, is to argue for a degree of conservatism without parallel anywhere else in the world which is at odds with the current archaeological record. Even so there is no basis for ascribing Bradshaws or any other prehistoric Australian rock art to any other than the ancestors of contemporary Australian Aborigines (No Author *The Lost World of the Bradshaws* 2017: para.14).

There is now an example of a very early Australian Aboriginal ocean going craft amongst Kimberley Bradshaw art known as Guion Guion. This finding powerfully contradicts any assertion that Australian Aboriginal people are too simple to have developed this sort of technology. These finds support the possibilities that Aboriginal people have achieved ocean adventures, sailing to faraway places such as Hawaii, New Zealand and South America. There is certainly is no reason based on technology to rule out these possibilities. The next chapter will provide further support for these possibilities, in examining trade and other relationships amongst Australia and the rest of Oceania

Chapter Four: Relationships between Australia, New Guinea and Torres Strait

The extensive relationships that have long existed between northern Aboriginal people and Torres Strait Islanders and Papuans are outlined in this chapter. It is argued that these relationships enabled the transfer of knowledge and skills about sailing to make it possible for Aboriginal people to journey throughout the South Pacific.

Mainland Aboriginal people participated in trading and marriage networks with their neighbours in the Torres Strait and Papua New Guinea. Australian Aboriginal people not only travelled to neighbouring islands, they built up knowledge of navigational history shared with other cultures. It will be argued that in this way, and through trading, Aboriginal people have accumulated extensive seafaring awareness of Oceania and the South Pacific regions, enough for them to plan and make long ocean voyages, including going to Hawaii. It will also demonstrate that there was a broad transference of technology and agricultural techniques and exploits spreading from Melanesia to Polynesia, a process which had been going on for a long time. This makes it easier to imagine Aboriginal people from Northern Cape York making well-provisioned voyages in the same direction towards the same destination.

Australia was settled around 70 thousand years ago. This was in the last Ice age at a time when sea levels were lower than they are now. Sea voyages at that time were relatively short between south East Asia and the continent of Australia. At the beginning of the Holocene, which was about 10 thousand years ago, sea levels rose, and Aboriginal people were more isolated than they had been (Kirk 2012: p.14). This isolation continued until there occurred what Josephine Flood calls 'an explosive spread of the modern human race, *Homo sapiens*, across South East Asia and the Western Pacific Rim in upper Pleistocene times' (Flood 2004: p.37). This resulted in the settlement of islands such as New Ireland, New Britain and the Solomon Islands chain, which were first peopled about 35,000 years ago (Rowland

1995: p.7), and then the occupation of Papua New Guinea, which dates to around 25,000-30,000 years ago' (Rhoads 1982: p.25). It was from this time that the possibilities for trade arose between northern Australia and those islands.

All these peoples were experienced sea voyagers by this time, and archaeological evidence has discovered remains of ancient boats around the islands (Rowland 1995: p.7). As Aray says, even after the sea levels rose, 'the seas of Oceania were bridges as well as barriers. The sheer volume of movement attests to Islanders' willingness and ability to travel' (Aray 2011: p.119). People in the region continued to seek new places to live (Aray 2011: p.118), and trade became the reason for contacts and negotiations. Ramson *et al.* described the seas to the north of Australia as maritime highways for the purposes of trade (Ramson *et al.* 2004: p.2). Brockfield shows the many trade routes and links between Islander communities, and he said that trade brought peace and stability and 'enlargement of life to all peoples' (Brockfield 1972: p.20).

Did northern Australian people access the opportunities to trade with their northern neighbours? Flood says yes, but there is archaeological evidence to prove only that they were trading with the western Melanesians 3,000 years ago (Flood 2004: p.37). Mulvaney says that the trade between Aboriginal people and Papua New Guineans is four thousand years old (Mulvaney 1999: p.332), and 'the Kaurareg of Prince of Wales Island had the strongest links with the Australian mainland' (Mulvaney 1999: p.332).

Australia's main trading partners were Papua New Guinea and the Torres Strait Islands. This chapter will briefly describe the nature of these two societies before going on to examine the trade that went on between them.

Papuans arrived in Papua New Guinea some 30 thousand years ago, sailing from South East Asia. The people of New Guinea are credited as being amongst the first in the world to develop agriculture

(Kirk 2012: p.14). Agriculture within Papua New Guinea utilized its own Indigenous plants to develop a system to maintain societies with a consistent food supply (Diamond 2005: p.303). Papuans cultivated the yam (Coursey 1973: p.216), and also farmed pigs, bananas, taro, sugar cane and leafy vegetables (Diamond 2005: p.303). Even though Papuans could produce a consistent food supply (yet they were always interested in trading for yams), they communicated with their neighbours for various reasons as well as trade. Feinberg lists some of these reasons as including attending ceremonies, rituals, marriages and feasts, and also to trade for objects of ritual value such as sea shells and bride wealth (Feinberg 1995: pp.10-45).

People reacted to the seasons, where voyages were made to take advantage of the prevailing winds. These voyages took place around two main periods of the year. Feinberg says that the north-west monsoon blows from January to April and would have taken people from New Guinea to the eastern islands, some of which were quite a long way away. So this fitted with the seasons for the yam crops, which became ready to harvest on various islands between August and September. The return journeys were on the south-east trade winds in October and November (Feinberg 1995: p.44). This shows that the people made plans before these trips, and that a lot of planning went into reading the weather systems and patterns.

People from Papua New Guinea traded with the Solomon Islanders (Feinberg 1995: p.44), and Howe says that trade was carried out by canoe from eastern Papua New Guinea into Micronesia (Howe 2006: p.200). Apparently Mailu island on the south coast of Papua New Guinea was an important trading centre (Howe 2006: p.204). Trade went from Mailu north to New Britain and into the Bismarck Archipelago (Howe 2006: pp.214-215), and Feinberg states that 'until 1977 the Mailu Islanders from a small Island off the South Papuan Coast used to sail their enormous double-hulled canoes 500 kilometers to Vanatinui at the end of the northwest monsoon season' (Feinberg 1995: p.45).

Travel between islands could have very significant social effects. Islands that had small populations would have needed to expand the pool of potential marriage partners. This created kinship networks that involved many islands, resulting in a lot of travel (Feinberg 1995: p.10). At times Papua New Guinea warred with its neighbours and this resulted in the taking of prisoners, brides, and resources such as canoes, shells and human heads (Feinberg 1995: p.10). It does not seem to be the case that Papua New Guinea carried out warfare with the Torres Strait Islanders, but it is known that they carried out a lot of trade with them.

The Torres Strait Islands were first settled around 3,000 years ago (Flood 2004: p.37). The Torres Strait Islanders are a maritime people whose lands are within sight of the Papuan New Guinean coastlines. For the people who colonised Torres Strait, 'the sea emphasized connection through trade, navigation and kinship' (Ramson *et al.* 2004: p.2). The reefs around and in between the islands are rich in pearl and conus shell, fish and other crustaceans (Mullins 1995: pp.6-11). Torres Strait Islanders do practise agriculture and crop cultivation as well (Swain 1993: p.76). For the people who settled Torres Strait, the sea is of the greatest importance, it represents a bridge for both trade and kinship (Ramson *et al.* 2004: p.2). For Torres Strait Islanders, the sea-going canoe is a very important symbol of their history and culture. Mullins says the canoe is 'the most significant symbol of bipotaim. It was the craft that brought them to the strait and without it their society could not have survived' (Mullins 1995: p.10). The canoe serves as a symbol of a man's prowess and status. Even though there was no equivalent of the Papuan Big Man in Torres Strait, a successful canoe-owning trader had contacts in many places and would gather great influence (Mullins 1995: p.13).

Trade was one of the most important economic activities across the Torres Strait Islands. This trade could take the form of 'a wealth of exchange situations ranging from a reciprocal gift giving to elaborate ceremonial presentations' (Vanderwal 2004: p.259). Trade relationships existed between the western and eastern Torres Strait island groups, but it was the top western islands of the Straits that

were important for trading with Papua New Guinea (Vanderwal 2004: p.259; Ramson *et al.* 2004: p.2). These islands are within sight of the New Guinean coast and their inhabitants 'had close, social and economic ties with the New Guineans' (Mullins 1995: p.11). They were connected by complex trade networks that extended to the coast of Papua New Guinea, especially around the mouths of major rivers like the Fly River (Howe 2006: p.200; Vanderwal 2004: p.258). The types of goods that were exchanged back and forth included manufactured goods like valuable shell artifacts, ceremonial and subsistence equipment, and also raw materials such as feathers and turtle shell (Vanderwal 2004: p.259-260). Chickens and pigs were also traded between larger islands (Yen 1973: p.71). Even canoes themselves were traded. Because of the importance of canoes around the Torres Straits and Papua New Guinea, much of the goods traded were done as payment for canoes (Vanderwal 2004: p.259).

Johnson shows that Torres Strait sailors had put a lot of energy into the preparation of voyages to other islands for trade (Johnson 1998: p.380). Just as with the Papuans, the Torres Strait people planned their voyages for particular times of the year. Johnson describes this situation:

Around mid-October, when the Pleiades appear (a sign of fair weather and the time for sailing) the canoes set out for the islands. Yams, Bananas and sweet potatoes that have been mixed with turtle fat, roasted, dried and placed in bamboo tubes are sealed and placed in the canoes (Johnson 1998: p.38).

Sharpe writes that Islanders always made two trips per year, one to Papua for goods, and one to Australia for red ochre and emu feathers (Sharpe 1993: p.28). When they came to Australia, apparently the Islanders travelled down to Lockhart River (Sharpe 1993: p.30).

The trade between Torres Strait, Papua New Guinea and Aboriginal people from Cape York is the subject of the next section.

It is well known that trade was a very important economic activity carried out between tribal groups within the continent of Australia. Aboriginal people held an obligation to give and share amongst their peers and neighbours. For these purposes they travelled outside their own boundaries, following complex trade networks, sometimes for a long distance to exchange goods and participate in ceremonies (Fuller *et al.* 2014: p.149). Not only material goods were exchanged but also stories, ceremonies and rituals, and some scholars even believe that trade routes became story lines for dreaming tracks (Fuller *et al.* 2014: p.157). If song lines do have some connection with trade routes, then the fact that dreaming stories travel such a long way across the Australian continent could mean that trade travelled this far as well.

Fuller shows that song lines connect people and country from as far north as the Gulf of Carpentaria to places such as Byron Bay, and from North Queensland to the Flinders Ranges in South Australia (Fuller *et al.* 2014: p.157). To make the link between the distances travelled by trade and songlines, Rowland shows that stone files, paddles, nets, multi-pronged spears, and bark canoe making technology were traded overland from Cape York to Victoria (Rowland 1995: p.8).

Aboriginal people also practised trade with others outside the continent, Swain pointing out that Aboriginal people and Torres Strait Islanders were always accommodating to outsiders (Swain 1993: p.73-74). This involved sometimes trading with other Aboriginal groups who lived on islands near the coast. Mainlanders travelled in both bark canoes and dugouts to carry out trade, and they visited islands off the Kimberley coasts and also off Arnhem Land to gain turtle eggs, yams and root plants (Vigilante *et al.* 2013: p.161).

North Queensland Aboriginal people also traded with Torres Strait Islanders and Papuan New Guineans. Rowland shows that trade by outrigger canoes was carried out between New Guinea and Rockhampton (Rowland 1995: pp.9-10), but most of the trade seems to have been carried out between

Cape York and the islands. Mulvaney lists the following raw materials, artifacts and food that were traded amongst Papua New Guinea and Torres Strait Islanders and Australian Aboriginal people:

Along the inter-island sea lanes were carried raw materials, artefacts and food. From Cape York red ochre and spears in exchange for food and artefacts. The Islanders traded women to the Papuan villagers, along with pearl shell harpoons and ornaments, dried fish, turtle and human heads; they returned with sago, cultivated yams, coconuts, sugar cane and tobacco, and in the material domain, timber posts drums, bows and arrows, cassowary feathers and birds of paradise skins, stone club heads and importantly outrigger canoes (Mulvaney 1999: p.330).

Apparently the multi-pronged fishing spears made on Cape York were highly prized by the Islanders, who also wanted spear throwers and red ochre; Mullins says they were traded in considerable quantities (Mullins 1995: p.13). These spears were eagerly sought after in the western Torres Strait islands as far north as Mabuig, Spear-throwers were also traded to the islands and were used in spear-fishing for dugong. The two main types of spear traded were the fishing spear with four bone barbs, and the fighting spear with a bone lashed on to form both a barb and a point (Resture 2012: para.17).

Single includes turtle oil and tree logs as items of trade from Cape York (Single 1989: pp.4-5). Another trading item of great importance was the canoe itself, Rowland saying that 'the trade in canoes in particular seems to have been highly controlled' (Rowland 1995: p.10). Swain writes that double outrigger canoes used by North Queensland Aboriginal people had their origins from the Fly River region of Papua New Guinea (Swain 1993: p.82).

There is no doubt that this Papuan New Guinean trade had a lasting effect on the culture of Cape York Aboriginal people, who adopted aspects of New Guinea culture, 'including items of technology, folklore, ritual and language' (Rowland 1995: p.8). The evidence for this can be seen in shell middens and Indigenous languages (Rowland 1995: pp.9-10), but can also be seen in the myths of Cape

York. Swain believes that the influence of New Guinea on Aboriginal society was major (Swain 1993: p.71), though the influence could also be said to have gone the other way. Swain and McConnell both tell of the Cape York myth of Shiveri that relates to the removal of horticulture from Cape York to the Torres Strait Islands (Swain 1993: p.76; McConnell: 1936: pp.217-219).

Swain considers that so closely linked – by trade, marriage, religion and children - were the Islanders and Aboriginal people, that they could regard themselves as having the same cosmological tradition (Swain 1993: p.84). McCarthy (1940: p.314) saw Aboriginal culture as ‘indissolubly bound up with that of Oceania’ (Rowland 1995: p.8). He also proposed that the dugout canoe and the harpoon were the greatest gifts to Aboriginal people coming out of this relationship, as these made big changes to navigation methods and considerably increased sea-going efficiency (Rowland 1995: p.8).

The trade to Torres Strait Islanders and the trade to Papua New Guineans were conducted separately. The amount of material trade from Australian Aboriginal people toward Torres Strait Islanders consisted of spears and spear throwers along with different coloured ochres, turtle oil and shell necklaces. Stories and songs were also shared, along with myths and rituals and religious knowledge. Torres Strait Islanders then traded shell necklaces, outriggers and dugouts and ocean navigational skills to strengthen relationships, as well as wives and languages. Aboriginal people traded spears, spear throwers and pronged spears to Papuans to steady the long-distance relationships with trade. Papuans traded to the Aboriginal people the dugouts and shell necklaces along with wives and languages for extensive relationships, which firmly linked Torres Strait people and Papua New Guinean people to the Northern Australian Aboriginal people. There is some evidence that Papuans married into northern Australia and Torres Strait.

Macassar

Aboriginal Australians also carried out seasonal trade with Macassans from the Indo-Malay Archipelago. Macassans came to Cape York, Arnhem Land, and Groote Eylandt to collect trepang. This trade relationship began sometime before 1700 A.D. and it finished after the White Australia Policy was enacted (Macknight 1976: p.1; Rose 1968: p.134; Ramson *et al.* 2004: p.4). Macassans sailed to Northern Australia in Asian praus, but used dugout canoes that were towed behind to gather trepang in Australian waters (Macknight 1976: p.22). The Macassans took the sea slugs away to deliver to international communities - Dutch, Portuguese, Chinese and Indian (Langton 2011: p.27) – to trade on the spice routes (Langton 2011: p.29).

Macassans and Aboriginal people intermarried with each other and there are reports of Aboriginal people travelling to Indonesia and of Macassans being left behind to be initiated in Aboriginal culture (Langton 2011: p.37). It seems Aboriginal people received a lot of foreign goods from the Macassans and possibly learnt some agricultural techniques as well. However Macknight considers that these items were not permanently adopted by Australian Aboriginal people. Furthermore, Macknight says that ‘there was little scope in the environment of Arnhem Land for dramatic changes in the economic system of the Aborigines as a result of the contact with the Macassans’ (Macknight 1976: p.90).

Probably the most important consequence of the relationship between the Macassans and the Australians was the introduction of alternative dugout canoe technology to Australia, that included sails, outrigger, rigging, and the iron tools to manufacture them. These canoes were called *lipa-lipa* from the Macassan name *lepa-lepa* (Macknight 1976: p.90).

Polynesia

Polynesia is a name that means 'many islands' (Kirch 2000: pp.4-5). These cover a broad area of the Pacific Ocean from Hawaii in the north to New Zealand in the south. There is no material evidence of Aboriginal people trading directly with Polynesians, but there is a strong oral record that includes contacts with New Zealand Maoris. There is however a great deal of evidence that some of Indigenous Australia's trading partners had some presence in Polynesia and so would have had knowledge of Polynesian culture and geography. The main example of this was the diffusion of Lapita pottery and how it spread rapidly with the diaspora of sea-farers. As Diamond illustrates 'Lapita potters sailed far eastward into the Pacific beyond the Solomons, into an Island realm that no other humans had reached previously,' appearing in Fiji, Samoa and Tonga (Diamond 2005: p.351). Kirch reinforces Diamond's view by pointing out Asia supplied flora and fauna to the Pacific Islands (Kirch 2000: pp.53-54), and:

throughout Polynesia the Flora and Fauna knowledge was changing as adaptation was setting in, the cultures was modifying to suit the environments (Kirch 2000: pp.33-34).

The Importance of Canoes in trade.

European explorers reported seeing fleets of canoes wherever they sailed through Micronesia, Melanesia, and Polynesia. This included Hawaii (Kirch 2000: p.246), Torres Strait (Aray 2011: p.123), Papua New Guinea (Vanderwal 2004: p.261), and Northern Australia (Mulvaney 1999: p.334). It goes without saying that canoes were essential to trading. Vanderwal says that canoes were the main source of wealth for Papuans (Vanderwal 2004: p.261), and of course they were required to transport goods and people between islands:

Canoes are often used to transport crops from gardens to home villages, inter-island trade may have important consequences for comfort and survival, and maritime activities have been incorporated into the cash economy (Feinberg 1995: p.5).

Kirch makes the point that food and animals were transported by canoes (Kirch 1982: pp.1-2), and Aray considers canoes to have been the most efficient transports of bulk cargoes (Aray 2011: p.121). Not only did the canoe have an influence on trade it also played a big part in population growth, colonisation, migration, and environmental change (Kirch 1982: p.4), McNiven writes that 'a wide range of plants were incorporated into island ecologies for food (yams, taro, bananas, sago palm, sisal),' (McNiven 2008: p.452), and Brockfield shows that this led to ecological changes (Brockfield 1972: p.20).

Canoes themselves were traded (Howe 2006: pp.202-3; Vanderwal 2004: p.259) as were the accessories such as masts, sails, keels, riggings and extensions, and paddles (Howe 2006: p.208). Canoes were also rented out, and transactions required payments to be made calculated on the use to which the canoe was put (Vanderwal 2004: pp.259-261).

There was also an industry in canoe manufacture and modification. McNiven says that because the large double outrigger canoes were the best sailing vessels, then islanders would sometimes pay to have their single outriggers upgraded. For example, Papuans would take the single outrigger to Sabai Island where the islanders would work on the craft to make it a larger double outrigger (Mulvaney 1999: p.330).

Horticulture

Many authors write about how trade and migration contributed to the spread of agriculture and horticulture throughout the Pacific. There is consensus that agriculture dispersed out of Asia eastward into Polynesia, via Melanesia (Bellwood 2005: p.180). Some even argue that East Asia was 'the cradle of Old World agriculture' (Yen 1973: p.72). Bellwood suggests that it was only because of agricultural knowledge and skill that migrants were able to reach the Islands of remote Oceania (Bellwood 2005: p.128), presumably because they were able to carry a lot of food on board their voyages. Yen shows that

plant foods, vegetables and fruits were transferred into Polynesia (Yen 1973: pp.78-79), a point emphasized by Kirch:

The agricultural history of Polynesia is fundamentally one of diffusion: the transference of a tropical southeast Asian-Melanesian crop complex as an integral part of the human colonization of oceanic islands (Kirch 1982: p.1).

Observers show that agricultural practices are exactly the same in Melanesia as in Hawaii, Yen saying that the planting of Taro is identical in the two places (Yen 1973: pp.78-79), and Kirch shows that irrigation systems are the same in an area 'stretching from the Hawaiian Islands in the East to New Guinea in the West, in a range of environmental and social contexts' (Kirch 1982: p.8).

Even more interesting is the fact that there is evidence that the Aboriginal people of Northern Australia participated in this horticultural trade network (Kirch 1982: p.8). There is evidence from myths shared between Northern Australia and the Torres Strait Islands that Aboriginal people were aware of the growing of crops such as taro:

The myths of Cape York tell of the removal of cultivated crops to the islands, Shiveri he took all the food from the mainland to Torres Strait Islands: Banana, Taro, Yam, Cassava, Sweet Potatoes (Swain 1993: p.76).

Even though Aboriginal people seemed to have some contact with horticulture, it *was not* taken up permanently. There have been many reasons given for this, which are summarized by Jane Resture, who concludes that 'the seasonally dry monsoon climate and poor soils of Cape York have been seen as the main barrier to the spread of Papuan species into Australia' (Resture 2012: para.23). It was mentioned above that Papua New Guinea influenced Australian Aboriginal culture significantly, but it should be pointed out that Australians *did not* accept everything that Papua New Guinea had to offer. The dugout

canoe was certainly accepted by Australian Aboriginal people, but they *did not* take on the bow and arrow, or agriculture:

In Cape York there is undoubted Papua New Guinean influence on technology, ritual, art, mythology, language and physical characteristics. The Cape York Aborigines possessed skin drums, bamboo smoking pipes, tobacco and double outrigger canoes. And in physical characteristics, New Guinean traits were marked at the north of the peninsula but declined steadily to the south. There was certainly contact and marriage with outsiders and adoption of some of their ideas and technology, although this seems to have come about through trade and raids rather than by any settlement voyaging down the Cape York coast by islanders. Some material items were imported, others made locally in imitation of Papuan prototypes. The Cape Yorkers had some large, double outrigger dugout canoes, up to 18m long, which had originally been made in the Fly River region of Papua New Guinea and had been acquired through trade or as 'cast-offs', but most of their canoes were similar but much smaller double or single outriggers. The Aborigines were not head-hunters, so they did not participate in the extensive trade in canoes organised in Torres Strait by the head-hunters. (Resture 2012: para.16).

The fact that Australians *did not* participate in horticulture does not mean they *did not* have knowledge through their trade, with Papua New Guinea, of Polynesian geography and culture. It is being proposed here that because of the trade links that include both Australia and Polynesia, that Aboriginal people were aware of the location of Polynesian islands long before the European colonial era.

It was shown in this chapter how close and extensive were the trade and kinship relationships between Aboriginal Australians and other people of the South Pacific. These relationships could well have fostered oceanic voyaging by Australian Aboriginal people. If this story seems strange and novel now, it may be because the history of these long-standing connections has been discounted by the

coloniser (Cheadle n.d.) along the lines of the 'divide and conquer' principle. In other words, it may be that the British not only prevented these inter-Pacific relationships from continuing, but their historians worked to eradicate the memory of them from the record. The following chapter will discuss navigational knowledge and skills possessed by Aboriginal people, and their possible use in ocean voyaging.

Chapter Five: Astronomy and Navigation

Navigational skills and knowledge is the subject of this chapter, which shows that Aboriginal people possessed similar science and technology to all the other peoples throughout Oceania. It is argued that this knowledge was more than sufficient to have enabled Aboriginal people to sail across the Pacific.

The importance of navigational skills and knowledge to human history is extremely high. As Bass says, 'man lives on a planet which is nearly three quarters covered by water. Most of this forms large oceans and seas, but even over land masses are crossed and broken by rivers and streams or dotted with lakes and streams.' Bass continues by saying that before there were farmers and shepherds there were sailors, and before people made pottery, they had learned to build sea going craft (Bass 1972: p.9).

Heyerdahl makes some very important points about ocean navigation which dispels the myth that open sea voyages were more difficult to make than voyages around the coastline. He points out that the ocean is the most treacherous near coasts and over shallows and concludes that 'the fear of any navigator in primitive craft is coastal water; security increases with distance from land' (Heyerdahl 1978: p.44). This is because shoal water backwash and ocean currents when they hit the land usually create a rougher sea than further out from land (Heyerdahl 1974: p.26). These points help to contradict the view that early human beings were unable to make long distant sea voyages over open water.

Once human beings started making voyages, they had to develop navigational systems. There is plenty of evidence that the systems of Indigenous travellers were reliable and sophisticated. David Lewis researched Polynesian and Micronesian navigational systems which depended on a deep knowledge of astronomy mainly (Lewis 1973: p.71). Apparently no navigational instruments have been recorded as ever been used at sea in Oceania, navigators relying instead on the wind compass, the Zenith Star,

drifting objects, migrating birds, and ocean swells and currents to guide them' (Lewis 1974: pp.2-4; Sharp 1963: p.42). Feinberg backs up what Lewis says when he writes:

A navigator's position at sea was calculated by dead reckoning. Yet despite the absence of magnetic compass, printed charts, sextant, and other aids familiar to the western mariner, the islanders' equipment and techniques have proved remarkably proficient (Feinberg 1995: p.4).

This knowledge was used for three main tasks as listed by D'Arcy: first, the navigator had to know the direction of the destination; then that direction and the progress of the voyage had to be plotted; lastly the navigator needed to make sure that contact could be made at a safe and secure landing place (D'Arcy 2001: p.134).

Sailing in the Pacific

The navigational history of the Pacific region has had some attention paid to it but it needs more. The area known as the South Pacific, which includes Polynesia, Melanesia, and Northern Australia is very large. The distance between Chile and Australia is 13,200 kilometres, and the ocean as a whole is 169.2 million square kilometres in area (Kirk 2012: p.9).

This section will examine the issue of sailing in one direction throughout the Pacific that is from West to East. Apparently European sailors were unable to work out how to sail in this direction. As Heyerdahl says:

the period of five hundred years, in which all the intrepid European navigators were utterly incapable of forcing their ships from Asia into Oceania by way of Papua-Melanesia or Micronesia (Heyerdahl 1978: p.50).

The reasons for this inability is largely because the Europeans did not understand the Winds and the currents within Oceania. For example, Lewis says that:

The probability of drifts occurring was negligible or zero across the following sea ways; western Melanesia to Fiji to, eastern Polynesia to Hawaii, New Zealand or Easter Island' (Lewis 1973: p.28),

which suggests that the knowledge that the navigators needed could not be stumbled across by accident. Sailors have to know when the winds and the currents (The Northern Equatorial Current, the Monsoonal Winds) are going to support a voyage from West to East, because most of the wind and the current action is going in the complete opposite direction, like the Equatorial counter current and the Humboldt (Kirch 2000: p.51). In fact, Kirch says that Indigenous navigators had to develop strategies for sailing from West to East across the Pacific (Kirch 2000: p.51). Of course these Indigenous sailors did find a way as Polynesia was successfully colonized from Micronesia and Melanesia. Lewis points out that Hawaii was settled from the Marquesas (Lewis 1973: p.305). Goetzfridt makes the point that:

...the nursery region of the Bismarck Archipelago of the Lapita culture to the remote reaches of Polynesia and eventually to the South American Coast emphasizes that the people who explored the Pacific had a navigation technology who allowed them to live rather than die if they followed a simple survival sailing strategy (Goetzfridt 1992: p.25).

Captain Cook noticed these navigational skills, and recorded how impressed he was by how the Polynesians sailed from island to island for hundreds of kilometres with just 'the sun serving them for a compass by day and the moon and stars by night' (Lewis 1973: p.19). Sharpe recounts how Cook took a Tahitian native named Tupea from his home to Batavia via New Zealand and Australia and was surprised that Tupea could always accurately indicate the direction that Tahiti lay, wherever they happen to be. Apparently he did this by referring to the 'rising quarter of the south tropic stars' (Sharp 1963: p.39).

Lewis claims that island hopping is eminently possible across the Pacific, saying 'that it is possible to sail to almost all the inhabited islands of Oceania from South East Asia without even once

making a sea crossing longer than 300 miles' (Lewis 1973: pp.20-21). He continues by saying that most inter-Island distances are well under 200 miles and most of them fall between 50 and 200 miles (Lewis 1973: pp.20-21). Mullins comments that the islanders he knew were 'dexterous sailors' who had a vast store of knowledge of the sea, the stars and the prevailing winds (Mullins 1995: p.13).

David Lewis embarked on a project of retracing ancient inter-island voyages with Indigenous navigators and he was very impressed with their ability to navigate accurately across long distances. He reported from one voyage that the navigators demonstrated skill in 'star path steering, though there was also extremely impressive example of keeping course of ocean swells during rain and over cast and some locating land by a type of underwater phosphorescence. In all 335 miles of open sea were recovered' (Lewis 1973: p.28). Lewis also recounts a story of Solomon Islanders Bakapu and a companion who had been kidnapped by Black birders and taken to Fiji. These two escaped, stealing a small craft and sailed home 1000 miles across open sea back to their island (Lewis 1973: p.31).

Steering by the stars

The authors consulted for this study all agree that the stars were the main source of navigational information for islander sailing. This is because the sun's position in the sky can vary with the seasons, and can only be accurately determined by reference to named stars (Lewis 1973: p.5). As Lewis says:

Since the place where the sun rises or sets varies even on the equator by 47 degrees, it follows that some fixed points of reference are necessary, on which to orientate the seasonally changing positions of the suns rise and set. This is most conveniently provided by the stars (Lewis 1973: p.79).

Lewis has a lot to say about just how Pacific islanders exercise their navigational skills. He says that the most accurate direction indicators are stars that sit low in the sky, having just risen or just about

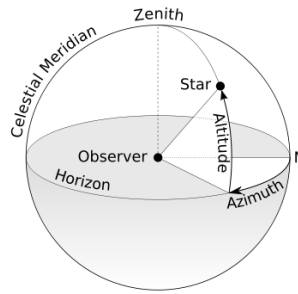
to set. These are called horizontal guiding stars (Lewis 1973: p.45). This process can be summarized as 'steering towards the setting point of stars, by maintaining an angle to the sun, swirls, and wind, and occasionally judging latitude by the unaided eye when a particular star was passing directly overhead' (Lewis 1973: p.4). The procedure was to know which star arises or sets in the direction over the island that you wish to visit (Lewis 1973: p.45), and you follow it. Lewis says that you can get to New Zealand from Tahiti by following just one star (Lewis 1973: p.5). Sometimes a part of the canoe might need to be lined up with the star for reference purposes. As D'Arcy points out:

Most...stars appear to arise from the horizon during the night. They can be used as direction markers when close to the horizon. Star paths to destinations consist of a series of rising and setting stars. These stars were lined up against certain parts of the canoe (D'Arcy 2001: p.135).

During the evening a traveller can determine where they are headed just by following the ever-changing locations of constellations throughout the night sky (No Author, *Maps in the Stars* 2015: para.14).

The night sky is a highway where stars travel from East to West. Certain stars act as stable references or guides for the navigator. For example Polaris exists within the north and is visible all night long. The same occurs within the south with the Southern Cross (D'Arcy 2001: p.135). Lewis shows that it is necessary to know where north and south is at all times for calculating any direction:

In more technical terms the direction (bearing) of your objective, the course you must follow, is the direction (azimuth or bearing) of its guiding star, at rise if the course be an easterly one, at set if it be westerly (Lewis 1973: p.45).



[Source.](#)

As the earth spins on its axis, all stars rise up in the east at a specific location, tracing their trajectory to a westerly setting point (Lewis 1973: p.45). All stars differ in how they move across the skyline. They rise in slightly different places and follow different trajectories, so that some stars stay in the sky longer than others. As Lewis says, a star 'does not rise straight up from the horizon but at an angle, so that a few hours after it has risen in the north east', it might be too high to be useful (Lewis 1973: p.45). This means that a navigator can only use a rising star for a certain period of time. So when this star goes too high in the night sky or veers too far in one direction, then the navigator uses the next star that rises on the horizon (Lewis 1973: p.45). Because stars rise one after the other until dawn, the navigator, according to Lewis, might use ten stars during the night's voyaging (Lewis 1973: pp.46-47).

D'Arcy comments that using the sky for navigation is practical because the sun and stars are usually in full view of sailors, because cloudy weather does not usually last for more than three days. Furthermore, clouds apparently disperse at night time over the ocean, and cloudy periods tend to be seasonal and therefore can be predictable (D'Arcy 2001: p.125). In 1774 the Spanish navigator Andia y Varela commented with great admiration that:

When the night is a clear one they steer by the stars, and this is the easiest navigation for them because, these being many in number, not only do they note them by the bearings on which the several islands in which they are in touch lie, but also the harbours in them, so that they make straight for the entrance by following the Rhumb of the particular star that rise or sets over it;

and they hit it off with as much precision as the most expert navigator of civilized nations could achieve (quoted in Lewis 1973: p.47).

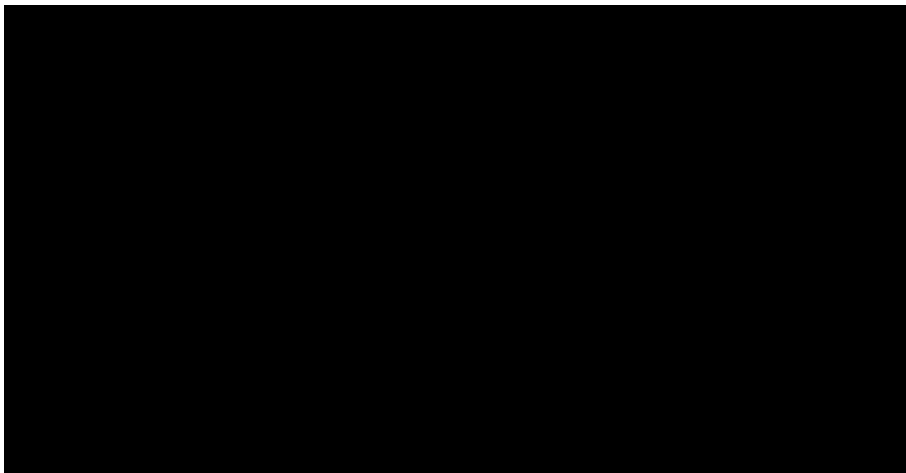
With the Wind and swells and currents

Wind:

Stars were not the only navigational aids use by Pacific sailors. They also used the knowledge of ocean swells, winds and currents (Goetzfridt 1992: p.4). Wind and swells are connected and apparently ocean swells are consistent and predictable across the Pacific during the trade wind season. Akerblom also lists other things that navigators used to identify were land was, such as cloud formations over islands and the reflections from the lagoons of atolls. Birds in the sky were another sign of land nearby (Akerblom 1968: p.24; Feinberg 1995: pp.3-4).

The fundamental objective of sailing is the knowledge of seasonal winds. Navigators preferred to sail with the winds behind them. The social life of Oceanic Islanders was highly organized around the seasons and prevailing winds. D'Arcy says that the Islanders never sailed in treacherous conditions but always waited for easier winds that blew in the right direction (D'Arcy 2001: p.125). So for example, the seasonal calendar for the Meriam people was based around when the North-westerlies blew, 'so these winds could be used for navigational purposes' (Johnson 1998: pp.28-30). Feinberg illustrates that whole families in Polynesia would leave their islands to sail to distant communities to feast and trade. They would leave on the south east trade wind in October or November, this fitted in well with the agricultural cycle of harvesting yams crops (Feinberg 1995: p.44). The northwest monsoon was another wind that influenced people's lifestyle, blowing from January to April. Feinberg says that the Mailu Islanders from Papua sailed five hundred kilometres to Vanatinui on this wind. They then sailed home on the south east trade winds (Feinberg 1995: pp.44-45).

D'Arcy writes that winds across Oceania allowed people to sail in most directions at some time during the year with the wind behind them (D'Arcy 2001: p.125). Sailing in to the wind has always been a challenge for navigators. Over the millennia skills and technology have been developed to accommodate this great difficulty. Sailing in Oceania from West to East, as was pointed out above, always presented a problem for navigators. One way around the problem was to develop a sailing shunting technique used by single and double outriggers. This was like the tacking technique used by European sailors (Goetzfridt 1992: p.7). Another way around the problem was to develop improved canoe technology. Goetzfridt considers that while people did navigate from West to East in the Pacific, with their early canoes they were never able to sail for very long distances sailing into the wind at an angle closer than 70 or 80 degrees (Goetzfridt 1992: p.3). He continues on by saying that Micronesian double outriggers canoes were able to sail closer to the wind than any other vessels and were considered 'the best in the world' (Goetzfridt 1992: p.26).



[Source.](#)

Swells:

Lewis found from his experience that Pacific navigators checked their daytime bearings from swells mainly, and also the wind and the sun (Lewis 1973: p.84). D'Arcy says that while swells can still be

detected at night, the stars were more reliable than for the purpose of navigation (D'Arcy 2001: p.135).

Swells in the Pacific, if they were generated by trade winds, usually come from the east, north east or south east, depending upon the season. Swells could also come from the south generated by westerly monsoon winds (Lewis 1973: pp.85-86). Apparently Pacific navigators were very sensitive to even distant swell patterns (D'Arcy 2001: p.135), and:

Master Polynesian navigators it is said could close their eyes and discern from differing swell, all gently rocking the boat and simply tell from change in movement of their heading had drifted off course (No Author, *Maps of the Stars* 2015: para.15).

Where Canoe design and navigation work together

Astronomical and Meteorological knowledge were not the only things required for successful sea voyages. Canoes had to be designed to fit in with climatic conditions. Feinberg shows how canoe design was shaped by environmental factors. For example, the keel was developed in order to resist leeway drift, and allows for more efficient tacking and for beating into a headwind. Other design features in canoes specifically developed for long distant open sea voyages included outriggers, double hulls, and the deep V design for hulls (Feinberg 1995: p.5). Goetzfridt agrees with Feinberg when he says that 'the most sufficient designs have a V-bottom hull or a round bottom with a very large steering oar' (Goetzfridt 1992: p.3).

Stars in Aboriginal Society

The nomadic lifestyle of the Australian Aborigines camping out beneath the stars for thousands of years before the invention of the light globe and electricity lent itself particularly well to star gazing (Johnson 1998: p.2).

Bill Harney *Yidumduma* confirms this in talking about his childhood upbringing around Katherine in the Northern Territory:

How to travel? Follow the star along... while we were growing up we only lay on our back and talk about the stars... we always followed the star for the watch. The stars and the Milky Way have been moving all around if you lay on your back in the middle of the night you can see the stars all blinking. They're all talking (Norris & Harney 2014: p.146).

Harney continues and says that with his mob in Northern Australia that most of the travelling was done at night 'when the air was cool and the stars visible as guides' (Norris & Harney 2014: p.149).

Dianne Johnson is one of the most reliable sources for Australian Aboriginal people's knowledge of Astronomy. She points out that Aboriginal people had in the old days a universal understanding of the night sky. It is a common fact that Australian Indigenous people named primary stars and constellations (Johnson 1998: p.81). The anthropologist CP Mountford certainly found this to be the case with people in the central desert region:

Mountford considered that 'many Aborigines of the desert are aware of every star in their firmament, down to at least the fourth magnitude, and most, if not all, of those stars would have myths associated with them (Norris & Harney 2014: p.150).¹

¹ In the 18th century Scottish astronomer John Keill explained the magnitude systems of stars as follows: The fixed Stars appear to be of different Bignesses, not because they really are so, but because they are not all equally distant from us. Those that are nearest will excel in Lustre and Bigness; the more remote Stars will give a fainter Light, and appear smaller to the Eye. Hence arise the Distribution of Stars, according to their Order and Dignity, into Classes; the first Class containing those which are nearest to us, are called Stars of the first Magnitude; those that are next to them, are Stars of the second Magnitude ... and so forth, 'till we come to the Stars of the sixth Magnitude, which comprehend the smallest Stars that can be discerned with the bare Eye. For all the other Stars, which are only seen by the Help of a Telescope, and which are called Telescopical, are not reckoned among these six Orders. Altho' the Distinction of Stars into six Degrees of Magnitude is commonly received by Astronomers; yet we are not to judge, that every particular Star is exactly to be ranked according to a certain Bigness, which is one of the Six; but rather in reality there are almost as many Orders of Stars, as there are Stars, few of them being exactly of the same Bigness and Lustre. And even among those Stars which are reckoned of the brightest Class, there appears a Variety of Magnitude; for Sirius or Arcturus are each of them brighter than

Furthermore, in Aboriginal culture star knowledge was a major stream of education, and was taught by men 'particularly known for their intelligence and expertise' (Johnson 1998: p.6). Johnson continues to say that the night sky was used as a calendar, and also as a series of interconnected maps. These maps were used extensively to predict all sorts of things in hunting and gathering such as seasons, weather conditions and resource management (Johnson 1998: pp. 8-9). Norris and Harney extend this when they say that 'practical applications of this knowledge include the ability to predict tides, as well as navigation, time keeping, and the maintenance of a calendar' (Norris & Harney 2014: p.141). In the same vein, Johnson quotes Bill Neidjie who says 'I look at star, I know just about time from wet season/maybe time for dry season/ I know from star' (Johnson 1998: p.34).

What was true for the Gagadju people also applied to Groote Eylandt and the people of Yirrkala:

When the constellation known to Europeans as Scorpius attained a particular position in the night sky, the people of Groote Eylandt knew that the wet season was about to cease, and the South Easterlies was due. When it was high in the early morning sky, Yirrkala knew that the Malay fishermen would soon arrive on the yearly visit to collect Trepang (Johnson 1998: p.25).

Cole says the same thing about the Nanggubuyu (Cole 1980: p.10), and Johnson points out that desert Aboriginal people used the stars for navigation purposes when travelling long distances overland at night (Johnson 1998: p.41). Bill Harney *Yidumduma* is a very rich source for information regarding navigation by the stars. He describes the night sky as almost like a highway for travelling through:

Aldebaran or the Bull's Eye, or even than the Star in Spica; and yet all these Stars are reckoned among the Stars of the first Order: And there are some Stars of such an intermedial Order, that the Astronomers have differed in classing of them; some putting the same Stars in one Class, others in another. For Example: The little Dog was by Tycho placed among the Stars of the second Magnitude, which Ptolemy reckoned among the Stars of the first Class: And therefore it is not truly either of the first or second Order, but ought to be ranked in a Place between both. ([https://www.revolvy.com/main/index.php?s=Magnitude%20\(astronomy\)](https://www.revolvy.com/main/index.php?s=Magnitude%20(astronomy))) Quoting from *Keill, J. (1739). An introduction to the true astronomy (3rd ed.). London. pp. 47–48.*

The Dreaming Track in the sky! Planets making the Pathway! Travelling routes, a pathway you could call it, like a highway! Travelling pathway joins to all different areas... (Quoted in Norris & Harney 2014: p.150).

And the authors confirm that the distances travelled using the night sky for navigation were substantial:

The available evidence shows unambiguously that the ability to navigate long distances was widespread (Norris & Harney 2014: p.149).

Coastal Aboriginal people all over Australia had a relationship with the sea, but it wasn't until the Europeans came that their ability to make open sea voyages was more widely acknowledged. Smith talks about the Eora people saying that they had a canoeing culture:

They had depended for countless generations on fresh fish and seafood. The harbors, rivers creeks and lagoons, sandy beaches and muddy estuaries were their natural highways and principal sources of food (Smith 2008: p.ix).

Smith goes on to say that these people would work with European sailors, becoming sealers, whalers, guides, pilots and boatmen in their own right (Smith 2008: Abstract). Smith makes the prime example of Bennelong and other Aboriginal associates sailing with Governor Arthur Phillip across ten thousand miles of ocean to England (Smith 2008: p.178).

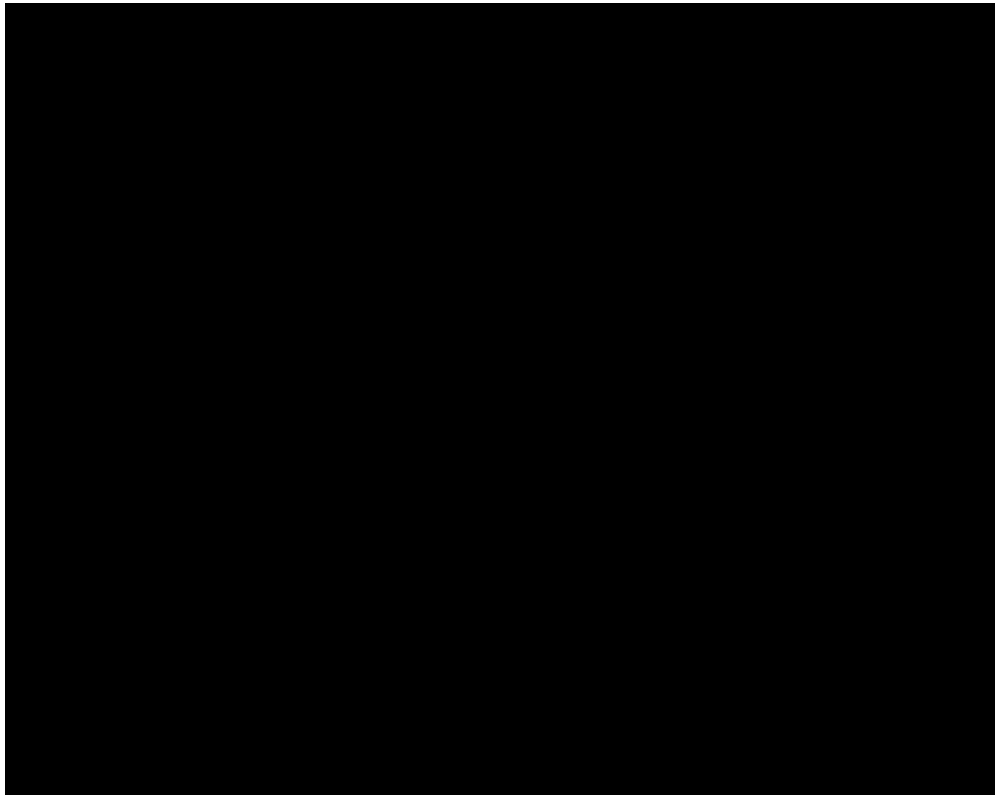
Johnson clearly demonstrates that Aboriginal people possessed the necessary astronomical knowledge required for undertaking the sort of sea voyages that Pacific Islanders regularly made:

The Aboriginal Australians could also give, with a fair degree of accuracy, the time of the heliacal rising of any star. They clearly knew that stars raised in the east and moved across the sky to the west as does the sun. They also knew of the more gradual annual shift of the star groups,

and based complex seasonal and ritual calendars on the location of particular stars at dawn or dusk (Johnson 1998: p.82).

Norris and Harney are in complete agreement with this when they say that, 'these Aboriginal elders also understood how the whole pattern rotated over their heads from East to West during the night, and how it shifted over the course of a year' (Norris & Harney 2014: p.150).

Australian Aboriginal people, it was shown, have always had a very deep knowledge of astronomy. This knowledge allowed them to navigate their way across both land and water accurately and safely. It was shown that the Aboriginal science was of exactly the same type as the stellar navigational science of Torres Strait, Melanesia, Micronesia and Polynesia. The fact that known ocean travellers like the Polynesians had the same star knowledge, means that Aboriginal people could have used their own knowledge for long distance seafaring as well. The final chapter of this thesis will examine the spiritual traditions shared by Torres Strait Islanders and Aboriginal Australians, and the role religion played in seafaring.



Gulau Maril by Victor Motlop, Moalgau Minneral Art Centre Moa Island (TSI)

Region: Torres Strait Islands

Medium: Linocut

Image Size: 210 mm x 270 mm

Paper Size: 290 mm x 385 mm

Edition Size: 30

Printer: Victor Motlop

Studio: Moalgau Minneral Art Centre Moa Island (TSI)

<http://australianartnetwork.com.au/shop/artwork/gulau-maril/> accessed 11/08/2017.

Chapter Six: Religion and Culture

This chapter illustrates how northern Aboriginal people closely shared a religious relationship with people of Torres Strait and Papua New Guinea. This religion is seen to be intertwined with astronomy, navigation and seafaring. This big picture could give deeper insight into Aboriginal people as seafarers.

The Religion of Dreaming Songlines

The Australian Dreaming is a way of life, a philosophy that encapsulates Environment, Spirituality, Languages, Stories and People. Nganyinytja, an elder Pitjantjatjara women describes it in this way:

We have no books, our history was not written by people with pen and paper. It is in the land, the foot prints of our creation ancestors are in the rocks. The hills and creek beds they created as they dwelled in this land surround us. We learned from our grandmothers and grandfathers as they showed us our sacred sites, told us the stories, sang and danced with us the Tjukurpa (the dreaming law). We remember it all; in our minds, our bodies and feet as we danced the stories. We continually recreate the Tjukurpa (Jebb 2015: p.33).

In the Dreaming ancestor creator spirits roamed the earth and sky and created all things to do with nature and society as a living culture, where Aboriginal people believed in that nature and society (Johnson 1998: p.12).

Religion, Stars and Navigation

As Carstens points out, Aboriginal and Torres Strait Islander people for many thousands of years have continued to follow in the footsteps of their ancestors, along paths called songlines 'across the lands and seas of Australia' (Carstens 2016: p.35). Carsten continues by saying that songlines interconnect with each other, weaving a dense mapping of both the earth and the sea. These pathways are 'mirrored by sky songlines, allowing people to travel vast distances and highlighting the deep connection they have to earth and sea' (Carstens 2016: p.35). Johnson concurs with this and says that for desert Aboriginal people and others, the totemic ancestors are represented in the sky by stars and planets

(Johnson 1998: p.8). Most of the myths, she says, involve the stars but have their starting episodes on earth. This means that the land environment is intrinsically linked with the celestial environment. This link is ongoing and the wise ancestors in the sky continue to provide guidance and inspiration to people on earth (Johnson 1998: pp.8, 20, 59). To interpret the knowledge of star reading is taken very seriously. The ceremonies around initiation included star knowledge mainly and were designed to give a rite of passage towards wisdom. The young men were taught myths by elders of their community who were 'particularly known for their intelligence and expertise' and who actually owned particular stories about stars and planets (Johnson 1998: pp.4-6).

Both authors point out that the dreaming extends across the sea as well as across the land. There is a solid body of evidence that shows myths travelling across Torres Strait and being shared by Australian Aboriginal people and Torres Strait Islanders. The Dreaming not only includes myths but also kinship networks. As Johnson points out, all aspects of the cosmos had a place in the Dreaming and were linked by kinship. This brings together all people who share myths, and Torres Strait Islanders were brought into personal relationship with northern Aboriginal people (Johnson 1998: pp.4, 76). Some Aboriginal groups who lived on islands like Groote Eylandt and Tiwi were also brought into this system (Cole 1980: pp.7-8).

Alan Rumsey has carried out research in this area and focuses on the myths of the ancestors of Arukun and Tiwi, which are used in the religious cultures of both the western and eastern Torres Strait islands and also of mainland Australia, extending five hundred kilometres down the east coast of the continent (Rumsey 2001: p.11). Tony Swain has concentrated his research on the myths of the Cape York Peninsula and writes about certain hero ancestors leaving Cape York and heading to Torres Strait and Papua New Guinea, looking for new homes (Swain 1993: p.69). Swain quotes an Aboriginal elder who explained this to him:

He might have been born there, or he must have a mother or God put him there.... Then he stop there, stop there, He must have been doing great things like get a nice house or big house. And he do all that game there, all Bora Things! He go, he go he go ,.. Come out in the river mouth. Him say well, I think I go now leave this place he look back, oh, country there I leave him long way, he say, right to south. He start make one sing there, make sing them. He still go. He never stop em keep saying (Swain 1993: p.69).

One of the main myths talks about Shiveri removing food from the mainland to the Torres Strait Islands. Swain writes that Aboriginal people and Islanders continue to explore their connections to each other through these myths and how they relate in socio-religious ways (Swain 1993: p.73-76).

Shared Religion of Torres Strait and Cape York

Aboriginal people were interrelated with Torres Strait Islanders through the continued networking of songlines across country and across the seas. This was reinforced through trade, marriage and children. Both Indigenous Australians and Torres Strait Islanders valued reciprocity and made it an essential part of their laws and customs. Trade between both cultures was an example of this reciprocity (Swain 1993: p.82). Feinberg says that such trade often included objects of ritual value (Feinberg 1995: p.10). Morelag Island is a trading island where both Aboriginal people and Torres Strait Islanders come to exchange gifts and belongings. The Injinoo people on the tip of Carpentaria have an extended relationship with the Islanders. Swain says that their reciprocal relationship is so deep and successful that 'Aborigines and Islanders could see themselves as having a shared cosmological tradition' (Swain 1993: p.84).

Torres Straits:

For Torres Strait Islanders there is a strong religious dimension to navigation and seafaring. The link between religion and navigation lies in the stars and planets. As Johnson says, 'when the rising of a

star is expected on the Torres Strait Islands, it is the duty of the old men to watch. They get up when the birds began to cry and watch till daybreak' (Johnson 1998: p.24). The Islanders have initiation ceremonies related to the sea and practise rituals, the Malo rites, in preparation for seafaring trips and expeditions (Johnson 1998: p.27). After these ceremonies spirit guardians accompany the Islanders on their canoe voyages (Johnson 1998: p.37).

One of the main myths of the Torres Straits tells of Tagai and his twelve man crew sailing through the sky in their dugout canoe. Tagai can be seen in the Southern Cross, a big man standing up in a canoe where he holds up a fishing spear in one hand and a native fruit in the other. His crew is formed by six stars from the Pleiades and six stars from Orion. These 'stars of Tagai' as Sharpe calls them, are a guide to voyaging and mark changes within the seasons (Sharpe 1993: pp.xi-4).

The centrality of the sky and celestial bodies to religion and navigation is illustrated clearly in art works by Islander artists such as Billy Missi. Carstens writes that Billy Missi's main stories revolve around how Torres Strait Islanders are educated to read the stars, the moon and the sea to understand the seasons and how they interact with the environment. Apparently the seasons on Torres Strait are all connected with wind patterns, and are known as 'Sager (South East Trade winds), Gabu, Thornar (Winter), Naigai (The Calm Northerly Wind before Monsoon), and Kuki (the Monsoon)' (Carstens 2016: p.37). Billy Missi knows the ancestral spirits by the name Zugubal, who can be seen in the patterns of the star constellations and who guide seafarers safely through their journeys (Carstens 2016: p.34). Billy Missi explains how young Torres Strait Islanders are taught this knowledge:

Kulba Yadail teaches us to read the stars, the moon and the sea. Kulba Yadail describes our environment, our culture and also our identity. In our culture, the stories and other knowledge of our world have always been handed down orally from generation to generation since time immemorial. It is this knowledge that provides guidance. From the boys' perspective, it is their

uncles, fathers, and sometimes grandfathers who teach them this knowledge. The relationship between the stars and the seasons determines when we can cultivate, hunt, and harvest the food from the sea and land (Carstens 2016: p.37).

Pacific Islands:

Several authors have pointed out that Pacific Islanders also extend religion to navigation and seafaring. Lewis writes that the knowledge and the myths associated with this were considered secret in Oceania, and it was forbidden under religious law for these to be revealed to uninitiated people (Lewis 1973: p.17). Feinberg comments that the sea is represented religiously within the Pacific region in stories, songs, dances, tattoo designs and ceremonies (Feinberg 1995: p.11). D'Arcy writes about how navigational knowledge was embedded in chants and songs 'that drew together celestial, climatic and oceanic direction markers' (D'Arcy 2001: p.132). He says that the Pacific was full of places and features connected by songlines and that initiated inter-island sailors actually 'sang their way across the sea' (D'Arcy 2001: p.132). McCall points out that the priests of Rapanui were experts in ancestral knowledge of stellar navigating (McCall 1981: p.37), and Akerblom says that for Hawaiians, the stars of the Lewan group governed ceremonial activities (Akerblom 1968: p.19).

We thank you trees, in Tlingit Askwani. And the tree that we are going to use today. That we look at you as symbol of strength and power. And that you would hold us in the storms and weathers to come and that it would be a blessing to the Hawaiian nation. And that it would also serve us as a link between the three nations, Haida, Tlingit, and the Hawaiians and that our love would grow with one another and that it would be an ongoing relationship (Finney 2003: p.15).

This is a modern prayer to trees growing on Hawaiian Islands from which canoes will be made. History tells that ritual and ceremony always accompanied the building of canoes in Oceania. Lever writes that, in the Solomon's, a whole tribe is involved in making a canoe. Rituals are carried out, and

there are many social taboos involved in the protocol of canoe building (Lever 1963: p.102). The whole tribe dances and sings songs in order to compel the spirit to leave the tree and find a new home somewhere else. Cole says that on Groote Eylandt permission is sought from a tree before cutting it down to make a dugout (Cole 1980: p.10). In the Trobriand Islands, the tree is then cut down and more rituals are performed in making the tree into a canoe (Malinowski 1920: pp.100-102). Religious rites were carried out in order to make sea journeys safe, to make the vessel swift and steady, and to bring luck to the trading activities that the canoe was being used for (Lever 1963: pp.100-103). Lever says that for the Solomon Islands, the canoes had guardian spirits, they were often used as coffins, and they were the tribe's single most precious possession (Lever 1963: pp.23-24). It seems that this situation was mostly the same all over the north, including at Groote Eylandt (Cole 1980: p.10), and all over Arnhem Land and the Crocodile Islands (James 2017: pers. comm.10/05/2017).

In Torres Strait, canoes were prized as cultural possessions of great beauty (Sharp 1993: p.34), and to be without a canoe, Sharp says, was almost to be without a future (Sharp 1993: p.67). Canoes were viewed as sacred creations all over the north of Australia and they were treated like a living thing, part of the essence of the sea:

An islander's canoe, itself like a living thing, an extension of its owner, sails in matched union with the sea, following the patterns of its movement (Sharp 1993: p.32).

There are known myths related to the design and creation of canoes. Vanderwal (2004: pp.260-261) and Sharp discusses the legend of how the first double outrigger canoe came into existence:

Two men were given two canoes at Mawata to enable them to travel together they removed an outrigger from one of them, joined the canoes, and put a cross-piece at each end. The islanders then evolved the seagoing craft with a double outrigger fitted with a gunwale (Sharp 1993: p.28).

Dianne Johnson tells us that canoes feature in some other Dreaming stories, where spirit guardians of men are celebrated as going out in canoes (Johnson 1998: p.39). Canoes in Dreaming stories also occur on Groote Eylandt and throughout Arnhem Land (James 2017: pers. comm. 10/05/2017). Noni Sharp provides more detail, and talks about ancestors such as Tagai who are seen in the constellations as hero ancestors standing in a canoe fishing. The story tells of twelve men preparing for a long sea voyage (Sharp 1993: pp.3-4). Yolngu people of Arnhem Land tell a story about three brothers who broke the law while fishing. They are now in the sky as the constellation Orion, which traces out the image of a canoe with the three brothers sitting inside it (Norris & Hamacher 2011: para 3).

This chapter has shown that people throughout Oceania share a cosmological tradition, highly valued, that linked together the stars, ancestors, and sailing the seas. It is not only Polynesians and Melanesians that share this tradition, but also Aboriginal Australians. This fact may provide further suggestive evidence that Indigenous Australian navigators had long term connections with Polynesians right across the Pacific.

Conclusion

The story that was told in this thesis was expanded to reveal the technological capabilities that could have enabled Indigenous Australians to traverse the South Pacific Ocean. The research has analyzed the context of Uncle Tim's story to make a step by step inquiry into the background of the way coastal Aboriginal people lived in close communion with the sea. Even though there is no direct evidence that Aboriginal people sailed long distances, the fact they shared religion and kinship with Torres Strait Islanders and Papua New Guineans, means that they are highly likely to have sailed to those places. It is well documented that there is a strong and well-established communication between Papua and Polynesia. It is more than likely that Aboriginal people had ties with Polynesians also.

Chapter one discusses that while conventional history would probably doubt that Aboriginal people could have sailed to Hawaii, recent stories have come to light that make it seem more likely; stories like Aboriginal skulls found in Brazil, the oral history of Aboriginal people in New Zealand, and the Aboriginal DNA found in Amazonian tribes. These examples are counteracting the idea that Aboriginal people are the lowest race on the evolutionary ladder. Part of this discrimination includes not taking Aboriginal stories as serious historical evidence. Indigenous theorists like B.M.J. Brayboy see that this attitude is just a continuation of keeping First Peoples down, and so these theorists insist that Indigenous stories are treated seriously. This thesis argues the same thing.

Chapter two examined canoe technology and use throughout Australia and throughout the South Pacific region. It was shown that two types of watercraft technology existed, with bark canoes more prevalent in the south and dugout canoes used more around the north of Australia. This showed that the bark canoe technology was used mainly in rivers, creeks and lakes and also up and down the coastlines. The dugout canoe technology suggests that Aboriginal people were making inter-island trips with extensive deep-ocean faring contacts with neighboring countries. While they systematically

downplayed Aboriginal seafaring achievements, earlier scholars seemed to ignore the fact that Australia was originally colonised by seafaring people. Some historians argue that the people just drifted here on rafts as accidental voyages, but this idea has been overturned by other researchers who demonstrate that the voyages were more than likely purposeful. It was shown that the dugout canoes that Aboriginal people possessed in the north of Australia were quite capable of ocean voyages. Some authors claim that Macassans were chiefly responsible for introducing dugout technology for Aboriginal people, but this could be disputed as the influence could just as easily have been between Torres Strait Islanders, Papua New Guineans and Aboriginal Australians.

Chapter three examines the debate over who painted the Guion Guion rock art in the Kimberley. Graham Walsh, who documented most of the paintings, claimed they were made by a previous society who settled Australia before Aboriginal people. Walsh said that this culture was more sophisticated than the culture that the current Indigenous landowners of the area came from. Aboriginal people objected to these racist claims, and their objections were backed up by the Australian Archaeological Association and by the High Court of Australia. It is interesting that the Guion Guion paintings include an image of a seaworthy dugout canoe that Walsh uses to support his racist argument. Walsh said that because it is known that Aboriginal people did not possess such watercraft, then the paintings must have been done by some other culture. Why would Graham Walsh come to that conclusion when he could just as easily have interpreted the image as evidence that Aboriginal people did have seagoing watercraft? It is known that Walsh gave evidence in support of the Pastoralists and Graziers Association of Western Australia in opposing Kimberley Native Title claims. So that the downplaying of Aboriginal culture and achievements was seen to have a political dimension, where the coloniser is justified in taking the land from Indigenous Australians.

Chapter four looks at the trade, marriage and kinship connections between Aboriginal people and Australia's northern neighbours. It was shown that peoples in the region were sailing in all directions, sometimes for quite long distances between islands. This was for trade purposes mainly, and there is evidence that Aboriginal people participated in that trade, primarily with Torres Strait and Papua New Guinea. The Papuans in turn traded with the rest of Melanesia and also Micronesia. It was these links that, in Rowland's words, connected Aboriginal culture 'with that of Oceania' (Rowland 1995: p.8). Trade with the Macassans provided even more connections with seafaring people to the north of Australia. The Macassans introduced their own versions of seagoing technology to Aboriginal people and possibly also their nautical knowledge of the region that includes Polynesia. The chapter showed that Aboriginal Australia has always extended into the Pacific, rather than being the isolated set of cultures that history and scholarship has made them out to be in the past.

Navigational skills and knowledge based on astronomy was the subject of chapter five. It was shown that Indigenous people all over the Pacific region possessed sophisticated navigational skills. Evidence was brought to bear to demonstrate that Australian Aboriginal people not only had vast knowledge of the star systems, but they used that knowledge to navigate voyages over both land and sea. Even though there is no direct evidence that Australian Aboriginal people sailed to Hawaii, there is no doubt that their astronomical knowledge, just like their canoe technology, would have supported such a voyage.

The last chapter shows that Australian Aboriginal religion is firmly based in the Celestial Bodies of the sky. This demonstrates how seriously the people took their astronomical knowledge. Scholars point out that aspects of Aboriginal religion are shared by Torres Strait Islanders, so this religion must have included previous ancestors sailing on the open sea. The art of the Torres Strait now depicts exactly this relationship between astronomy, seafaring, and religion, which is a relationship that is also recognised by Polynesian peoples.

I am satisfied that the evidence of religion, astronomy, trade and marriage, and canoe technology shows that Aboriginal people sailing from the north of Australia to Hawaii was highly achievable, despite what historians and other scholars might have thought.

Personal impact of the study on my journey as an Aboriginal man.

Since researching the evidence to create this logical argument for ancient Aboriginal know-how, I believe that I have grown a lot with the work. The ongoing trips to the National Library in Canberra, and the continued trips to museums and libraries around Sydney have brought on a type of cultural awakening within myself. Here I am, a fellow from northern NSW bringing on research into seafaring, and yet I have never sailed to distant islands; have never gone deep-sea fishing or snorkeled in the reefs and shallows around NSW beaches, let alone with spears and waddies. I was going into unknown territory. However, I feel that my lack of experience in this area has been compensated for by spiritual direction. I have been shown dreams, and I met new and interesting people at the right times for my work; friends both white and black who have strong educational knowledge. Some of these friends have solid cultural backgrounds that gave me the incentive to want to dig deeper into the work. Uncle Tim's story itself was a challenge. Unaware of what was about to unfold, I was sitting at the dinner table listening to interesting tales of overseas travels, when the Hawaiian story was told. Immediately it had an everlasting effect on me, so much so that I decided to devote years of research to it. I seriously believe my ancestors wanted me to follow up this enquiry. I believe they were the spiritual driving force behind my motivation; that I was guided by them, and so I set out with confidence on my own seafaring journey.

I had dreams, given from my ancestors, that led me to research more into the Torres Strait, Papuan, and Australian links. These dreams connected in with the Crocodile Dreaming story that I discovered in Canberra, which showed me that Aboriginal people, Torres Strait Islander people, and

Papua New Guinean people share a mighty spiritual past. This Crocodile story was a Creation story that comes from Papua New Guinea, and it illuminates histories between these regional areas with their kinships systems, religious beliefs, and deep cultural understandings of each other's country. Again, I felt guided in finding this story. The fact that my cousin was from Torres Strait gave me an edge, where I wanted to find out more, so I was on a mission every time I entered a library or museum.

After discovering certain facts about the truth of Indigenous seafaring feats, I found myself changing a lot. When I say changing, I mean culturally, as an Aboriginal person. I started understanding ecology, where everything has its natural place in the world. So I became more aware of how all the plants and animals have their unique place together in forming a diversity that contributes to sustaining the world that we live in. I came to realise that I am just a part of the furniture, and that I play my part by coming into the world, and I when I leave it, hopefully I have changed it a little for the betterment of all. In researching and writing this story, I feel I have played a part, and perhaps it will help make things better for the next generations after me. During my research I was inspired and determined to learn the Gumbaynggirr language of my grandfather, because it was through the language that it is culturally appropriate for me to understand the environment and how it works. The trees, the rivers, creeks and estuaries, mountains, hills, ravines and valleys all play a huge part in culture, and naming these in language enabled me to grow more as an Aboriginal man. Learning about ecology helped me understand how northern Indigenous people relate to their own countries. Gumbaynggirr kinship systems I started to learn about, and here I could see how my people on the eastern seaboard used to have articulate ways of knowing who they could and could not marry. It helped me gain insight into the kinship networks in northern Australia that I was learning about. It is a beautiful thing to see how these work.

The icing on the cake for me was learning the 'nexus of being': the Aboriginal ways of understanding and knowing the world. This covered spirituality, ecology, stewardships, religions,

customs, law, ceremony, astronomy, languages, relationships, reciprocity and many other things. This knowledge helped me to see how people were brought up in the Indigenous ways of understanding the world. All this learning took place just as my spiritual changes were occurring, and I began to see through the lens of my ancestors. Just like my old people saw. I came to perceive how navigation and astronomy have been so important to northern Aboriginal Australians.

I realise now how sophisticated Aboriginal people are, all over Australia; they truly are a unique culture. The dumbing down of Aboriginal achievements by the coloniser has made the people look to be 'stone age' and without understanding, when in fact they knew more about their country and regions and star systems than any academics ever could. Graham Walsh claimed that the Guion Guion rock art could not have been painted by Kimberley Aboriginal people because the techniques were too sophisticated. My understanding of how subtle is the Aboriginal relationship to the world, shows me that Graham Walsh's opinion was ignorant, uninformed, bigoted and close-minded. From my research I have developed an underlying confidence within myself that Aboriginal society has been erudite from the very beginning. When Europeans came to Australia, they misunderstood Indigenous culture and ways of knowing and being. They classed Aboriginal people to be a very low race, not worthy of having a treaty with. So this was the European justification for claiming Australia under the crown, and without any Indigenous input, they set up western institutions and colonial outposts and generationally spread into the interior. In this way, Europeans claimed all of Australia without any Aboriginal political say. This has made me feel angry, because the evidence I have come to know about through this thesis tells me that Aboriginal society was far from crude.

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