THESIS TITLE

THE DANCE BETWEEN COSMOGRAPHY AND CHOROGRAPHY: MAPPING AUSTRALIA

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Abstract

This thesis proposes that maps contain much more than just a depiction of physical space. Focusing on a selection of maps of ‘Australia’, the following attributes are found in some of these maps: myth and imagination, memory, power and the evolution of a people’s relationship with a place. Each attribute is the centrepiece of a separate chapter.

The investigation undertaken here begins before ‘Australia’ was a known, named and mapped identity, at least as far as Europe was concerned, and continues up to the present day. It moves from maps of the imagined, the unknown and the theoretical, the science of cosmography, to chorography, which concerns maps of the local and the known. Cosmography operates on the grandest scale attempting to depict the whole world whereas chorography attempts to map details that can be recognised on the land.

The words cosmography and chorography have fallen into disuse but the meanings of both were re-examined for this work, allowing for a unique mapping picture to emerge. The dance between these two kinds of mapping is the methodological pivot around which this thesis revolves. Chapter one begins in the theoretical realm of cosmography with the creation of the Antipodes, an idea that arose as a consequence of classical and Hellenistic Greek philosophical and theoretical concepts. This land only existed on maps yet came to harbour myths and imaginary attributes. Although replaced by Terra Australis Incognita, fantasy and myth continued to inhabit this southern part of the mapped world. Explorers eroded the unknown until a European chorographical destination, Botany Bay, was mapped into place. The dance then began all over again across the landmass called ‘Australia’ as the boundary between the known and unknown was crossed and mapped.

Chapter two is a detailed study of the minutiae on chorographical maps of the Burradorang Valley and surrounding area. The names used for various geographical
features are shown to contain memories of past inhabitants both Aboriginal and European. These memories still exist on maps of this area whereas the land the maps depict has been radically altered by the inclusion of a man-made lake that has all but removed the earlier human marks on the landscape.

The power embedded in both cosmographical and chorographical maps is examined in chapter three. In 1493 Pope Alexander VI drew a line on a cosmographical map and ‘donated’ half the non-Christian world to Spain and half to Portugal, thus commencing a process whereby a few European Christian nations carved up the rest of the world with the help of the authority vested in cosmographical maps. This culminated, as far as Australia was concerned, with Lieutenant James Cook’s map of the east coast of New Holland, which enabled the British Crown to claim land to the east of the 135th meridian, the line Alexander VI had drawn. Within sixty years this claim had expanded and covered the whole of the Australian landmass. On the ground, chorography recorded each individual parcel of land as it changed from Aboriginal land to European property.

In chapter four, the concern is the way maps facilitated an evolving relationship between European Australians and the land they came to inhabit rather than the use of maps in colonial appropriation. The focus in this chapter is on marginal lands where little European involvement is evident either on the ground or on the map. Because it is here in less trampled areas that any European marker on a map becomes important, and because there are so few of these markers, it is possible to trace the way these key features have evolved and have taken on a new significance over time.

Declaration

I hereby declare that this thesis, excluding the abstract, the illustrations, the footnotes and the bibliography is approximately 82274 words in length. In addition I declare that this submission is all my own work.

Sally Coplard
21st August 2006
INTRODUCTION:

The delimiting and limning of the territory

As mediators between an inner mental world and an outer physical world, maps are fundamental tools helping the human mind make sense of its universe at various scales.¹

The measure of mapping is not restricted to the mathematical; it may equally be spiritual, political or moral. [Neither is it] confined to the archival; it includes the remembered, the imagined, the contemplated. The world figured through mapping may thus be material or immaterial, actual or desired, whole or part, in various ways experienced, remembered or projected. In scale, mapping may trace a line or delimit and limn a territory of any length or size, from the whole of creation to its tiniest fragments;²

In these words there is an indication of the possible breadth of a ‘world figured through mapping’, and this thesis reflects some of these ideas, not with regard to the whole world, but as a detailed analysis of a selection of the maps that show the land now known as ‘Australia’.³

I-1 The purpose of the thesis

The purpose of this thesis is to examine what maps of Australia might contain, and the assumption here is that they are not just depicting physical space. It is proposed that maps can show imagined and unknown lands, that they can reveal memories of past inhabitants, that they are powerful enough to enable the taking of land and to ‘prove’ ownership of it. Maps are also able to incorporate time and show an evolving relationship between people and place.

²Cosgrove, 1999: 2.
³The image of the land now known as Australia appeared first on a map by Matthew Flinders that was published in 1814 [Fig. 35]. This showed a complete outline that would be recognisable today and the landmass enclosed by the outline was named ‘Australia’. However, many of the maps used in this thesis pre-date this map and ‘Australia’ appeared under various names, some of which are discussed below.
I-2 The overall argument of the thesis

‘Maps are the primary medium for transmitting ideas and knowledge about space’, and yet, or so it is argued here, maps contain much more than a means of finding the way. They depict aspects of the relationship between humanity and the earth and the earth and the heavens. These are vital primary relationships, consequently this makes maps very important documents and worthy of much analysis.

Maps contain a conglomerate of many knowledges, graphic, geographical, scientific, and philosophical to name a few, and because of this they have often been seen as arcane and beyond question. In this thesis it is argued that an analysis of different maps of a country, such as Australia, may reveal previously unseen aspects of a people’s relationship to the land on which they live. This is especially so when maps of the imagined and the desired are studied alongside those that appear to be objective representations of actual places.

The mapping of Australia, from a European perspective, has been quite unlike that of other lands. The landmass was depicted as an imaginary land, the Antipodes, for more than fifteen hundred years until the European worldview changed, and then for another three hundred and sixty years, ‘Australia’ existed in the European imagination as an ‘unknown’ land. However, despite this long fascination, a complete cartographic outline of the island continent only appeared on a map less than two hundred years ago. Although a complex system of Aboriginal mapping and ownership had been in place since well before the first Europeans arrived, the interior

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5 This is calculated as being from the time of the globe of Crates [150 BCE] [Fig.5] to the map of Pirrus da Noha. Although maps may have existed before showing and naming the Antipodes, Crates globe definitely did. The 1414 map of Pirrus da Noha [Fig.10] is one of the oldest extant maps using the Ptolemaic mapping system, in the European tradition.
6 It was just under 360 years from the Pirrius da Noha map until Cook’s 1770 map of the east coast of New Holland [Fig.34]. When Cook’s map was joined to maps showing earlier Dutch discoveries, as it was when it was first published, this composite map appeared to show a known land with a defined outline.
7 Flinders’ 1814 map is credited with this, and is discussed in chapter three.
8 Mapping is a European term and consequently is unlikely to adequately describe the relationship Aboriginal people have with their land.
of Australia was not comprehensively mapped in a European way until less than forty years ago.⁹

What this suggests is that the European mapping of ‘Australia’ has been subject to two visions, one emanating from Europe and the other slowly emerging from the ground. In order to examine this phenomenon, two ancient words have been resurrected: ‘cosmography’ and ‘chorography’. Cosmography concerns the mapping of the cosmos, the whole, or in human terms the head, as opposed to chorography, the mapping of the local, the part, the ear or the eye. The dance between cosmographical and chorographical maps in a colonial country such as Australia is vital to an understanding of how perceptions have been formed that indicate a sense of feeling at home here while still being a part of Europe.

I-3 The dance between cosmography and chorography

Different spaces thus required different frames of representation; and where the chorographer would measure the particular detail, the regional topography and the isolated event on the qualitative (and technically large) scale of local description, the cosmographer would operate within a vast global scenario, charting the size, shape, and quantity of continents on a scale so small that the brooks and forests of a national landscape never even came into view. Chorography, that is, dealt with lived spaces, cosmography with the purely conceptualized, literally invisible realms of the imagination.¹⁰

The words ‘cosmography’ and ‘chorography’ have a long and ancient history but now they have almost fallen from sight. Yet, at the conceptual level and as an analytical tool, the interplay between them reveals much about the European mapping of Australia. This is why they have been revived in this current work.

Just as the depiction of Australia has changed considerably over time, the meanings of the words themselves have also undergone various transformations. ‘Chorography’ began to be used in late 15th century Europe after the translation into Latin of a 2nd century CE treatise by Claudius Ptolemy on how to make maps. The major Latin

⁹ National Mapping undertook this task, which culminated in the Reader’s Digest Complete Atlas of Australia (1968) and is discussed in chapter four.
translation by Jacobus Angelus was titled *Cosmographia*\(^\text{11}\) and in this treatise Ptolemy distinguished between regional mapping and world mapping.

The goal of regional cartography is an impression of a part, as when one makes an image of just an ear or an eye; but [the goal] of world cartography is a general view, analogous to making a portrait of the whole head.\(^\text{12}\)

These words of Ptolemy are from the English translation by Jones and Lennart-Bergen,\(^\text{13}\) but they have substituted the words Ptolemy actually used with the terms ‘regional cartography’ and ‘world cartography’.

We thus translate *geōgraphia* in accordance with the restricted sense that Ptolemy defines for the word in this chapter. “Regional cartography” represents Ptolemy’s *chōrographia*.\(^\text{14}\)

By doing this they hid the words *geōgraphia* and *chōrographia*, which had quite specific meanings both at the time Ptolemy wrote his book in the 2\(^\text{nd}\) century, and when it was translated into Latin in the 15\(^\text{th}\) century.

The term ‘cartography’ was coined in the mid 19\(^\text{th}\) century by Manuel Francisco de Barros e Sousa, Viscount of Santarem, to be used in relation to the study of early maps.\(^\text{15}\) It would have been unknown to Ptolemy and unknown to his readers before Barros e Sousa’s time. The Greek word *khartes* meant a sheet of paper or papyrus and anything drawn or written upon it, including maps.\(^\text{16}\) This became the Latin *carta*, which meant any sort of formal document.\(^\text{17}\) *Carta* formed the root of the French word *carte* and in English, the same Greek and Latin root formed the words charter, chart, and card.\(^\text{18}\)

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\(^{11}\) Cosgrove, 2001: 102. Cosgrove mentions that this was the title used by Angelus.


\(^{13}\) Lennart Berggren and Jones, 2000. Lennart Berggren and Jones have used the title Geography for Ptolemy’s work even though they state that ‘the work’s Greek title … can be rendered as ‘Guide to Drawing a World Map’. The title used by Jacobus Angelus for his 1406 translation into Latin of the same work was Cosmographia and that is used in this thesis to refer to this treatise of Ptolemy’s. I prefer Cosmographia because I think that when it was translated it became an important part of medieval cosmography, which as discussed in chapter one, was different from geography.

\(^{14}\) Lennart Berggren, and Jones, 2000: 57. Note 1.


Thus the word cartography descended from the Greek word for the material on which maps were drawn rather than a word that was exclusively used for maps. The same is true for the word map, which is used in English, Spanish, and Portuguese: this is derived from the Latin word *mappa* that meant cloth.\(^{19}\) However, in the time of Ptolemy and in 15\(^{th}\) and 16\(^{th}\) century Europe, the ideas represented in the image were named rather than the material on which they were made.

> Cosmography represented the totality of a spherical cosmos, geography provided geometrically exact images of the earth’s spherical surface and its major divisions, and chorography pictured the form and character of localized spaces and places.\(^{20}\)

These definitions have shifted over time. Now the earth and the universe are studied quite separately. This was not always the case and for millennia cosmography \(^{21}\) incorporated both. Once the earth was fully known, unknown space lay only outside, in the universe, and this was generally only mapped mathematically. Cosmography ceased to exist and cosmology became the study of the universe.\(^{22}\)

Cosmography predated Ptolemy by centuries. Emerging from mythology, cosmography was an attempt to depict what the earth might look like and how it fitted into the cosmos.\(^{23}\) Eventually, graphic depictions were formed. These early maps came from a time when no distinction was made between the material and the spiritual, and when astrology was as important a part of cosmography as was astronomy.\(^{24}\)

Often, however, traces of mythology remained as in the globe of Crates of Mallos. On this globe, Crates used both his own interpretation of the journey of Ulysses, and the

\(^{20}\) Cosgrove, 2001: 103.
\(^{21}\) Cosgrove, 2001: 96 and Note 48. Cosgrove suggests that cosmographers such as Munster and Thevet considered that ‘… cosmography’s task was to present the universe to the reader’s eye as a marvel, a visual spectacle’ and to ‘reassemble the world’s fragments in order to display to the human eye the perfection of the single jewel-like sphere that the creator had fabricated.’
\(^{22}\) Gribbin, 1997: 118. Sets the date of the ‘birth of modern cosmology’ at ‘precisely’ 1917, ‘the year Einstein first applied [his] equations to describe the Universe at large.’ Gribbin, 1997: 119. Says that ‘Universe’ and ‘Cosmos’ have had the same meaning but now the idea that there may be many universes requires different meanings for these words: Universe for the one that is known, and Cosmos for all possible universes.
\(^{23}\) For example The Theogony of Hesiod and The Odyssey of Homer, both of which are discussed in chapter one.
scientific teachings of Eratosthenes concerning the relative size of the *oikoumene*\(^{25}\) in relationship to the circumference of the earth.\(^{26}\) Crates thus imagined a world into being on his globe, but he was also informed by both myth and science. This was the terrain of the cosmographer.

Chorography had quite a different function to perform, and this was not just a question of scale. While cosmography was concerned with ‘the countries themselves along with their grosser features,’ Ptolemy said that chorography should set out ‘individual localities independently and register practically everything such as harbours, towns, districts, and the branches of principal rivers,’\(^{27}\) even the most minute features’. It is concerned with qualities rather than quantities and attends to likeness rather than proportional placements.\(^{28}\) Chorography is concerned with human habitation and the ability to navigate known or knowable places. It is concerned with lived spaces.\(^{29}\) Cosmographical maps are not about finding the way; this is the function of chorographic maps.

When *Cosmographia* was translated into Latin, chorography was used as a way of depicting cityscapes. By the middle of the 16\(^{th}\) century, sitting alongside Ortelius’ *Theatrum Orbis Terrarum* (theatre of the whole world) was the Hogbein and Braun atlas *Civitates Orbis Terrarum* (towns of the world), which showed European cities in minute detail. Here were locally recognisable spaces where individual buildings, the costumes of the inhabitants and aspects of their culture could be displayed.\(^{30}\)

The city can be ‘lived’ – as well as seen and heard, by eye and ear – in a very immediate sense as part of the spatial practice of the body; the globe can never be the object of a concrete sensual, or even visual experience.\(^{31}\)

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\(^{25}\) Lennart Berggren and Jones, 2000: 58, Note 3. ‘Literally, “the inhabited [part of the world]”. This technical term of Greek geography is sometimes used interchangeably with “the known part of the world”, although the concepts are not strictly equivalent.’ Edson, 1997: 2. Edson uses the spelling ‘ecumene’ and the definition, ‘inhabited world’. Nutti, 1999: 90. Nutti gives the same definition as Edson but spells the word ‘oecumene’.

\(^{26}\) Aujac, 1987b: 163.


\(^{29}\) Klein, 2001:138.


\(^{31}\) Klein, 2001: 28.
The Ptolemaic idea of chorography as a counterpoint to cosmography is not used in this thesis to examine the culture and costumes of cities. Rather, the words of the English translation of *Cosmographia* have been studied to understand what Ptolemy might have meant and how that might be of use in understanding the mapping of Australia.

For the purpose of this thesis, chorography is the mapping of lived known space that adds a human dimension to the landscape. Chorography allows people who inhabit a place to identify with the mapped representation of this place: it can be called ‘home’; it is recognisable and such recognition involves not only the present but the past and its associated memories. Thus chorography was used by Europeans to help make a foreign land into home, or at least knowable space. The word has not been taken out of the context of the original meaning briefly touched on by Ptolemy, but simply allowed to evolve within the present study. Chorography, as a counterpoint to cosmography, has proved therefore, to be an invaluable tool for an understanding of mapped Australia.

The idea that cosmography represents has evolved as well. The unknown lands that appeared on early European maps were proportioned by theory and imagination rather than actual geographical knowledge and it was the domain of cosmography to attempt to depict the possible shapes and sizes of these places. My contention is that this idea continued once the outline of Australia was geographically known by Europeans. The vast unknown interior was ‘proportioned by theory and imagination’ until it too was geographically known. As far as the European mapping of Australia was concerned, a very slow process took place as the depiction of the land gradually changed from ‘unknown’ cosmographical space to the known and lived in places depicted on chorographical maps.

This research is quite unique because the use of cosmography and chorography as a methodological framework has allowed maps of both kinds – imagined and measured - to be studied side by side and connections made between them that have not been made before. A more complete picture of the mapping of Australia has thus been revealed. Maps are one of the ways a culture ‘knows’ the world, from the ‘whole of

creation to its tiniest fragment’, and this suggests that both cosmographical and chorographical maps of Australia should be part of any study of Australia as a mapped entity.

I-4 The dance

Having established the definitions of ‘cosmography’ and ‘chorography’ for the purpose of this thesis, it becomes necessary to define the word ‘dance’ as used in the title of the dissertation. To begin with, ‘dance’ is not entirely divorced from the two kinds of mapping discussed. Chorography had another meaning apart from the mapping of the local. The term was also used as an early form of choreography, the plotting of the movements of a dance. The mapping of the dance and the mapping of the local are thus intrinsically connected.

Recently some geographers have explored the idea of using the study of dance to drive a ‘nonrepresentationalist’ ‘style of thinking’, that is dance allows space and place to be considered in nonrepresentational ways, bringing to the fore the relationship of the body and place. Dance as a ‘key means of performance’ is considered to be ‘one of the chief means of knowingly constituting virtual spaces through choreographic and other performance methods’.

These ideas are difficult to engage with here as maps are, first and foremost, representations. In this work dance is explored as an interplay between two different kinds of mapping and the consequences of this on the inhabitants of the places mapped, rather than a direct interaction between body and place. As representations of place, maps are given centre stage. This stage however does contain performative resonances. It was not accidental that Ortelius named his great cosmographical atlas *Theatrum Orbis Terrarum* (The Theatre of the Whole World) the inference being that this collection of maps represented the world as an enormous stage upon which all of humanity could perform.

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33 Cosgrove, 1999: 2.
35 Glendinnen, 2005. Dance may also have been an important form of initial contact between Europeans and indigenous people at the very beginning of colonisation before much in the way of language could be exchanged.
36 Thrift, 2000: 216.
Although each map discussed in this thesis is essentially a moment frozen in time, when these frozen moments are considered in relationship to each other, as they are here, a dynamism emerges. Like stills in an animation they form a fluid moving picture of the world as a whole (cosmography) and as local lived places (chorography), over time. This then leads into the ‘performative recognition’ that the ‘world is not a reflection but a continuous composition’.  

From an indigenous Australian perspective there are strong connections between mapping and dance, body and place. In Central Australia, Aboriginal people give ‘narrative performances’ and use ‘mud maps’ or ‘sand stories’ as illustrations to the story being told. These maps might include ‘sites and their spatial relationships’ or ‘plans of camps’ and they are erased as the narrative of the scene they refer to ends.

The distinction has been made between these aids to performance and ‘maps’ that exist as ‘explanation or record’. Such maps were probably not made before the arrival of Europeans. Now with the need to ‘prove ownership’ of land in a European court of law, Aboriginal maps of explanation or record have become vital pieces of evidence in native title cases. These maps carry ‘strong performative meanings’, and one such map, the ten by eight metre Ngurrara map, was ‘danced into being’ on its arrival in Canberra, by dancers who literally performed upon it. This map records connections between groups of people and their country but ultimately it is the indigenous body that signifies title to land.

The aspect of ‘dance’ most used in this study is the idea of two separate entities (or ideas) being at times connected and at other times apart, just as dancers move towards each other or turn away. Within these movements there is rhythm and interconnectedness. It is in this sense of dancing between the different scales of cosmography and chorography, connected yet unique, that the word is used here. It is a relationship of opposites, yet when the two interact with each other a much richer picture is formed and this is the creative act that emerges from the dance.

41 James, 1998: 17.
I-5 The selection of maps and supporting material

The use of a methodological framework that ‘dances’ between cosmography and chorography has allowed an enormous diversity of maps to be analysed together. The point of this analysis has been to discover something that these maps and their supporting material can reveal that has not been seen before. My position in this process has been that of an observer and within this is an understanding that the observer and observation are closely related and in a manner that will ultimately influence the style and outcome of the research.

Within this there were choices to be made as to which maps and supporting material would be studied and to this selection I have brought a rich, value based interpretation that will become evident in the decisions made and the way in which this thesis is organised and presented.

The foundation stones of the thesis were four strong ideas that seemed to have a connection but this was extraordinarily difficult to initially establish, although once illustrated, this connection now appears to have always been there; it just had not been seen before.

Pivotal to the first idea explored was the fact that the Antipodes was an imaginary land that had its genesis in maps and this eventually became an early European vision of Australia. The second idea involved a series of contemporary maps of the Burragorang Valley and surrounds that contained placenames that no longer related to the landscape they depicted because of the flooding of the valley to make a lake for Sydney’s water supply. The third idea concerned the serious role maps had in the taking of land from indigenous people and transferring it to European ownership. The fourth idea began as a fascination with the chorography of the desert and in particular the role the Canning Stock Route in central Australia has had in contemporary maps.

Connecting these ideas was the common theme that they were all aspects of the mapping of Australia. And yet this common theme ranged widely across time, different kinds of mapping, cosmography and chorography, and radically different

43 Heisenberg, 1927: no page number. ‘The “path” comes into existence only when we observe it’.
sorts of supporting material. A selection of maps and supporting material in the form of published stories and primary and secondary written histories was made for each chapter. The maps were chosen on the basis of their revealing aspects of one of the four ideas being pursued. The stories and history archive aided these revelations by giving more contextual detail for the maps. I worked between the maps and the stories or historical information I found: the maps often revealing much more when conceptualised by the written word.

While each chapter focuses on one of the four ideas being investigated, it was inevitable that connections between chapters would arise as the work progressed. These connections between the generating ideas, were central to the project. After all, the study began with a strong sense that there were connections between disparate mapped phenomena: between the Antipodes, colonial dispossession, the memories of mapped places inundated with water and the Canning Stock Route. What this study illustrates is that by resurrecting the old terms cosmography and chorography, connections between these seemingly disconnected phenomena can be observed.

This study was really an intellectual adventure. Once the dance between cosmography and chorography began to take place, my approach was creative rather than scientific: I was interested to see where the pursuit of the four central ideas would go. As a participant-observer my understanding of cosmography and chorography evolved considerably and as the project progressed it became obvious that some maps involving Australia clearly operated in both worlds. In hindsight it can be claimed that the significance of these maps would not have been understood without the conceptual approach explicit in the terms cosmography and chorography and their relationship to each other.

The amount of material related to the maps discussed in the study is vast because of the time-scale involved: from antiquity to the present. Therefore, selections had to be made and generally preference was given to information that highlighted the connections between the four ideas being explored. I was also interested in the ‘slips’ that seemed to occur as certain cartographic entities (like the Antipodes) were

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44 I am referring here to some of the maps discussed in chapter three that appear to be chorographical, but under closer examination, had cosmographical implications as well.
translated across time. While this selectivity is highly subjective, the consequence was an interpretation of the mapping of Australia that is original although perhaps idiosyncratic.

The imagining of Australia on maps has been studied,\(^\text{45}\) as has power in maps,\(^\text{46}\) but these investigations have been essentially cosmographical, and not related to chorographical maps.\(^\text{47}\) By juxtaposing chorographical maps with cosmographical maps, it can be shown that the imagining of Australia continued well after the first Europeans set foot on Australian soil, and that while the power in maps may have begun on the cosmographical stage, it continued chorographically as individual portions of land changed from Aboriginal to European ownership.

Maps of power and imagination have not to my knowledge been included alongside an intimate analysis of the chorographical maps of one small area. *The Reader’s Digest Complete Atlas of Australia* (1968) and the nationwide survey that made it possible are probably positioned in the same study as mappaemundi\(^\text{48}\) for the first time.

The connection between the Macrobian map (5\(^{\text{th}}\) century CE) \(^\text{49}\) showing the Antipodes (a cosmographical map) and the Myles Dunphy map of The Wild Dog Mountains (1979)\(^\text{50}\) (a chorographical map) has probably not been made before, and yet both are maps that depict an aspect of the landmass now known as Australia. The importance of selecting these types of connections can be seen throughout the study and consequently a new understanding of the mapping of Australia is revealed.

\(\text{45}\) Ryan 1996, and Foss 1981, for example.
\(\text{46}\) Harley 1988, and Turnbull 1989, for example.
\(\text{47}\) Ryan, 1996, Foss 1981, Harley 1988 and Turnbull 1989 discuss some maps that would be classified here as chorographical (they do not use the term) but these are not juxtaposed with cosmographical maps as they are in this study.
\(\text{48}\) ‘Mappaemundi’ means literally “cloth of the world” and refers to medieval maps that depict a Christian worldview. These maps are discussed in detail in chapter one.
\(\text{49}\) Macrobius lived in the 5\(^{\text{th}}\) century CE and this was when the map was devised but it was copied many times over centuries and the example reproduced here as [Fig.3] is a 15\(^{\text{th}}\) century version. The map is discussed in chapter one.
\(\text{50}\) The extracts of the map reproduced here as [Fig. 23,24,25] are from the 1979 10\(^{\text{th}}\) edition of the map which was first revised in 1953.
I-6 The intellectual context of the thesis

At the beginning of this introduction, two quotes were cited: the first by J.B. Harley and the second by Denis Cosgrove. Harley acknowledges that maps act as ‘mediators’ between the mind and the universe and Cosgrove lists possible findings within maps that include the ‘spiritual’, the ‘moral’, the ‘immaterial’, and the ‘desired’. Both hereby acknowledge that maps can contain much more than the depiction of physical space, a contention explored in the present study. The intellectual context within which this thesis exists has been made possible by the work of these two scholars.

In 1987 the first volume of The History of Cartography edited by David Woodward and J.B. Harley was published. The proposition of the editors can be summarized as follows: maps did not exist as separate items but were a product of the social context within which they were made, and were not just scientific or historical documents that attempted to realistically depict space in a graphic form. This allowed scholars outside the highly specialised world of historical cartography to have access to historical maps. Consequently, quite different readings of these maps emerged.

Denis Cosgrove, a geographer, edited a number of collections of essays on spatiality culminating in Mappings (1999), which takes the idea that maps exist in a social context and stretches this into a concept he calls ‘mappings’ and ‘acts of mapping’.

Harley and Cosgrove may have created new ways of reading maps but the expertise of specialists in particular areas was vital, even though many of these experts studied maps in a much more traditional fashion. Specialists like Skelton at the British Museum were particularly interested in the techniques and production of maps and the construction of a cartographic history that showed European maps achieving greater and greater accuracy.

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52 Cosgrove, 1999: 2.
53 There are of course others who are mentioned throughout this thesis but Harley and Cosgrove are foundational in expanding the meanings that can be read into maps.
54 For example R.A. Skelton, ‘Keeper of the Map Room’ at the British Museum, whose special field of expertise was European explorers maps and J.C. Beaglehole, an expert on Captain Cook, the voyage of the Endeavour and both the political and the cartographic context within which the voyage took place.
Thenceforth, with progressive technical and graphic accuracy, the shapes and surfaces of the earth’s continents and oceans and, at more detailed scales, its regions and resources, have been brought within the orbit of a cartographic science which systematically ridded itself of its early and disabling associations with religious belief, with myth and with imaginative art.\textsuperscript{55}

In this thesis however, the emphasis is on the possible breadth of mapping beyond merely the depiction of physical space. Therefore, scientific accuracy and techniques of production are not part of the focus. The possibility that maps can depict imaginary lands, hold memory, exert power and incorporate time is of primary interest. Many of the cosmographical maps studied here do contain ‘imaginative art’ and some include ‘myth’ and ‘religious belief’, making them all the more interesting for doing so.

Some, especially those in the surveying profession, consider many of the chorographical maps examined to exist in objective, scientific space.\textsuperscript{56} A main concern of chapter four is the scientific survey of Australia, yet the maps that are a product of this survey show something well beyond this. These maps were a very important part of European knowing and thus ownership of the whole country. Consequently, they depict an evolving relationship between people and place despite their scientific origins.

Although maps are the primary source in this thesis, they are continually supported by written material. However, the textual archive that supports cosmography is quite different to that which limns chorographical maps. These different types of archival collections are part of the methodology used here but there were distinct limitations to what was possible. Because of the enormous breadth of the potential archive created by the investigation, many secondary and some primary texts as well as a synthesis of other published sources were used. However, access to such a vast archive, stretching across many countries, was not possible. At times it was necessary to use a single source exclusively for a particular story, as there was no other available, and this was especially so for the chorographic chapters. At other times, the exploration of the four ideas heavily dictated what was used and what was ignored.

\textsuperscript{55} Cosgrove, 1999: 8.
\textsuperscript{56} There is much evidence of this in the pages of \textit{The Australian Surveyor}, their professional journal.
Because much of the supporting material was so specific to each chapter, important references will be discussed chapter by chapter in the next part of the introduction.

Each chapter progresses the overall argument

I-7 Chapter one

Chapter one shows that the landmass now called Australia existed in the European imagination and on maps well before it was known to exist in reality. This mapped image was constantly evolving in step with changing philosophical and religious worldviews rather than being enhanced purely by geographical knowledge.

The early cosmographical maps studied depict worldviews and, apart from imagination, theoretical constructs were necessary to extend possible landmasses far beyond the oikoumene, these extensions being necessarily embedded in the worldview of the mapmaker. In order to illuminate this, maps informed by the Classical Greek worldview of hoi ekso, the perfection of the sphere, which was the dominant theoretical model, are compared to a map by Cosmas Indicopleustes [6th century CE]. Indicopleustes’ map does not show the Antipodes but instead a flat earth is depicted enclosed in a rectangular frame. It is the ocean that forms this frame and four rivers flowing beneath it (the four rivers of paradise described in Genesis) connect the earth and paradise. Outside the frame, forming another rectangle, paradise is shown.

In his writings, Indicopleustes damned the very idea of sphericity as heresy and poured scorn on those who even considered the possibility of the existence of the Antipodes. The map itself reveals very little except to those skilled in the reading of ancient maps and schooled in biblical texts, because Indicopleustes’ worldview was entirely constructed around various passages from this book.

The maps that do show the Antipodes are generally rare manuscript maps, and the province of specialist historical cartographers. Often, they are still accompanied by

57 This map is reproduced as Fig.2.
58 For example, O.A.W. Dilke and Evelyn Edson. Their work is discussed in chapter one.
59 There are exceptions such as the Macrobian map, which was printed many times as a book illustration and is a common item in map collections to this day.
60 For example, David Woodward’s expertise with regard to mappaemundi.
the original text of the mapmaker\textsuperscript{61} and can be interpreted through this. Mappaemundi combined geographical knowledge from the time of the mapmaker with that from the ancient world along with important biblical places and various imagined monstrous races. It is necessary to read them in conjunction with secondary texts written by historical cartographers well versed in their lore.\textsuperscript{62} Otherwise, it is possible to mistake the wall built by Alexander the Great to imprison Gog and his hordes in the Kingdom of Magog, monstrous beings mentioned in the Book of Revelations, with a depiction of the Great Wall of China\textsuperscript{63}.

One of the major written sources that limned this work was Ptolemy’s \textit{Cosmographia}, only very recently translated into English.\textsuperscript{64} Not only did this reveal the concept of chorography, it also showed how Ptolemy’s worldview was formed. Here was a classic case of a paradigm shift in the Kuhnian sense\textsuperscript{65} as the water-encircled world depicted in mappaemundi toppled into error and was replaced by the Ptolemaic theoretical construct of the known world surrounded by unknown lands. At roughly the same place on the map that had previously shown the Antipodes, the ‘unknown southern land’ was now shown.

In chapter one a sequence of maps\textsuperscript{66} is considered because they show a slowly emerging landmass, each succession changing shape and name until the familiar is settled in both geographic position and in terrestrial outline. Of course, what emerges is the outline of ‘Australia’ and it was Cook who filled in the last pieces of the puzzle that had fascinated many in Europe for centuries.

\textsuperscript{61} Edson in particular makes use of the text to put the maps she discusses, into context.
\textsuperscript{63} Woodward, 1987: pp.332-333 and Fig. 18.35. This idea comes from the ‘Alexander Romances’ and has nothing to do with the actual feats of Alexander the Great. Because the Kingdom of Magog was usually situated in Asia on mappaemundi, the wall was often confused with the Great Wall of China by less informed map readers.
\textsuperscript{64} Dilke, 1987: 177 note 5. Dilke discusses various translations of \textit{Geography} (called in this thesis \textit{Cosmographia} for reasons stated in footnote 14) and especially the only attempted translation into English before Lennart Berggren and Jones, that of Edward Luther Stevenson. Both Dilke and Lennart Berggren and Jones consider Stevenson’s translation inaccurate and quite inadequate. Dilke, 1987: 198. Here Dilke gives examples of specific mistakes in the translation by Stevenson. Lennart Berggren and Jones, 2000: 54. Lennart Berggren and Jones include the following summation of the Stevenson translation ‘Stevenson appears to have based his version primarily, if not exclusively, on the Renaissance Latin texts of the \textit{Geography}, and very frequently misunderstood even them.’ The consequence of this is that there has not been a usable English translation of \textit{Cosmographia} until the year 2000 (the publication date of the translation by Lennart Berggren and Jones).
\textsuperscript{65} Kuhn, 1970: \textit{The Structure of Scientific Revolutions}.
\textsuperscript{66} This sequence has been mentioned above.
By the time Cook sailed up the east coast of New Holland he had on board maps that contained information brought back to Europe by various navigators who had sailed those waters before him. However, mapmakers had juxtaposed both real and imaginary information\(^{67}\) and he had to choose which to believe. This was the skill of the navigator and his thoughts and revelations concerning these maps were written in his journal,\(^{68}\) an important primary reference\(^{69}\) in the present study.

Cook’s map of Botany Bay\(^{70}\) became, in all probability, the first chorographical map of Australia in the European sense. It represented a destination that other Europeans could arrive at.\(^{71}\) Unfortunately, once reached by the First Fleet, it failed to provide a good site for settlement and a move to Sydney Cove was made. Here, once again, cosmography asserted itself as vast amounts of unknown space spread out before European eyes. And again, aspects of this space quickly became the subject of legend and imagining.

This is the central issue of chapter one. Maps can inspire legends and imagination and they can be based almost entirely on the worldview of the mapmaker, which greatly aids this inspiration, rather than geographical knowledge. Cosmography and chorography as a methodology allowed connections to be made between the cosmographical vision from Europe and that which began to evolve on the ground.

When Europeans did finally arrive on Australian soil, their perspective may well have been coloured by what they believed they would see in the Antipodes.\(^{72}\) From this point the imagined and the unknown, from a European perspective, had to be mapped into the known, and this involved the taking and mapping of land that was already under indigenous Australian ownership.

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\(^{67}\) For example the map by de Vaugondy [Fig.13] shows the lands of Quiros on the east coast of New Holland, which was fanciful, juxtaposed with a passage between New Holland and New Guinea which was real.

\(^{68}\) References to particular journal entries are made where relevant, in chapters one and three.

\(^{69}\) The work used here is that by J.C.Beaglehole and this not only includes Cook’s journal but other supporting material from the voyage. The extensive introduction is also used as Beaglehole’s research into the cartographic and political history that surrounded Cook’s voyage is formidable.

\(^{70}\) A printed version of this map is reproduced as Fig.18 and is discussed in chapter one.

\(^{71}\) The First Fleet found its way into the harbour as did La Perouse using this map. It provided an intricately mapped coastline, as well as safe water levels for ships and perhaps most importantly a named destination.

\(^{72}\) In *European Vision and the South Pacific 1768-1850*, Bernard Smith discusses this notion with regard to the British and the French in the 18th and 19th centuries.
Chapter two is an examination of how chorography can contain memories of past human involvement with an area even though all signs of this are removed from the land, and in this particular case the area had changed radically by the inclusion of a manmade lake.

Placenames on 19th and 20th century maps of the Burragorang Valley and surrounds, an area now partially flooded and containing the major water supply for the city of Sydney, are shown to contain memories. These cartographically inscribed memories are those of the people who lived there before the flooding of the valley and include references to their way of life - their humour, stories and legends. Chorography is often aided by legend and story, perhaps because if a place is to appear known and lived in there is a need for an added dimension to exist, something beyond just the charting of space, a human element that is linked to the land. This is the central issue of the chapter.

Whereas cosmographical maps could at least be partly imagined, chorographical maps could not. A different kind of information gathering was required. Attention to detail of the most minute things, whether they be names or key features, is the vital ingredient of chorography and this requires extensive local knowledge and intimate experience of the place being mapped.

In order to track the memories contained in these placenames it was necessary to find as much relevant local history as possible because in this were the stories that contained the memories behind the names on the map. The Burragorang Valley was perfect for this study because although sparsely populated, it contained a rich vein of Aboriginal and European memory in the names on the maps. When it was known that the valley would be inundated by the waters that would form the lake, there were those who were determined to record the way of life and the people who had lived there. It was apparently a particularly beautiful valley and many who had visited it had great affection for the landscape and the people they had met there. Without the connections recorded carefully by local historians and reconnected with the names on the map, the richness of local memories and cultures would be less accessible now.
It is not necessary that these stories be factual; it is more than likely that they have been embroidered over time. Here they are treated as local legends rather than historical fact. Their existence combined with the names means that the map is able to depict local, lived space. Chorography requires the local – local history, local sources and local knowledge. This is its primary element.

Some of the stories behind the placenames used in this thesis were collected by local historian Jim Barrett and published in *Placenames of the Blue Mountains and Burragorang Valley* (1994) and his other books. This detailed documentation was gathered over many years by experiencing the place and its people. Barrett is a bushwalker and undertook many arduous journeys on foot into the mountains that surrounded the valley. However, Barrett’s work has been somewhat hidden in the archive of self-published local history. Perhaps Barrett collected the stories behind the names on the maps of this area to make sure that the memories of local people would not be forgotten. This idea can be taken further. These memories, held in the names, are an important part of chorography and give a sense of European history as well as an Aboriginal past to this place.73

Naming and mapping a place is a way to mobilise the pull between ‘here’ and ‘there’. It can set flows going or freeze them when necessary. But the right image can reduce the effect of distance to locate a place as possible, as within reach, as proximate, by a play of immediacy which changes outland into environment, the hostile into home.74

In 1906 R.H. Mathews visited an old Gundungurra woman, Bessie Sims, who was still living in the valley. She told him a story of the creation of the area as a result of a battle between two mythological creatures, Gurrangatch and Mirrigan. As the battle progressed, various features were named in relationship to the story. Mathews wrote this down and it was published in a German Anthropological magazine (1908).75 From this source it is possible to read Gundungurra words for features that were spoken to some of the early surveyors who wrote them down as best they could. To speak these names aloud today is to utter ancient lost sounds that would have been

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73 Aboriginal history of the area since European settlement has been studied by another local historian, Jim Smith, and some of his work has been used here.
forgotten if they had not been carefully held in the names on the maps.

Because of the rugged nature of the mountains that surround the Burrarorang Valley it attracted bushwalkers, and they needed names on their maps that corresponded to the many key features they passed in order to describe the trails they followed and to find them again. This is one of chorography’s most important functions: to provide names and details of geographical features so it is possible to relate the map to the reality it attempts to depict. An early walker, Myles Dunphy, took it upon himself to map the area and devise a system of nomenclature for it.

The information gleaned from these three main sources, Barrett, the Gundungurra myth and Dunphy, meant that many of the memories contained within the placenames on the chorographical maps of the Burrarorang Valley and surrounds could be revealed. In order to do this a number of maps were used.

The 1932 Tourist Map of the Blue Mountains and Burrarorang Valley shows small European rural communities but these have all vanished from the current topographical series as they lie beneath the lake. By working between the older map and the current ones it is possible to trace remnants of past European involvement with the landscape. For example, the Commodore’s guesthouse appears on the 1932 map, and on the current topographical map Commodores Point juts into the lake many metres above where the guesthouse once was. A specialist bushwalker’s map by Dunphy of the Wild Dog Mountains is also used because it shows names that he devised with his extraordinary imagination and many of these appear on the current topographical series as well, but at times, in changed form.

The idea that language could construct space, and in particular that European class names could enable Australia to become familiar to early settlers, has been well documented by Paul Carter. However, in this exploration of chorography, a very small geographic area has been examined in intricate detail and consequently the

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76 Other sources have been used and are mentioned in the chapter, however these three were major contributors.
77 The full title of the map is Gangerang, Wild Dog Mountains, Lower Kowmung, Nth. Thurat, in the Greater Blue Mountains of New South Wales (first revised in 1953).
78 Geographical ‘class names’ are those that denote the ‘class’ of geographical feature, for example: river, creek, mountain, hill and glen.
79 Particular references to Carter’s 1988 book The Road to Botany Bay are used throughout this work.
findings are less general than Carter’s. Simon Schama has examined the notion that landscapes can contain memory\textsuperscript{80} and although his study was quite particular to Europe and did not focus on maps, it has been influential here in understanding the relationship between memories and representations of place. Chapter two attempts to bring a number of diverse discourses together. Barrett’s local history has been examined with Simon Schama sitting on one shoulder and Paul Carter on the other, and in turn this examination has been counterpoised with the cosmographical maps discussed in chapters one and three. And like a shadow cast over the whole mapping enterprise is the realisation that Europeans would not have been able to settle in the Burragorang Valley and surrounds if the British had not first taken the country from the Aboriginal people who already lived there.

I-9 Chapter three

Religious and philosophical world views may have been enabled by the maps discussed in chapter one, but in this chapter cosmographical maps are shown to be backed up by the law, which allowed European powers to colonise land in many parts of the world. In chapter three the sequence of maps is less concerned with a landmass slowly emerging from speculative space, than with a country becoming the object of colonial desire and falling into British ownership. Maps greatly aided this process. The theoretical cosmography discussed in chapter one had evolved into a cosmography of power.

The Ptolemaic cosmographical view situated unknown lands around the edges of the known world and this meant that newly discovered lands could be easily incorporated into maps that used this system. Emerging European colonial empires used this worldview to chart their acquired territories in the New World and elsewhere. While maps of the world had remained within the All-Encircling Ocean,\textsuperscript{81} the depiction of unknown lands was limited.

\textsuperscript{80} Schama, 1996: Landscape and Memory.
\textsuperscript{81} This had been the case at least since the time of Homer and until the Ptolemaic system created a new worldview. This is discussed in more detail in chapter one.
... a shift from a dominant spatial model in which the Mediterranean centre of the world was poised against a liminal, uncivilized and possibly non-human periphery, to a model which translated the earthly globe into a vast pictorial frame circumscribing a space ready for European inscription.\textsuperscript{82}

‘European inscription’, as far as Australia was concerned,\textsuperscript{83} probably began when, in 1493, Pope Alexander VI drew a line through a map of the world and donated\textsuperscript{84} half of the non-Christian world to Portugal and half to Spain. Frances I of France questioned this papal donation, asking to see a copy of the ‘Will of father Adam’. This mentality, that Europeans had a ‘God given right’ to divide the non-Christian world amongst themselves was greatly aided by cosmography. Globes and maps of the world were used to show which European power owned which bit of the world. Maps became ‘proof’ of ownership.

European colonialism was both challenged and validated by early international law. Because chapter three is an examination of how power was embedded in both cosmographical and chorographical maps of Australia, the maps used here had to be read in conjunction with various legal texts. The idea that chorographical maps were implicated in the British taking of land from Aboriginal people was re-enforced by a remark from Justice Brennan in the 1992 Mabo Judgement,\textsuperscript{85} when he said ‘Aborigines were dispossessed of their land parcel by parcel, to make way for expanding colonial settlement.’\textsuperscript{86}

They were dispossessed by the crown’s exercise of its sovereign powers to grant land to whom it chose and to appropriate to itself the beneficial ownership of parcels of land for the Crown’s purposes.\textsuperscript{87}

\textsuperscript{82}Klein, 2001: 6.
\textsuperscript{83}Ryan, 1996: 117. Ryan also discusses the idea of maps creating a blank space for European inscription. ‘The map semiotically creates a tabula rasa out of the Australian continent simply by rendering it. This initial creation of a blank is not an intentional strategy, designed to erase indigenous presence and culture, but is integral to the cartographic representation of knowledge. The blankness represents ignorance, but when included on a map it does more than this: it constructs the continent as a screen on which European fantasies may be projected.’
\textsuperscript{84}This act was known at the time and for centuries later as a ‘papal donation’ and is further discussed in chapter three.
\textsuperscript{85}The full title of this case is Mabo and others v. Queensland (No.2) (1992) 175 CLR 1 F.C. 92/014.
\textsuperscript{86}Bartlett, 1993: xxi. Citing Brennan.
\textsuperscript{87}Brennan, 1993: 50.
In order to take individual parcels of land, the whole landmass had to also be taken and this, at the time of European settlement, involved cosmography. Consequently, the Mabo Judgement transcript gave the legal details of how this was done and was relevant to both chorography and cosmography.

Legal questions with regard to ‘sovereign states’ taking the territory of indigenous people rarely arose in the first half of the 20th century. There was not much more to take and the idea that indigenous people had ‘land rights’ did not really gather momentum until the 1970s. Thus, in the Mabo case the judges had to trawl back through many ancient legal texts in their one hundred and seventy page judgement in order to establish the legal grounds upon which Australia had been taken into British ownership. The Mabo transcript provided an overview of the legal issues relating to the British appropriation of Australia; other texts provided further details. These included an article by Sir Ernest Scott on ‘the Doctrine of Terra Nullius’ (published in 1940). Scott had been approached by the Americans, who were keen to take Antarctic territory and were looking for a legal justification for doing so. The line of research used in chapter three provides a way of positioning maps within the law as powerful legal documents in their own right, something that has hitherto not received much critical attention.

Two of Cook’s maps are pivotal to this work: his map of Botany Bay and that of the east coast of New Holland. Both these maps were published ‘under authority’ of the British Admiralty and this gave them an extraordinary amount of power. Cook’s map of the east coast allowed the British Crown to claim almost half of Australia (to the 135th meridian of longitude) on the assumption that Captain Cook ‘first discovered’ the coast. In less than sixty years this claim had extended to the whole continent.

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88 Land Rights cases are not the subject of this thesis. Consequently there is no suggestion that this is a comprehensive analysis of international law. The focus here is that power is embedded in maps and aspects of the law are used to highlight this.


90 The Admiralty gave Cook’s maps and journal to John Hawkesworth for publication and this is discussed in depth in chapter three.

91 This was a legal assumption and rested largely on the fact that, at this time, there would be no challenge by any other European power. Chapter three discusses this proposition in detail.
A discoverer’s map, such as Cook’s, operated in both cosmographical and chorographical spheres. The map had to contain just enough chorographical information to prove to Europe that the discoverer had been there and that names in the language of the flag being sailed under had been imprinted on that land. At the same time, the discoverer’s map filled gaps in the outlines on cosmographical maps; the global and the local were coalescing on the same map.

Maps are projections in space of strategies or manoeuvres to come not of the earth and what they refer to is not territory as fixed substance but territory as fluid field.\(^92\)

As the whole of the landmass was taken, new colonies were erected from London by the issue of Letters Patent signed by the sovereign. Governors’ commissions and Letters Patent are important supporting material in this research because they defined the specific locations of the territory taken: the latitude and longitude of each border line. These lines were then plotted onto cosmographical maps.

To lay full claim to the land, settlement had to be shown to be taking place\(^93\) and this required chorographical mapping. The British system of land ownership was imported with the First Fleet. The Colony of New South Wales was divided into counties and parishes, as Britain had been, each one named and mapped. One of the most important maps showing this is the 1834 *Map of the Nineteen Counties*\(^94\) by the Surveyor General Major Thomas Mitchell. By 1850 Mitchell had a new map showing almost 100 counties. In this way the law and maps worked together to bring about British ownership of the country.

The consequence of this is shown on the parish maps of part of the area discussed in chapter two, the Burragorang Valley and its surrounds. Almost 90,000 acres of well

\(^{92}\) Foss, 1981: 22.

\(^{93}\) By the time New South Wales was colonised by the British, ‘settlement’ was an important part of a claim to colonial territory as far as other European nations were concerned. This is further discussed in chapter three.

\(^{94}\) This is not the official title of the map, which is given in chapter three, but perhaps the most important function of this map was that it delineated 19 counties so that land sales could take place in the colony.
watered land was formerly the territory of the Gundungurra people but by 1906 the only land still in their hands consisted of six small reserves.

Chapter four

Chapter four shows that maps contain time in the sense that a series of maps can depict the gradual development of a European perception and consequently an evolution of a relationship to a place. Although a particular area is concentrated on, there is a hint that metaphorically, this evolution might also represent the whole of Australia. The line between the known and the unknown discussed in chapter one had progressed across the maps of Australia, from the coastal outline, mapped by Flinders in 1802, into the interior. As the line moved, the unknown spaces of cosmography became named mapped and known, the subject of chorography.

Yet by 1968, the date of publication of The Reader’s Digest Complete Atlas of Australia, there was still a vast area of the interior that was virtually unknown to Europeans. Those who had been there and left marks on the land were generally surveyors in the course of their work and their stories are vital to this chapter because there was so little in the way of European chorography apart from what they created. This vast area was mainly desert or very marginal land and the part discussed here centres around the Great Sandy Desert of Western Australia. Because this area is so devoid of European marks on the map it becomes easier to chart the evolution of what is there. There is chorography but it has not been local or lived space, and in this sense the word itself has had to evolve to accommodate the ‘empty spaces’ of desert – a very European accommodation.

The material used to show this is also sparse. A current map and sections of the ‘complete atlas’ are used. These are supported by an extraordinary archive that to my knowledge has not been examined in conjunction with maps before, even though it discusses the most integral aspect of mapping: that of the surveyor. Many articles from The Australian Surveyor have been used in chapter four and they limn the maps discussed here with their accounts of the physicality that it takes to establish the relationship between the map and the earth, this being especially so in territory as

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95 The Aboriginal Protection Board assumed ownership of these parcels of land and this is discussed in chapter three.
marginal as this. By connecting the surveyors’ stories to chorographical maps, new perspectives about the map and the atlas emerge.

At the outset, chapter four examines the chorographical setting of some of the borders that were set cosmographically by Letters Patent96 and discussed in chapter three. To be of use to those few Europeans who physically occupied that space, these lines had to be set on the ground and this required determining the longitudinal position and putting in physical markers so that the border was no longer just an abstract numbered meridian, a line on a map, but had an actual presence on the earth. It was the surveyors who had the task of finding any potential ‘key feature’ that could show where the lines were on the ground, and in the absence of anything that could possibly be regarded as a ‘physical feature’ the surveyors themselves had to build markers for the lines. Without these marks, whether natural or ‘man-made’, there was no usable connection between maps and the actual places depicted. Some of the surveyors involved gave accounts of the difficulties they faced. They also provided extraordinary information about the marks they set on the ground, mile by mile, in order to mark these borders in excruciating chorographic detail.97

Time is implicated in the setting of longitude in that most ancient of relationships between the earth and the heavens. Every significant point on a map that depicts part of the earth, in order to have any kind of accuracy of position, must be placed according to readings from outside the earth and this involves the added dimension of time. In the 21st century these readings are no longer taken from the stars but from satellites that orbit the earth.98 As technology provided more sophisticated means of achieving this, earlier border lines became questionable, consequently the border between Western Australia and the rest of Australia now has a ‘step’ in the middle of it. This was considered to be an easier solution than realigning the whole border after it was found to be inaccurate.

96 Letters Patent are the official documents that erected new colonies and determined the longitude of their borders.
97 Senior Surveyor Barclay and his assistant Surveyor Spigl measured parts of the Western Australian border. Their accounts of the arduousness of this process are written in The Australian Surveyor, as is an historical article by Surveyor Winton about the difficulties of the setting of the border between South Australia, Victoria and Queensland. These articles give intricate details of the extraordinary story of the hardships suffered by the surveyors as they struggled to set these lines on the ground.
98 Geographical positioning systems, which rely on satellite technology are briefly discussed in chapter four.
In 1968, when a ‘complete’ atlas of Australia was produced for the first time, chorographical features had to be found for every map, even those depicting what most Europeans regarded as the almost blank spaces of the desert. If European chorographic features could not be found in an area as vast as this, it would appear to be ‘unknown’ and this implied it was not part of European Australia (as opposed to Aboriginal Australia). Apart from a few salt lakes, claypans and ‘mountains’ bearing European and Aboriginal names, the most prominent key feature in the desert, appearing on four double page maps out of the thirty-six that covered all of Australia, was a series of fifty-one numbered wells named the Canning Stock Route. The route had been put in place by Surveyor Canning in 1906 and only occasionally used until 1959 when it was replaced by a more practicable route.

Long after it had any relevance as an actual stock route, the presence of the Canning Stock Route, almost 2000 kilometres in length, made it a key feature as there was nothing else to put there. Because it remained on the map some of the wells became European landmarks in the absence of anything else. When the surveyors of National Mapping, involved in a geodetic survey of the whole country, needed a significant landmark in the middle of the desert they used one of the wells as an important connection in the nationwide survey. In 1965, Well 35 on the Canning Stock Route was linked by geodetic survey to Marble Bar in one direction and Alice Springs in the other.

Recently perceptions of the route have evolved again. No longer just the major European chorographical feature on the four double page maps of the atlas, now it has its own map, the result of the route becoming an adventure tourist trail for 4WD drivers. To make it a desirable place for Europeans to visit, any possible feature that could constitute European chorography has been added to the map; these include surveyor’s markers, a burnt out truck, the ruined wells and a fuel dump. This extraordinary desperation for chorography suggests just how important it is in giving a place a sense of familiarity and a European past that can be found in the landscape. The specialist map also shows an evolution in the relationship between people and

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99 The reconnaissance for the route began in 1906; it was 1910 before it was finished.
place. No longer is the desert just a vast expanse of unknown space as far as Europeans are concerned, but this thin line running through it represents the desire for a physical connection to it.

Any possible European experience of this place has occurred alongside ancient and current Aboriginal space, and there is a contemporary map that shows a completely different vision of the same place. On this map Aboriginal knowledge of the desert depicts an abundance of life and colour in the form of many key features such as waterholes, numerous kinds of colourful vegetation and ancestral trails. The map was made to prove ownership of the Great Sandy Desert by the Ngurrara people and although it paints a very different picture to the stark European map of the same area, they do share one common feature: the Canning Stock Route holds a prominent position on both maps.

A connection such as this does suggest an evolving relationship between people and place. The stock route could not have been put in place if Canning had not forced Aboriginal people to reveal where the waters were that would become wells. Finally the Ngurrara people were able to reclaim the Great Sandy Desert under Native Title legislation using a map as proof of ownership. The stock route became a recognisable key feature to Aboriginal and European, appearing on maps of both cultures.

Time, imagination, power and the evolution of the relationship between people and place are shown to be important aspects of the mapping of Australia, a mapping created by cosmography and familiarised by chorography. Let the dance between these two ancient words begin.
CHAPTER ONE:  

The dance between cosmography and chorography  
from the Antipodes to Botany Bay

1-1 Maps of myth and imagination

Chapter one is concerned with the movement from cosmography to chorography with regard to the mapping of the land now known as Australia. The chapter begins by discussing maps of speculative space. These maps attempted to create a portrait of the earth before it was fully known. The chapter concludes with the first European chorographical destination on the shores of this land, Lieutenant James Cook’s map of Botany Bay.

On another plane, men and women have explored with the inward eye the shape of sacred space and the realms of fantasy and myth. As visual embodiments of these various conceptions of space, maps have deepened and expanded the consciousness of many societies.¹

These things belong to the loftiest and loveliest of intellectual pursuits, namely to exhibit to human understanding through mathematics [both] the heavens themselves in their physical nature (since they can be seen in their revolution about us), and [the nature of] the earth through a portrait (since the real [earth], being enormous and not surrounding us, cannot be inspected by any one person either as a whole or part by part).²

What Claudius Ptolemy (90-168 CE) is describing here is cosmography, and he points out that whereas the heavens can be seen, the earth cannot. Although the majority of people living on the earth in the 21st century have seen images of what this planet looks like in its entirety, many of the maps discussed in this chapter come from a time before this was possible. Some of the older maps examined here show a ‘known world’ that is centred around the shores of the Mediterranean, and although three continents were known, most of Asia and Africa existed on the periphery of the known world, or were unknown, existing only in the world of travellers’ tales and myth.

How do you map the unknown? This was the question for which cosmographers had to find answers, and the various solutions discussed here required imagination, theory and a particular worldview. Lands may be theorised to exist but not physically known and it was the job of cosmography to attempt to depict the possible size and shapes of these places, and this required imagination.

The cosmographical theories and the mapped portraits they created that are pertinent to this thesis, relate specifically to the land now known as Australia. As an imagined and theoretical place, this land was called the Antipodes, which literally means ‘opposite foot’. It came into existence because theory and an exploration within the imagination of cosmographers required a landmass to exist in the southern hemisphere as a counterweight to the oikoumene in the northern hemisphere.

The depiction of the Antipodes in the southern hemisphere was possible in the globe of Crates of Mallos [Fig.5] because Crates subscribed to the Pythagorean theory that the earth was spherical. He combined this with other ideas including the probability that the earth contained more land than was known. Thus informed, Crates created a globe that showed the Antipodes as one of three unknown lands. However, it was not possible for the Antipodes to exist according to the Old Testament worldview that Cosmas Indicopleustes (fl. 535-547 CE) believed in. To him the earth was flat because the Bible had told him so. His view juxtaposed with that of those who believed in a spherical world shows that the depiction of unknown places is not just theoretical but can also be coloured by the way the cosmographer sees the world.

Cosmography is a voyage in the mind, bringing lands into being in the imagination, but once on a map and often juxtaposed with known lands, these unknown lands also begin to appear ‘real’ rather than imaginary. When this happens, myths form around them. The map of Indicopleustes [Fig. 2] was able to depict a paradise beyond this world with four rivers connecting it to the world in which ‘men’ live. Once the theoretical landmass, the Antipodes, was shown on maps, it began to take on the characteristics of a real place, even if only members of the ‘Fabulous Races’ inhabited it.

3 Cortesão, 1969: 164. Cortesão suggests these dates for Indicopleustes.
The cosmographical view that showed the Antipodes eventually toppled into error because it literally did not have enough space within which to position the unknown lands that were coming into view. Consequently another perception of how the whole world might look was formed. Based on theories found in the work of Claudius Ptolemy, this new worldview created Terra Australis Incognita as an unknown southern land. Eventually, on maps this was portrayed as having ‘gold in incredible quantity’, and ‘elephants likewise’.  

1-2 The line between the known and the unknown

Uncharted territory can hold any imaginable possibility until it is charted. The more a land is known, the more the imagined possibilities fade. It is maps that chart the territory, create some possibilities and destroy others; they record what is known and what is not known and define the line that moves between them. By the time of Cook’s first voyage and his map of the east coast of New Holland, the Monstrous Races and the elephants had disappeared from the cosmographical maps of New Holland. With his detailed map of Botany Bay, [Fig.18] Cook had taken Terra Australis Incognita from a cosmographical idea to a chorographical reality. He had created an image of ‘the ear or the eye, as opposed to the head’.  

Botany Bay became a possible European destination and it was not long before the First Fleet and the explorer La Perouse arrived. Both had used Cook’s map.

The map of Botany Bay was an act of chorography on a vast landmass that had long been the subject of cosmography. However, the First Fleet did not settle at Botany Bay, but moved on to Sydney Cove. From here, exploration of the landmass took place and the 1793 map by Watkin Tench [Fig.17] shows that the boundary between the partly known and the unknown was the Hawkesbury-Nepean river system. Beyond this lay the Caermarthen Mountains and although they had been seen in the distance since the first days at Sydney Cove, they remained beyond the periphery of the known, and also therefore, the subject of cosmography, just as the unknown southern land had been.

4 Yule, 1903:276. Citing The Book of Ser Marco Polo, Book III chapter VII.
Now the imagining of Australia continued on land rather than across vast amounts of ocean, and as soon as a periphery was mapped into place in the early settlement, fears and desires of what lay on the other side of it began to form. Once again cosmography came in to play, but this time it was applied to the interior of the unknown land. The initial European chorographic act, Cook’s map of Botany Bay, merely began the ‘dance’ between cosmography and chorography as it related to the mapping of Australia.

However, within this ‘dance’, ancient cosmographical resonances remained. The land now known as Australia was probably the last vestige of the unknown to be mapped into place on cosmographical maps. Having existed for so long in the imagination the place had accumulated much in the way of myth and fable. It is quite probable that these earlier imaginings still held a mythic resonance for Europeans when they arrived at Botany Bay. Indeed, to this day, the Antipodes is still used by Australians as a distinctive form of identification.

1-3 In the beginning was Chaos…

Any sensitivity to the history of landscape and its representations in the Western tradition forces the recognition that human history is one of constant environmental modification, manipulation, destruction and creation, both material and imaginative. And guiding, if rarely driving, this process is the belief - deposited deep in myth and memory - that the good, the true and the beautiful, as well as the threatening, the awesome and the disgusting, are inscribed in the contours of the land.

The question as to what the earth might look like in its entirety and how it had been created was asked from very ancient times. In some of the theoretical constructs devised over centuries by Greek cosmographers as answers to these questions were...

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6 Bernard Smith in European Vision in the South Pacific has explored European reactions to New Holland in the late 18th and early 19th centuries at length. He examines the idea that these ‘reactions’ were coloured by far more ancient beliefs, some of which are discussed here. For example, the Monstrous Races depicted on mappaemundi or the idea of ‘Antipodean inversion’ that arose because the Antipodes existed as an opposite place from the European known world may have meant that ‘monsters’ or ‘inversion’ were expected in this part of the world. These expectations, he maintains, influenced the perception of Europeans with regard to the flora and fauna they found in the South Pacific in general and New Holland in particular.

7 For example The Antipodean Manifesto, which asserted that there was a peculiarly Australian style of painting, and The Antipodes, a journal of Australian literature published in America. The colloquial, in common usage, was used by the band ‘Men at Work’ as the title to their hit song Down Under.


9 Delano-Smith, 1987: 86.
the origins of various mapped forms of the landmass now known as Australia. However, well before anything like a map was made, Greek cosmographers used myth as a ‘single manageable representation’, within which they could ‘expose and explore the hidden rules and structures of physical creation’.  

‘First of all [Chaos] came into being, next broad-bosomed Earth’, so began the *Theogony* of Hesiod [fl. 8th century BCE]. Emerging from Chaos, a series of gods and goddesses played their part in the creation of the cosmos and everything in it. The goddess Gaea (earth), having given birth to Sky and placed her above the Earth, went on to give birth to mountains and the mountain spirits, their animating principle. Gaea was also given responsibility for the creation of the sea. As the physical world was formed, so too were generations of deities, nymphs, spirits, demons and giants, each with particular responsibilities with regard to either cosmographical features or to humanity.

The emphasis in the *Theogony*, as in other early myths, was on the relationship between humanity and the cosmos. Consequently, these myths contain some of the oldest extant cosmographical theories.

…it is generally accepted that the ancient cosmological beliefs of the Old World were themselves derived from the prehistoric period and were, at the dawn of literacy, in the process of transformation from one already ancient form (mythical) to another form (philosophical).  

In time, graphic depictions were made of what the earth might look like in its entirety and how it fitted into the cosmos, and for many centuries these ‘maps’ often included both mythology and philosophical speculation.  

Homer [8th century BCE] used geographical references in his epic poems and his description of the shield of Achilles in the *Iliad* is considered to be the earliest Greek cosmographical map, depicting as it did the concept of the universe conceived by

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10 Cosgrove, 1999: 9. Here Cosgrove is discussing the work of Christian Jacob.  
11 In the translation of the *Theogony* of Hesiod used here, that of Norman O. Brown, the term ‘The Void’ is substituted for ‘Chaos’ and reference to this is made in footnote 6 on page 56: ‘The Greek word is Chaos; but this has a misleading connotation in English’.  
14 Delano-Smith, 1987:86.
Greeks at this time. The description of the shield places the heavens, the earth and the sea in the centre.

…first of all, Earth, Sky and Sea, the indefatigable Sun, the moon at the full, and all the Constellations with which the heavens are crowned, the Pleiads, the Hyads, the great Orion, and the bear, nicknamed the Wain, the only constellation which never bathes in Ocean Stream …

Surrounding this depiction are two cities, one at war, and one at peace and lying beyond these cities the details of a pastoral life are shown. Around the edge of the circular shield is ‘the mighty stream of Ocean’, which encloses the inhabited world. This ‘encircling ocean’ that may have represented ‘human unity’ remained on European maps until the end of the 15th century.

In the 6th century BCE, Anaximander, a disciple of Thales at Miletus who was one of the Seven Sages, is said to have made the earliest Greek map. Anaximander’s map was included in his treatise On Nature, which was written as an alternative to the ‘mythico-poetical tales of Homer and Hesiod’. The map no longer exists, and any representation is merely conjecture.

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15 Aujac, 1987a: 131. Dates the Iliad at the 8th century BCE.
16 Rieu, 1953: 344. Citing Homer The Iliad.
17 Rieu, 1953: 348. Citing Homer The Iliad.
18 Aujac, 1987a: 131. See also Fig. 8.1, p 131. ‘Reconstruction of the Shield of Achilles from Homer’s Iliad.’
21 Aujac, 1987a: 134. Aujac gives the following dates for Anaximander (610-546 BCE).
22 Aujac, 1987a: 134. Aujac gives the following dates for Thales (624-547 BCE).
24 Jacob, 1999: pp. 27-28. Aujac, 1987a: 134. However Aujac says that ‘it is not certain that Anaximander wrote a commentary on his map…’
1-4 The Ephorus map and Cosmas Indicopleustes

Possibly the earliest Greek map that can be viewed today comes from Ephorus who lived in the 4th century BCE. This map may have been used by the 6th century CE Nestorian Christian cosmographer Cosmas Indicopleustes in his Christian Topography, a 9th century CE copy of which still exists. Ephorus’ map preceded the idea of sphericity, and Indicopleustes used it to disprove the philosophical notion of a spherical world, which was the dominant cosmographical theory of his time.

Ephorus compiled the map to ‘illustrate a theoretical geography of the world’s peoples’, and the map was probably included in book four of his History. Although the History is lost, the following passage from book four was included in Strabo’s Geography and Indicopleustes’ Christian Topography:

Ephorus, too, discloses the ancient belief in regard to Ethiopia, for in his treatise On Europe he says that if we divide the regions of the heavens and of the earth into four parts, the Indians will occupy that part from which Apeliotes blows, the Ethiopians the part from which Notus blows, the Celts the part on the west, and the Scythians the part from which the north wind blows.

This then was the original intention of the map, to show the positions of the four main groups of people thought to inhabit the periphery of the known world. Because of the positions of summer and winter sunrises and sunsets at the corners of the map, it has been said that the centre of the rectangle must be Greece or the Aegean.

Indicopleustes re-used the cosmographical map of Ephorus to ‘prove’ his own religious beliefs even though they were quite different from the philosophical notions that had originally created this map. Taken out of its historical context and placed in another time, the map was able to ‘prove’ an entirely different theory, namely that the earth was flat and constructed according to details set out in the Old Testament.

26 Aujac, 1987a: 143. Aujac gives the following dates for Ephorus (405-330 BCE).
27 Aujac, 1987a: 143. See also Dilke, 1987a: 262.
28 Aujac, 1987a: 143. Edson, 1997: 145. Edson suggests the name is a ‘nickname’ that means ‘Mr. World Sails-to-India’ and was attached to the work centuries later and that he called himself an ‘anonymous Christian’. Dilke, 1987a: 261. Dilke says that the name meant ‘Indian Sea Traveller.’
30 Aujac, 1987a: 143.
31 Aujac, 1987a: 144. and Note 78.
32 Aujac, 1987a: 144. Citing Strabo Geography 1.2.28 (note 9).
33 Aujac, 1987a: 144.
As a Nestorian Christian\textsuperscript{34}, Indicopleustes was determined to challenge Greek cosmographical thinking, which he saw as pagan because it was founded on the idea of a spherical world and depicted a place in the Southern Hemisphere called ‘the Antipodes’. Onto the map of Ephorus, Indicopleustes was able to create a world that conformed to passages he found in the Old Testament. Yet aspects of cosmographical thinking from Ephorus’ time remain in Indicopleustes’ map as a palimpsest.

The map [Fig. 2] showed a flat, rectangular world twice as long as it was wide, in other words the same dimensions of the table of shewbread in the tabernacle and as described in various passages of the Bible.\textsuperscript{35} The idea that the length of the inhabited world was double its breadth was also part of Classical and Hellenistic cosmographical knowledge. This map of the inhabited world was surrounded by an ocean which formed a rectangular frame, a common feature to both pagan and Christian knowledge systems, as were the four gulfs of the ocean.\textsuperscript{36} The gulfs shown represented the Caspian on the northern side, the Arabian (Red Sea) and Persian gulfs on the southern rim, and the Mediterranean (called the Romaic Gulf) on the western side.\textsuperscript{37}

In his commentary which accompanied the map, Indicopleustes added a purely Christian reading of the map by pointing out that since the time of Noah, humanity has been restricted to sailing in the four gulfs.\textsuperscript{38} However, humanity could no longer sail the ocean that surrounded the inhabited world. Until the time of Noah, ‘when the ark made its voyage from that world to this’, the human race lived in paradise, which is shown on Indicopleustes’ map, positioned outside of Ephorus’ rectangular frame.\textsuperscript{39}

Beyond the narrow Asian side of the rectangular world, and beyond the ocean, a small rectangle is drawn figuring paradise, blooming with flowers and trees. Four rivers flow from paradise into the inhabited world, passing under the ocean. One of them, the Gihon (Nile),

\textsuperscript{34} Edson, 1997:146. Says the following: ‘His book was written in the welter of theological controversy preceding the Council of Constantinople in 553 AD at which a variant of Nestorian Christianity was denounced, and his polemical tone seems to be part of the general fray.’
\textsuperscript{35} Cortesao, 1969: 165 and Note 47. Citing \textit{The Epistle of Paul the Apostle to the Hebrews}, IX, 1-2. and \textit{Exodus}, XXV, 23.
\textsuperscript{36} Dilke, 1987a: 261. Referring to fig. 15.2 on page 263. (Indicopleustes’ map), reproduced here as Fig.2.
\textsuperscript{37} Dilke, 1987a: 261.
\textsuperscript{38} Dilke, 1987a: pp. 261–263.
\textsuperscript{39} Edson, 1997: 147. See also Dilke, 1987a: pp. 261-263.
flows into the Romaic Gulf; the others, the Tigris, the Euphrates, and the Pishon (Indus), flow into the Persian Gulf. Surrounding the rectangular ocean is “the earth beyond the ocean”. In this sense cosmography can be used to prove variant philosophical ideas. Ephorus’ intention and Indicopleustes’ intention were quite different, yet the same cosmographical map, with a few additions, was able to accommodate both. This is because a cosmographical worldview could remain in place long after the theory that formed it had fallen from grace. A cosmographical vision may be stronger in the form of a map than the theory that formed it. Once set on paper it had an authority that was very difficult to challenge.

Apart from the map, diagrams accompanied the text. On one, Indicopleustes showed a ‘Tabernacle World’, in which a flat earth was draped by the sky in the form of a tent. In the accompanying text he used a number of Biblical quotes to show that the earth could not be a sphere with the heavens revolving around it, but instead the heavens were ‘pitched’ like a tent over the earth.

With the map and the diagrams Indicopleustes sought to prove his point that the Bible held all necessary information as to the cosmography of the world. Indicopleustes’ dislike of the theory of sphericity may have arisen because it did not allow for the series of heavens to which Christians at the time were required to aspire. In one of the accompanying diagrams a heavenly and eternal realm occupied by God and the angels is depicted and compared in the text with an earthly tabernacle that would eventually be destroyed.

In another diagram four men were shown with their heads touching and their feet pointing north, south, east and west. The Antipodean was depicted as standing on his head. This depiction was accompanied by the following text:

And let each one of you who has sound vision and the power of reasoning justly turn the earth round whatever way he pleases, and let him say whether the Antipodes can be all standing upright in the same sense of the expression. But this they will not show even should they

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42 McCrindle, 1887: (no page numbers). Citing Indicopleustes *The Fourth Book of the Christian Topography*.
43 Edson, 1997: 148. See also Dilke, 1987a: 262. Fig. 15.1.
speak unrestrained by shame. Such then is our reply to your fictitious and false theories and to
the conclusions of your reasonings which are capricious, self-contradictory, inconsistent,
doomed to be utterly confounded, and to be whirled round and round even more than that
unstable and revolving mythical sphere of yours.\textsuperscript{44}

As to whether or not Indicopleustes’ ideas had widespread acceptance, it has been
suggested that his work was relatively unknown until resurrected in the 19\textsuperscript{th} century as
‘proof’ of the way the Church hampered science in the medieval world.\textsuperscript{45} Yet it is
through the work of Indicopleustes that it can be shown how a cosmographical view
can be used to support a theoretical notion. At the time of Indicopleustes, as in the
time of Ephorus, the world as it is understood in the 21\textsuperscript{st} century was so little known
that its configuration was subjected to theory, speculation, religious views and
philosophy.

1-5 In a spherical world the Antipodes is mapped into place
Between the time Ephorus had made his map of a flat, rectangular earth and
Indicopleustes had copied it, the dominant world view had changed considerably and
the idea that the world was a sphere had taken a firm hold. Until the world was fully
known, its shape and size was the subject of cosmographical theory rather than
reality. Although the Antipodes could not exist within the flat earth schema of
Ephorus or Indicopleustes, its existence was quite possible in a world conceived as
being spherical. The existence of the Antipodes, therefore, was reliant on a particular
worldview, and cosmography at any given time, until the world was fully known,
allowed for various possibilities. However, when Indicopleustes made his map the
spherical view of the Pythagoreans was dominant.

The Pythagoreans believed in the geometrical perfection of the sphere, and from this
they decided that the world must be spherical.\textsuperscript{46} This philosophical stance in a sense
created the Antipodes because it was thought that the \textit{oikoumene} would only cover the

\textsuperscript{44} McCrindle, 1887: (no page numbers). Citing Indicopleustes, \textit{The Fourth Book of the Christian
Topography}.
\textsuperscript{45} Gould, 1994: 16. In his article \textit{The Persistently Flat Earth}, Stephen Jay Gould suggests that Cosmas’
map was used to imply that medieval scholars believed in a flat earth. But this did not happen until the
late 19\textsuperscript{th} century when the map was used to ‘prove’ that this worldview had been enforced by a Church
that was anti science. In fact Cosmas’ work would have been ‘invisible to medieval readers’ because it
was not translated into Latin until 1706.
\textsuperscript{46} Simek, 1996: 2. Says that Cosmas’ book was only translated from the Greek into Latin in Paris in 1706
and was virtually unknown in Europe beforehand.
\textsuperscript{46} Aujac, 1987a: 136.
top portion of the sphere and must be counterbalanced by a landmass of equal size and weight in the other hemisphere.

Aristotle (384-322 BCE)\(^{47}\) was able to prove that the earth was spherical by observing the shadow of the earth on the moon in eclipses of the moon and the rising of the celestial pole above the horizon when travelling from south to north.\(^ {48}\) He also used the system of five zones that had been advanced by Paramenides.\(^ {49}\) By representing each zone as if it were part of a drum,\(^ {50}\) Aristotle was able to plot in three-dimensional space rather than using the two dimensions of a flat circular world.

He wrote that there were ‘two habitable sectors of the earth’s surface’. Apart from the known world in which he lived there was another, he deduced, towards the South Pole.\(^ {51}\) However, well before the time of Aristotle, Homer had suggested in the *Odyssey* ‘The Ethiopians who dwell sundered in twain, the farthestmost of men’.\(^ {52}\) This was later interpreted by Crates of Mallos\(^ {53}\) to mean that there was a land on the other side of the equatorial ocean, in a southern hemisphere, that resembled Ethiopia.\(^ {54}\)

**1-6 The globe of Crates of Mallos**

Crates created a globe [Fig. 5] on which he combined the mythic journey of Ulysses\(^ {55}\) with the geometrical calculations of Eratosthenes (‘about’ 273-192 BCE),\(^ {56}\) who had

\(^{47}\) Gribbin, 1997: 34. Gribbin gives these dates for Aristotle.

\(^{48}\) Aujac, 1987a: 145.

\(^{49}\) Aujac, 1987a: 136. Paramenedes (fl.480 BCE) was a disciple of Pythagoras and was credited by Posidonius (135-50 BCE) as being the originator of the idea that the earth should be divided into five zones. Posidonius saw this division as ‘the direct result of the hypothesis of the spherical nature of the sky and the earth’.

\(^{50}\) Aujac, 1987a: 145.


\(^{52}\) Aujac, 1987c: 163 and Note 8. See also *The Odyssey of Homer* 1879: Book I, p 2, li, 23-24. (trans. SH Butcher and A Lang) who translate the lines as follows: ‘the Ethiopians that are sundered in twain, the uttermost of men’ Aujac does not include the next line of the poem, which Butcher and Lang translate thus: ‘abiding somewhere Hypernion sinks and somewhere he rises.’ This line of the poem would seem to suggest strongly that there were two lands where Ethiopians lived and that they were a great distance apart.

\(^{53}\) Aujac, 1987c: 162. Gives Crates dates as fl.150 BCE.

\(^{54}\) Aujac, 1987c: 163.

\(^{55}\) Aujac, 1987c: 163. Aujac refers to ‘Ulysses’ rather than ‘Odysseus’, Crates was particularly favoured by Romans perhaps this is why.

\(^{56}\) Gribbin, 1997: 166. Gribbin gives these dates for Eratosthenes.
calculated the circumference of the earth to be 252,000 stades. The calculations of Eratosthenes led Crates to believe that the world should contain four landmasses, and these he put on his globe as four islands: the Oikoumene, the Antipodes, the Antoikoi and the Perioikoi, each separated by ocean.

Crates’ globe was well received in Rome and few doubted the existence of the Antipodes in the complimentary temperate zone. It was far away and across a vast ocean so that it was quite possible for whole civilisations to flourish on the other side of the world and remain unknown. The Antipodes, the product of cosmographical theory, had now appeared as one of four named landmasses on a globe of the world. While the Antipodes and the Oikoumene remained, eventually the Antoikoi and the Perioikoi dropped from sight.

1-7 The Macrobian map

This globe greatly influenced a map [Fig.3] that clearly showed the Antipodes and was compiled by the Roman geographer Ambrosious Macrobius in the early 5th century CE. Macrobius wrote a Commentary on Cicero’s *Dream of Scipio* in which he discussed his theories concerning number symbolism, morality, the immortality of the soul and astronomical theory. In the cosmographical section of this book appeared what became known as the ‘Macrobian map’. The Commentary became one of the great authorities on astronomy in the middle ages. Both *The Commentary* and the map it contained were copied many times and after the advent of the printing press, numerous print runs were made. Because of this the map became a common view of the world, at least until the end of the 15th century.

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57 Aujac, 1987b: 148. Note 3. Aujac says that a stade was ‘the distance covered by a plow in a single draft, consisting of 600 Greek feet’, however, the length of a foot varied and there is no current agreement of a modern equivalent.
58 Aujac, 1987c: 163. ‘It is clear that this conception of four symmetrical land areas was a direct consequence of the geometry of the sphere and of the size Eratosthenes attributed to the inhabited world in relation to the total globe’.
59 Aujac, 1987c: 164.
61 Edson, 1997: 36. Edson says that the original commentary appeared at the end of Cicero’s *De Re Publica* and that Macrobius’ commentary was 17 times the length of the work he was commenting on.
The Macrobian map is termed ‘zonal’ and Macrobius precisely stated the width of each of the five zones in degrees from pole to pole, an idea that probably originated in the theories of Posidonius (135-50 BCE) and ultimately Pythagoras. Macrobian maps often state the figure of 252,000 stades, which was Eratosthenes’ calculation of the circumference of the earth and was also used by Crates in the making of his globe. All the land in the Macrobian worldview is contained within a circle formed by the Ocean Sea, just as the map on Homer’s shield had been.

The map is oriented to the north, and at the North and South Poles the ‘frigid zones’ appear. These were considered to be too cold to be inhabited. Through the middle of the map runs the Ocean River, the ‘Alveus Oceani’ that was ‘thought to flow just below the surface of the sea’. The Ocean River was bordered on each side by a ‘torrid zone’, one in each hemisphere. The ‘torrid zones’ were thought to be uninhabitable and uncrossable because of their extreme heat. On Macrobian maps the impossibility of crossing the central zone is usually mentioned.

Between the ‘torrid zone’ and the ‘frigid zone’ in each hemisphere lies a ‘temperate zone’. The known world sits in the northern temperate zone and this landmass is broken by gulfs and bays that are detailed enough to suggest that they are at least partially known. The names of familiar places appear: Armenia, India, Persia, and Britannia. The temperate zone to the south is covered with a huge landmass indented slightly at the top. This suggests the possibility of bays but there does not appear to be any real geographical knowledge of this enormous land. There is only one name, ‘Temperata Antipodum Nobis Incognita’, the unknown temperate zone of the Antipodes.

By positioning the Antipodes, an unknown land, in one of the habitable temperate zones, and the oikourmene, the known world, in the other temperate zone, the map implied that the Antipodes existed and was habitable. Not only this, but the two

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64 Woodward, 1987: 353. See also Fig 18.5: 297.
65 Aujac, 1987a: Aujac gives these dates for Posidonius.
69 The map described here is reproduced as Fig.3. It is a 15th century version of the Macrobian map and probably contains details that earlier versions did not show. Maps based on the work of Macrobius are still in existence from as early as the 9th century.
habitable zones were separated by a torrid zone that was uncrossable because of the heat. The map set the stage for a land that was to become legendary and the existence of which was not easily questioned because it could not be reached. It was not possible to cross over and examine it in reality; this could only be done as an imaginative exploration. Cosmography had created the perfect setting for an unknown land that could become a haven for any desire or myth, which could neither be proved nor disproved.

The Macrobian map in its simplicity is a perfect mnemonic. Even if not all of the ideas and theories it contained were remembered or understood in every incarnation, its simple, circular, zonal form could be copied and all the information would be transmitted into the next translation. What was unforgettable was the existence of the Antipodes, covering almost half the map; it was as solid in its mapped entity as the world known to exist. Once Greek cosmographers had formed the idea of the Antipodes, it was carried into the Christian medieval world and could not be written off the map until the worldview changed. The Classical inheritance was held in high regard and was not particularly debated. It was, therefore, Christianised and simplified. The Antipodes became the ‘opposite foot’ of the European Christian worldview.

1-8 T&O maps

The Macrobian map was not the only schema to distil the resonances of Greek cartography and transmit them into the medieval world; it retained its ‘Classical’ attributes and does not appear to have been ‘Christianised.’ However, sitting alongside Macrobius’s zonal maps in many cosmographical texts was the T&O map.

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71 Woodward, 1987: 300. ‘Over 150 mappaemundi drawn according to the Macrobian schema are found in manuscripts of the Commentary on the Dream of Scipio from the 9th century to the 15th …’ Copies of the map were also included in various other medieval texts.
72 Edson, 1997: 37. Edson suggests that medieval science needed to do three things with the ‘Classical inheritance: to simplify it, to Christianise it, and to supply it with meaning’.
73 Woodward, 1987: 302. fig 18.11. This is a reproduction of an Isidorian T&O map and there are many versions of T&O maps reproduced on the surrounding pages.
Thus called because this simple map appears to be no more than a ‘T’ shaped division of the continents of the world\(^{74}\) inside a circle representing the ocean. [Fig. 6]

Although the design of the map pre-dated Christianity,\(^{75}\) (the ‘O’ had represented the encircling ocean since the time of Homer\(^{76}\)) the T&O map quickly became Christianised. The all-encompassing ocean came to be known as the ‘Waters of Salvation’\(^{77}\) and the ‘T’ was seen by Christians to form a tau cross or crucifix.\(^{78}\)

Just as Indicopleustes re-used Ephorus’ map, the older T&O map was reworked to represent quite a different philosophical stance.

In both the classical and the Christian versions of the map, the distribution of geographical features remained the same. Inside the ‘O’, the Don and the Nile Rivers formed the crossbar of the ‘T’ while the Mediterranean Sea provided the stalk. Europe and Africa were placed to the left and right of the stalk and Asia was positioned on top of the crossbar. However, it was not long before the simplicity of this worldview was compromised, as some mapmakers insisted on attaching a fourth continent, the Antipodes. In some examples it dangled below the perfect circle of the T&O, forming another half circle beneath, an appendage rather than part of the world.\(^{79}\)

On many T&O maps the names of the three sons of Noah are shown on the continents they are to populate: Sem in Asia, Japeth in Europa, and Ham in Africa, and on some maps the lists of their descendants, as written in Genesis X, are listed in full.\(^{80}\)

According to the Old Testament, God had provided only three sons of Noah to repopulate the world after the Flood, therefore difficulties arose concerning the population of a fourth continent. As a fourth continent, the Antipodes proved to be useful because of the doctrine of the number four.\(^{81}\) This doctrine, inherited from the classical world, was considered to be a very important part of the Christian worldview because it tied in with the four points of the cross. In a combination of classical and

\(^{74}\) Generally only three continents were shown although on some T&O maps a fourth appeared. This is discussed in detail below.

\(^{75}\) Woodward, 1987: 328. Woodward says that the basic structure of the tripartite diagrams was originally Roman.


\(^{78}\) Harvey, 1987: 284.


\(^{81}\) Woodward, 1987: 302. fig 18.11 & 18.12 show the names of the three sons of Noah and fig 18.33, on p 331 shows a map listing their descendants as well. The latter is reproduced here as Fig 4.

\(^{81}\) Woodward, 1987: 335. Woodward discusses the symbolism of the number four and in Table 18.6 on page 336 he lists a series of attributes for all four continents.
Christian knowledge, great care was taken to create sets of four, such as winds, saints, rivers, climates, humours or gods. According to this schema, Europe was personified by the god Vulcan, Asia by Flora or Venus, Africa by Ceres and the Antipodes by the god Bacchus.\(^{82}\)

1-9 Of fabulous races and monsters

In an attempt to solve the problem of the population of the fourth continent, members of the non-human ‘Fabulous Races’ were depicted on maps as dwelling in the Antipodes. Fabulous Races, or ‘Monsters’\(^{83}\) as they were sometimes called, were not just decoration or an implied fear of what might lie in unknown parts of the world, they were required to be on mappaemundi\(^{84}\) as an important part of the knowledge system of the medieval world. They had their own field of study, teratology, ‘the doctrine of wonders and miraculous occurrences’, and many medieval encyclopaedias had teratological chapters.\(^{85}\)

‘Fabulous Races,’ like the structure of the maps they inhabited, were an inheritance from classical and Hellenistic Greece. They became popular in the medieval world through the ‘Alexander Romances’, which were generally fictional accounts attached to the exploits of Alexander the Great.\(^{86}\) In early mappaemundi, ‘Fabulous Races’ were more likely to be found ‘as far as possible from the civilized centre of the earth’, which, according to the Christian worldview, was Jerusalem.\(^{87}\)

The Antipodes had its own ‘Fabulous Race’, the Antipodeans, and often Sciopods dwelt there as well. Both races had peculiarities regarding their feet. The Antipodeans were opposite footed and the Sciopods were often described as ‘shadow-footed’.

Whereas the Antipodeans tended to stay in the Antipodes, on some maps the Sciopods


\(^{83}\) Simek, 1996: pp. 86-95. See also Woodward, 1987: pp. 330 - 332 and Table 18.5 page 331. Apart from Antipodeans and Sciopods there were many more, including Blemmyae who had no necks or heads but faces on their chest, one-eyed Cyclops, the dog-headed Cynocephali and those who had particular eating habits, such as the Astomi, who were mouthless and lived on the smell of apples, or the fish-eating Ichyophagi.

\(^{84}\) Woodward, 1987: 299, 342. Mappamundi, literally ‘cloth of the world’, is a term used to describe medieval Christian world maps. They were ‘primarily didactic’ and not necessarily concerned with geographical facts. These maps were made for more than a thousand years from the beginning of the 5th century to the middle of the 15th century.

\(^{85}\) Simek, 1996: 89.


were placed in Africa or India\(^88\) where their one enormous foot came in handy to shield them from the heat of the sun.

Benedictine abbot Beatus of Liebana (711-800 CE)\(^89\) included a map [Fig.7] in his *Commentary on the Apocalypse of Saint John*. This shows a fourth continent as a circular slice to the south, separated from Africa by water named on the map Mare Rubrum (the Red Sea).\(^90\) Maps in the style of Beatus were copied many times\(^91\) and although the legend shown on the fourth continent of these maps varies slightly from map to map, Sciopods or Antipodeans are said to dwell there. Also mentioned in the legend is the impossibility of reaching the Antipodes because of the uncrossable zone. One such legend reads:

> This region remains uninhabitable and unknown to us on account of the heat of the sun. It is said that the Scopodes live there, who have single legs and [travel] with amazing speed. The Greeks call them Sciopodas, because, lying supine on the ground during the summer, they are shaded by the great size of their feet.\(^92\)

Other lands on the periphery of the known world also had monsters. As more geographical information became available the ‘Fabulous Races’ were confined to the Antipodes because nothing was known about this continent. The monsters, like other myths and fables, could only exist in the unknown lands depicted on cosmographical maps. The makers of mappaemundi did not make the distinction between ‘real and imaginary’ that is valued so highly in the episteme of this time.\(^93\) Teratology, Greek cosmography and biblical knowledge all found a place on medieval maps.

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\(^88\) Edson, 1997:152, fig 8.3. and Simek, 1996: 88, fig. 23. Both Edson and Simek reproduce the ‘Osma’ map which clearly shows a Scipod in the Antipodes. (the map is reproduced here as Fig 7).

\(^89\) Edson, 1997: 154. Edson discusses later maps where Sciopods are situated in Africa and Woodward, 1987:331. Table 18. 5 places Sciopods in India.

\(^90\) Edson, 1997: 149. Edson gives the following dates for the life of Beatus: 711-800 CE.

\(^91\) Edson, 1997: 153. Mare Rubrum on medieval maps could include the Indian Ocean, the Red Sea and the Persian Gulf.

\(^92\) Edson, 1997: pp. 150-151. 14 manuscripts retain their maps today. All show a fourth continent. Most were copied in the 10\(^{th}\) to the 13\(^{th}\) century.

\(^93\) Edson, 1997: 154 and Note 25. Citing the inscription on the Osmá map.

\(^94\) Foucault, 1970: pp. 37-40. Foucault refers to the medieval world as the ‘Age of Similitude’ or ‘Resemblance’, where things mirror each other but not exactly. This is a world that speaks, it is full of signs and signatures, everything is ‘legend’ to be read and the object of knowledge is to interpret these signs, whether they exist in real or imaginary worlds.
1-10 Christianity and linear time

Not only this, but these maps incorporated the fourth dimension, that of time, which was a vital part of Christian cosmography. Whereas time was cyclical in Hinduism and Buddhism, Christianity, along with Judaism and Islam, operated within an all-important context of linear time and this was included in mappaemundi as these maps existed primarily to show a Christian worldview.

Significant events on the Christian timeline included the Creation, the Flood, the revelation of God to Abraham, the liberation of the Israelites from Egypt and the giving of the law on Mt. Sinai, and finally the coming of the Messiah, all of which could be shown on the map. According to Saint Paul the sacrifice of Christ brought time to an end, but those who lived after him, continued to experience the travails of temporal experience, struggled to place events in a proper context. The mission of the Apostles, the conversion of the peoples of the world (whether by force or persuasion), and the lives of the saints might all be plotted on a map of the world. Such places on the map showed not only points of spiritual significance, but also indicated the progress of the human race toward its ultimate end, the Last Judgement.  

The incorporation of time meant that mappaemundi had to show the sites of the conquests of pre-Christian Empires, such as those of Alexander and of Rome, as well as Christian narratives such as Adam and Eve [Fig. 8] ‘at the moment of their sin’. But the most important aspect of Christian time was the idea that it would end when all souls were converted. The Day of Judgement would come and paradise would be attained by the saved. Because of the cosmographical inheritance of sphericity, the Antipodes had to be incorporated into a Christian worldview and this caused problems. The ‘hypothetical southern continent’ could not be reached because it was not possible to cross the equator.

If it were truly uninhabited, its presence would be irrelevant to the progress of human history. However, if people lived there, the end could not come until they, too, no matter how

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95 Edson, 1997: 158. Edson is referring in particular to the concept of time in Commentary on the Apocalypse by St. Beatus of Liebana, in which his map is a central part. See also Woodward, 1987:342, who describes the depiction of Christian time on mappaemundi as a simultaneous presentation of a thousand years of Christian history depicted on a single map.
Fig. 8 is a map in the Beatus style from the Silos Apocalypse dated at 1109 showing Adam and Eve ‘at the moment of their sin’ as well as cities such as Constantinople that would have been important to Christians in the 12th century.
96 Simek, 1996: 53.
monstrous, were given the opportunity of salvation. In this case, the world had a long, perhaps
an infinite, time to endure.  

If this land, real or imaginary, populated or not, could not be reached, ‘Christ’s
missionary task: ‘Go to all peoples and teach them’, could not be fulfilled.  
It would have been easier to take the Antipodes off the map rather than continually
having to find ways to fit Christian cosmography around it, but it seems the classical
notion of sphericity and the consequence of this, the Antipodes, could not be easily
questioned or eliminated. The Christian worldview was eventually stretched too far
and it ran out of cartographic space.

1-11 The pre-dawn of the Renaissance

Information was periodically brought back from the periphery and had to be
incorporated into Christian cosmography. By the time of the Hereford Cathedral Map
(late 13th century) all that is left of the Antipodes is a narrow strip of land that almost
seems to form a border, and it is here that the Fabulous Races are congregated. The
clutter on mappaemundi was now considerable. By the end of the 15th century, the
frame that had held the European conception of the world in place since the time of
Homer, the all-encircling ocean, which had stopped the world expanding beyond its
fragile shell for millennia, was breached.  
Discoveries such as the ‘New World’ of
Christopher Columbus could no longer fit into this worldview.

It has been suggested that the elemental division between earth and water was
particularly important to the people who lived on the shores of the Mediterranean and
the Atlantic sea as they lived on landmasses fragmented by water, and it was from
this part of the world that Western mapped history originated. The all-encompassing
ocean that surrounded the world became the waters of salvation that surrounded
mappaemundi in Christian cosmography. The rediscovery of the worldview of
Ptolemy by Renaissance Europe freed the mapped image of the world from water and
surrounded it with land. This was a vital cosmographical shift from the water-
encircled world of both mappaemundi and the ancient Greeks to a land-locked world.

97 Edson, 1997: 159.
100 Cosgrove, 2001:11.
The view of a world surrounded by an encircling ocean had toppled into error because of discoveries such as that of Columbus that could not find space in this schema, which could no longer be considered as anything more than an archaic and curious vision. A new worldview had to emerge that could accommodate the cosmographical information flooding into Europe at this time as it could not be fitted into a circular water-encircled world.

1-12 The rediscovery of Ptolemy’s *Cosmographia*

In the place on the map that is reserved for the land now know as Australia, the imaginary place the Antipodes dropped from sight to be replaced by an unknown land to the south. This unknown land was created by using the cosmography of Claudius Ptolemy, who in turn was using some of the same theoretical notions descending from classical and Hellenistic Greece that had brought the Antipodes into being.

Ptolemy’s worldview allowed for lands that had not been theorised to exist, to find a place on a cosmographical map. In 1492 Christopher Columbus discovered lands that had not previously existed in the European imagination and were in every sense a ‘New World’ as far as Europe was concerned. In 1488 Bartholomew Diaz had determined the full extent of Africa by rounding the Cape of Good Hope, and in 1498 Vasco da Gama had found a sea route to India. The Ptolemaic system probably came to the fore at the end of the 15th century because the world needed to be able to expand conceptually and incorporate the unknown lands that were appearing on the horizon.

Ptolemy’s calculation of the circumference of the earth was less than that arrived at by Eratosthenes, and he broke with Greek cosmographical tradition by removing the all-encircling ocean that had been in place since at least the time of Homer. He surrounded the known world with unknown lands rather than ocean. The world was

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101 Simek 1996: 115. Suggests that a fourth continent, the Antipodes in the southern hemisphere, had become something that was assumed. What Columbus had found shattered the medieval *Weltbild*.
102 This did not happen at the same time for everyone. For example, Columbus did not think he had ‘discovered’ a ‘New World’, rather that he had reached Asia by a different route. He was not ready to change the way he saw the world. See Zerubavel, 1992: 7.
no longer seen as two landmasses, one in each hemisphere, the oikoumene and the Antipodes, surrounded by ocean and kept apart by an ocean that could not be crossed.

According to Ptolemy’s cosmography, the ‘theoretically habitable landmass of the world’ could extend indefinitely and ‘beyond the limits of knowledge of his time’. His ancient template, refound by Europe in the 15th century, could be used to position the information that was being brought back from the periphery of the known world at an ever-increasing pace. By defaulting land over sea, and allowing for infinite expansion, newly found lands could be plotted in relation to each other and to lands that were known to exist.

1-13 The forming of the mythical southland

Ptolemy’s theory of a land-locked world meant that even the Indian Ocean was enclosed by land instead of sea, thus forming an unknown land to the south. This allowed for the formation of a mythical southland in place of the Antipodes.

…the whole sea around the sea of India, together with the bays connected to it, besides the Arabian and Persian Bays, the [Bay] of Ganges, and the Bay that is specifically called Great. This [sea] too, is contained by land on all sides.

The books of Claudius Ptolemy, written in Greek in the 2nd century CE, were later translated into Arabic and had been widely used in the Arab world. Of special importance was the *Almagest*, in which Ptolemy taught how to make a celestial globe, catalogued 1022 stars and gave the coordinates for known places from Taprobane through to Thule. Twenty years after writing the *Almagest* he wrote *Cosmographia* and this included the co-ordinates for roughly 8000 localities such as towns, borders, natural features and important cities. *Cosmographia* also gave

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107 Ptolemy’s books included *Tetrabiblos, The Almagest* and *Cosmographia*.
109 Dilke, 1987b: 177 Note 2. Here Dilke says that *Almagest* is an ‘Arabic Title’ from a ‘Greek form’ meaning ‘the greatest [treatise]’.
110 Lennart Berggren and Jones, 2000: pp.179. Appendix H. Taprobane was the name current at the time of Ptolemy and for many centuries after for the island now known as Sri Lanka. Thule was the name used for the northernmost extremes known at the time.
instructions on how to make maps, which any educated person could use.\textsuperscript{112} It tackled the problem of making a three dimensional sphere into a two-dimensional plane by means of various projections.

1-14 The location at the edge of the known world

\textit{Cosmographia} was translated into Latin in about 1407,\textsuperscript{113} and when this translation reached the printing press in 1475 it became readily available.\textsuperscript{114} By this time Ptolemy’s list of co-ordinates for localities was thirteen hundred years old and had been copied through numerous translations. Many of the places named had disappeared or been renamed. Locations uncertain at the time of writing were even more uncertain in the 15\textsuperscript{th} century. However, mapmakers incorporated some of the places mentioned by Ptolemy in his list rather than leaving blank spaces on their maps and this was especially so when it came to those parts of the world that remained essentially unknown as far as Europe was concerned.

In the cosmography of Ptolemy and of the Greek geographers who preceded him, the ‘known world’ centred on the Mediterranean, where information about places and their geographical position was reasonably accurate. This accuracy fell away as lesser known and ultimately unknown lands were reached. Information towards the periphery and beyond was often gleaned from merchants, travellers’ tales and legends, and the further away from the centre, the sketchier and more open to fable the information became.

At the periphery, travellers observe, measure, discover. At the centre is the mind of the mapmaker, who listens to these reports or reads them. Truth and reliability are the key issues since the location and sometimes the reality of a place rely on written sources.\textsuperscript{115}

The last named place along the Indian Ocean included in many early maps based on the Ptolemaic system was named in the list as Kattigara,\textsuperscript{116} and what this place might

\textsuperscript{112} Lennart Berggren and Jones, 2000: pp.3-4. (Introduction). ‘He introduced the practice of writing down coordinates of latitude and longitude for every feature drawn on a world map, so that someone else possessing only the text of the \textit{Geography} could reproduce Ptolemy’s map at any time, in whole or in part, and at any scale.’

\textsuperscript{113} Cosgrove, 2001: 102. Cosgrove mentions that this was the translation by Jacobus Angelus who titled the work \textit{Cosmographia}. Woodward, 1987: 316. Woodward puts the date of the translation at 1406-1407.


\textsuperscript{115} Jacob, 1999: 44. Jacob refers to this process as ‘… the epistemological model of Alexandrian cartography as described by Strabo.’
be called today and where it actually was, is still open to conjecture. In *Cosmographia*, Ptolemy drew heavily on the work of Marinus of Tyre who included in his writings the itinerary of a merchant called Alexander. This merchant claimed to have sailed to Kattigara, and he described the place as being an ‘innumerable number of days from Zabai’. It is now thought probable that ‘Zabai’ is the land now known as Cambodia.

To the east of the Sinus Gangeticus (Bay of Bengal), Ptolemaic maps show the Golden Chersonnese, which may be the Malayan Peninsula, and then to the northeast lies the ‘Great Gulf’. If the ‘Great Gulf’ is the Gulf of Tonkin as some surmise, then Kattigara is Hanoi. Then again if the ‘Great Gulf’ is the Pacific Ocean then Kattigara might be Peru. In any event, Kattigara was at the edge of what became an enormous southern landmass known as Terra Australis Incognita.

Ptolemy did not give a set of co-ordinates or any instructions for drawing the coastline of the landmass surrounding the Indian Ocean. It was an unknown land that had been created by his worldview and remained open to conjecture. This meant that mapmakers used their imagination in depicting the form this coastline might take, lying as it did a few degrees south of Kattigara.

Early maps based on the Ptolemaic system were carefully copied by hand and a series of ‘fictitious wiggles and bumps’ was included along the coast of the unknown land that enclosed the Indian Ocean. These wiggles and bumps may have originally been a decorative border on earlier Arabic maps, or they may have been based on actual geographical knowledge [Fig. 9]. They are clearly shown on the 1414 map by Pirrus da Noha [Fig.10].

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118 Dilke, 1987b: pp 198-199, and Note 106. Dilke refers to Kampuchea, which is now known as Cambodia.
121 Lennart Berggren and Jones, 2000: 181. Appendix H.
123 Whitehouse, 1994: 65. Whitehouse claims the al-Khwarizmi map of the ‘Sea of Java’ made between 817 and 826 CE, shows real geographical information including the top of Australia. This map is reproduced here as Fig. 9.
1-15 Mapped spaces that could be land or could be sea

In 1482 one of the first printed maps appeared, and it was based on the Ptolemaic system. This map clearly shows the ‘wiggles and bumps’ rising up from the coastline of an enormous landmass that is named Terra Incognita, and stretches from Africa to China. Explorers from Europe set out to find and claim this enormous landmass depicted on Ptolemaic maps. Instead they found a seemingly endless ocean. They brought back to Europe maps of tiny islands surrounded by voluminous quantities of sea with no real method of fixing their position. Space, which was possibly land or possibly sea, swirled and formed and reformed in a very unstable way on these early maps. Almost every discovery in the Pacific by Europeans was as a result of the quest to find this land which Munster, in the legend on this landmass on his 1540 untitled world map, attributed directly to Ptolemy: Terra Incognita Secundum Ptoleym. The space in question was vast and seemed to be mainly sea rather than land. Islands were found and lost again because of the rudimentary methods of setting longitude employed by European navigators at this time. These islands were often placed wrongly on cosmographical maps because of the difficulty of determining longitudinal position without known lands as a reference point.

1-16 The myth of gold and elephants

The imaginary coastline of Terra Australis Incognita, formed by the cosmographical theories of Ptolemy and the ‘wiggles and bumps’ mentioned above, was often juxtaposed with the real. The 1531 map by Orince Fine shows this imaginary coastline and real geographical information probably from the route taken by Magellan. Mercator, who in his 1538 map added Tierra del Fuego as a headland to the continent, built upon the coastline of the unknown southern land shown in Fine’s

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124 Clancy, 1995: 62. Map 5.1. This map is known as the ‘Ulm Map’.
125 Sobel, 1995: pp 13-14. Sobel describes in detail the method of finding longitude known as ‘dead reckoning’, which became less and less accurate the further the navigator was from his home port. In spite of this it was the method used by European navigators until the invention of the nautical almanac that was used by Cook on his first voyage and is discussed below.
127 Clancy, 1995: 13. Map 1.1. I have translated the legend as ‘unknown land according to Ptolemy’.
128 Skelton, 1958: pp. 196–197. For example, the Solomon Islands were ‘discovered’ and then lost by various European navigators after their initial European discovery by Mendana in 1567.
In his world chart of 1569, Mercator added to the lure of Terra Australis Incognita by adding the legend ‘provincia aurifera’ (province of gold) to the top of the landmass. He also included the placenames Maletur, Beach and Lucach on its shores. For years other mapmakers followed this convention. [Fig.11] Marco Polo had written about these places and described ‘Lochac’ thus:

…and they also have gold in incredible quantity. They have elephants likewise, and much game.

Marco Polo had written that Lochac could be reached by steering ‘a course between south and southwest, 700 miles from Java to two islands Sondur and Condur, 500 miles beyond Sondur is Lochac.’ Sailing 500 miles south from Lochac an island is reached and 90 miles beyond this is the kingdom of Malaiur. By depicting these lands as being part of Terra Australis Incognita the inference was that the landmass was filled with gold, elephants, and ‘much game’. [Fig 12] Even though Marco Polo’s description at the time was probably seen as real geographical information, this description now seems fanciful. A resonance of this fantasy continued until the second voyage of Captain Cook, after which there was not a large enough area for the fabled land to exist in unknown space.

In the years 1616, 1618, 1619 and 1622, five different Dutch ships in the service of the VOC either accidentally or deliberately landed on the coast of an unknown

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132 Malaiur has been variously translated as Maletur or Maleyur, and according to Sir Henry Yule (the 19th century translator of Marco Polo’s book) ‘there is no doubt it is the land of the Malay’.
133 Beach appears as Boeach or Boech in some earlier translations and on some maps.
134 Lucach, the name on Mercator’s map, appears as Lochac in Yule’s translation and as Lochach in some earlier translations.
135 The 1593 world map by Abraham Ortelius reproduced here as Fig.11 shows ‘Terra Australis Nondum Cognita’ and upon this huge landmass, to the right, are the lands of Malaiur, Beach and Lochach.
136 Yule, 1903: 276. Citing The Book of Ser Marco Polo Book III chapter VII.
137 Yule, 1903 276. Note 1.Yule substituted ‘Champa’ for ‘Java’ in the text even though he admits that it does appear as Java in ‘all the MSS. And texts’. Yule seems to have done this because he decided that Marco Polo could not have been sailing from Java but had to be leaving from Champa (probably present day Cambodia).
138 Yule, 1903: 276. Citing The Book of Ser Marco Polo Book III chapter VII.
139 Yule, 1903: 280. Citing The Book of Ser Marco Polo Book III chapter VIII.
140 Anand, 1982: 77. Vereenigde Oostindische Compagnie, known in English as the Dutch East India Company.
southern land. The Dutch were meticulous in their charting and eventually these landfalls were joined to form a coastline. There was confusion as to whether the southland the Dutch had charted was an extension of New Guinea or part of the mythical Terra Australis Incognita.

In 1642 Abel Tasman, under instruction from the VOC, circumnavigated what had become known as New Holland, and the information that he brought back from the periphery of the known world to Europe, shrunk the possible size of Terra Australis Incognita considerably. By the end of the 17th century, maps such as the Coronelli Gore [Fig.12] still showed reference to the lands of Marco Polo. Illustrations of turbaned men on elephants, and antlered deer appear on Nuova Hollandia. These were juxtaposed with a north western coastline much of which had been accurately charted and named by Dutch seamen.

1-17 Shape shifting in the cosmographic jigsaw puzzle
It has been said that the image of the world according to Ptolemy was all but erased within a century, yet it was this image that created the unknown southern land, and this entity remained in place until the late 18th century, long after most of the rest of the world was known and mapped by Europeans.

The very nature of cosmography is theoretical because the worldview that it is required to depict has to include lands that are either not known at all, or only partly known. A writer has suggested that the construction of the image of America that would be recognisable today took a very long time as ‘dozens of often-disjointed pieces of information’ brought back to Europe by various mariners had to be fitted into ‘a single cosmographic jigsaw puzzle’. A similar process went into the mapped creation of the landmass ‘Australia’.

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141 Skelton, 1958: 211. Skelton is referring to the instructions issued to Tasman, see also Schilder, 1984: 38.
143 Schilder, 1984: 41.
144 Gowrie Galleries catalogue, 2000: 46. The gore was reproduced both as part of an enormous globe and in atlas form in various editions between 1688 and 1701.
145 Cosgrove, 2001: 103.
146 Zerubavel, 1992: 6. Zerubavel discusses the ‘mental’ discovery of America, claiming that it took almost 300 years from the date of Columbus’ landing in 1492 before Europe could conceive of the country now known as America. ‘Australia’ only existed in the European sense after the map of Flinders.
The Ptolemaic worldview defaulted to land rather than sea and this caused different problems for mapmakers and navigators. They assumed land to exist in places such as the huge tracts of the Pacific Ocean because the cosmographical model assured them of this. As more of the Pacific was explored, so the unknown land to the south shrank, and what had been depicted on maps as land was slowly redrawn as ocean.

The information flow tended to be greater than the arrival of new cosmographical models, and there seems to have been a lag where new information had to be fitted into an old almost defunct worldview. Sometimes this meant that imaginary places were created or newly discovered lands were put in the wrong place.

The change between these two cosmographical models, that which showed the Antipodes and the Ptolemaic worldview, is an almost classic exemplar of Kuhn’s paradigm shift. These ‘scientific revolutions’ shatter ‘the tradition-bound activity of normal science’ and occur when ‘science can no longer evade anomalies that subvert the existing tradition of scientific practice’. Scientific revolutions ‘transform the scientific imagination’ and ultimately the ‘world within which scientific work’ is done. Such a shift occurred when the ancient worldview surrounded by the encircling ocean could no longer contain lands that were known to exist and was replaced by one that could depict as many lands as could be found.

1-18 Finding the fabled land
Captain James Cook did not believe in the unknown southern land created by the cosmography of Ptolemy, even though it still produced a powerful resonance that attracted some of those around him. This attraction may have been because it had become such a desired place by the addition, on its shores, of the fabled lands of Marco Polo. Or perhaps the fabulous races shown on the mappaemundi as existing in this part of the world contributed to the resonance. These factors, combined with the very antiquity of the vision, ensured that cosmographical dreams still emitted from this last unknown part of the world.

In 1768, when the then Lieutenant James Cook set sail, a landmass known as New Holland appeared on maps where once a small part of Terra Australis Incognita had

148 For example, various members of the Admiralty. This is further discussed below.
been. The enormous landmass to the south, created by Ptolemy’s cosmography, had partly dissolved into sea through centuries of exploring and mapping. Cosmographical maps were still quite inconsistent in their depiction of New Holland, situated as it was, in transition from unknown to known. Omissions and inappropriate additions varied from map to map.

There were some who still did not think that New Holland was the unknown southern land. Reports of its topography and population by the Dutch seamen who had landed there did not resemble the fabled southern continent that had been shown on maps to be lush, and full of gold and elephants. There was still a vast area to the south of Tahiti, to the west of where Roggeveen had sailed and to the east of Tasman’s voyage, that remained mysterious and unknown to Europeans. It was possible the mythical southern continent might lie there.

1-19 The transit of Venus

James Cook was commissioned by the Royal Navy to captain the ship that was to take members of the Royal Society to view the Transit of Venus on the newly discovered George’s Island. George’s Island had been chosen for the viewing because it was in the Pacific and because it could be found again without too much trouble. Captain Wallis, who had recently ‘discovered’ the island, had calculated the longitudinal position with ‘great accuracy’.

The viewing of the Transit of Venus was not the only object of Cook’s voyage. Both Wallis before him and Cook had been under orders from the Admiralty to find the unknown southern land that was shown on the ‘old charts’. The Admiralty desired Terra Australis Incognita, not New Holland, which by this time had been shown on maps for more than a century.

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149 Foss, 1981: pp 31-33. Foss cites a series of these.
150 McIntyre, 1982: 186.
151 The viewing of the transit of the planet Venus over the face of the sun in 1769 was seen as vital to the Royal Society. There would not be another transit of Venus until approximately 1874 and it was thought at the time that by observing this phenomenon the size of the solar system could be determined.
152 The French later named George’s Island Tahiti.
154 For example, the 1650 map by Johannes Jansson Mar di India, shows the west and parts of the southern coast (Clancy, 1995: Map 6.9 p 81). The discoveries of Tasman and other Dutch explorers to 1644 were included on the 1663 map by Melchisededic Thevenot (Clancy, 1995: Map 6.12 p 82), as well as many other printed maps of the time. The Thevenot map is reproduced here as Fig. 14.
After leaving George’s Island, sailors on board Wallis’s ship had ‘sighted continental peaks to the south of Tahiti’. Some members of the Dolphin’s crew had gazed into the distance from Osnaburg Island and seen the tops of several mountains, the ‘Extreems bearing from South to S.W’. Whether the peaks were plays of unfamiliar tropical sunlight on the under side of clouds or sightings of the unknown southern land was unclear but the Admiralty decided the phenomenon was worthy of further investigation.

Before Cook left England he was given a packet of ‘Secret Instructions’ which contained the maps and logbooks of Wallis’s journey to George’s Island and orders to find and claim ‘the southern continent so often mentioned’ on behalf of King George III. Upon leaving George’s Island, after observing the transit of Venus, Cook was ordered to proceed south to latitude 40. Here he was to search for a ‘Continent or land of Great Extent’, which was presumed to lie south of the land discovered by Wallis in *The Dolphin*.

After leaving Tahiti, Cook sailed to New Zealand. Tasman had charted the west coast and Cook completed the map by circumnavigating the north and south islands, naming and mapping as he went. By mapping the east coast and defining New Zealand as two distinct islands surrounded by sea, Cook eliminated any possibility that Tasman’s singular outline could be part of a possible coast of the fabled southland.

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158 Beaglehole, 1955: cclxxxiii. Citing Additional Instructions for Lt James Cook from the Commission for executing the office of the Lord High Admiral of great Britain &ca.
159 Beaglehole, 1955: cclxxxi. Citing Additional Instructions for Lt James Cook from the Commission for executing the office of the Lord High Admiral of great Britain &ca.
160 The outline left by Tasman of the west coast of New Zealand can be seen on the Thevenot map.
1-20 Lieutenant Cook’s doubtful points concerning the east coast of New Holland

Having completed this task Cook held a meeting with his officers in order to determine the best route for the homeward journey. There were three possibilities. The first, returning by way of Cape Horn, would give them the opportunity of determining whether the unknown southern continent existed or not. Cook had written in his journal that the existence of this landmass ‘yet remains doubtfull’ (sic). Both this route and the second option, to return by way of the Cape of Good Hope, were deemed untenable because the ship was not in good enough condition. The third alternative was to head for the East Indies by the following route and it was decided that this was the safest option.

…upon leaving this coast to steer to the westward until we fall in with the East Coast of New Holland and than to follow the deriction (sic) of that Coast to the northward or what other direction it may take until we arrive at its northern extremity, and if this should be found impractical than to endeavour to fall in with the lands or Islands discover’d by Quiros.

There were two major discrepancies with regard to the cosmographical maps of the east coast of New Holland when Cook set sail from England. The first was whether or not there was a strait between New Guinea and New Holland and the second was the whereabouts of the land discovered by Quiros and claimed by him as ‘del Espiritu Santo’. At least one map [Fig.13] that Cook had on board the Endeavour showed the discoveries of Quiros on the east coast of New Holland. Later, Cook wrote in his journal that he did not know the reason why some geographers had thought it proper to ‘tack’ the discoveries of Quiros ‘to this land’.

The Islands discov’d by Quiros call’d by him Australia [sic] del Espiritu Santo lays in this parallel but how far to the East is hard to say, most charts place them as far to the west as this Country, but we are morally certain that he never was upon any part of this coast. The published account of the Voyage which we must depend upon until we have better Authority places his discoveries about 22° to the East of the coast of New Holland.

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163 This map by Robert de Vaugondy is discussed below.
165 Beaglehole, 1955: 376. Citing Cook’s journal entry for Tuesday 14th August 1770.
The ‘published account of the Voyage’ referred to by Cook was probably
C. de Brosses *Histoire des Navigations aux Terres Australes* (1756), and one of
three maps in this volume is a map by Robert de Vaugondy. [Fig.13] This map shows
an enormous bulge on the east coast of Nouvelle Holland so that the discoveries of
Quiros can be fitted into the correct latitude, even though the longitude, which could
not be accurately determined at this time, was wrong. This map also clearly
delineates New Guinea as an island quite separate from New Holland.

Thus the de Vaugondy map allowed Cook to imagine the possibility of a strait
between the top of the east coast of New Holland and New Guinea. It also depicted
the discoveries of Quiros as being on the east coast of New Holland. One of the skills
that Cook had to employ based on the maps he had on board, was to determine, which
geographical features were correctly placed, and which were not. As well as the de
Vaugondy map depicting the strait, Cook had maps on board which showed the two
landmasses joined together. [Fig. 14] Whether the strait existed or not was ‘the
doubtful point’ that Cook wanted to clear up. Both ‘the doubtful point’ and the
whereabouts of the land discovered by Quiros were the consequence of a much earlier
voyage of discovery, that of Quiros, and Torres.

1-21 Austrialia del Espiritu Santo
On 21st December 1605 two ships departed Callao, in Peru, sailing under the Spanish
flag. The first ship was under the command of Pedro Fernandez de Quiros and his aim
was to found a New Jerusalem on Terra Australis Incognita and convert the natives to
Catholicism. Luis Vaez de Torres captained the second ship. Apart from sailors and
officers both ships had on board three Franciscan friars. On the 1st of May 1606
while sailing south from Santa Cruz, Quiros came across a large landmass with a
substantial bay. He assumed it to be Terra Australis Incognita. He landed,
immediately celebrated Mass and then on behalf of the King of Spain claimed

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166 Beaglehole, 1955: cxxxvii. See also Skelton, 1958: pp 204-205.
169 Fig.14, the map by Thevenot clearly shows this.
170 Skelton, 1958: pp 204-205. See also Beaglehole, 1955: pp 410-411. Citing Cook’s journal entry for
Monday 3rd September 1770.
… all this region of the south as far as the Pole, which from this time shall be called Austrialia del Espiritu Santo

He used the name ‘Australia’ rather than ‘Australia’ in honour of Phillip III of Spain who was also Archduke of Austria. Quiros named the site of the city he planned to build New Jerusalem, and the bay that it was on he named San Philippe y Santiago. (St. Phillip and St. James). Quiros then named the river that ran through the site the River Jordan, founded a municipality and created an order of Knights of the Holy Ghost.

On the 8th June 1606, Quiros ordered the ships to leave. A few days later he changed his mind and the ship under the command of Torres returned to ‘New Jerusalem’. The ship under the command of Quiros did not; instead it sailed back to the Americas. Torres waited until 27th June 1606 and then left ‘New Jerusalem’. He sailed out of the bay and explored the coast of the land Quiros had claimed, and in the process, realised it was an island not the great southland. Torres searched for Quiros, unaware that he had headed back to Peru. He reached what is now known as ‘Frederick Reef’, which is about one hundred and twenty miles from the Great Barrier Reef and turned north, to head for the islands now know as the Philippines.

Torres sighted land and this was Tagula Island, directly north of Frederick Reef and at the tail end of New Guinea. Unable to sail east because of the winds, Torres headed west and fell in with the south coast of New Guinea. By sailing along this coast he showed that New Holland and New Guinea were not one continuous landmass but separated by a strait and this bears the name ‘Torres’ to this day.

1-22 The map of Prado

One of Torres’ officers, Diego de Prado, is credited with making various maps of the journey [Fig.16] and an account of it, and these were included with a letter sent to the King of Spain. Apart from this, details of the voyage were a closely guarded secret.

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177 Ingleton, 1958: 467. Ingleton says that evidence of the voyage was this letter, several other letters, four plans of anchorage and a ‘relacion’ by Prado. See also Skelton, 1958: 199.
although de Vaugondy must have somehow acquired details of the discoveries that were made. Cook had no way of knowing this at the time he sailed up the east coast and all he could do was to use his judgement as to which map held the correct information, the de Vaugondy that showed the strait or others such as the Thevenot that showed New Guinea joined to the top of New Holland.\(^{178}\)

A copy of Prado’s map \textit{La Gran Baya de S Phelipe Y S Santiago}\(^{179}\) [Fig.16] is in the British Museum.\(^{180}\) It was not until the 19\(^{th}\) century that this map could be placed cosmographically: in other words it was not clear where in the world it was. In the 19\(^{th}\) century it was decided that Quiros had in fact reached the New Hebrides and his claim of ‘as far south as the Pole’ would have netted him the bottom part of the South Island of New Zealand. The map is a detailed outline of a bay with various named features, surrounded by wooded hills, somewhere in the Pacific,\(^{181}\) and attempts were made to place Australia del Espiritu Santo (on at least one map referred to as ‘Holy Ghost Land’).\(^{182}\)

If Prado’s map of Quiros’ discoveries could have been accurately fitted into the cosmographical jigsaw puzzle of the Pacific it would have operated in a similar fashion to Cook’s map of Botany Bay, that is, as a European chorographic destination that could be revisited. For this map to operate chorographically it needed to be correctly positioned cosmographically so that it was possible to find it again. The map of Quiros’ lands was also named with details shown but it was not attached to any cosmographic entity. Consequently, for centuries after his discovery, Australia del Espiritu Santo could not be located.

It was the maps of Cook that would take New Holland from the cosmographical fantasy known as Terra Australis Incognita, the unknown southern land of Ptolemy, to a place with a European chorographical destination on its shores. Because he was able to ascertain his position with much greater accuracy than any European explorer

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\(^{178}\) The Thevenot map does show a gap in the outline but this suggests uncertainty or lack of information rather than the two separately defined landmasses that are clearly shown on the de Vaugondy map.

\(^{179}\) Skelton, 1958: 197. fig. 130. Skelton, in the caption to Prado’s map has named it in English ‘the Bay of St Phillip and St James’.

\(^{180}\) Skelton, 1958: 197. fig. 130. See also ‘Remarks on the Illustrations’ p 204.

\(^{181}\) Skelton, 1958: 197. fig. 130.

\(^{182}\) Skelton, 1958: 230. fig. 149.
before him, his chorographical map, unlike that of Quiros, could be used to locate the place he mapped.

When Cook’s maps were published, the map of the east coast was correctly placed in the South Seas and, ultimately, the rest of the world. His map of Botany Bay could now be positioned with regard to the east coast and consequently was relatively easy to find again.

1-23 The Nautical Almanac

Since well before the time of Ptolemy, the relationship between heaven and earth had been seen as vital to correctly position a place upon the earth. Centuries had been spent in trying to work out how to do this, especially where lands far away from Europe and across the sea were concerned. To set a position out of sight of any identifying feature on land into an essentially featureless sea was considered to be the most difficult task of all and the initial solution was to look to the heavens.

In Europe, astronomers were given the task of finding a way of determining longitude using the heavens as a possible clock that could be used to set longitude. In 1767 the British Astronomer-Royal, Neville Maskelyne, was responsible for the publication of a ‘Nautical Almanac’ that gave tables of planetary positions. In spite of the necessity of complex calculations, it was possible by using the almanac to determine longitude with a degree of accuracy not achieved before. With this tool Cook was able to reach the east coast of New Holland, find his way back to England and compose a map that allowed others to find the east coast of New Holland as he had.

The Nautical Almanac calculated distances from the moon to the sun or any one of nine selected stars every three hours. Measuring the angular distances and comparing them to the almanac could find a longitudinal position, but this was not a straightforward task. Each observation required three observers and took about four hours to compute. To add to the difficulties, only the almanacs for 1768 and 1769 were available when the Endeavour sailed, so the observations became even more tedious from 1770 onwards. Not only this but the sextant provided could not extend far enough to take the necessary angles. 183

183 David, 1984: 49.
After sailing from Tahiti, Green confined his lunar distances to those between the sun and the moon, thus limiting the number of days when it was possible to take such observations. Off the east coast of Australia the minimum lunar distance observed was 46°25' and the maximum 126°13', it being impossible to measure a much greater angle with a standard sextant. This meant that Green was not able to take lunar distances from about 4½ days before to about 4½ days after a full moon as well as about 3 days either side of a new moon.  

1-24 Lifting the veil of mystery: Terra Australis Incognita dissolves, New Holland is outlined

Despite the abovementioned difficulties, Cook was able to provide a series of longitudinal readings from the prime meridian in Greenwich all the way to New Holland and back, thus positioning the east coast of New Holland and his other Pacific finds not only in relationship to each other but to Europe as well. Apart from this, the discoveries that Cook made on the east coast of New Holland built upon existing maps. The idea that maps were not an individual creation but a slow building process goes back to well before the time of Ptolemy. Cook knew there was an east coast to New Holland and he knew how to get there. He did not see himself as the discoverer of an unknown land, merely a navigator who was particularly interested in clearing up a ‘doubtful point’ on existing maps.

By sorting out the ‘doubtful point’ as to whether Torres Strait existed or not and establishing, at least to his own satisfaction, that Quiros’ lands were not on the east coast of New Holland, and by mapping the east coast, Cook had eliminated most of the mystery associated with the map of the east coast of New Holland. On the 3rd of September 1770, Cook decided there was no point in following the coast of New Holland any longer. He had found the strait between New Guinea and New Holland and knew by the maps he had in his possession that there were no new discoveries to be made.

184 David, 1984: 49. Charles Green was ‘the expedition’s astronomer’.
185 David, 1984: 49.
186 Lennart Berggren and Jones, 2000: 25. Staiff, 1995: pp 23-24. Staiff describes the process used by Surveyor-General Light as he sailed along the South Australian coast using the charts of Matthew Flinders made 34 years earlier. Light engaged in a ‘perpetual dialogue’ between what he could see and what the chart told him was there. By this time there was a much more accurate ‘geometric grid’ upon which both maps were based. The ‘old charts’ that Cook was using did not show accurate longitude, consequently there was more guesswork involved. Entries in Cook’s journal would suggest that in spite of this, a similar dialogue took place.
…especially as no new discovery can be expected to be made in those seas which the Dutch have I believe long ago narrowly examined, as appears from 3 Maps bound up with the French History of Voyages to the Terra Australis, published in 1756,\textsuperscript{187} which maps I do suppose by some means have been got from the Dutch as we find the names of many of the places are in that Language. It should likewise seem from the same Maps that the Spaniards and Dutch have at one time or a nother circumnavigated the whole of the Island of New Guinea as the most of the names are in these two Languages, and such part of the Coast as we were upon I found the Chart tolerable good, which obliges me to give some Credit to all the rest notwithstanding we neither know by whome or when they were taken, and I allways understood before I had a sight of these Maps that it was unknown whether or no New-Holland and New-Guinea was not one continued land, and so it is said in the very History of Voyages these Maps are bound up in: however we have now put this wholly out of dispute, but as I believe it was known before tho’ not publickly I clame no other merit than the clearing up of a doubtfull point.\textsuperscript{188}

After Cook had charted the east coast of New Holland and established longitudinal positions along the way, it was possible to fit in other pieces of the cosmographical jigsaw puzzle that related to New Holland. The discoveries of Quiros and Torres could now be part of an overall picture. Once Cook’s maps were published, other pieces of the puzzle appeared. There were older European maps of a coastline that existed somewhere near Java that appeared to resemble Cook’s chart of the east coast of New Holland. These manuscript maps, the state of the art in their time, made for princes and kings, had been hidden in libraries for centuries because the coastline they showed did not relate to any known landmass and could not be placed on cosmographical maps.

1-25 The Rotz chart and the Dauphin map

Cook had claimed to be the ‘first discoverer’ of the east coast of New Holland and was hailed in England as a hero for doing so. However, soon after his death two maps were found that were used to cast doubt on this claim because they seemed to show the east coast of New Holland. Yet the coast they showed was only recognisable when compared to Cook’s map. Before the advent of Cook’s map, the older maps had remained in the realm of cosmographical fantasy.

\textsuperscript{187} Skelton, 1958: pp 204-205. Skelton suggests that the de Vaugondy map is the inspiration for this remark.

\textsuperscript{188} Beaglehole, 1955: 411. Citing Cook’s journal Monday 3\textsuperscript{rd} September, 1770.
Both maps carried an impeccable royal pedigree and could be dated accurately to the middle of the 16th century, more than two hundred years before Cook set sail. The first map, known as the ‘Dauphin’ or ‘Harleian’ map, was originally commissioned by King Francis I of France for his son the Dauphin who became Henry II, and it was probably drawn in 1547.

In 1753, the map was to have been donated to the British Museum with the rest of the Harleian Collection, formerly owned by Edward and Robert Harley the Earls of Oxford. However, a servant of the Earls, possibly the butler, had disappeared supposedly with the map. Sir Joseph Banks was able to retrieve it and after having the map in his collection for a while, donated it to the British Museum in 1790.

Curators at the museum realised that they already had a map showing a similar outline. This map [Fig.15] had been acquired in 1757 in the collection of the old Royal Library within an atlas that had been attributed to Jean Rotz. Rotz had arrived in the court of Henry VIII with Anne of Cleves and, perhaps as part of her dowry, Rotz had given the King his Boke of Idrography, which contained his 1542 chart.

1-26 The mysterious coastline

The outline in question was part of a coastline of a continent or very large island named on the Rotz chart ‘the londe of Jaua’. Near this land was ‘the lytil Jaua’, which is recognisable as the island of Java that appears on the maps of today. The other Java, or so it has been suggested, resembled parts of the northern and the eastern coast of the land that at this time was called New Holland. These maps had existed for more than two hundred years, yet this coastline had not been identified until Cook mapped it. It was then possible to compare the older maps with Cook’s map and discover the similarities between them.

Both of the older maps came to be associated with a group of cartographers working in Dieppe, which seemed to have access to information about the east coast of what is now known as Australia, centuries before the voyage of Cook. This school was

190 Wallis, 1992a: pp 1-4-5. There are various versions of this story, see also McIntyre, 1982: 72.
193 This is discussed below.
identified in the 19th century as the ‘Dieppe School of Hydrography’. How the cartographers of the Dieppe School came to possess a detailed outline of this coast in the middle of the 16th century has been the subject of much speculation. This is the beauty of cosmographical maps; they can include unknown lands or lands that can only be identified centuries later. Sometimes maps such as these can disturb the timeline of the history of exploration.

Information about the coastline had found its way onto some 16th century printed maps outside of the Dieppe School. Mapmakers such as De Jode, Wytftiet, Mercator and Ortelius had shown various parts of the coast. Cornelius Wytftiet in his 1597 map joined the coastline to Terra Australis and included Lucach, Maletur and Beach on the landmass. Ortelius in a map dated 1587 added the top of the coastline behind a cartouche that lies just under a very detailed map of the island of Nova Guinea, even though European knowledge that New Guinea was an island is credited to Torres in 1606. The 1593 De Jode map of ‘Nova Guinea’ also shows part of a coastline across a strait from the island of Nova Guinea and in the accompanying text is the following:

After this region, the huge Australian land follows which – as soon as it is known – will represent a fifth continent ...

1-27 A disturbance in the timeline of the history of exploration

Early maps depicting this mysterious coastline needed to be dismissed as fanciful, otherwise Cook’s claim that he had discovered it became questionable. While the Dauphin map was in his possession, Banks apparently lent it to Alexander

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195 McIntyre, 1982: pp 74-77. McIntyre claims that the Dieppe School had access to a prototype stolen from the Casa da India in Lisbon. This prototype was a Portuguese chart of the east coast of Australia but the Portuguese were unable to make their ‘discovery’ public because it was on the Spanish side of the Pope’s line and they were not supposed to be there. Wallis, 1992b: 1-12. Wallis claims Pierre Crignon, who was ‘the leading cosmographer of the Dieppe school in the 1530s’, travelled from Dieppe to Sumatra in either 1529 or 1530. Here he is reported to have found evidence of a Portuguese voyage to Java-La-Grande, and used the information from this voyage that he found in Sumatra to make a map that became the prototype for the subsequent Dieppe maps.
196 McIntyre, 1982: 80.
197 Skelton, 1958: 194. fig. 127.
Dalrymple,\(^{200}\) who wrote a pamphlet with the title *A Serious Admonition to the Public on the Intended Thief Colony at Botany Bay*. In the pamphlet, Dalrymple warned that England had no right to claim Botany Bay because Captain Cook was not the first discoverer.

That the country, be it called New Holland or New South Wales or by whatever name, was discovered before Captain Cook’s voyage, is obvious from a very ancient map in which it is described, but I am ignorant what nation can claim the discovery. The map appears to be in date not long subsequent to Magellan’s voyage, and I think may be assuredly determined to be above two hundred years old.\(^{201}\)

The French geographer M. Barbie du Bocage, at the Institute of Paris in 1807, also questioned the British assumption that they could claim the east coast of New Holland by right of ‘first discovery’. He pointed out that although it was contended that the existence of ‘these charts’ was not known before Cook set sail and that they were not found until after his death, ‘their prior existence in well-known libraries in England may cause this assertion to be doubted.’\(^{202}\) M. Barbie du Bocage asserted that the eastern and western coasts of New Holland were ‘recognisable’ on ‘these Atlases’ and were bounded by the same latitudes as those shown on ‘recent maps’. Longitude, however, was not correctly shown on the maps in question because it had not been possible to accurately determine it at the time the maps were made.\(^{203}\)

Admiral James Burney, who sailed on Cook’s second and third voyages, wrote a book on Pacific voyaging that was published in 1803. In this book Burney wrote that the resemblance to New Holland shown on the Rotz chart was greater than in ‘the charts of many years later date’. He suggested that the Rotz Chart supported the opinion that the northern and western coasts of New Holland were known and were the Great Java of the 16\(^{th}\) century,\(^ {204}\) and that the eastern coast ‘had been seen’ by someone and the information had made its way onto the chart.

\(^{204}\) Wallis, 1992b: pp I -12-13. ‘The Great Java’ appeared on some 16\(^{th}\) century maps alongside Java Minor, the outline of which appears to be ‘Java’ as depicted on current maps. There was conjecture that The Great Java was Terra Australis Incognita.
... at that early period, many voyages were undertaken; and it may be concluded, many discoveries were made, of which no account was ever published; that of some, every remembrance has died away; and the various indications that appear in the old charts, to which no clue can be found, may be the remains, and possibly the only remains, of this.  

1-28 No longer lost in cosmographical space

The intricate disembodied coastlines shown on the Dieppe maps may well have been depictions of parts of New Holland but they remained lost in cosmographical space until Cook with his longitudinal readings had been able to place the east coast in relation to the Dutch charts of the western and northern coasts. Now something like a defined landmass appeared on cosmographical maps, rather than disembodied lines floating somewhere below the island of New Guinea. Before Cook’s chart the Dieppe maps showed a possible coastline that could have represented the top of the mythical Terra Australis Incognita, as many maps of their era did, although the coastline does show details that suggest a careful coastal charting rather than an imaginary land.

With his second voyage, Cook was able to eliminate any possibility of the existence of the unknown southern land. Cook had returned to England a hero after his first voyage. As a result, the Navy supplied everything he asked for to equip his second voyage. Although doubtful about the existence of an unknown southern continent, Cook was able to suggest where it might be by a process of elimination.  

There were still parts of the Pacific unknown, or not shown on maps, and the most likely place was south of New Zealand. In Cook’s second voyage he was able to prove that the unknown southern continent either did not exist, or if it did it would not be worth having.

... ‘the greatest part of this southern continent (supposing there is one) must lie within the polar circle.’ The ‘savage and terrible’ aspect of South Georgia ... indeed led him to affirm that ‘to judge of the bulk by the sample, [the continent] would not be worth the discovery’.  

Cook’s maps of the east coast of New Holland and of Botany Bay provided a starting point for British history with regard to ‘Australia.’ His final elimination of the

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possibility of the existence of Terra Australis Incognita, Ptolemy’s unknown southern land, was important as well. Once this myth had dissipated and only the reality of New Holland remained, this land could begin to become known in a European sense. Yet a resonance remained, and as the line between the known and the unknown gradually moved forward across the landmass, the unknown retained mythical qualities until it became known, just as the ancient cosmographical visions had done.

1-29 Botany Bay

The Antipodes and Terra Australis Incognita, both European cosmographical imaginings, had finally given way to a land that had existed between the known and the unknown for centuries and eventually came to be called New Holland. Cook’s detailed map of Botany Bay [Fig.18] provided the first European chorographical map of this landmass.

The act of chorography requires the space shown to be recognisable and able to be found again as well as being named and known. As Cook sailed up the east coast of New Holland he named many features but he was naming from the sea. Landmarks could be recognised by other navigators and in this way the map could be related to the coastline that it represented. It was only where he landed that it was ‘known’ in the existential sense of being grounded in real experiences. Apart from Botany Bay, Cook spent time on land around the Endeavour River and mapped this but it was not touted as a possible destination as it was not a viable harbour.

In 1773, Cook’s map of Botany Bay was published along with other maps of the voyage and a description of the journey rewritten from his journal. Botany Bay became the site of a possible ‘thief colony’ and the subject of much discussion in England. The name itself was surrounded by controversy. It was pointed out that an ‘extraordinary co-incidence’ had occurred. Cook’s ‘Botany Bay’ had almost the same meaning as the name Coste des Herbaiges, which appeared on the Dauphin Map in

208 Carter, 1988: 7. Carter suggests that Cook’s placenames ‘…alluded to the journey itself, as it unfolded horizontally, revealing itself as a succession of events.’
209 Beaglehole, 1955: pp 348-349. Citing Cook’s journal entries for Thursday 14th June to Tuesday 19th June 1770. In these entries Cook tells of the difficulties of manoeuvring the badly damaged Endeavour into the mouth of the river, which was used as ‘safe harbour’ as there was no other option.
210 This publication was by Dr. Hawkesworth and is further discussed in chapter three.
roughly the same latitude as Botany Bay.\(^{211}\) This controversy took place after Cook’s death in 1779, thus he was not able to explain his actions.

1-30 Stingray Harbour

For those who had accused Cook of having the Dauphin map on board, or at the very least having seen it before or soon after his voyage to New Holland,\(^{212}\) the similarity of names was considered to be proof that this was the case. To add fuel to the speculations, it was discovered that Cook, in his logbook, had originally given Botany Bay the name Stingray Harbour because of the large number of stingrays caught there. Later, in his journal, Cook changed the name to Botany Bay.

Cook’s logbook, for Sunday 6\(^{th}\) May:

The yawl return’d from fishing having caught two Sting rays whose weight was near 600lb.
The great quantity of these sort of fish found in this place occasioned my giving it the name of Sting ray’s harbour.\(^{213}\)

Cook’s journal, for Sunday 6\(^{th}\) May:

In the evening the yawl return’d from fishing having caught two Sting rays weighing near 600 pounds. The great quantity of New Plants &ca Mr Banks and Dr Solander collected in this place occasioned my giving it the name of Botany Bay.\(^{214}\)

As instructed, Cook handed the logbooks of the Endeavour to the Admiralty as soon as he arrived back in England. These then seem to have been mislaid and were found some 80 years later behind some wainscoting at the Deptford victuallating yard.\(^{215}\) In the logbooks, only the name Stingray Harbour was used. Botany Bay was not mentioned at all, implying that the name change happened when Cook rewrote his journal after his return to England. There are various theories as to why Cook changed


\(^{212}\) McIntyre, 1982: pp 192-194.

\(^{213}\) Beaglehole, 1955: 310 and Note 4. ‘The successive names tried in this spot in the MS are Sting-Rays Harbour, Botanist Harbour, Botanist Bay, Botany Bay.’

\(^{214}\) Beaglehole, 1955: 310 and Note 4. There are four extant copies of Cook’s journal as well as logbooks by Cook and various other members of the crew.

\(^{215}\) ‘The Monthly Record’, 1901: 446.(referring to a brochure by Mr. James Bonwick). ‘Captain Cook in New South Wales’.
Stingray Harbour to Botany Bay, and some of these use this name change as additional proof that Cook knew of the Dauphin Map.

1-31 The first European chorographical destination

Chorography is often aided by legend and story. If a place is to be fully known and lived in, there seems to be a need for an added dimension, beyond just the charting of space that links inhabitants to the land. The controversy surrounding the name Botany Bay may have contributed to it remaining a well known place in Britain long after those Europeans who had initially arrived there had moved on from it.

Captain Arthur Phillip, Commander of the First Fleet, used the charts made by Cook and included in Hawkesworth’s publication, to sail from England to Botany Bay. A few days after their arrival, Comte de La Perouse arrived and was also in possession of Cook’s map of Botany Bay from the same publication. La Perouse had experienced difficulties in his Pacific exploration and was looking for a safe harbour. He chose Botany Bay because it had become a European destination. It existed chorographically as a known place.

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216 Carter, 1988: pp 9-17. Here Carter discusses the theories purported by Watson, Bonwick, and Beaglehole as well as his own. He suggests that Cook’s names were part of the narrative of the journey and that when he rewrote parts of his journal on the way to Batavia he changed some of the names in hindsight to better reflect the journey itself. According to Carter, after reading Bank’s journal, Cook took into account Bank’s enthusiasm for the plants he had found at ‘Botany Bay’. Carter also suggests that Cook may have decided that ‘Botany Bay’, the first landfall in New Holland, worked well rhetorically with the last landfall in New Zealand, Admiralty Bay. Beaglehole, 1955: pp ccix-ccx. Beaglehole suggests that Cook left blanks and filled them in later when he had thought about it a bit more, and that Orton the clerk was sometimes ahead of Cook in his rewriting and did not pick up all of Cook’s changes.

217 In particular the theories of Watson and Bonwick.

218 The controversy over the name may not have filtered down into the illiterate convict class imprisoned in Sydney Cove, but Carter, 1988: pp 308-319, describes how Botany Bay became the first ‘other’ destination in the colony. The ‘road’ to Botany Bay, although a construction of language rather than reality, gave a possibility of escape from Sydney Cove to the one other place that had been brought into existence by being named. Fearn-Wannan, 1970: pp. 82-83. Fearn-Wannan says that ‘The name ‘Botany Bay’ remained in popular use in Britain for many years as the general designation of the penal colonies of Australia, and especially of New South Wales.’ Botany Bay was popular in the titles and words of music hall songs at least into the late 19th century.

219 David, 1984: 54. The significance of the Hawkesworth publication of Cook’s maps is discussed in chapter three.

220 Scott, 1940: 10. ‘…La Perouse meeting with misfortunes in the Pacific, and having read of Botany Bay in the history of Cook’s voyages, determined to call there…’
Even though the connection of the name to the Dauphin map may not have been made before the First Fleet sailed, Botany Bay seems to have already taken on a mythic quality. In the words of Watkin Tench, an officer on the First Fleet:

Ithaca itself was scarcely more longed for by Ulysses, than Botany Bay by the adventurers who had traversed so many thousands of miles to take possession of it. 221

Botany Bay was the one place in an unknown land that was named and mapped chorographically. Cook’s map gave a detailed outline of the bay showing depth soundings so that a ship could safely harbour there, and the map also showed trees and grasses reminiscent of Europe. Because the name ‘Botany Bay’ had become the subject of discussion and controversy, it seemed known and familiar. Yet within a few weeks of their arrival, the First Fleet had decided that Botany Bay would not make a viable settlement and moved to Sydney Cove. This initial European chorographic destination did not live up to its promise.

1-32 Sydney Cove

Once the move to Sydney Cove was made, attempts at establishing a European settlement began. One of the first acts by the first governor, Arthur Phillip, was to create a county, which was necessary in order to establish a county court for the administration of civil law. This idea originated under English feudal law when the land was divided into counties, each with its own court to administer the law of the land. 222 Governor Phillip delineated the borders of his county, which consisted of mainly unexplored bush, using the natural features he could see or that he knew existed. He was able to use water as a boundary to the north, south, and the east. 223 In the west, mountains could be seen in the distance and these formed the western border of the ‘County of Cumberland’. Phillip named the distant mountains in the northwest the Caermarthen Hills, after the Marquess of Caermarthen, and those to the southwest the Lansdowne Hills, after the Marquess of Lansdowne. 224

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222 These early enactments of law in the colony are discussed in chapter three.

223 Historical Records of Australia, 1914: 58. Phillip to Nepean, 9th July 1788. ‘…the northern parts of Broken Bay to the northward, and by the southernmost part of Botany Bay to the southward’.

One of the earliest surviving maps of the colony is the 1793 map by Watkin Tench [Fig.17]. The legend reads: ‘all those parts of the territory of New South Wales which have been seen by any person belonging to the settlement established at Port Jackson’. The map depicts the country between Sydney Cove and the then boundary of the known world, the Hawkesbury River. Beyond the river a rugged path to ‘Mount Twifs’ is shown and beyond this, the 'Caermarthen Mountains'. The country between Mount Twifs and the Caermarthen Mountains is described in a legend on the map.

All this country as far as the eye can reach from very high Hills bears the most dreary barren appearance which can well be imagined, nothing to be seen but ridge beyond ridge of Mountains covered with Trees & in many places with Rocks. Without a single visible interval of plain or cultivable land.

1-33 The Caermarthen Mountains – the periphery of the known world

The move from Botany Bay to Sydney Cove, which was part of Port Jackson, had created a further chorographical space. It slowly became known, named and lived in, but always there was the gaze into what was beyond the existential and towards the unknown. The Caermarthen Mountains were at the periphery of the known and the mapped; they loomed on the horizon as the most distant feature. Beyond them lay completely unknown space as far as Europeans were concerned. Just as the ‘cloudlands’ seen by seamen on The Dolphin evoked the possibility of the unknown southern land, so these mountains remained just out of reach, mythic and full of possibilities.

The map by Tench seems to contain more than just the early European charting of the space between Sydney Cove and the Caermarthen Mountains. There is a suggestion of what it might have been like to gaze into the distance from the horrors of Sydney Cove into that unknown and forbidding land and imagine that there was something benign out there and somewhere to escape to.

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225 It is unclear which of the many mountains in the area was the one Tench named ‘Mount Twifs’ or ‘Twiss’ on his map.
226 Carter, 1988: 309. Carter says that ‘…by removing from Botany Bay… Phillip constituted Botany Bay as a place, the first ‘other’ place in the colony’.
The legendary nature of these distant mountains was greatly assisted by them being declared ‘out of bounds’ early on. From the early 1800s, a penalty of six months hard labour for crossing the river that formed a natural boundary around the Colony was in force. Even if the river was crossed, stories of the impenetrable nature of the mountains on the other side circulated in Sydney Town. For most in the colony, the Blue Mountains were an unobtainable place in the distance. Just as the unknown southern land and the Antipodes had become a sort of repository for some of Europe’s desires, these distant mountains served a similar purpose for the early settlement at Sydney Cove.

1-34 Objects of desire are no longer gold and elephants but cattle

Soon after the arrival of the First Fleet in Sydney Cove, possibly the most valuable resource in the colony went missing. Two bulls and four cows carefully transported all the way from the Cape strayed from the Domain while their herdsman was otherwise occupied. This event was not just the subject of local concern but was included in official correspondence to London. In 1795 Aborigines from the western districts came to Sydney to take part in a corroboree. They performed a dance that seemed to represent the actions of a bull. Two convicts in the audience thought they recognised the strange animal as one of the missing bulls and by following the Aborigines they discovered a large herd of cattle.

Rumours of the sightings of cattle reached Governor Hunter and he went to investigate. He found a herd of 61 cattle and although terrorised by a ferocious bull he was able to determine that these were not ‘native’ cattle but ‘the Cape of Good Hope Breed’. Hunter decided to leave the cattle where they were and called the fields where they were grazing ‘Cowpastures’. This was close to the Nepean River and there were rumours that many more cattle had found their way across the river and were living in hidden valleys within the mountains.

228 The ‘Blue Mountains’ had superseded the names Caermarthen and Landsdowne in local parlance, and on the 1811 printed map by David Mann the following appears ‘Successive Immense Ridges named the Blue Mountains’. This map is reproduced in Clancy, 1995: 146. Map 9.13.
229 Historical Records of Australia, 1914: 50. Phillip to Sydney, 9th July 1788.
1-35 Walking to China

Apart from cattle, a much desired commodity in a colony that in its early days seemed always on the verge of starvation, there were rumours that in these mountains or on the other side of them, existed a community of European origin that was utopian in nature. Some convicts were said to believe that they would find all the comforts of life without the necessity of labouring for them. 232 Not only this, if they should fail to find this utopian settlement, China was within walking distance in the same direction. These were local fantasies that reflected the difficulties of life in the early colony rather than the cosmographical dreams of fabulous races, gold and elephants.

What constituted Sydney Cove as a place and compacted its roads and walls was the crowding pressure of other places, imaginary rivers, delicious interiors, nearby Chinas 233

In a 1791 despatch to Under Secretary Nepean, Governor Phillip complained of Irish convicts taking to ‘the woods’ to find a better life by walking to China. This they supposed to be only 150 miles away. 234 By January 1792 the number of convicts attempting to escape to China by land or find a utopian settlement where they would not have to work had become a problem. 235

John Wilson, a convict who had served his sentence of seven years, went bush, and by living with the Aborigines gained extensive knowledge of the land surrounding Sydney. In 1798 Governor Hunter employed him to journey into the southern Blue Mountains. In a letter to Sir Joseph Banks, Hunter stated that the reason for this was to find a way through the mountains to pastoral land in the west. 236 Hunter made sure that four Irish convicts were included in Wilson’s party, hoping that they would be convinced that neither China nor a utopian settlement would be found in this direction, and spread the word amongst their colleagues. 237 The convicts gave up and returned soon after crossing the Nepean River. 238 Wilson continued his journey to the Upper Wollondilly and on his second journey he ventured almost as far as present day

234 Historical Records of Australia, 1914: pp 308-309. Phillip to Nepean 18th Nov. 1791.
235 Low, 1988a: 49. Referring to comments by Judge Advocate David Collins.
Goulburn. He did not find a way through to the west, nor it seems, did he quash the rumours of a utopian settlement over the mountains.

In November 1802, Governor King saw a perceived need to again try to stop the rumours of the settlement, still running rife amongst some of the convicts. He requested that exploration take place in order to count the number of wild cattle that were suspected to be living in hidden valleys in the mountains and whether they were constrained by natural boundaries. However, the ultimate goal of the expedition was probably to find a way through the Blue Mountains to the expected ‘Plains of Promise’ on the other side. The idea that these plains existed on the other side of the mountains may have been as fanciful as the idea that China was within reach. It is now known that ‘Plains of Promise’ did lie there and it is just possible that someone who had been there in an unofficial capacity had brought this information back.

1-36 The expeditions of Barrallier

In 1802, Ensign Louis Barrallier led two expeditions into the southern Blue Mountains, returning with definite sightings of cattle, although he was unable to find a way through the mountains to whatever lay on the other side. It seems Barrallier had put a proposition before Governor King to penetrate as far into the Blue Mountains as he could, in order to explore the interior of the country. Because Barrallier was a member of the New South Wales Corps, he was under the command of Colonel Patterson who had received instructions from the Duke of York to the effect that officers could not be released from their regimental duty. So that Barrallier might be able to undertake the proposed exploration, Governor King ‘claimed’ him as his aide-de-camp and sent him on an embassy to the ‘King of the Mountains’. The ‘King of the Mountains’ has been interpreted as referring to Goondel, who was then the chief man of the Gundungurra tribe.

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239 MacQueen, 1993: pp 67-68.
240 MacQueen, 1993: 68.
241 The mountains were not officially crossed and the Bathurst Plains discovered until 1813.
242 MacQueen, 1993: 68. See also Barrallier, 1802: 1.
244 Barrallier, 1802: 16. Gogy, (one of Barrallier’s assistants) when referring to members of a tribe of Aboriginal people that they met on their journey into the mountains, said the following ‘...the chief of that tribe was called Goondel’, (The journal of Ensign Barrallier cited here is a 1975 facsimile copy
Barrallier made two journeys into the mountains. The first was of twelve or thirteen days duration. It was a ‘reconnaissance’ in which he determined that his main depot would be at the place he called Nattai. His journal and map are concerned with the second journey, which lasted about six weeks, and this began when he crossed the Nepean River on the 6th November 1802.

On the 7th of November Barrallier and his party found a herd of 162 wild cattle in a valley with plentiful water and pasture. From a ridge that formed a barrier to the first valley, Barrallier looked down into a second valley where he counted about 130 more cattle. Further on there was another valley where more than 330 were seen, these being mainly cows and calves. 245 On the 12th of November, a party of Gundungurra people that included Goondel was encountered. 246

By the 28th of November, with boots well and truly in tatters, provisions almost exhausted and the possibility of finding a way through this rough country seeming less and less likely, Barrallier decided he had no option but to return.

The courage of my men was entirely abated, and nothing but the orders for the return journey would suffice to dispel their melancholy; therefore, I made them prepare everything to go back to the depot. After having cut a cross of St. Andrew on a tree to indicate the terminus of my second journey, I returned by the same route I had come… 247

On the 13th of December, having received more provisions, Barrallier set off with only six men to follow ‘the river’ in what he hoped would be, finally, a successful attempt to cross the mountains. 248 By the 18th of December he was once again on his way back to the depot. The river kept turning to the south as he followed its path and he found himself continually following the bases of the mountains. Even if he could get over the immediate mountains, referred to as ‘sugarloafs’, there was a further chain of mountains whose height was immense. He saw no way through. 249

245 Barrallier, 1802: pp 2-4.
246 Barrallier, 1802: pp 15-17. Much of Barrallier’s Journal concerns the relationships he formed with Gundungurra and other Aboriginal people, and observations of their way of life.
247 Barrallier, 1802: 39.
248 Barrallier, 1802: 47.
249 Barrallier, 1802: pp 50-51.
Barrallier’s journal was written in French and considered by Governor King to be written in an ‘unintelligible’ hand.²⁵⁰ Barrallier handed his journal and map to Sir Joseph Banks and later retrieved them for rewriting. It is the rewritten journal and the redrawn map that are now held in the Public Records Office in London.²⁵¹ Barrallier only included one name on his map and that was Nattai. He referred to ‘this river’ or ‘a rather large stream’ or ‘a creek’ in his journal²⁵² when there were many possible watercourses, and this has added to the confusion as to where he actually went.²⁵³

Barrallier’s map was in a sense cosmographic. It was charting unknown territory; there was nothing in the way of known chorographic space to hang the watercourses or his journey onto, no known landmarks that he could include. Since its reappearance at the end of the 19th century²⁵⁴ there has been much speculation as to his actual route. As it is one of the earliest maps of a journey beyond the known world of Sydney Cove, the map depicts the beginnings of the dance between cosmography and chorography in the early colony.

1-37 From cosmography to chorography : the dance across the land begins

The cosmographic imaginings of classical times formed a landmass as a counterpoise to the known world. An imaginary land, the Antipodes was formed and in time fell from sight, to be replaced by another land that existed in a similar position on cosmographical maps. Terra Australis Incognita was a consequence of a system of mapping that defaulted to unknown lands rather than an encircling ocean to surround the known world. The outlines of the unknown land to the south were gradually mapped until a chorographic destination was founded on its shores. Cook’s map of Botany Bay became the first chorographic depiction of the land now known as Australia. Yet once Europeans reached this tiny point on an enormous landmass, Botany Bay, although mapped and named, simply provided a known space from which to view a vast unknown interior.

²⁵⁰ MacQueen, 1993: 87. Quoting Governor King, source not cited.
²⁵¹ MacQueen, 1993: pp 87-88. Macqueen claims that the copy of the journal and map published in the Historical Records of New South Wales Vol.5. Appendix A. is not the same as that stored in the Public Records Office in London.
²⁵² Barrallier, 1802: pp 34-35. For example.
²⁵³ Various theories as to Barrallier’s actual route are discussed in chapter two.
²⁵⁴ This was the reproduction of the journal and map in the Historical Records of New South Wales Vol.5 Appendix A that is mentioned above.
The Watkin Tench map defined the boundary of the known as the Nepean River. Beyond this, in the mountains lay the unknown and this was full of fanciful possibilities. Barrallier crossed the river and ventured into the mountains but the map he brought back raised many more questions than it answered. The dance between cosmography and chorography in the land now known as Australia was underway. As the border between the known and the unknown was slowly pushed inland, unknown cosmographical space gradually gave way to known chorographic space.
CHAPTER TWO:

Chorography:
Strata of memory in the names on maps

Chapter two is a study of the idea that memories of past inhabitants may be found in the placenames on chorographical maps. In order to do this, past and current maps of a particular place were examined. The area studied centres on the Burrarorang Valley and the mountainous region that surrounds it. These mountains were seen by Governor Phillip in the early days of European settlement and named by him the Caermarthen Mountains. They remained for many years at the edge of the known world, in the distance, on the periphery, unknown and desired as far as the residents of Sydney Cove were concerned. The Burrarorang Valley no longer exists. It now lies at the bottom of a lake that forms the major part of the water supply for Sydney, yet many of the names on current maps of this area allude to past connections of various waves of inhabitants of which there is now no evidence on the landscape itself.

For although we are accustomed to separate nature and human perception into two realms, they are, in fact, indivisible. Before it can ever be a repose for the senses, landscape is the work of the mind. Its scenery is built up as much from strata of memory as from layers of rock.¹

For by the act of place-naming, space is transformed symbolically into a place, that is, a space with a history. And by the same token, the namer inscribes his passage permanently on the world, making a metaphorical word-place, which others may one day inhabit…²

2-1 Chorography – the human connection

In the dance between cosmography and chorography it is the chorographical maps that hold the human connection to the land rather than depicting vast global scenarios. The mountains that Phillip had seen from Sydney Cove and that Barrallier had ventured into were eventually mapped and named. Early European settlers gradually displaced the Gundungurra people, and in turn were displaced by an enormous dam

² Carter, 1988: xxiv.
that flooded most of the habitable valleys and cut through what little access there was to higher pastures.

Today the area appears to be as wild as it was when Barrallier was there, although the lake that was formed by the dam has significantly changed the topography. There are now no obvious European marks on the landscape such as buildings or signs of cultivation, yet the names on chorographic maps of this place tell a different story. Maps are devices of memory, they are a way of remembering the landscape, and the names on maps remember and record the people who lived there and events that took place there. They create a ‘space with a history’.

Beginning with present maps and looking into the past through older maps and various stories that have been collected about the people who lived in the valleys and surrounding mountains, different strata emerge. Remnants of different cultures can be found to exist, formed by those who have lived there and moved on, or whose way of life has ceased to be practiced there. These maps are so detailed and so localised that here, the term ‘culture’ may represent no more than a particular way of life such as making a living from cattle either legally or illegally.

2-2 Chorography- the eye or the ear
Then the waters muddy and the varying cultures that formed the names begin to merge, and Gundungurra stories co-exist with that of bushrangers, cattlemen, surveyors, settlers and bushwalkers. Chorography, depicting as it does known, lived space, is the eye or the ear as opposed to the head. Gundungurra was an oral language and in some of the names on maps of this area, ancient sounds still exist, even though they were given a written form. It is in the names on the map that the human sounds of the landscape are recorded, transforming geographical space into lived space.

Some of these names are ‘organic’ and some are ‘imposed’. The ‘strata of memory’ that I would call ‘organic’ names grew out of the way the landscape was lived in. With ‘organic’ names it is often the case that no one can remember who originally

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3 Birch, 1992: pp. 229-244. Tony Birch has emphasized the importance of placenames as part of history in his article on attempts to rename the Grampians in Victoria. Moves were made to change the name of these mountains back to the original indigenous name Guriward. This caused a furore amongst white settler culture in the area. Many of these people seemed to feel that their history would be erased if the name were taken from them.
coined the name. It is the name not the namers that is important. Organic names are probably more concerned with topography than landscape. They reflect the way the terrain helps to form particular cultures and particular ways of living in that place. Organic names hold the memory of what it is like to live there.

Names can also be imposed from outside. In this area it was the early surveyors who decided which names would be used on their official parish maps and how the sounds of the Gundungurra words they used would be spelt. Later, Myles Dunphy devised a system of nomenclature for these mountains and valleys and this included both organic and imposed names. Although Dunphy did not live there he was very involved in the area he was naming and he wanted to preserve ‘local colour’ as well as to invoke the magnificence of the country with his names. Some of his names come from his own memories of an Irish upbringing, which in a way probably related to the many Irish people who had lived in the Burragorang Valley and surrounds.

After the valley was dammed, a series of imposed names was put in place around the shores of the new lake to retain the memory of some of the people who had lived there. The landscape is now so radically altered that these names seem quite incongruous. The people whom they commemorate had no physical attachment to the spot that now bears their name because the place did not exist in its current form when they lived there. But it is of interest to find these names on older maps and get some idea of the older landscape by comparing where these names are now to where they were before the inundation.

**2-3 The importance of legend and story**

Chorography is often aided by legend and story. If a place is to be fully known and lived in, then there seems to be a need for an added dimension to exist, something beyond just the charting of space, a human element linking to the land through stories and legend. Many of the names examined here would be just lost memories if it had not been for local historians and other interested parties who have dug around and unearthed stories. These connect the names to people who have lived in the area or what they did there. It is not necessary that these stories be factual, it is more than likely that they have been embroidered over time. Their existence, combined with the name, means that the map is able to depict local, lived space.
The primary sources studied for this chapter are chorographical maps, and these include topographical maps, parish maps, and special interest maps. The current maps of the area are the topographical series of maps as these show the greatest detail not only of the topography but also of geographical placenames. At a scale of 1:25,000 the following topographical maps were used: Bimlow, Nattai and Burragorang, (the lake), Bindook, Yerranderie, Kanangra, Jamison, Jenolan and Katoomba (the surrounds).

In order to chart the change in the names and the area, these maps are supported by various older maps such as the parish maps that are mentioned throughout and the 1932 Tourist Map of the Blue Mountains and Burragorang Valley (a Lands Department map made with considerable assistance from Myles Dunphy). Another map by Dunphy, Gangerang, Wild Dog Mountains, Lower Kowmung, Nth. Thurat, in the Greater Blue Mountains of New South Wales, (1979) is used extensively. This is an excavation into the names on current chorographical maps of the area.

2-4 The lake – sinking through layers of history and memory

In 1959 the Warragamba Dam was completed. It sealed off the Warragamba Gorge, and as the waters of the Lower Cox, the Wollondilly and the Warragamba rivers were trapped behind it, they had nowhere to go but flood the valleys they had formed and this included the Burragorang Valley. As the water levels in the valleys rose, an enormous lake was formed, Lake Burragorang, and this officially covers 75.11 square

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4 These maps are currently being revised, map by map. Some of the current maps, dated 1984, are yet to be upgraded whereas those dated 2002 have been revised. In an area such as this little has changed between the 2nd edition and the 3rd edition except perhaps for the format of the map, and the 3rd edition 2002 maps have an aerial photograph of the area of the map on the back.
7 The 1979 copy is the 10th edition of this map, which was first revised in 1953. Much of the information on the map and the drawing itself predates the first revision although no date is given for its original inception.
8 den Hertog, 1990: 63. ‘By February 12, 1959, the storage level in Warragamba Dam had reached a height which allowed a water supply purely by gravitation…”
9 Moving between Fig 21 and Fig 22, both parts of the parish map of Bimlow 2nd ed, 1899, it is possible to see the following: Coober, Emu Corner and Pearces Creek. These are surrounded by rectangles that represent a number of land parcels, a sign of European settlement. On the current topographical map of Bimlow, part of which is reproduced as Fig 20, a radically altered landscape appears. Around the lake are Cooba Bay, Pearces Creek and Emu Hill, remnants of the settlement shown on Figs 21 and 22. The total absence of any human involvement in this place now can be seen on Fig 19, an aerial photograph that covers the same area as that shown on Fig 20.
kilometres. The area around what had been Burra gorang Valley had been chosen for
a dam because of its deep gorges and high plateaus, which over vast quantities of time
had been carved out by water.

The terrain that made it the perfect place for a dam also created particular cultures in
this rugged and inaccessible area. Before the dam was built, the high walls and gorges
that were to make a perfect barrier to keep the water in ensured that for the people
who in spite of the access came to live there, had great difficulty getting out. This
terrain also provided a secure barrier against the outside world. The way the land was
formed has influenced the way of life of the people who have lived there.

Now this area is in a sense frozen in time, unlikely to be changed by human
intervention, only by nature, consequently the layers of history and memory in the
names left on the map are easier to trace. This is even more so because many who
were removed from the valley before inundation and those in surrounding areas did
their best to record the history of the valley and its surrounds lest it be lost.

2-5 Memory - deep beneath the waters of the lake

Mapping, like memory and history, is a system that is reliant on what is retained and
what is discarded. Not every moment of every history can be told any more than every
event in a life consigned to memory or every detail of a territory put on a map. All
three, maps, memory and history, tell their stories through fragments, and with the
topography they represent so radically altered, the names on the topographical maps
of Bimlow, Burragorang and Nattai that depict the main body of the lake, can no more
depict the memories of lives lived in the valleys before the inundation than the maps
themselves can represent the depth of the lake. These are partial remembrances.

Points of land are now shown to jut into the waters of the lake one hundred metres or
more above the rural holdings that were once farmed by those who now name the
points. There are Jerry O’Leary Point, Houlouhan Point, Hayes Point, Gorman Point,

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11 Prineas & Gold, 1997: 54.
12 These include den Hertog, Barrett, Pearce, O’Reilly, and Smith.
and Carlon Point amongst others and, to remember the nationality of many early settlers, Irish Bay.  

There do not seem to have been any settlements large enough to warrant the classification ‘town’ or even ‘village’. On the 1932 Tourist map of the Blue Mountains and Burragorang Valley, two churches were shown, both at Coxs Junction, which is now all but forgotten as Junction Point. There was a ‘store (part time)’ just past Bimlow, which was once known as the ‘capital’ of the Burragorang Valley. Now it lies deep beneath the waters of the lake, gazed down upon by Bimlow Point. The tiny hamlets of Lower Burragorang and Central Burragorang are remembered in the name of the lake itself.

Around the lake today is a three-kilometre ‘No Public Access’ zone where once people came to escape the city and enjoy the tranquillity of the Burragorang Valley and its basic tourist infrastructure. The 1932 tourist map shows the NRMA Camping Ground, which would now be deep beneath the waters below Carlon Point. Accommodation in the form of guesthouses, and shown on the 1932 map, included ‘Blattman’s’ and memories of this appear on current maps as Blattmans Point. The guesthouse of ‘S. Pippen’ now appears as Stevens Point, and the establishment of ‘M. Maxwell’ is remembered in Maxwell Point, Maxwells Broken Rock and Maxwells Broken Rock Point.

Perhaps the most illustrious guesthouse was ‘The Commodores’, which was owned by Rawson Moody and known for its ability to serve rabbit in numerous culinary

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13 The current Burragorang topographical map gives the top water mark near Irish Bay as 117 metres.  
14 *Style Manual*, 2002: 86. Says the following: ‘Australian placenames involving possessives are all written without apostrophes’. This was a 1966 decision by the Geographical Names Board. Many maps used in this thesis predate this decision but in the interest of consistency this rule has been adhered to. However, some of the older maps reproduced do show apostrophes.  
15 Part of the current topographical map of Bimlow, reproduced here as Fig 28, shows Junction Point.  
16 Part of the *Tourist map of the Blue Mountains and Burragorang Valley* (1932) reproduced here as Fig 26 shows the store and the churches.  
18 The topographical map Bimlow, 8930-2S, 3rd ed, 2002, shows this clearly in the form of a heavy broken pink line. Earlier maps, for example Burragorang, 8929-I-N, 2nd ed, 1984, do not show the line, but the following is shown in the legend: ‘Access within 3km of the stored water of Lake Burragorang is prohibited.’  
19 There were guesthouses in the Burragorang Valley from about 1890.  
20 Fig 26, part of the *Tourist map of the Blue Mountains and Burragorang Valley* (1932), shows the camping ground near Central Burragorang. Other accommodation is marked on the same map by the letter ‘A’ in a circle. The establishments of S. Pippin and M. Maxwell are shown at Bimlow.
forms. The Commodores and Rawson Moody are commemorated on the current topographical map of Bimlow as Commodores Hill and Moodys Hill and these names were shown on the 1932 tourist map. Grundys Hill, which stands nearby, is named after a former owner of the Commodores.

2-6 Points of memory surrounding the lake

The names on the points of land that now jut into the deep waters of the lake reflect memories of some of those who lived and farmed and accommodated visitors from the city in the valley below. These names are placed on an altered landscape and represent a desire to preserve some of the history of both European and Aboriginal involvement in this place, even if it is only in the names on the map. No longer grounded or anchored in the reality that created that name, they are now tokens that have taken on a new significance as points of memory surrounding an artificial lake. As names on a chorographical map they are a reminder that this was once lived space.

For many of those who had lived in the valley and still felt a strong emotional attachment to it, these misplaced names could only allude to the memories, keenly remembered, that now lay deep beneath the water. Laurence Brunero, a former valley resident returned many times to gaze down into the lake

Some scenes from my childhood memories are now hidden from view... a paradise lost beneath the waters of the Warragamba Dam. Many times I have returned to the lookout above Oakdale and gazed at what is left of the Burragorang valley. As folk around me wonder at the magnificence of the mountains and the lake, my thoughts are of times and events buried forever beneath the waters.

Burragorang valley was a ‘lost place’ and ‘place, in the end, is where human events take place.’ Although anthropologists have long understood the importance of place
to indigenous communities, the sense of belonging felt by traditional rural communities in Australia was ‘set aside as unimportant’. This was especially so when the loss of the place enabled large capital works in the national interest to be undertaken. To resist or complain about individual loss would seem churlish in the face of the national good. Burragorang Valley residents lost their place to ‘quench the thirst of Sydney’, the residents of Old Adaminaby, inundated in 1957, gave up their town so that water could be provided to ‘quench Australia’s fiery heart’ Attempts were made to remove any trace of Adaminaby from maps

The Snowy Shire Council tried to change the name of the new town to Chifley. The Snowy Mountains Authority marked Coolawyne on maps where Old Adaminaby should have been...

The Burragorang Valley and the surrounding area have remained on maps and many of the placenames are now the main indicators of who inhabited or visited the area and their way of life. Some of these names show that the various cultures that inhabited the area saw aspects of the landscape quite differently and named them accordingly.

Different human cultures recognise different features in the landscape and imbue them with different cultural characteristics.

The names on a map may appear to be on the surface, as a thrown stone skimming across the surface of the lake, but if the stone were to drop into what is now Lake Burragorang, it would sink through layers of history and memories. Trailing down into the water from each name are other memories, sometimes one, sometimes a whole series.

26 Read, 1996: 22-23
27 Read, 1996: pp 81-83. Here Read is discussing in particular the attitude of the Snowy Mountains Authority to the former residents of ‘Old’ Adaminaby. The Water Board seems to have taken a similar stance to former residents of the Burragorang Valley.
28 Read, 1996: 82.
29 Read, 1996: 94
30 Read, 1996: 4
2-7 The lake – memories flow together
Memories from different cultures flow together. The Gundungurra people, who lived here for thousands of years, probably had names for every feature of the land and myths describing its formation, and these may have been remembered as oral maps. They were first intruded upon by those who escaped from the early colony to live in a twilight world of bushranging and cattle duffing. The difficult terrain meant it was a perfect hideout for escaped convicts, cattle duffers and bushrangers and the escaped cattle themselves. They were followed by settlers, cattlemen and cedar-getters, who also tried to carve a living out of the area.

Using Gundungurra paths to move themselves and their animals, they began to apply their own ‘unofficial names’ to help them find their way around. The surveyors who came in to measure up the land, primarily to apportion grants, were required to use Gundungurra names where possible but often they just left the inhospitable country blank on their maps and applied very few ‘official names’. Then came the bushwalkers, drawn to the rugged terrain and wild beauty of the place. They needed maps with names and topography, without which there may be no way out. All these different cultures have left their memories and are remembered in the names on the maps of this area.

2-8 Bedrock – the forming of the topography

…beginning with the familiar, digging down through layers of memories and representations toward the primary bedrock, laid down centuries or even millennia ago, and then working up again toward the light of contemporary recognition.

Falling through the waters of the Lake, which has by now become the ‘familiar’, the stone must eventually hit the bedrock, the initial strata of names on the map. This is an ‘excavation’ of that ‘bedrock’ and its names: the names on the map today that originated in the Gundungurra language, some from an oral map or ‘creation myth’ of the area.

31 A creation myth that is attributed to the Gundungurra people is discussed in detail below.
33 Schama, 1996: 16.
In 1908 an article by R.H. Mathews, titled *Some Mythology of the Gundungurra Tribe*, appeared in a German anthropological journal. The article consists of a ‘legendary tale’ that Mathews had ‘obtained personally from the remnants of the Gundungurra tribe now residing at Burragorang on the Wollondilly River’. It is the story of a battle between two Burringilling ‘legendary personages’ with supernatural powers. Gu-rang-atch, who ‘took the form of a creature that was partly fish’ and partly reptile, was hunted by Mir-ra-gan the tiger cat, who was a ‘renowned fisherman’. Mirragan wanted to catch and eat the enormous Gurangatch, who kept slipping out of his grasp and digging into the land to escape. Gurangatch dug huge ditches and holes that filled with the water that followed him. In this way the rivers and caves and deep water holes of this area were created.

Part of this river system was dammed to form the present day lake and so the topography of the area has changed considerably, yet it is still possible to find placenames on current topographical maps that contain the sounds of features that were formed during the battle between Gurangatch and Mirrigan. These names on the map are palimpsests, faint traces of an ancient oral language that, when spoken, contain some of the essence of the language and the land that is represented.

2-9 Bedrock – ancient sounds in the names on the map

The problems of writing these sounds down to form names on a written map, rather than hearing them invoke the places of an oral map, were first faced by the early surveyors. It is their attempts, or corruptions, that appear today on current topographical maps. These placenames would be unrecognisable if not for the myth that was told to Mathews and the awareness that the sounds hold the connection rather than the written form of the name. It is in the sound, how the word is heard, that

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35 Mathews, 1908: 203. In an earlier article: Mathews & Everitt, 1900: 263, Mathews mentions that he had camped at Burragorang with Bessie Sims and Billy Russell. Both were Gundungurra elders and it is highly likely that Mathews was told the myth by them.
36 This reads like the language of Mathews rather than his ‘informants’. The myth would appear to have been written down in a strange combination of both.
37 Mathews attempted to capture the sounds of the names he was hearing by using hyphens. A. L. Bennett who wrote down the ‘recollections’ of (Billy) William Russell used ‘Gu-rung-adge’ and ‘Gun-dun-gorra’. These spellings look different but sound almost the same. ‘Gundungurra’ is the spelling currently used by the Gundungurra Tribal Council.
38 Having established the way Mathews wrote these words, I will now revert to the unhyphenated version.
connection to this ancient myth can be made. In order to make these connections, chorography requires the local - local history, local sources, local knowledge – because this is its primary element. The writing down of this local myth has allowed these ancient sounds to be connected to placenames on current maps and thus preserved.

One of the first in the area was Surveyor Govett, who took the name Mee-oo-wun Mountain and wrote it on his map as Mount Mouin.\textsuperscript{39} This was the mountain in which Gurangatch burrowed, creating a deep narrow hole that filled with water and became a ‘menace to the white man’s cattle’.\textsuperscript{40} Govett also used Koo-nang-goor-wa Creek, the site of a fierce battle between Mirragan and Gurangatch, and wrote it as Konangaroo Creek.\textsuperscript{41} He named the parish of Mouin after Mount Mouin, and the parish of Konangaroo\textsuperscript{42} was named after Konangaroo Creek.

It is not known whether or not Govett had any knowledge of the myth or the significance of the names he was using. He probably just asked Aborigines he came across in the area what their names for various geographical features were.\textsuperscript{43} The connection of these early names to the myth could only be made after it was written down by Mathews because he had made some attempt to capture the sounds.

Koo-nang-goor-wa Creek has become Kanangra Creek on the current Kanangra topographical map\textsuperscript{44} and this name has spread down the creek to Kanangra Walls, Tops, Mount Kanangra and ultimately Kanangra Boyd National Park. Beside Kanangra Creek is Konangaroo Clearing, Mount Konangaroo is nearby and on the other side of the creek is the beginning of Kanangra Gorge. Thus Govett’s Konangaroo Creek, from the Koo-nang-goor-wa Creek of the myth, appears on the 1890 parish map but has been replaced by Kanangra Creek on the current topographical map. Govett’s spelling of the original sounds survives in the names of

\begin{itemize}
  \item \textsuperscript{39} Barrett, 1994: 60.
  \item \textsuperscript{40} Mathews, 1908: 205.
  \item \textsuperscript{41} Mathews, 1908: 205. Mathews says that Konangaroo was a ‘corruption’ of Koo-nang-goor-wa. Barrett, 1994: 53. Barrett suggests that Govett gave the name Konangaroo to the Kanangra River.
  \item \textsuperscript{42} Figs 29 and 30 are part of the parish map of Konangaroo and both show the Konangaroo Creek.
  \item \textsuperscript{43} When Govett was travelling through this area there were still local Gundungurra people living there and because the myth has been preserved it is possible now to hear the resemblance between Govett’s names and those written down by Mathews directly from Bessie Sims and Billy Russell.
  \item \textsuperscript{44} A map by Jim Smith and Peter Bliss, \textit{Gurangatch and Mirragan}, shows Koonanggoorwa (Kanangra) Creek and this probably suggested the connection to me.
\end{itemize}
the parish itself, a clearing and a mountain. When spoken, Kanangra sounds closer to Koo-nang-goor-wa than Konangaroo does, and perhaps this explains the preference for it on current maps. The name of the parish could not change because as part of the cadastre it forms an important part of the memory of European land ownership in the country.

Billa-goo-la Creek, where Gurangatch stopped digging for a while, was corrupted to ‘Black Hollow’, which appeared on the parish map of Bimlow as Butchers or Black Hollow Creek. On the current topographical map of Bimlow, Black Hollow has been dropped in favour of Butchers Creek. Surveyor Dixon also named Black Coola trig, which sounds like Billa-goo-la and may be another written version of it. On the current topographical map of Bimlow there is Black Coola Mountain with Black Coola Creek nearby, but not near Butchers Creek.

Black Gooler was the name Dixon applied to a river flat opposite the mouth of Black Hollow or Butchers Creek. It has been suggested that Gooler was the ‘Aborigine word for cockatoo’ and that this ‘became garbled’ into Black Coola in the case of Black Cockatoos. Perhaps Dixon used three different ways of writing down the sounds he heard in Billa-goo-la as names on his map. Black Gooler is no longer on the map, as the former river flat is now on the bottom of Lake Burrugorang.

Wam-bee-ang Caves, where Gurangatch tried to hide from Mirragang, was also written as Whambeyan. Now it has become Wombeyan Caves on the current Richlands topographical map. Wan-dak-ma-lai, where Mirragang walled

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45 The cadastre is a register of property ownership and it includes parish maps. The cadastre and land ownership are discussed in chapter three.
46 Mathews, 1908: 205. Mathews suggests this.
47 Barrett, 1994: 96. Barrett points out that the creek was named after the cattle duffer ‘Butcher’.
48 Fig 22, which is part of the parish map of Bimlow, 2nd ed, 1899, edition shows this.
49 Fig 22, which is part of the parish map of Bimlow, 2nd ed, 1899, edition shows Black Gooler.
50 Barrett, 1990: 59, Note 60. Barrett is quoting Shirley (McMahon) Clarke, the daughter of a former resident of the valley.
51 On Fig 22, the parish map of Bimlow, 2nd ed, 1899, Black Gooler is shown positioned between the mouths of Butchers Creek and Pearces Creek. Fig 20 shows the landscape after the lake has been formed with Pearces Creek coming into Cooba Bay. Opposite this, at Cedar Road Point, Butchers Creek enters the lake. By comparing these two maps, Black Gooler must now be deep beneath the water.
52 Mathews, 1908: 204. Mathews used both versions in the same paragraph. They sound almost the same.
53 Richlands, 8829-2-N, 2nd ed, 1984, the north eastern corner of this map connects to the south west corner of Bindook, 8929-4-S, 2nd ed, 1984.
Gurangatch in, was corrupted to Duckmulloy and has now become Duckmaloi on the current Hampton topographical map. Ked-oom-bar Creek, which Gurangatch excavated, has become Katoomba and probably Kedumba River and Valley as well. Bin-noo-mur Caves, where both Gurangatch and Mirragang found friends or relatives, are now called Jenolan Caves on the current Jenolan topographical map.

2-10 Bedrock – A network of ancient placenames

When Surveyor Trickett arrived to plot a parish map, one of the few features he could find a name for was Mount Jenolan, which was probably a written form of the Gundungurra name for that feature. It seems to have been common practice for surveyors to take the name of a key feature, probably a mountain or a river, and use this to name the parish. In many early parish maps there were few names shown, apart from a handful of key features, if there were any, and waterways. Sometimes, later, other key features were named after the parish. In this way the caves named Bin-noo-mur in the myth, and later known as the Fish River Caves, were renamed Jenolan Caves, after the parish they were in, even though Jenolan was the name of a mountain. On the current topographical map of Jenolan, Binooomea Ridge towers above the entrance to Jenolan Caves. This name echoes the Bin-noo-mur mentioned in the myth although now the name applies to a ridge instead of the caves lying deep in the ground below.

Names spread out from the original feature, and the name of a mountain becomes that of a cave or a river. The name might be embedded in the bedrock of Gundungurra culture, but not necessarily for all the features that carry that name on the maps today. These names are faint traces of that culture and, even though they may have been distorted in their translation from sound to text and many may now be out of place, they resonate through the landscape, both cultural and topographical, with a power that seems to emit from the land itself. These Gundungurra names are organic in the sense that they have evolved from this place even if they have been imposed by the

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54 Mathews, 1908: 206.
56 Mathews, 1908: 205.
57 Barrett, 1994: 50. Here Barrett discusses various other names for the caves and moves made to rename them. The naming of the caves is further mentioned below.
surveyors, written down with loss of sound, and at times used to name features other than those for which they were originally intended.

Chorographical maps can preserve the ancient sounds of an oral language that might otherwise be lost, because chorography charts the local in a small enough scale to pick up subtle nuances such as the detail of names. In this way these maps serve as a memory of some of the human involvement on the land they chart. Just as the writing down of the myth has allowed some of the placenames to be recognised in relation to it, so, the preservation of other local stories has been important for the same reason. The following examples illustrate this process.

In 1914 William Russell, ‘chief man’ of the Gun-dun-gorra, also known as Werriberrie, told his story to A.L. Bennett, who wrote it down and published it as a ‘pamphlet’ entitled My Recollections. Werriberrie took his name from the creek where he was born, and this name is remembered in the parish of Werriberri. The name of the lake itself is a Gundungurra word, ‘Burragorang’ or ‘Burragurrag’, and was described by Russell thus:

\[
\text{The great kangaroo Burr-u-\text{-}g-a-r-a-bang in the Aboriginal legend was hunted by Bullu-bulan and managed to escape from his pursuers in the large waterhole of the Wollondilly at Upper Burragorang. Thus Burra-ga-ra-bang, referring to the great kangaroo’s place (of escape).}^{59}
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There is another version of this story. Burra-ga-rang was the name for the area that was later known as Big Flat and this was an important camp for the Gundungurra because of the abundance of kangaroos, which were called burru. In 1828 Surveyor Dixon arrived to measure up a grant for John Lacey, which he called Bimlow. According to A.L. Bennett, Billy Russell’s biographer, this was a corruption of Bimmillo, a Gundungurra name that meant a ‘devil place’. Dixon used Bimlow to name the parish and it also became the name of a small settlement in the Burragorang valley.

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58 This method of spelling was used by A.L. Bennett.
2-11 Bedrock – Surveyors attempt to catch the sound

Dixon added to his map the name Coober, which was the Gundungurra word for the fertile land near the river and this, with a slight change of spelling, went on to be a part of the parish of Cooba. The Gundungurra name for the river flat is now remembered on the waters of the lake as Cooba Bay. In the 2nd edition of the 1893 parish map of Cooba is the name Gogongolly Creek, which was probably the Gundungurra word Go-gon-gal-li, and now remembered around the Lake in Gogongolly Head, Bay and Mountain.

In 1833 Surveyor White recorded that the name ‘Kowmung’ was given to him ‘by the natives’ but on his map he spelt it Komung. White also named Bindook and Werong. Surveyor Govett on his parish map of Konangaroo showed few features except for Mount Guouogang and a creek of the same name, both derived from the Gundungurra word Kuo-uo-gang. Surveyors Govett and Dixon had accompanied the Surveyor-General Major Thomas Livingstone Mitchell into the area to carry out ‘The King’s instructions of 1825’. These instructions required that the Colony of New South Wales be divided into ‘Parishes, Counties and Hundreds’ so that the confusion over land grants could be alleviated.

Mitchell had instructed his surveyors to use ‘native’ names as ‘the natives can furnish you with names for every flat and almost every hill’. The Governor echoed this sentiment when he directed ‘…that the Native Names should be continued or adopted, when it can be conveniently done…’. Both Mitchell and the Governor, by issuing these directives, were acknowledging that there was an Aboriginal system of names already in place, an oral map, and so the surveyors were in fact mapping over the top

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63 Barrett, 1994: 5.
64 Fig 21, part of the parish map of Bimlow, 2nd ed, 1899, shows Coober before the inundation. Fig 20 part of the current topographical map of Bimlow shows Cooba Bay as it is today.
65 The original parish map of Cooba by surveyor Dixon was the first edition. Parish maps are upgraded when the ownership of portions of land have changed so much that the map has become difficult to read.
67 Gogongolly Head and Bay are shown on Fig 28, part of the topographical map of Bimlow, 3rd ed, 2002.
68 Barrett, 1994: 3.
69 Fig. 29 and 30, parts of the parish map of Konangaroo, 1st ed, 1890, show this mountain.
72 Barrett, 1994: 5. Citing a direction from the Governor 23rd June 1828.
of an Aboriginal map. The Aboriginal placenames that remain on maps of this area today show that the Aboriginal map is still at least partly in place.

There seems to have been an understanding at this time that the names were not only ‘native’ in the sense that they were Aboriginal but also ‘native’ in the sense that they were indigenous to the area.\(^{73}\) The complexity of Aboriginal borders, languages, and names for key features could still be found, at least outside the Sydney basin.\(^{74}\)

Names in oral languages do not have to be confined in length to fit on a map; they can be as long as they need to be to fully describe the place they are naming. Unfortunately, Mitchell soon realised that long, complex names caused technical problems in the reproduction of maps and was forced to issue another directive requiring that names to be used were to be as short as possible.

Many of these names when spelt phonetically to give the pronunciation correctly, were considered to be too long for cartographic use. Wishing to avoid the printing of long names ‘which are by no means desirable on maps’, Mitchell soon found it necessary to supplement his first instruction by requesting that native names be spelt with as few letters as possible.\(^{75}\)

The surveyors on their parish maps did not have the freedom Mathews was to exhibit later. They could not join the rich and resonant syllables of the Gundungurra placenames with hyphens so that they might sound as close as possible to the original. They had to try and trap the sound in a shortened version that could fit on a map. Pronunciations might differ and in an oral language consistency might give way to creativity, but place names on a parish map in the European mapping system do not have freedom of movement, they must be fixed, and it was the duty of the early surveyors to fix them.

The Gundungurra language forms the bedrock on any chorographical map of this area, and some of the placenames from that language, which the surveyors wrote on

\(^{73}\) This point becomes more obvious below, when these names are compared with those of Myles Dunphy.

\(^{74}\) That is, provided local Aborigines were asked for placenames and prepared to give them. Carter, 1988: pp. 61-67, gives examples of names for geographical features elicited from Aboriginal guides who were not of that area and might have simply said ‘I don’t understand’ and this was used as a placename. Carter also implies that the use of Aboriginal placenames was in itself a form of possession and dispossession.

\(^{75}\) Barrett, 1994: 12, Note 23.
their parish maps, can still be found on current maps. The parish maps form a repository for the bedrock. They were the first official European maps and if it were not for them, many of the ancient oral Gundungurra placenames might have been lost.

…the sighing of trees, the voice of birds, the sound of storm and flood and wind, the rolling of rocks in a landslide … to hear it pronounced by the black warriors of the old Kanimbla tribe was to hear majestic thunder re-echoing amongst the granite mountains of their hunting grounds.

2-12 Cattle – The Butcher Bullock gang

Governor Phillip had seen in the distance the mountains that surround the lake. On one of his first forays from Sydney Cove he travelled ‘about 15 miles from the seacoast’ and determined ‘from the rising of these mountains’, ‘that a large river would be found’. He named the mountains to the north the Carmaerthen Hills and those to the south the Landsdowne Hills. These names did not stick and both sets of hills became known as the Blue Mountains. Today the name Carmarthen still exists in some of the deeper gullies and more remote parts around Mt. Wilson, while Lansdowne is a suburb in south-western Sydney.

A few weeks after Phillip had named the mountains, the cattle that had been brought from the Cape went missing. Barrallier counted the cattle (the descendants of these First Fleet cattle) he saw in the area around the Burragorang Valley in 1802, and there were more than six hundred. In 1811 there were estimates of between four and five thousand cattle in the area around Cowpastures, yet only one thousand were ‘reclaimed by the government’. It seems some of these ‘unclaimed’ cattle had found their way into the Burragorang Valley and, although there was a penalty of six months hard labour for crossing the Nepean, they had been followed by an assortment of those who lived outside the law and felt they could profit from the cattle.

When George Pearce arrived in the valley in the early 1830s he found a cattle duffing organisation lead by Butcher and Bullock, with whom he worked for a while before

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76 Kanimbla is the next valley around from the Megalong and would have been inhabited by Gundungurra people.
78 Historical Records of Australia, 1914: 29. Phillip to Sydney, 15th May 1788.
79 The name has been simplified from Caermarthen to Carmarthen on current maps.
taking a ‘severance’ payment of four bullocks\textsuperscript{81} and setting up his own selection. Butcher was supposedly murdered by Bullock and buried near McMahons Point. His name lives on in Butchers Creek\textsuperscript{82} which, as mentioned above, had been known as Butchers or Black Hollow Creek, this probably being a corruption of Billa-goo-la Creek. 

While the Gundungurra names were the ‘bedrock’ of the early parish maps, by the time the surveyors were riding through the area another strata of names was already forming, and many of these related to the cattle or those who had followed them. Because of the cattle there was a great deal of official and unofficial interest in the Burrarorang Valley, ‘officially discovered’ in 1823 by William Hovell.\textsuperscript{83} From this point in time, legitimate settlers\textsuperscript{84} and cattlemen came in to take up grants or run cattle on ‘tickets of occupation’.

2-13 A rupture in the strata of memory in the landscape

In a colonial country such as Australia there is a rupture in the strata of memory in the landscape. It would seem that only those who speak that language and are immersed in that culture could possibly have access to the rich memories contained in the bedrock. These would be the Gundungurra in this area and other Aboriginal people in their own areas. But many European Australians seem to relate to these placenames even if they don’t understand the meanings of the words. Perhaps they find something in the sounds that seem to emerge from the land itself. The bedrock did not initially contain memories that were shared between both cultures, but as European and Aboriginal memories of place have become intertwined, the echoes of these ancient names have a resonance that can be shared, even if the sounds of the original words have become distorted in their translation from an oral language to a written name on a European map.

The myth of Gurangatch and Mirrigan enabled the Gundungurra to remember many aspects of their landscape. It was cosmographical in that it explained how the river system in the valley and surrounding areas had been formed. It was also

\textsuperscript{81} Barrett, 1995: 105.
\textsuperscript{82} Barrett, 1990: 58.
\textsuperscript{83} Barrett, 1995: 4.
\textsuperscript{84} By this I mean ‘legitimate’ as far as the laws of the British colony were concerned.
chorographical because by remembering the details of the myth it was not only possible to navigate the area but also to know where to find certain foods, fresh water and camping areas, and to be aware of dangerous waterholes.\(^{85}\)

Parish maps sometimes include early European placenames as well as the Gundungurra names mentioned above. In this way they form a repository not only for the bedrock, but also for the first official names of the Europeans. Unofficial names flourished and some were remembered long enough to appear on later maps. Those who followed the cattle were probably the first Europeans in the area and they had to try and make sense of the landscape, to inhabit it and make it familiar. They left not only their own names on the map but echoes of aspects of their everyday life. These do not form a sophisticated system of land knowledge, incorporating cosmography and chorography, as does the Gundungurra myth. There is just a scattering of names that give a sense of how this place was made into a chorographical space, inhabited by the cattlemen and their animals.

2-14 Cattle – From Breakfast Creek to Dinner Gully

On the 1893 2\(^{nd}\) edition parish map of Mouin apart from Mount Mouin are Cedar Creek and Breakfast Creek, and in the parish of Banshea are Dinner Gully and Sally Camp Saddle.\(^{86}\) ‘Sally Camp Creek’ refers to a good campsite where there was a certain kind of tree known as Sally Gum.\(^{87}\) Cedar Creek also refers to the vegetation and there are many ‘Cedar Creeks’ on maps of Australia. If ‘Breakfast Creek’ was where the journey began at daybreak, then ‘Dinner Gully’ would be reached in time for the evening meal. These journeys invariably involved the movement of cattle, from a summer feeding ground in the mountains to a sheltered spot in the valley, or once fattened, their final journey, to the saleyard.

\(^{85}\) The chorographical implications (they would not have used this phrase) of the myth have been suggested to me by Jim Smith, Christine Davies, and various NPWS Guides who use this myth as an educational tool describing how Gundungurra people lived in the Blue Mountains. Obviously the words ‘cosmography’ and ‘chorography’ reflect European concepts rather than Aboriginal ones and it is highly probable that the relationship between the Gundungurra myth and the landscape is far more complex than these words could describe. Cosmography and chorography are used here simply to show that the myth represents at least a combination of these two functions.

\(^{86}\) Dinner Gully and Sally Camp Saddle do not appear on the early parish maps of Banshea, which show very few features. However both are shown on the current topographical map of Kanangra.

\(^{87}\) Barrett, 1994: 68.
Other names on the map refer to the animals themselves. Descendants of the escaped Cape Cattle, known as ‘scrubbers’, quickly became an important part of the economy of the area. They were herded and moved from place to place, stolen and hidden in secret spots.

Scrubbers Hump is formed by a large bend on the Coxs River in the parish of Konangaroo. Scrubbers Saddle is shown at the end of Scrubbers Hump, and Cape Cattle Pocket also appears on the map of the ‘Wild Dog Mountains’. Wild Cattle Creek is in the parish of Leibnitz, and on the 1st edition parish map of Jenolan one of the few named features, apart from Mount Jenolan, is Slithery Bulls Creek. Scrubbers Creek appears crossed out on an early parish map. Horses that the cattlemen rode and wild ones that they attempted to capture were also remembered in placenames on the map. Blood Filly Creek appears on the 1st edition parish map of Konangaroo and Mares Waterhole Creek appears on the 1st edition parish map of Gangerang.

Only a scattering of names that related to the cattlemen and their animals appeared on the early parish maps. There were other placenames in use that were not shown on maps until much later. These names were kept alive by local use and then taken up by bushwalkers, who were in touch with the cattlemen and valued their culture. In particular, the bushwalker Myles Dunphy resurrected unofficial names that were in current parlance, names that were part of the unofficial chorography of the place, and put them on his maps. Topographical maps of today show some of these names that were probably in use unofficially since the early 19th century but now have recognition by being included on ‘official’ maps. Names that ‘lived on’ through the bushwalkers include Brumby Gully and Whipcrack Hill.

Apart from their animals and references to their daily lives, the names of the cattlemen themselves can be found on the maps that represent this landscape. These

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89 Fig 27, which is part of the parish map of Jenolan, 1st ed, 1890, shows Slithery Bulls Creek and Bulls Creek.
90 Fig. 29, which is part of the parish map of Konangaroo, 1st ed, 1890, shows Blood Filly Creek.
91 The topographical maps are compiled and distributed by the Lands Department, an arm of Government. The names on these maps were vetted by the Geographical Names Board and they decided which names should be included.
92 Barrett, 1994: 52.
names, attached to geographical features, create a sense that this area shown on chorographical maps has a European history and even if it is no longer inhabited in this way, it has been so.

For example, on the 1828 parish map of Bimlow, one of the few names Surveyor Dixon included was Bob Higgins Creek. Higgins died of asthma the same year the map was made\(^9^3\) but his name has survived as Higgins Bay on the lake that did not exist when he was alive. The main cattle route from the Oberon district to the Kowmung and the Burragerang, passed through land owned by Siegfried Pfeffer. This route became known as Pfeffers Track.\(^9^4\)

2-15 The Devils Coachhouse

Christys Creek was probably named after the gold fossicker Christy Creighton, who claimed to have found gold there and was eventually drowned while crossing the Wollondilly River.\(^9^5\) It appears on the 1890 1st edition map of the parish of Tartarus as does Lannigans Creek. William Russell, ‘chief man’ of the Gundungarra, remembered Edward Lannigan:

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\text{A strange kind of a man named Lannigan lived out towards Mount Werong at a place called The Hole, …He took great interest in other people’s cattle, and always did his stock work on foot, often with only a shirt on.}\]

\(^9^6\)

In times of trouble, Lannigan escaped via Lannigans Ladder to the Boyd Plateau\(^9^7\) and he was probably the first European to reach it, in about 1840.\(^9^8\) Near the creek that bore his name, Lannigan found caves that were known as Lannigans Caves until Surveyor Trickett changed the name of the caves to Colong after the parish they were in.

The bushranger McKeown had been making a living depriving settlers of their cattle and supplies, and after one such attempt McKeown was pursued for many miles on

\(^9^3\) Barrett, 1995: 122. 
\(^9^4\) Barrett, 1994: 77. 
\(^9^5\) Barrett, 1994: 79. 
\(^9^6\) Russell, 1914: 15. Cited by Bennett. 
\(^9^7\) Barrett, 1994: 50. 
horseback until he suddenly vanished. While looking for him, his pursuer, James Whalan, found an enormous limestone cave that came to be known as the ‘Grand Arch Cave’. This turned out to be merely the entrance to a series of remarkable caves that attracted people from all over the world and still do today. They are now called the Jenolan Caves. Legend would have it that it was this chase that led to the European discovery of these caves, which for a while were called McKeown’s Caves.

Both Lannigan and McKeown, living as they did mainly on the wrong side of the law, probably had need of caves as hideouts and they became associated with the two major cave systems in the area. Lannigans Caves and McKeown’s Caves were organic names that reflected this. But these were significant geographical features, so ultimately the names of the parishes they were in were seen as more appropriate and these names were imposed upon the caves. Jenolan and Colong are Gundungurra names for other features in the area, Mount Jenolan and Colong Mountain.

McKeown’s Creek is shown on the 1890 parish map of Jenolan as is the Devils Coachhouse, a large cave near the ‘Grand Arch’. It seems McKeown spent a lonely night in that enormous open cave with only whisky for company, except that is, for a visitation from the devil himself in a coach and four. On later topographical maps the Devils Coachhouse is not shown because it has become one of the many named features in the Jenolan Caves complex. In other features nearby, which are shown on the Jenolan topographical map, this demonic theme has been taken up with relish. Names that appear to have been coined in this way include Hellgate Gorge, Diable Ridge and Creek, Hellcat Throne Mountain, Warlock Ridge and Mount Warlock.

2-16 ‘Walking up the Golden Stairs to Glory’

Miners, living in a village near the Ruined Castle, a pile of rocks that looks just like its namesake from a distance, used a pass off Narrow Neck to climb up to the township of Katoomba. As they climbed they often sang a favourite hymn Walking up the Golden Steps to Glory, learned at Salvation Army services. The pass became known as ‘the Golden Stairs’. The Golden Stairs has become a popular place for tourists. Perhaps the evocative name stirs cultural associations that may not be

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100 Barrett, 1994: 40.
consciously remembered, such as the idea of a stairway to Heaven, which in itself may hark back to the Old Testament Jacob’s ladder.\textsuperscript{101}

These are names on maps that may appear to have come forth from drunken nights and Salvation Army songs but their origins are ancient. These names on chorographical maps are not the precious stuff of history, selectively culled to reflect a glorious past, rather a glorious reflection of the difficulties and humour it takes to live on this land. They help to create a place that is familiar and local but allude to past connections such as the idea of Heaven and Hell, concepts known by anyone brought up in a European tradition.\textsuperscript{102}

Surveyors made names official by putting them on parish maps, and in the case of most of the parish maps of this area they used only those topographical features that were obvious or necessary to identify land grants. Those who lived in the area had an unofficial system of naming the mountains and ravines of this rough country. A place could have a Gundungurra name, a name in local use and a name imposed by the surveyor and put on the map. In 1833, Surveyor White named Bindook, supposedly after the Gundungurra word for the area. Billy Russell called it ‘benduck’, meaning a plain, but some ‘oldtimers’ remembered it as ‘bent-hook’, named after the path of the creek.\textsuperscript{103} On the current topographical map of Bindook, Bent Hook Swamp is next to Bindook Creek in the Bindook Highlands.

Navigating their way through this wild country, the cattlemen often used a much older mapping system of Aboriginal pathways, the memories of which are often revealed in the names that were known and eventually appeared on later maps when their knowledge no longer needed to be kept secret. These pathways seem to have been used by both Aboriginals and Europeans to move themselves and their animals from one part of the area to another, either to avoid the law or just to travel by the easiest and sometimes only route.\textsuperscript{104}

\textsuperscript{101} Genesis, XXVIII: 12.
\textsuperscript{102} The concepts of ‘Heaven’ and ‘Hell’ are common to many religions and cultures but ‘Golden Stairway’ and the range of names associated with ‘the Devil’s Coach House’ may be more familiar to those influenced by Judeo-Christian culture.
\textsuperscript{104} One of the best known of these was the so-called ‘Black Dog’ route, which is discussed in detail below. Barrett, 1994: 103.
Beloon Pass, named by Surveyor Dixon, had an old local name, ‘The Crossover’, and was also an Aboriginal route. Black Billy Head, a difficult pass off Narrow Neck, was a traditional Aboriginal route used to get from the Megalong Valley up into Katoomba. It may have been named after Billy Lynch, a cousin of William Russell. Black Billy Head is shown on the current topographical map of Jenolan, as is Black Jerrys Ridge. Another major Gundungurra pass that began at Kanangra Tops was used in the following way:

…the Cutincline shown on Dunphy’s map of the Gangerang was blasted out by the army in 1942 to provide an alternative route for cattle in case of a Japanese invasion: this was the position of the former Aboriginal route (via a notched tree trunk) shown on some old maps as Black’s Pass.

The early parish maps show the ‘official’ names that the surveyors found in the area and decided to use. The unofficial ones stayed alive in stories and local use. These were put on later maps such as the topographical series and the Dunphy maps. The names on these chorographical maps show the distinctive culture of the Gundungurra becoming intertwined with early European involvement in the area. The sounds of ancient Gundungurra words can be heard in the names recorded by the surveyors and used by the cattlemen, and in turn the names on the maps also record some of the names of the cattlemen, aspects of their lives and their animals.

2-17 The parish map of Mouin

All find it difficult and annoying not to be able easily to indicate by word or writing the hundreds of topographical features walked over. …because we are travellers whose impressions and doings are broadcast amongst other travellers. Explanations and directions are rendered difficult by this lack of place names.

When Myles Dunphy began to walk in this wild area in 1914, he had only parish maps to guide him and these showed few topographical features and very few names. The parish map of Mouin showed only the watercourses forming the parish

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109 Fig 30 is part of the parish map of Konangaroo, which borders the parishes of Mouin, Cyclops, Thurat and Jenolan. The Coxs River forms the border between Konangaroo and the other parishes and this is shown on the map, but apart from the river very few key features are depicted. The parish maps
boundaries, Coxs River, Breakfast Creek and Little Cedar Creek, and three other names on the same thin ‘hairy caterpillar’,\(^{110}\) Clear Hill, Medlow Gap and Mount Mouin. On the parish map of Gangerang, 1\(^{st}\) edition, 1890, Govett named Buhimmeluh Rock,\(^{111}\) which is probably a Gundungurra word. Apart from two named creeks the rest of the key features on this map are marked trees written as ‘oak’, ‘gum’ or ‘black ash’. The parish map of Tartarus, 1\(^{st}\) edition, 1890 shows many marked trees, the Kowmung River, Lannigans and Christys Creeks, Long Gully and Waterfall Creek.

The parish maps were chorographical in the sense that they recorded the names and key features necessary to position land grants, where they existed. They were the first European maps to begin to delineate the area, to make it even partly known. The very names of the parishes themselves helped in this process. The fact that a parish map existed and had a name was at least a beginning in the chorographical process, even though many of the parish maps of the area were close to the Bellman’s ideal, a perfect and absolute blank.\(^{112}\)

Walkers who planned to experience the area in minute detail required many names and recognisable topographical features. They needed to find their way into this rugged area and get back out. The walkers also wanted to be able to describe their experiences and tell others where they had been. Out of the blank spaces\(^{113}\) shown on the parish map of Mouin, (a feature in the myth of Gurangatch and Mirrigan), and building on the memories of the cattlemen, Dunphy created the Wild Dog Mountains.

### 2-18 A system of nomenclature

In 1931 Dunphy wrote a submission to the Surveyor-General after learning that the Department of Lands was planning to put out a tourist map of the Blue Mountains for

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\(^{110}\) ‘Hairy caterpillar’ is a term used for hachures on early maps that used a lot of fine lines to depict height, Fig. 27, part of the parish map of Jenolan, shows this method of hachuring.

\(^{111}\) Barrett, 1994: 69.

\(^{112}\) Carroll, 1975: 56. This is how Lewis Carroll described the map of the Bellman in his 1876 poem *The Hunting of the Snark*.

\(^{113}\) Thompson, 1986: 60. Citing Dunphy who complained in his 1931 submission to the Surveyor-General that ‘the parish maps of this region present considerable blank areas, and many features, no matter how important and which are only partly indicated, are unnamed’.
recreational walkers.\textsuperscript{114} As there were few roads in the region and little in the way of tourist infrastructure beyond the ribbon of development along the Great Western Highway, Dunphy, a recreational walker himself, pointed out that the value of the map must lie in its detailed and named topographical features.\textsuperscript{115}

The Lands Department agreed and provided a desk for Dunphy next to the draftsman working on the tourist map.\textsuperscript{116} Dunphy provided topographical information and a system of nomenclature that was used on the map. The culmination of this was the \textit{tourist map of the Blue Mountains and the Burragorang Valley} (1932)\textsuperscript{117} and a special bushwalking edition that was uncoloured and at a greater scale, making it much easier for walkers to use.

With his system of nomenclature Dunphy wanted to create names for the many geographical features that were used as points of navigation by the walkers and to aid communication amongst them. He also wanted his names to be evocative enough to attract people into the area, which he wanted to be kept as ‘public parklands’ for the use of recreational walkers. Dunphy made it his life’s work to create maps\textsuperscript{118} of this area and other ‘primitive’ areas. He believed ‘A carefully compiled feature nomenclature would attract interest in scenic country and eventually lead to requests for public parklands.’\textsuperscript{119} Evocative names would attract people to the area and consequently public opinion would ensure the area was saved for recreational use.\textsuperscript{120}

Dunphy attached a list of names to his submission and this included names that had been in use for some time, local names that he said should remain in place because they stood ‘for something definite’, and he assured the Surveyor-General that the new

\textsuperscript{114} Thompson, 1986: 60. Citing Dunphy: submission to the Surveyor-General, December 1931. The ‘recreational walkers’ that Dunphy was referring to were generally members of the following clubs: The Mountain Trails Club, The Bush Tracks Club and the Sydney Bush Walkers.

\textsuperscript{115} Thompson, 1986: 59. Citing Dunphy: submission to the Surveyor-General, December 1931.

\textsuperscript{116} Thompson, 1986: 57.

\textsuperscript{117} Part of this map is reproduced here as Fig 26.

\textsuperscript{118} Barrett, 1994: 30. Barrett says that there are over 100 maps or sketches by Myles Dunphy held at the Mitchell Library, here I am using only two, the tourist map and the map of the Wild Dog Mountains, parts of which are reproduced here as Figs 23, 24, 25.

\textsuperscript{119} Thompson, 1986: 57. Citing Dunphy (no reference given).

\textsuperscript{120} Over 900,000 ha of the Blue Mountains, much of it mapped by Dunphy, recently achieved ‘world heritage’ status. The Colong Foundation for Wilderness, formed by bushwalkers in the 1960s to save the Colong Caves from mining, participated in the move to get the area listed and was instrumental in the creation of other National Parks such as Kakadu and the Border Ranges National Park.
names he proposed did not replace names in local use. Thus Dunphy acknowledged that names that exist should be maintained and care should be taken to ensure that new names were not replacing a memory of past ones. New names should only be used for unnamed features. Here is an acknowledgement that the names on chorographical maps hold important local memories. Even though there were few names in existence in the area, they were part of the local history of that place and it was important to retain them. In his submission Dunphy emphasised that he had ‘twenty years first hand knowledge of this region’.  

2-19 Tinpot and Ironpot

In previous correspondence, Dunphy had warned the Surveyor-General that if his system or a system of nomenclature was not used, there was a danger that the use of ‘unofficial’ names would spread from the bushwalkers to the locals and some of these names could be considered ‘ridiculous’ or ‘inappropriate’. Two of the names Dunphy put in this category were Cedar Creek, which is shown on the parish map of Mouin, and Tinpot and Ironpot. There are many Cedar Creeks on the maps of eastern Australia but it is one of the oldest European names in this area, and Ironpot was probably named by an early settler as a description of a saucepot-like hollow in what has become Ironpot Mountain.

In the area around Ironpot, a seam of related features has formed on the current Jenolan topographical map. Ironmonger Hill, Gully and Spur, sit in relationship to Ironpot Ridge and Gully, which are joined by Tinpot Mountain, Creek and Hill, Quartpot Gully, and Tarpot Gully. Dunphy may have added to these names in spite of his initial disapproval of them. His tourist map and his map of the Wild Dog Mountains show many of these names plus Pots and Pans Spur. These ‘unofficial names’ are really organic names that have grown up around the area, invented by

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125 Fig. 23 which is a reproduction of part of the map of the Wild Dog Mountains, shows Pots and Pans Spur near Ironpot Mountain with other features nearby named by association, for example Billycan Gap.
those that inhabited the place, if only briefly,\textsuperscript{126} and they tend to be less reverent than ‘imposed names’.

Placenames that grow out of this kind of association are organic because they show a relationship not only between the names but also the landscape. It appears that Ironpot was named because it reminded the namer of such a pot, and features nearby that were associated geographically came to be named by association.

2-20 Organic names, imposed names and euphony

Those who make chorographic maps are in a position of considerable power\textsuperscript{127} as they can determine what is remembered and what is forgotten in the names on a map. It is not just the initial application of names, mapmakers also revise maps and decide which names are still relevant to the area and which are not. They may not even be familiar with the place for which they are deciding names, and the tendency seems to be to ‘impose’ names rather than use organic ones.

A system of nomenclature applied to a large area is not common but Dunphy did go to a great deal of trouble in attempting to keep organic names that he deemed appropriate. With his system of nomenclature, Dunphy showed how imaginative chorography can be. In the creation of an evocative landscape drawing people to it by the inventiveness of the names, he emphasized the use of euphony, perhaps realising the importance of sound in a name to summon up the majesty of a place.

Dunphy requested in his system of nomenclature for the area that ‘all the known local names, together with as many as possible of the proposed new names be authorised’, and that the new names would be created in the following way:

As far as possible...(a) suitable aboriginal names in preference to all others; (b) descriptive, peculiar to position and condition; (c) classical, where appropriate and euphonic; (d) personal names of local and historical interest; (e) personal names used for purely euphonic reasons; (f)

\textsuperscript{126}There are few dwellings in this part of the mountains. Walkers may have only camped there, yet in their brief visit they formed a very strong attachment to this place and this is shown in the humour and familiarity of the names they gave to the geographical features that surrounded them.

\textsuperscript{127}Although Dunphy’s motives are quite different to the makers of maps that took territory, as discussed in chapter three, there is a resonance here of how powerful maps can be in imposing upon a place the agenda of the mapmaker.
a few miscellaneous names which have been in use for some time and which it is not advisable to alter now.\textsuperscript{128}

By the time Dunphy was organising his system of names there were few Gundungurra people left in the area, the language was half forgotten and the creation myth, although published in 1908 in a German anthropological journal, was probably hidden away on a library shelf. The knowledge of Mitchell, the early surveyors and governors, that there were many Aboriginal languages and that there was an Aboriginal map underlying any European attempts to map over it, seems to have been forgotten.

2-21 Mt. Cloudmaker

When Dunphy used Aboriginal names in his system he probably used ‘various Aboriginal Place Names books’ and used descriptive words such as ‘rain’ or ‘cloud’ that were not in the language of the Gundungurra.\textsuperscript{129} Books such as these seem to have assumed that Aboriginal languages were general rather than local. Dunphy created placenames by combining Aboriginal words to describe the features he was naming. The words and their meanings are very evocative but they are not specific to the place being named. In this sense they were imposed names rather than the organic variety.

Various Aboriginal words for ‘thunder’, ‘cloud’ and ‘rain’ were combined to form a series of names around Mount Cloudmaker and Mount Stormbreaker. As names for mountains, Cloudmaker and Stormbreaker can hardly be surpassed - they celebrate the possibilities of mountains to make clouds and break storms. With this kind of invocation, Dunphy created a landscape of wild nature that not only enticed people to visit, but also kindled a desire to preserve such places for future generations.\textsuperscript{130}

\textsuperscript{128} Thompson, 1986: 60. Citing Dunphy: submission to the Surveyor-General, Dec. 1931.
Barrett, 1994: 9. Cites a slightly different list of eight headings that made up Dunphy’s ‘nomenclature philosophy’. It is more than likely both were used or one grew out of the other.
\textsuperscript{129} Barrett, 1994: 9. Expands on this point.
\textsuperscript{130} Both Myles Dunphy and his son Milo actively sought to have the area discussed in this chapter preserved for future generations, as did many of the bushwalkers mentioned below. The proceeds of the sale of the map of the Wild Dog Mountains still goes to the Colong Foundation, an organisation mentioned above. As well as lobbying for wild places to be preserved as National Parks, the Colong Foundation buys privately owned land close to or in the National park system and donates it to the
Around Mount Cloudmaker and Mount Stormbreaker on the current topographical map of Kanangra are Mount Carra-mernoo, translated as mother of clouds, Carra Beanga (father of clouds), Carra Top (clouds), Noora Moorang (camp of the clouds), Marooba Karoo (thunder clouds), Moorilla Maloo (the thunder stone), Mount Morilla (thunder), Mount Amarina (rain), Mount Moko (rain), Mount Coowong (rain), Mount Koorain (wind), Mount Kooroogama (wind) and Willa Wonkana Mountain (wind singing). There are others denoting hail, fog, rainbows, and the ‘welcome sun’.

These names conjured up sounds, and by reading the translations on the map the sounds invoked images. Even though the names were not indigenous to the area, the clouds, thunder and rain these names described certainly were. The Gundungurra word for rain was Yubarra yet Dunphy used Moko, Amarina, and Coowong for rain, words from other Aboriginal languages from different areas. But rain and thunder and cloud were so much a part of this area, as many descriptors as possible were needed, and these names have become part of the familiar and the local.

2-22 Banshea and Tartarus

When a system of placenames is formulated, as opposed to names that have grown organically over time, the culture and the memory of the namer must intrude. The namer cannot be outside the names, and who the namer is will influence the choice of names. It cannot possibly be otherwise. Imagination may add to childhood memories but that which is built on is personal memory and cultural upbringing. These influences on the namer paint pictures for those who follow and in turn use the names. The names become part of the chorography of the place, bringing to it a cultural overlay from the namer. Dunphy was of Irish descent and within the following description of Kowmung, which forms part of this area, can be found images that are probably quite particular to an Irish upbringing:

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National Parks and Wildlife Service as additional park land. Thus Dunphy’s maps still contribute to the preservation of wild places.

131 These ‘translations’ that appear on the map of the Wild Dog Mountains, parts of which are reproduced here as Fig 23, 24 and 25, are written under the placenames that Dunphy composed using Aboriginal words. All relate to aspects of the weather that is experienced in this mountainous terrain. Barrett, 1994: 12. Note 24. ‘Moko and Amarina, [are] not known Gundungurra words. The genuine Gundungurra word for rain – Yubarra – he applied to … Mt. Yubarra’. 

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Anyone with a drop of Irish blood in him, after hearing the dismal wailing of curlews on the upland swamps of the Great Dividing Range, and the moaning and howling of dingoes in those hills of ours, … could easily imagine the lonely land well-peopled by howling banshees, luminous ghosts, headless riders on spectral horses, and ranging packs of yipping hell-hounds with slavering jaws. Just add a dark night, the wind soughing through heavy timber, some lightening flashes and the muttering of thunder, lastly the inevitable feeling of loneliness, and there we have one impression of the Kowmung country to a fairly accurate degree.\(^{133}\)

Dunphy, influenced by this nightmare vision, childhood memories superimposed on the land he loved inspiring his imagination, created names that would allow others to see this place through his eyes. The lightning and thunder were conjured up by the images implied in the Aboriginal names (listed above) gathered around Stormbreaker and Cloudmaker. The sounds of the ‘muttering of thunder’ can be heard in Rip, Rack, Roar and Rumble\(^{134}\). The ‘yipping hell-hounds with slavering jaws’ are implied in the ‘Wild Dog Mountains’ series of names. Although Headless Rider Point is too small a feature to appear on current topographical maps it is listed as a ‘numbered feature’ on Dunphy’s map of the Wild Dog Mountains. It is said to take its name from a story told by drovers of a headless rider on a white horse who could be seen around midnight galloping over the cliff.\(^{135}\)

Dunphy may not have been the first to feel this way about the area. Banshea is an early parish name as are Merlin, Cyclops and Tartarus. Dunphy related the parish name of Tartarus to its origins in Greek mythology.

\[
\text{… According to Homer and the earlier Greek mythology Tartarus was a deep and sunless abyss, as far below Hades as earth is below heaven …and in it Zeus imprisoned the rebel Titans.}^{136}\]

Dunphy created from this name a three dimensional myth on the landscape in which The Dark Angel, Tortitan and Tolokla, a ‘Babylonian equivalent’ of the ‘watchdog at the entrance to the infernal regions’ in Greek mythology, kept various geographical features bearing the names of Titans, imprisoned in Tartarus. When a thunderstorm

\(^{133}\) Thompson, 1986: pp. 70-71. Citing Dunphy article *Tartarus*, Sept. 1951. Although ‘the Kowmung country’ is only a small part of the land discussed here I think the sentiments expressed apply to much of the wilder parts of this area.

\(^{134}\) Rip, Rack, Roar and Rumble can be seen near Mt. Cloudmaker in Fig 25, part of the map of the Wild Dog Mountains.

\(^{135}\) Barrett, 1994: 66.

‘rolls over from the west’ it is possible to hear these guardians ‘booming, baying and casting ripping thunderbolts around those hills and cliffs’ at the Titans as they try to escape.\textsuperscript{137}

Tortitan appears at the edge of the Wild Dog Mountains map but these names sourced from Greek and Babylonian mythology do not seem to have resonated with bushwalkers to the extent that other Dunphy names did.\textsuperscript{138} These names just did not relate to the landscape and create a familiar place for those that walked there. Dunphy had much more success with names that seem to have originated in his Irish upbringing and his own childhood terrors. There were probably more walkers who could relate to the delicious terror of the mist monster that might ‘envelop’ them, than the ‘baying’ of a Babylonian hellhound. Also, Dunphy created a legend around the Pookon Hole (den of the mist monster)\textsuperscript{139} that included the walkers.

\section*{2-23 The Pookon Hole}

…a tremendous abyss, nearly 2,000 feet deep, known only to a few bushwalkers and trailers. This is the Pookon Hole, gloomy den of the Pookon, the great mist monster, which conceals its tenuous bulk in the depths of ferny jungles, rock-crevices and scree-runs for long periods during warm weather, so that it will be overlooked by innocent travellers. Whenever a cool, damp, south-easterly wind blows in from the distant sea, The Pookon stealthily emerges under a darkness of its own making. Its cold, wreathy tentacles rise against the terraced walls; they lap over the rimrocks, then curl with amazing speed across the Thurat moors and rills to envelop the surprised and fleeing travellers upon which the mist monster subsists.\textsuperscript{140}

‘Hole’ is not a common or generally accepted class name. Dunphy was very creative with his class names and used the term ‘Deep’ for other great abysses in the area: Kanangra Deep, Tartarus Deep, Shamash Deep, Morong Deep and Whalania Deep. He explained that ‘deep’ was as applicable to land as to the sea when attempting to

\textsuperscript{137} Thompson, 1986: 73. Citing Dunphy article \textit{Tartarus}, Sept. 1951.
\textsuperscript{138} Barrett, 1994: 30. Says of the Classical series of names Dunphy used around Tartarus ‘I myself find it out of place somewhat’.
\textsuperscript{139} On Dunphy’s map of the Wild Dog Mountains ‘den of the mist monster’ is written under the name Pookon Hole, this can be seen on Fig 25. The current topographical map of Kanangra just has the name Pookon Hole.
describe the deepest place.\textsuperscript{141} To name such an area as this with its extraordinary geographical features required gathering class names from wherever in the language they could be found. To evoke the splendour of the area, which was what he was aiming to do with his names, required a lot more imagination than is normally found in the class names on a map.\textsuperscript{142}

Here was a land of canyons, deeps, gorges, pits, holes, gulfs, chasms, abysses, ravines, fissures, defiles, crevices, clefts, chimneys, amphitheatres or cirques, bays, bynas (throats – Aboriginal), breaks, gaps, … \textsuperscript{143}

These names were for the depths of the area and for the heights Dunphy used:

…mountain, mount, heights, tops, tableland, plateau, causeway, neck, main range, range, ridge, spur, stub, rib, skillion, incline, rock, cone, crag, fell, crown, knoll, peak, spine, pinnacle, boss, hillock, hill, tor, dome, head, brow, saddle, col, gable, gowar, (high ground or mountain – Aboriginal), hurrip, pinch, terrace, kneedle… \textsuperscript{144}

In other places Dunphy preferred not to use class names at all. This did not entirely please the Geographical Names Board of which he had formerly been a member. Originally, Dunphy used euphony near Mount Cloudmaker when he named the nearby knolls ‘Rip’, ‘Rack’, ‘Roar’ and ‘Rumble’ to evoke the sound of thunder, and these appear on his Wild Dog Mountains map, as do various ‘pups’. Two hills sitting next to each other are simply called Bad Dog and Bad Pup. Around Knight’s Deck minor features are called Knight’s Pups. Blue Pups does not have a class name nor does Brindle Pup.\textsuperscript{145}

\textsuperscript{142} Carter, 1988: pp 45-51. Carter discusses the problems of finding appropriate class names for Australian geographical features. The language of the explorers, settlers and surveyors was English, and although many Australian geographical features did not conform, they had no option but to use the class names that had for centuries described the English countryside. ‘Hill’, ‘mountain’, ‘river’, ‘vale’ and ‘glen’ might look nothing like their English counterparts whose image they conjured up, but in order for travelling or settlement to be viable in the new colony, these things had to exist. As Carter shows, one of the surveyor’s most important tools was imagination. In time, descriptors that were purely Australian were added and this gave many placenames a particular quality rather than just an attempt at a recreation of England. The examples of class names given here show that Dunphy excelled in finding class names that became peculiarly Australian
\textsuperscript{143} Thompson, 1986: 59. Referring to Dunphy’s letter July 5\textsuperscript{th} 1968 to the Geographical Names Board.
\textsuperscript{144} Thompson, 1986: 59. Referring to Dunphy’s letter July 5\textsuperscript{th} 1968 to the Geographical Names Board.
\textsuperscript{145} Bad Dog and Bad Pup, Knights Pups, Blue Pups and Brindle Pup are all shown in Fig 23, which is part of the map of the Wild Dog Mountains.
In 1968 the Geographical Names Board\textsuperscript{146} ‘decided on a review of all the names of the southern Blue Mountains with the aim of altering and discontinuing the use of many’. Dunphy suspected the Board would ‘flatten his Wild Dog Mountains out of recognition’\textsuperscript{147} and wrote 119 foolscap pages listing 653 objections.\textsuperscript{148} Although Dunphy ‘thanked the Board for a very satisfactory result’ and most of his names have survived, on the current topographical map of Kanangra, ‘knoll’ has been added to ‘Rip’, ‘Rack’, ‘Roar,’ and ‘Rumble’ with the result that they do not roll off the tongue quite so easily. In the Wild Dog Mountains the pups all have class names following them. They have been turned into ridges or gullies or creeks.

2-24 The Wild Dog Mountains

As seen on the 1932 \textit{Tourist Map of the Blue Mountains}, in the parish of Mouin, the evocative name Wild Dog Mountains intrigues the imagination, but though there are rumours of wild dogs in the area, these dogs are not the origin of the name. Chorography charts ‘lived and known’ spaces, and one of the few names for a geographical feature that was in use, although not shown on the parish map when Dunphy began walking in the area in 1917, was Black Dog. It became an important name simply because it existed in an area with so few named features. Not only this, the name was attached to a story.

The Black Dog Track was reportedly shown to Robert O’Reilly in the late 19\textsuperscript{th} century by Gundungurra people.\textsuperscript{149} O’Reilly, an early cattleman in the area, was inspired by the steepness of the route to declare it a ‘black dog of a mountain’, which is how it got its name. Norbert Carlon, after tracking cattle along a ridge nearby, named the point at the end of this route White Dog in the interests of symmetry. Dunphy seized on these names and he used them as the basis of his ‘dog’ series of placenames.\textsuperscript{150}

\textsuperscript{146} The Geographical Names Board was created in 1966 by the Geographical Names Act. Today it is chaired by the Surveyor-General and has eight members. These include nominees from; the Royal Australian Historical Society, the Geographical Society, the Department of Planning, the State Library, NSW Aboriginal Land Council, and the Local Government and Shires Association.
\textsuperscript{147} Thompson, 1986: 58. Probably citing Dunphy but not noted.
\textsuperscript{148} Thompson, 1986: 58.
\textsuperscript{149} Barrett, 1994: 59. Barrett says ‘local Aborigines’. I am assuming they are Gundungurra.
\textsuperscript{150} Barrett, 1994: 59.
This name on a chorographic map implies a story that involves, at the most physical level, human involvement with the land. The enormous difficulty experienced by man and beast in actually using this pass is reflected in the name in a very Australian way. The Black Dog Track conjures up an intertwining of Aboriginal and European culture and the way a name on a chorographical map can turn unknown space into known, experienced and lived space. The Wild Dog series covers much of the blankness of the parish map of Mouin and has become an important part of the chorographical mapping of this place, especially amongst bushwalkers.

On the 1932 *Tourist Map of the Blue Mountains*, Spotted Dog, Yellow Dog, Brindle Dog and Blue Dog join Black Dog Canyon, Creek and Rock, and White Dog Ridge. On the map of the Wild Dog Mountains, a favourite with bushwalkers to this day, Dunphy, free from the restraint of the Geographical Names Board,\(^{151}\) has used dog names to the point of excess.

Knights Deck has Knights Pups to the north and Blue Dog Ridge has Blue Pups as lesser features. Two hillocks are simply called Bad Dog and Bad Pup. There is Faithful Hound Ridge and Gully, Brindle Dog and Pup Ridges and Gullies, Grey Dogs, Grizzled Dogs and Pups, Snarling Dogs, Growler Ridge, Howling Dogs and Pups, Spotted Dogs, Yellow Dogs and even Ghost Dogs. Mount Dingo looks down into Sharptooth Gully. Near Mount Mouin are The Dogs Terrace and Kennel Flat. Playground of the Dingoes is also shown. The name that originated this series of names, Black Dog Track, is clearly shown, as is Black Dog Pass.\(^{152}\) Norbert Carlon’s White Dog Ridge ends in Kelpie Hill with White Pup Points nearby as minor features. The current topographical maps of Jamison, Jenolan and Kanangra still abound with dogs, but all the ‘pups’ do have class names now.

\(^{151}\) This was not an ‘official map’ therefore not subject to the constraints of the Geographical Names Board.

\(^{152}\) Black Dog Track and White Dog Ridge are shown in Fig 24, as are many other dog features. Fig 23 also shows a variety of features named after dogs. Fig 23 and Fig 24 are both parts of the map of the Wild Dog Mountains.
2-25 Peter O’Reilly Range

On the other side of the Coxs River and opposite the Wild Dog Mountains are Mount O’Reilly, Mount McAviney, Mt. Cullen and Mt. Dwyer, all of these names commemorating ‘old time cattle families’ used by Dunphy in his system of nomenclature. Dunphy had named Mount O’Reilly after Bernard O’Reilly’s father Peter, ‘a pioneer and a widely respected local figure’, and he had tried to maintain local names wherever they existed but unfortunately he seems to have been unaware that his ‘Yellow Dog Ridge’ had been known for many years as ‘Peter O’Reilly Range’.

Bernard O’Reilly and Bert Carlon, a cousin to the O’Reillys and a Megalong Valley settler, complained bitterly about this change. Someone who was not part of the local culture, although he may have spent much time there and valued it, had seen fit to change a name on a chorographic map that helped create what was local and how the inhabitants related to the landscape. Namers who impose names, even if well meant, on top of a name that is organic are treading on delicate territory. Those who had lived there for generations did not consider Mount O’Reilly to be reasonable compensation for the loss of Peter O’Reilly Range.

2-26 Cronje Mountain

Dunphy did want to keep the memories of local folklore in the area, and his naming of Cronje Mountain and White Stallion Ridge reflect this. Cronje was a wild white stallion named after the Boer general ‘who had long eluded capture’. Many attempts were made to capture Cronje (the stallion) who came down from the mountains to steal mares from the settlers, but he always got away. His capture became an obsession and as the story goes, plans for the next attempt were discussed late into the night. Reputations of horsemanship and bets were staked on the capture of Cronje. Finally a foolproof plan was put into place. Cronje would be separated from his mob and pursued to a place he could not escape from. He would be chased to

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153 All these mountains are shown in Fig 23, which is part of the map of the Wild Dog Mountains.
154 Barrett, 1994: 52. See also Thompson, 1986: 58.
155 Thompson, 1986: 58.
156 Thompson, 1986: 58.
157 Barrett, 1994: 52. See also Thompson, 1986: 58.
an outcrop with sheer cliffs on three sides and there he would finally be taken. All went well, the chase was hard and Cronje was cornered with seemingly no way out. To the amazement of those who would capture him, Cronje leapt over the side of one of the cliffs and landed on a tiny ledge below. Leaping from ledge to ledge with stones falling from the mountain turning into a landslide behind him, he galloped away. So awestruck were those watching this feat, they vowed to leave him alone from then on, to let Cronje run free, to roam as a wild horse.\(^{158}\)

Cronje Mountain, Cronje Ridge, Whipcrack Spur and Brumby Gully are on the current topographical map of Jenolan, as are Mt. McAviney, Mt. O’Reilly and Mt. Cullen. These names of Dunphy’s commemorate the cattlemen and aspects of their life. Other names celebrate their wit, and Dunphy’s! The steepness of Black Dog Pass is reflected in the note ‘very steep’ on the map of the Wild Dog Mountains, whereas Cookem Pass is described as ‘extremely steep’.\(^{159}\) It was supposedly named by one of the cattlemen while attempting to move his cattle through the pass. ‘This will cook them’, he exclaimed.\(^{160}\) When Dunphy attempted to match this by using the name ‘Killem’ for the mountain opposite, the Surveyor-General would not approve it.\(^{161}\) The mountain is now called Mount Kooroogama.

2-27 The Bushwalkers

Scattered throughout the area are the names of Dunphy’s bushwalking companions and members of that fraternity. Dunphy even commemorated his fox terrier dog Dextre Symbol, who walked with him from Katoomba to Kanangra in a special pair of leather shoes and raincoat made by Dunphy for the journey. Dextre Symbol is remembered in Dex Creek\(^{162}\) on the current topographical map of Kanangra.

Dunphy was making maps for the bushwalkers, a group that he was very much a part of. Many of them were his friends and associates and he used their names for some of the geographical features of the area they all loved and spent a great deal of time in. At times Dunphy used the surname of a bushwalker to name a feature. For example,

\(^{158}\) This story was told in *Green Mountains and Callenbenbong* (1962) by Bernard O’Reilly, the son of Peter O’Reilly mentioned above.

\(^{159}\) Barrett, 1994: 98.

\(^{160}\) Barrett, 1994: 56.

\(^{161}\) Barrett, 1994: 58.

\(^{162}\) Barrett, 1994: 58.
Gallops Rock was named after Herb Gallop, Rudders Rift after Roy Rudder and Peatfield Creek after Harold Peatfield. These three, along with Dunphy, were foundational members of the Mountain Trails Club, formed in 1914 before the term ‘bushwalker’ was coined.\textsuperscript{163}

But Dunphy had far too much imagination to merely add surnames to class names to create placenames, so he devised a kind of code to make the names sound much more interesting. These names were probably only able to be deciphered by those who were part of the fraternity and knew the people concerned and the relationships they had with each other.\textsuperscript{164} In this way these names on chorographical maps could be recognised by those walking in the area as old friends inhabiting the mountains, rocks, creeks and rivers.

Glenalan, a creek in the Lower Megalong Valley, was named after Alan Rigby, who, apart from being an early member of the Mountain Trails Club, was the originator of the movement to save the Bluegum Forest.\textsuperscript{165} A small gorge near Glenalan is named Glenenid after Enid Greenacre, who became Rigby’s wife, and an adjoining stream is called Glenolive after her sister.\textsuperscript{166} Glenraphael Head was named after Raphael C. Doyle of the Mountain Trails Club, who was a friend of Dunphy’s.\textsuperscript{167} There is also Glenalan Spurs on the current Jenolan topographical map and Glenraphael Swamp on the current Jamison topographical map.

Dicksonia Bluffs and Spur, named after Eric A. Dickson,\textsuperscript{168} are on the current Yerranderie topographical map. Dorrielawry Spur, named after Dorothy Lawry, who was an early bushwalker and later a member of the Blue Gum Committee,\textsuperscript{169} can be seen on the current Kanangra topographical map. Morriberri Spur appears on the edge

\begin{footnotes}
\item\textsuperscript{163} Barrett, 1994: 77.
\item\textsuperscript{164} I am using the work of Jim Barrett, who was a member of that fraternity and knew many of these people, or at least the handed down memories of them.
\item\textsuperscript{165} There are various versions of this story. Alan Rigby, while walking in the Bluegum Forest in 1931, came across men ringbarking some of the large Bluegums in order to establish a walnut plantation. He was instrumental in mounting a campaign to buy the lease from them and turn the Bluegum Forest into a reserve.
\item\textsuperscript{166} Barrett, 1994: 32. Glenenid and Glenolive are shown on Fig 24, which is part of the map of the Wild Dog Mountains.
\item\textsuperscript{167} Barrett, 1994: 39.
\item\textsuperscript{168} Barrett, 1994: 77.
\item\textsuperscript{169} Barrett, 1994: 53.
\end{footnotes}
of the current topographical map of Bimlow. The spur was named after Maurice Berry,170 who served with Dunphy on the Primitive Areas Council.171

Herb Gallop was a frequent walking companion of Dunphy and when they found things together, both names were used, thus Dungalla Cascades172 and Dungalla Heights, which are to be found on the current Kanangra topographical map. There are many more members of the various bushwalking clubs who spent so much time there, who are now remembered as names on chorographical maps of this area.173 Singa-jinga-well Creek is shown on the current Jamison topographical map. It is a corruption of ‘sing a jingle well’ and was suggested as a name by Dorothea Taylor, who, along with Dorothy Lawry, was a keen campfire singer.174

The names of the bushwalkers form part of Dunphy’s system of nomenclature as do their experiences, especially their hardships. Names that signified the struggles experienced also warned those who followed, what they might be in for. Misery Ridge, Despond Creek, Mt. Sorrow and Mt. Hopeless were named after a difficult bushwalk experienced by Gallop and Dunphy in 1914.175 Memories of difficult journeys and the hardships faced are spread throughout this rugged area in names such as Watch Your Step Spur, Mount Strongleg and Mount Paralyser on the current Kanangra topographical map. Mount Heartbreaker and Gasper Buttress are on the current topographical map of Jenolan, and Mount Great Groaner is on the current topographical map of Yerranderie.176

2-28 Arabanoo and Cambage

In a system of nomenclature as widespread as this, the namer makes decisions about what or who is commemorated by adding names to the map. It is also possible for the namer to use the landscape to create a scenario that could not exist historically, to take two people from different times and imply a connection simply by the way their

171 Thompson, 1986: 170. Citing a NPWS publication, Australia’s 100 years of National Parks. The National Parks and Primitive Areas Council was set up in 1932 with Dunphy as secretary to work on conservation schemes such as the proposal for a Greater Blue Mountains National Park.
175 Barrett, 1994: 73.
176 Thompson, 1986: 57.
names were placed on the map, because the namer thought that these two should have
known each other.

Arabanoo Peak commemorates the Aboriginal Arabanoo, who was taken\textsuperscript{177} and schooled by Governor Phillip to be an intermediator and interpreter between Europeans and Aborigines in the early settlement. Unfortunately he quickly died of smallpox. Dunphy described Arabanoo Peak as ‘a prominent monument to a good example of [an] Australian Aborigine’.\textsuperscript{178} And opposite this monument stands Cambage Spire named after Richard Hind Cambage.\textsuperscript{179}

Cambage Spire stands as a monument to a worthy Australian scientist, a good example of [a] European gentleman. Without any doubt he would have understood Arabanoo.\textsuperscript{180}

By doing this Dunphy not only decided these two should be remembered but also created a relationship between them, even though they lived about 100 years apart. This might have been well intentioned in the sense that Dunphy wished to commemorate both and fantasised about the kind of relationship Arabanoo and Cambage might have had, if they had met. In this way Dunphy used the landscape to ‘perpetuate a memory’, of two ‘symbolic’ figures, to ‘remind’ Australians of how their history might have been written.

The two peaks stand as brothers in a ruggedly romantic scene, symbolic of blackman and whiteman … They will serve to perpetuate the memory of two remarkable men. They will remind thoughtful Australians of the understanding union which should have existed between the original inhabitants of this land and the white intruders\textsuperscript{181}

The only connection between Arabanoo Peak and Cambage Spire is in Dunphy’s imagination and in their relationship to each other on the landscape, which is implied

\textsuperscript{177} Thompson, 1986: 74. Citing Dunphy, article, \textit{Concerning Arabanoo, Cambage and the Pooken}, 1952. In this article Dunphy uses both the words ‘adopted’ and ‘captured’ to describe Arabanoo’s situation.


\textsuperscript{179} Fig 31, part of the topographical map of Yerranderie, shows the geographical relationship between Cambage Spire and Arabanoo Peak.


in the way their names are placed on the map. As two prominent peaks either side of a
gorge, Arabanoo and Cambage are linked in the memory of those who use them as
landmarks. Such a rewriting could not happen in history but it can happen spatially in
the names on a chorographic map, the connection becoming spatial rather than
temporal and existing in the local knowledge of the area as a story that relates to
places on the map rather than any historical reality.

Cambage Spire overlooks the junction of Christys Creek and the Kowmung River and
is shown on the topographical map of Yerranderie in the parish of Tartarus. Cambage
had been instrumental in translating the journals of Ensign Francis Barrallier’s 1802
expedition into the southern Blue Mountains and had traced his route to this
junction.\textsuperscript{182} Dunphy had read Cambage’s article about the route of Barrallier’s
expedition and was fascinated as to where Barrallier had actually been and where his
‘terminus’ was. According to Barrallier’s journal he had left a St. Andrew’s Cross cut
into a tree at the terminus of his journey. Dunphy had an idea to explore Christys
Creek to find it.\textsuperscript{183}

\textbf{2-29 Re-connecting the memory of Barrallier’s journey to the landscape}

Barrallier’s journal was written in French and was said to be almost impossible to
decipher. It was accompanied by a map of where he had been and this contained only
one placename; that of his depot, Nattai. He referred to ‘the river’ when there were
several rivers and creeks that he crossed. With names ‘it would have been much easier
to interpret his route’.\textsuperscript{184} Because of these difficulties his three attempts to find a
route across the mountains were eclipsed by those of Wentworth, Blaxland and
Lawson. Barrallier’s journeys and his journal and map were all but forgotten.

In 1897 a copy of Barrallier’s journal, translated into English, and a copy of his map
appeared as an appendix to the \textit{Journal of the Royal Australian Historical Society}.
Although it has since been claimed that the map is not authentic,\textsuperscript{185} this publication
re-inserted Barrallier into history and since this time various theories have been
proposed as to where he actually went, using either the map or the journal as

\textsuperscript{182} Thompson, 1986: 76. Referring to Dunphy, article, \textit{Concerning Arabanoo, Cambage and the
\textsuperscript{184} Macqueen, 1993: 88.
\textsuperscript{185} Macqueen, 1993: 88. See also the Table on page 90.
evidence. Various geographical features have, over the years, been named after Barrallier or related to his journeys. The naming of these features has varied according to the theory of his route adhered to by the namer. As there is dispute as to where he went, there is also disagreement as to where these names should be placed.\footnote{Various theories on where Barrallier went are discussed below.}

Barrallier described ‘three openings’ and stated that he had found a pass through one of them. Cambage attempted to identify where these ‘openings’ might be by the descriptions given of vegetation in the area and by calculations taken from the angles on Barrallier’s map.\footnote{Cambage, 1910: 18.} Once he was satisfied that he had discovered the correct opening, Cambage ‘proposed’ the name Barrallier’s Pass for it. Cambage reached his conclusions about where Barrallier had been by analysing the descriptions of rocks, geology, vegetation and fossils given by Barrallier in his journal.\footnote{Cambage, 1910: pp 14-25.} He was later accused of not actually consulting Barrallier’s map.\footnote{Andrews, 1998: 45.} Else Mitchell, writing in 1938, disagreed with Cambage’s conclusions. He decided South Peak and Barrallier’s Pass were wrong (as two of Barrallier’s three openings) and Tonalli Peak and Byrne’s Gap were correct.\footnote{Andrews, 1998: 46.}

Because chorography is concerned primarily with the local, the need to record past local events as names on the map becomes paramount. Consequently there are always ‘locals’ or interested parties who spend enormous amounts of time digging around into history to determine ‘exactly’ where past events occurred. Often, when the ‘evidence’ is at best vague, quite different conclusions can be reached and the argument continues as to where the event actually took place so that the relevant name can be accurately placed on the map and so positioned in the landscape. This would seem to be an important part of lived space, especially in a place such as this where there was so little European history to commemorate.

Dunphy named Barrallier Falls at a place that he thought fitted the description of Barrallier’s ‘terminus waterfall’. According to Dunphy, Barrallier had said that it was about ‘70 feet in height’ and ‘leaned against the base of the mountain’ and that ‘the
sandstone is half a vertical mile above us’. Dunphy deduced that Barrallier was standing looking up at the Titan Slants, so he named the waterfall Barrallier Falls. Dunphy considered the stories of Barrallier’s journeys to be ‘a forgotten bit of local history’, and well worth including as names on maps of the area.

According to his journal, on his first journey into the mountains Barrallier met members of the Gundungurra tribe, including the chief Goondel, his daughter Wheengee Whungee and a man called Mootik. Bungin, Bulgin and Wallarra were other Gundungurra people who accompanied him.

Mount Bulgin, Mount Bungin, Mount Goondel, Mount Wallarra and Wheengee Whungee Heights all appear on the 1932 Tourist Map of the Blue Mountains, these placenames being close to Barrallier’s Crown. The Mootik is close to Yerranderie and quite possibly alludes to Dunphy’s interpretation of Barrallier’s route from Nattai to Wheengee Whungee Creek. By including these names, Dunphy has not only helped to re-establish Barrallier’s place in history with placenames but also ensured that the names of his Gundungurra companions were remembered. By doing this he returned a few more Gundungurra words to the map of their ancient place. Barrallier was also accompanied by Gogy from the Tharawal tribe, who was his interpreter and chief offsider, and Woolema from Jervis Bay. They are remembered in Woolema Creek and Gogy Creek, both of which run near Barrallier Creek under Barralliers Crown.

On the current topographical map of Yerranderie, Wheengee Whungee Creek is shown, with Woolema Creek branching from it. Barralliers Crown is joined by Mount Barrallier and Barrallier Falls. Also shown is Mount Le Tonsure, a name Barrallier gave to one of his Aboriginal guides because of his distinctive haircut.

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192 Barrallier’s Falls are shown in Fig 31, which is part of the topographical map of Yerranderie.
195 Barrallier, 1802: pp 16-17.
196 Barrallier, 1802: pp 5-7.
197 Many of these names also appear on the current Yerranderie topographical map, part of which is reproduced as Fig 31.
198 Barrallier, 1802: 1.
199 Barrallier, 1802: 4.
200 All except Woolema Creek are shown on Fig 31, which is part of the current topographical map of Yerranderie.
Gogy is commemorated in Gogy Ridge rather than the Gogy Creek on Dunphy’s map and The Mootik has been replaced with Mootik Plateau and Walls. The other Dunphy placenames relating to the Aborigines that Barrallier encountered remain the same.

In his journal, Barrallier described the experience of being on top of a particular mountain in the area, and this description was quoted by Cambage in his article:

> The westerly wind was blowing very hard, and scarcely allowed me to stand on my feet. I heard a noise resembling the roaring of the waves when breaking upon the rocks of the shore…

It has been claimed that this translation is faulty and that it should read:

> I heard a noise resembling the waves of the sea when breaking upon the rocks of the shore…

From geological descriptions of the formation of the mountain and the description of the noise, Cambage deduced that Barrallier was four or five hundred feet below Colong Mountain. Dunphy called a mountain close to Mount Colong, Roaring Wind Mountain, to commemorate Barrallier’s description, and this is joined on the current topographical map of Bindook by Roaring Wind Creek. It is on this map that Barralliers Pass, as proposed by Cambage, is shown, as is Barralliers Creek.

Various theories as to Barrallier’s route have emerged since the time of Cambage and Dunphy. As far as the names on a chorographical map of today are concerned, these names re-connect the memory of Barrallier’s journey to the area rather than to the actual spot, which cannot be ascertained from his map. His route will probably always be open to conjecture and it may never be known where he actually went.

2-30 Placenames as memories, as human connection to the landscape

With only one placename, Barrallier’s map raises more questions than it can possibly answer. In this it becomes evident how important names are to chorographic maps - they give an indication as to where a human involvement with the landscape has taken

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place. Yet Barrallier’s map continues to fascinate even though it is only a faint trace on this area. It shows one of the earliest European excursions into this terrain, consequently there will always be those who attempt to discover where he actually went in order to provide proof of an early European knowledge of this place. These people will attempt to impose names on the landscape to commemorate Barrallier’s journey because these imply an older European connection to this area.

One of the problems with imposed names is that they can end up in the wrong place, unlike organic names, which seem to grow out of the landscape as a record of people or events, known by those that lived there to be connected to that place. Nevertheless, names that are imposed in order to retain a memory or a part of local history are important to a local lived space. They give it an added depth, and over time it matters less whether they are in the correct place or not, because they simply become names on a map, enriching a local area.

Dunphy used his series of names to create a place that could be navigated, appreciated and saved as a wilderness. The memories of future generations are fed by memories of the journeys he undertook and what he thought should be remembered of the different cultural layers in the landscape. This was mapping and naming as an act of creation. Within the names on these maps are palimpsests of those who have lived there at different times, and they give this place, which now appears to be wilderness, a local history, the sense that it was known and lived in by Aborigines and Europeans. When he began his task (1914) the settlers and cattlemen and their stories were still within living memory. The Gundungurra language was all but forgotten. The early surveyors had written down some of the sounds from this ancient tongue in distorted form so that faint traces remained.

It is the chorographical maps of today that contain Gundungurra names, the names created by Dunphy as well as those that were preserved from earlier times, that hold much of the local history and memory of waves of human involvement in this area. Yet there could have been no European presence in the Burragorang Valley and surrounds nor could surveyors have divided the country into parishes and counties without the ‘first discovery’ of the east coast of New Holland by Lieutenant James Cook.
The map that Cook made of his journey along this coast and his ‘acts of possession’ formed the basis of the British colonial appropriation of ‘Australia’. The power that was embedded in the chorographical maps of Myles Dunphy also served a purpose: to retain local memories, aid bushwalking and ultimately save the area for the future. The maps discussed in the next chapter had quite a different kind of power embedded in them, power that could aid the building of empires, and ultimately take the land of the Gundungurra people and give it into European ownership.
CHAPTER THREE:

The will of Father Adam:
A cosmographical idea with chorographical implications

3-1 A cosmography of power

In chapter one cosmography was discussed as the conjecturing of possible spaces: worldviews that were often determined as much by philosophy as by geography. It was shown that cosmography, as an aid to European colonial appropriation, supported this particular philosophical stance. Cosmography revealed possibilities of land far away beyond the seas, both known and unknown, that Europeans might colonise. It existed within a worldview that assumed that a few Christian European sovereigns had the ‘God-given right’ to the ownership of the whole world. European maps of colonisation included ‘Australia’ long before the outline of the landmass had been fully formed on cosmographical maps and globes, or was even known by Europeans to exist as an actual landmass, and certainly centuries before the name ‘Australia’ became attached to it.

As much as guns and warships, maps have been the weapons of imperialism. Insofar as maps were used in colonial promotion, and lands claimed on paper before they were effectively occupied, maps anticipated empire. Surveyors marched alongside soldiers, initially mapping for reconnaissance, then for general information, and eventually as a tool for pacification, civilisation, and exploitation in the defined colonies. But there is more to this than the drawing of boundaries for the practical political or military containment of subject populations. Maps were used to legitimise the reality of conquest and empire. They helped create myths that would assist in the maintenance of the territorial status quo.¹

The idea that the world could be held in the hands of a few Christian European sovereign states was visualised and continually re-enforced by cosmography, either in the form of maps or later, globes. Representing the world in this way made it seem possible to throw a line around it and to divide it. In 1493 Pope Alexander VI did this on behalf of the Crowns of Portugal and Castile. This ‘papal donation’ led King

Francis I of France (1515-1547) to ask Charles V of Spain\(^2\) (1516-1556) to show him the ‘will of Father Adam’ as proof that the Kings of Spain and Portugal had been made ‘sole heirs’ to the earth.\(^3\)

Although King Francis I of France and later Queen Elizabeth I of England (1558-1603) strongly questioned the papal donation, they also behaved as if they had a ‘God-given’ right to seize the territory of non-Christian people. Amongst themselves they formulated justifications for the taking of territory that they had ‘discovered’ even if it was already inhabited. Sovereigns of Spain, Portugal, France and England from the 16\(^{th}\) to the 20\(^{th}\) century, behaved as if they had the right to ‘carve the world up on paper’,\(^4\) whenever the opportunity arose. And, when it was necessary, early international law was invoked to back up or question the ownership implied in the maps. Cosmographical maps and globes of the world allowed lines to be drawn and flags erected, and on the map, territory appeared to have been taken.

3-2 Maps as proof of territory taken

The idea took hold that ‘first discovery’ by a navigator sailing under the flag of a sovereign member of this elite group could imply possession of lands to other members of the group. In this sense a discoverer’s map had to appeal to cosmography. After all, its primary purpose was to prove to other European powers that the land had been visited and mapped by the discoverer. At the same time, the map had to contain enough chorography to prove the discovery and make the land recognisable to other navigators and their sovereigns as that which had been claimed. The dance between cosmography and chorography became complex.

With regard to the taking of a specific territory, British possession of the land now called Australia was initiated with the map of the east coast of New Holland by Cook, continued in the map *General Chart of Terra Australis or Australia* by Matthew Flinders, and challenged by the map *Carte générale de la Terre Napoléon* by Louis de Freycinet.\(^5\)

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\(^2\) Charles V, the son of Phillip I of Castile, became King of Spain in 1516. When the Pope divided the world it was on behalf of the Crown of Castile, by the time Francis I of France questioned the donation, the question was to the Spanish Crown.

\(^3\) Lawrence, 1913: 149. Source of quote not given. Full quote cited below.

\(^4\) Harley, 1988; 282. Harley is referring to the papal division by Pope Alexander VI.

\(^5\) Louis de Freycinet was the cartographer on the Baudin expedition and this is discussed below.
The claiming of any part of the land now known as Australia remained in the realm of cosmography while other European powers threatened Britain’s ‘right’. Cook’s map of the east coast had written over any possible claim the Spanish may have had using the discoveries of Quiros, but other sections of the outline remained unmapped and, technically, unclaimed. First France and then Britain sent navigators to complete the outline and be the first to publish a map of the whole.

Initially there was a race around New Holland, Flinders mapping for the British, coming from one direction, and Freycinet mapping for the French, coming from the other. Both completed an outline and because of Flinders’ captivity by the French, the Freycinet map was published first. Every possible geographical feature in ‘Terre Napoleon’ bore the name of a French notable. When Flinders’ map ‘Terra Australis or Australia’ was finally published, it too showed the names of those for whom Flinders worked.

In 1814 Flinders’ map *General Chart of Terra Australis or Australia* was published. This provided an outline and a name: Australia, and gradually, within this outline, various cosmographical lines appeared as colonies were erected and their borders determined in London. Six separate colonies were placed on the mainland. These lines of division were not chorographical. They only existed as lines on cosmographical maps with no attempt for many years to relate them in any way to the land they ran through.

3-3 Chorography – the land is possessed portion by portion

From cosmographical ownership, chorographical ownership began to take place. Initially land was granted by King George III of Great Britain, who had assumed ownership of all the land in the Colony of New South Wales under international law using the ‘first discovery’ of Cook as proof of this. In a sense this ownership was cosmographical. As each parcel passed from the king into individual ownership it became chorographical, and required a cadastre to register and legitimise this later form of ownership. From this point in time, maps of ownership existed in the context of the common law of England rather than in international law.

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6 As discussed below, each title deed for privately owned land in New South Wales has written upon it the portion number of the block of land that it describes, for the purpose of identification.
The idea that ownership of land is re-enforced, facilitated and enabled by mapping becomes obvious when a title deed to a block of land is read. To this day, the deed will state the portion number, the parish and the county within which the block of land is situated. The maps held in the Land Titles Office show exactly where the land is. Both the title deed and the parish maps are powerful legal documents that are used in courts of law to prove ownership.7

Probably the most powerful map in the taking of territory in the Colony of New South Wales, after that of Cook and Flinders, was the map by the fourth Surveyor-General, Major Thomas Livingstone Mitchell, Map of the Colony of New South Wales Shewing the Mountain Ranges, County Divisions and general features, because it delineated nineteen counties within which parishes were created. Not only this, but the map declared to other European powers that the area mapped (about the size of Scotland) had been surveyed, divided and was in the process of settlement. This was a map of possession and the mapmaker, Surveyor-General Thomas Mitchell, was made a knight of the realm for his cartographic efforts.

Although the grid of the nineteen counties was cosmographical, it overlayed what had already happened on the ground, the chorography. By the time the map was made, a lot of land had been granted and without a ‘proper’ survey, boundaries had not been properly determined. In order to fit these into the map, land parcels were bundled together to form parishes, and then into counties. In this way what had happened on the ground, that which was chorographical, was incorporated into the map. In other places where land had not been taken up the boundaries were imposed as part of the overlaying grid. Thus in parts, the map came after Europeans inhabited the space but in other places it preceded European occupation.

Neither Cook’s map of discovery nor Flinders’ map of the continent’s outline had the kind of impact on the ground that was produced by The Map of the Nineteen Counties and the cadastre that it represented. The Colony of New South Wales, and indeed the whole of Australia, was already inhabited by Aboriginal people and had been for at

7 LTO Records Guide, 1999: 13. ‘Reference maps [county, parish and town maps, Central Mapping Authority cadastral sheets and reference sheets] provide the legal description of land, an index to title and to the plan which gives a graphic representation of the parcel boundaries’.
least 40,000 years. These people already had complex systems of land ‘ownership’ in place. This was ignored and mapped over by the colonists.

The kind of chorographical impact that was experienced by Aboriginal people can be seen in the Burragorang Valley, discussed in chapter two. Between 1823, when the first European took up land, and 1906, the ‘80,000 to 90,000 acres of well-watered land’ that had been in the hands of the Gundungurra people had passed into European ownership. Except, that is, for six ‘Aboriginal Reserves’ that amounted to less than 1% of the original lands. These ‘reserves’, on some of the most marginal land in the area, are shown on the parish maps of Cooba, Wingebaribee and The Peaks.

Parish maps might appear to be pure chorography, depicting only inhabited space, the delineation of the boundaries of individual blocks of land and enough key features to relate the boundaries to the land, yet their existence implies a cadastral system of European ownership that could only exist because of cosmography.

3-4 The will of Father Adam

The ‘will of Father Adam’ implies a belief that from the late 15th century, Spain and Portugal, and, ultimately Holland, England and France, had a ‘God-given’ right to inherit the earth, that is, any part of the earth that was not already in the hands of Christian, European sovereigns. This belief covered the whole world whether or not it was known or mapped. Cosmographical maps and later, globes, were used to plot newly found territories and ultimately, to ‘prove’ claims. They were particularly

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9 Maurice, 1987: pp 11-46. Mr. Justice Maurice, the Aboriginal Land Commissioner Darwin N.T., describes the complexity of the system of land ownership of the Anmatyerre people with regard to the Ti-Tree Station land claim. Later he compares the complexity of their system to that of other Aboriginal peoples with regard to other land claims in Central and Northern Australia. Mr. Justice Maurice shows quite clearly that the way Aboriginal people have rights of ownership over their land is extraordinarily complicated, widespread and at times quite beyond the comprehension of the British [or Australian] legal system. There is no reason to believe that these systems were any less complex or all-encompassing when Europeans ‘took ownership’ of this land.
10 The ‘Land Board of Commissioners’ determined this in September 1826.
11 Cosgrove, 2001: pp 10-11. Suggests that the ‘potent symbol of the globe’ was iconographically attributed to Apollo. Christ was often depicted standing upon or holding a globe. The Holy Roman Emperors used a globe with a cross attached to the top, as a symbol of their authority over the whole world. Fig 33 depicts the globe held by a two-headed eagle, which was the emblem of the Holy Roman Emperors. See also Harley, 1988: 295. Here Harley discusses the use of globes as symbols of power.
useful because of their vagueness\textsuperscript{12} and because from a great distance it could be implied that these lands had been claimed simply by drawing a line or inserting a flag on a landmass on a cosmographical map.\textsuperscript{13} Lines of ownership drawn on cosmographical maps\textsuperscript{14} were an important part of the Christian European colonial enterprise.\textsuperscript{15}

Perhaps the first act of cosmographical colonisation that affected what is now known as Australia occurred when, in 1493, Pope Alexander VI took a map of the world and drew a line dividing it between Spain and Portugal, that is, all land and sea that was not already the property of another Christian European colonising nation. In 1493, when the line was drawn, neither Spain, Portugal nor the Pope were aware of the existence of Australia, or many other parts of the world. This ‘papal donation’ did not amuse the sovereigns of France and England. King Francis I of France (1515-1547) asked King Charles V of Spain (1516-1556):

\begin{quote}
By what right do you and the King of Portugal undertake to monopolise the earth? Has Father Adam made you his sole heirs; and if so, where is a copy of the will?\textsuperscript{16}
\end{quote}

Later, Queen Elizabeth I of England (1558-1603) retorted to Mendoza, the Spanish Ambassador, when he complained that the voyage of Drake intruded on Spanish territory:

\begin{quote}
she did not understand why either her subjects or those of any other European Power should be debarred from traffick (sic) in the Indies: that she did not acknowledge the Spaniards to have any title by donation of the Bishop of Rome, so she knew no right they had to any places other than those they were in actual possession of; for their having touched only here and there upon a Coast, and given names to a few rivers and capes, were such insignificant things
\end{quote}

\textsuperscript{12} Brotton, 1999: pp 87-88.
\textsuperscript{13} Fig 32 is part of the Cantino map showing the Line of Demarcation, a later version of the Pope’s line that is discussed below. Portuguese and Spanish flags are depicted either side of the line on territories that they had assumed ownership of.
\textsuperscript{14} Harley, 1988: pp 302-303. Discusses the ‘overt’ and ‘hidden’ aspects of power in all maps from the 15\textsuperscript{th} century Ptolemaic maps to current computer driven images.
\textsuperscript{15} Cosgrove, 2001: 11. ‘The parallels and meridians forming the graticule on terrestrial globes and world maps also denote significance beyond their practical cartographic, calendrical, and navigational uses. Not only have they shaped an evolving mathematical visualization of the globe but they have territorialized the planet. The 1493 papal meridian dividing Spanish from Portuguese imperial pretensions in Atlantic oceanic space set in train a globalizing geopolitical discourse that reconstructed the meanings of East and West…’
\textsuperscript{16} Lawrence, 1913: 149. Source of quote not given.
as could in no way entitle them to property...further than in the parts where they actually
settled and continued to inhabit.\textsuperscript{17}

In the 15\textsuperscript{th} century, Portugal had sought permission from Pope Alexander VI (1492-
1503) ‘to subjugate and convert non-Christian people from Cape Bojador\textsuperscript{18} to India’. This was given in three Papal Bulls (\textit{Dum Diversis} 1452, \textit{Romanus Pontifex} 1455 and
\textit{Inter Caetera} 1456).\textsuperscript{19} When Columbus returned from what came to be known as America, he was convinced he had reached the Indies; consequently the Spanish Court were nervous that they had intruded on Portuguese territory. They went to Pope Alexander VI ‘for recognition of Spanish sovereignty over the new continent’.\textsuperscript{20} The Spanish refused to accept the Portuguese claim that they were infringing \textit{Inter Caetera} because, they argued, the Americas were not between Cape Bojador and India.\textsuperscript{21}

In order to satisfy both parties, Pope Alexander VI issued his 1493 Bull dividing the world between Spain and Portugal. He drew a line 100 leagues west of the Cape Verde Islands. In this way he donated all the territory that was not Christian to the west of this line of demarcation to the Crown of Castile (Spain), and all lands to the east of the line to the Crown of Portugal. This gave Spain the Pacific Ocean and the Gulf of Mexico, and Portugal the Atlantic south of Morocco and the Indian Ocean.\textsuperscript{22} Spain was given the ‘new world’ and Portugal, Africa and India.\textsuperscript{23}

This did not entirely suit Portugal, who may have secretly discovered Brazil, thus in the Treaty of Tordesillas signed on June 7, 1494, the line\textsuperscript{24} was moved to 370 leagues west of the Cape Verde Islands, giving Portugal a sliver of Brazil and the only feasible 15\textsuperscript{th} century sea route to India.\textsuperscript{25} The Treaty was settled with a map rather

\textsuperscript{18} Cape Bojador on the coast of Africa was considered to be the edge of the world by many medieval Christian sailors who believed that the sea descended to Hell in a huge waterfall originating at this point. By successfully sailing beyond it, Portugal had proved that this was not so.
\textsuperscript{19} McIntyre, 1982: 30.
\textsuperscript{20} Anand, 1982: 44.
\textsuperscript{21} McIntyre, 1982: 30.
\textsuperscript{22} Anand, 1982: 44.
\textsuperscript{23} McIntyre, 1982: 30.
\textsuperscript{24} McIntyre, 1982: 31. The line was referred to as ‘the Pope’s line’ initially, but after it was moved to 370 leagues beyond the islands in the Treaty of Tordesillas it became known as ‘the line of Demarcation’.
\textsuperscript{25} Anand, 1982: 44.
than a globe, and orders were given that the dividing line should be drawn ‘on all hydrographical maps made hereafter in our kingdoms’.

3-5 The Pope’s line - a moveable feast
This was not as clear-cut as it seemed. The division only applied to non-Christian land and it probably did not include the sea. When the line was established in the western Atlantic to divide the interests of the two Crowns, no thought was given as to how the line would be extended for the full 360 degrees around the earth.

The treaty did not specify which particular Cape Verde Island the line was to be measured from. These islands stretch for 180 miles and each party began their measurements from the island that would best suit their interests. The parallel along which measurements were to be taken was not stated, but even if it had been, neither side had the skills in 1494 to measure longitude with any degree of accuracy. This meant that both sides tended to place the line so that they might each acquire desired territory. Portugal referred to the 129th as the ‘Great Meridian’ and it just included the Portuguese bases of Ternate, Tidore and the Moluccas. The line had begun in the northern hemisphere as 51 degrees west, and so allowed Portugal to maintain her Brazilian boundary. The Spanish set the line as 45 degrees west in the northern hemisphere and this translated to 135 degrees east in the southern hemisphere.

In 1513, the Spaniard Vasco Nuñez de Balboa was the first recorded European to see the Pacific Ocean and there was concern that the line drawn to the west of this would impinge on the ‘eastern’ possessions of the Portuguese. When Magellan (1480-1521) defected from the Portuguese to the Spanish, he thought that if the Moluccas were shown on a globe, they would be on the Spanish side of the line. He used a globe to persuade his new masters that by sailing west he would end up in the Moluccas. Magellan’s voyage succeeded, even though he died before the Moluccas were reached. The islands were claimed on behalf of the Castilian Crown. The Portuguese

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26 Brotton, 1999: 77.
27 Brotton, 1999: 81
28 McIntyre, 1982: 32.
29 Portuguese ownership of the Moluccas was in dispute until the Treaty of Saragossa. See below.
30 McIntyre, 1982: pp 33-39. McIntyre discusses various versions of the line set by each party. I have simplified his discussion above in the interests of brevity.
31 Cameron, 1973: 36. See also Brotton, 1999: 82.
were not pleased and the two Crowns met at Badajoz-Elvas in 1523 to argue the point over a terrestrial globe. No longer was a map seen as sufficient to trace the circumnavigation of Magellan and the actual location of the line with regard to the Moluccas.\(^3^2\)

The meeting at Badajoz-Elvas was ostensibly designed to establish the location of the Moluccas, in an attempt to settle ownership of the islands in line with the terms of the Treaty of Tordesillas. However, as the two teams of geographical specialists sat down to dispute the positions of the islands, it became increasingly clear that the introduction of terrestrial globes into the equation undermined the validity of the dividing line established between the two crowns at Tordesillas.\(^3^3\)

3-6 Maps or globes – the cosmographical lure

Terrestrial globes supplanted the sea charts that had been the ‘ultimate arbiter’ at Tordesillas. Each side had their own globe on which they positioned the line and the islands where they wanted them to be. The talks soon broke down without coming to any resolution. In the 1529 Treaty of Saragossa, Portugal gained possession of the Moluccas. However, before the treaty finalised ownership, various globes and maps depicted these islands as being on the Spanish side of the line and consequently, as Spanish territory.\(^3^4\)

In order to maintain their monopolies on trade, the Portuguese under Prince Henry the Navigator (1394-1460) had a policy of secrecy\(^3^5\) with regard to maps and any other information that might help other European powers access their trading ports. Charts, maps, and travel documents were kept secret, censored or deliberately tampered with to mislead others. This was also true of information held by other European nations.\(^3^6\) Maps such as a 1529 world map by Diogo Ribeiro, a Portuguese working in Seville and copying Spanish maps, deliberately misrepresented the width of the Pacific from Peru to the Moluccas by making it 25 degrees of longitude less than it was known to

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\(^3^2\) Brotton, 1999: pp 82-83.
\(^3^3\) Brotton, 1999: 83.
\(^3^4\) Brotton, 1999: 85 and Note 44.
\(^3^5\) Harley, 1988: 284 and Notes 41 & 42. ‘In western Europe the history of cartographic secrecy, albeit often ineffective, can be traced back to the sixteenth century Spanish and Portuguese policy of *siglio.*’
\(^3^6\) Anand, 1982: 45.
be after Magellan’s crossing. Thus the Moluccas appeared to be on the Spanish side of the line.\(^{37}\)

The earliest European terrestrial globes were those of Behaim, Waldseemüller and Schöner\(^ {38} \) (1492-1520),\(^ {39} \) all of whom had detailed knowledge of some of the voyages of discovery carried out under the flags of Portugal and Spain. They included this information on their globes, which were ‘created in direct response to the proliferation of accounts’ of these voyages. The Crowns of Castile and Portugal particularly favoured the globe as they squabbled over contested territory. Because of its ‘powerful iconography’ it provided ‘an abiding symbol of imperial authority’.\(^ {40} \)

At this time globes and maps were highly speculative about what they portrayed (apart from Europe, much of the world was relatively unknown), yet this was not a ‘weakness, but ultimately a great strength’.\(^ {41} \)

… the apprehension of territory and its possession which structured the claims of Portugal and Castile was porous, discontinuous and relentlessly speculative. Power and authority lay precisely in the quasi-mystical pursuit of not what was knowable and near at hand, but that which was distant and far away – like the Moluccas. The significance of terrestrial globes throughout the early modern period lay in their utilization for geographical speculation on the furthest limits of European political awareness.\(^ {42} \)

The cosmographical maps and globes used by the Crowns of Castile and Portugal to back up their varying claims on the world existed in a context that implied that the Pope had the authority to divide the world in this way. The words of Francis I of France and Elizabeth I of England imply quite clearly that they did not recognise ‘the authority of the ‘papal donation’ and neither did Holland.

The East Indies, and this included the Moluccas, was the most desired possession as far as the Europeans were concerned because of the spices grown there. Whoever

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\(^ {38} \) Brotton, 1999: 81. Brotton suggests that there were other early globes that are yet to be attributed to any particular maker.
\(^ {39} \) Brotton, 1999: pp 75-80.
\(^ {40} \) Brotton, 1999: 81.
\(^ {41} \) Brotton, 1999: pp 87-88.
\(^ {42} \) Brotton, 1999: 88.
controlled this trade, it was thought, would be rich beyond their wildest dreams.\textsuperscript{43} The Moluccas after the Treaty of Saragossa were on Portugal’s side of the line.

3-7 An act of piracy

On the basis of the Pope’s line, Portugal had assumed ownership of much of the East, the sea as well as the land.\textsuperscript{44} They had assumed exclusive rights to trade with the East Indies but the Dutch in particular very much wanted a part of this trade.\textsuperscript{45} In 1604 the Vereenigde Oostindische Compagnie \textsuperscript{46} (Dutch East India Company) committed an act of piracy. They hired a young lawyer, Walter Grotius (1583-1645), to justify their action to their shareholders. Grotius argued that the VOC had the right to seize the Portuguese ship \textit{Santa Catharina} fully laden with valuable goods as ‘good prize’ because the Portuguese ‘had wrongfully tried to exclude the Dutch (and others) from the Indian trade.’\textsuperscript{47}

To prove his point, Grotius investigated how commerce had been conducted in India and the East since ancient times.\textsuperscript{48} He also investigated Roman law. He found that trade in the East had been open to all until the arrival of the Portuguese. He challenged the Pope’s right to ‘donate’ non-Christian countries to Spain or Portugal for conversion to Catholicism, and Portugal’s attempt to exclude other Christian countries from trading.\textsuperscript{49} He did this by reworking the ancient Roman notion of \textit{res nullius} (that which belongs to no one) which, under Roman law, applied to movables, but Grotius applied it to land. He argued that neither India nor the East Indies could be considered \textit{res nullius},\textsuperscript{50} and that the Portuguese did not discover them. He further

\textsuperscript{43} Spices were much valued in Europe from at least Roman times. Some were seen to contain medicinal properties and many could bring flavour to food that was not fresh, so they were much desired, but they were not grown in Europe and had to be imported from the East.
\textsuperscript{44} Anand, 1982: pp 87-88. Anand discusses Grotius’ argument against the Portuguese claim to the sea. From this it appears that not only did they claim the Indian Ocean by right of ‘papal donation’, but by right of ‘first discovery’ as well.
\textsuperscript{45} Anand, 1982: 73.
\textsuperscript{46} Anand, 1982: 77. This name is usually shortened to VOC.
\textsuperscript{47} Anand, 1982: 78.
\textsuperscript{48} Anand, 1982: 78.
\textsuperscript{49} Anand, 1982: pp 81-82, and pp 87-88.
\textsuperscript{50} Anand, 1982: pp 81-82. On page 81 Anand uses the term \textit{terra nullius} in the same context that he uses \textit{res nullius} on page 82. In \textit{De Jure Belli ac Pacis}, bk. II, ch. III 1-4, which is referred to by commentators (for example Lawrence, cited below) as the part of Grotius’ writing that refers to \textit{res nullius}, Grotius himself uses neither \textit{res nullius} nor \textit{terra nullius}, but refers to ‘things which are properly no one’s’.
argued that these countries had been known since Roman times and although the inhabitants were not Christian, this was not a good enough reason for taking their possessions or their land.\textsuperscript{51}

The primary purpose of Grotius’ legal argument was not to defend the rights of non-Christian people to land they might have owned since time immemorial, rather it was to find a European legal justification for the VOC to take some, if not all, of the trade in the Indies from the Portuguese. He was challenging the donation by the Pope of the non-Christian world to Spain and Portugal, in the form of a line on a map. He argued that the Portuguese could not take the lands of non-Christians simply because they did not recognise their ownership, but later in his pivotal book on international law \textit{De Jure Belli ac Pacis}, first published in 1625, Grotius discussed the way land could be acquired using the concept of \textit{res nullius}.\textsuperscript{52}

In Europe at this time, land was usually taken by cession or conquest. That is, the people of one sovereign state were conquered in battle by another sovereign state and treaties were drawn up giving certain lands or goods to the conquering power. In the case of cession, one sovereign ceded territory to another.\textsuperscript{53} Maps were redrawn, boundary lines were moved, different emblems or flags were inserted and the territory was considered to have a new owner.

\textbf{3-8 The seizing of territory}

In the new worlds, Europeans found lands that had different systems of habitation from those they were used to.\textsuperscript{54} There was no sign recognisable to European eyes of cultivated land or of an organised political structure\textsuperscript{55} and they seemed unable to find a ‘sovereign’ to make a treaty with.\textsuperscript{56} It could also be said they saw no map on the

\textsuperscript{51} Anand, 1982: 79. Anand suggests that it was the argument that Grotius used against the Portuguese ‘right’ to monopolise trade in the Indies that led to the discussion on the taking of lands ‘which are properly no one’s’ in \textit{De Jure Belli ac Pacis}, which was published in 1625.

\textsuperscript{52} Anand, 1982: pp 81-82.


\textsuperscript{54} This probably began in 1492 when Christopher Columbus ‘discovered’ the island of Hispaniola off the coast of the land now known as America. From this time the European colonisation of other lands continued certainly to the late 19th century with the colonisation of Africa.

\textsuperscript{55} Lawrence, 1913: 148. See also Brennan, 1993: 21.

\textsuperscript{56} Castles, 1982: pp 14-15. Castles explains how the British Crown could decide whether a territory was to be considered a ‘conquest’ or ‘unoccupied’ according to whether the Crown considered the occupants capable of entering into a treaty with Britain or not. For a short time the North Island of New
ground that they could relate to,\(^5^7\) no key features, buildings, roads or boundaries, and therefore no sign of land ownership.\(^5^8\) *Res nullius* became a useful justification to be used as a legal tool in the colonisation process.\(^5^9\)

Justifications such as these were for the benefit of other European powers not for the indigenous inhabitants whose land was being taken.\(^6^0\) Territory could be seized by a European colonising power under international law as long as it had not previously been regarded as part of ‘the dominions of any civilized power,’\(^6^1\) which meant any other European power. Although disputes over newly claimed territory were often settled by guns or swords,\(^6^2\) in their more ‘civilised’ moments European powers relied on agreements and treaties, and attached to these, as the ultimate proof as to who owned which territory, was a cosmographical map.

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\(^5^7\) Harley, 1988: 292 and Note 79. ‘… throughout the long age of exploration, European maps gave a one-sided view of ethnic encounters and supported Europe’s God-given right to territorial appropriation. European atlases, too, while codifying a much wider range of geographical knowledge, also promoted a Eurocentric, imperialist vision, including as they did a bias towards domestic space which sharpened Europeans’ perception of their cultural superiority in the world system.’

\(^5^8\) Lawrence, 1913: 139. ‘International Law regards states as political units possessed of proprietary rights over definite portions of the earth’s surface. So entirely is its conception of a state bound up with the notion of territorial possession that it would be impossible for a nomadic tribe, even if highly organized and civilized, to come under its provisions.’

\(^5^9\) Lawrence, 1913: pp 149-151. Lawrence uses the term *res nullius* rather than the more recently used *terra nullius* and these two terms do seem to be roughly equivalent. *Terra Nullius*, especially in Australia has taken on an almost mythical quality, particularly since the 1992 Mabo Judgement (discussed below) when this ‘doctrine’ was ‘overturned’, allowing for Native Title to land previously taken from Aboriginal people. Whichever term is used, the consequences have been the same: vast amounts of land taken from the original owners with no compensation whatsoever.

\(^6^0\) Greenblatt, 1991: pp 56-58. Shows that the acts of possession performed by Columbus in 1492 in Hispaniola, such as making a possession speech in Spanish, writing it down and taking it back to Spain to be processed according to Spanish law were ‘performed entirely for a world elsewhere’. He was able to write to the Spanish Crown that his speech of possession was ‘not contradicted’ so that Spain’s ‘legal claim’ was a ‘voluntary choice of the natives’, even though it was highly likely that the ‘natives’ would not have understood a word he said.

\(^6^1\) Lawrence, 1913: 148.

\(^6^2\) Lawrence, 1913: 150. Lawrence points out that even though statesmen and publicists tried to find legal ground for claims, ‘they were largely settled by the sword’.
3-9 The Coronelli Globe

The height of the cosmographical lure, allowing European powers to think they owned the world, was probably reached with the globe that Vincent Coronelli designed for Louis XIV, the Sun King.

In the early 1660’s Vincenzo Coronelli (one of Italy’s most illustrious map and globe-makers), constructed two substantial fifteen-foot globes for the reigning Louis XIV. A door in the side of the globes allowed up to thirty people to stand inside.

This was drawn and hand painted. In 1688, printed versions were made. The first of these, with a diameter of 110 centimetres, was the largest printed globe made in Europe at this time and was divided into twelve gores. One of these gores featured Nuova Hollanda and depicted areas of the coastline charted by the Dutch, as well as elephants and turbaned men hunting deer [Fig 12]. This was a reference to the description by Marco Polo of the land he called Lochac. Taking up almost half the gore are two finely engraved female ‘classical figures’, one sitting under a canopy held by cherubs. They form part of an enormous cartouche covering another three gores. The centrepiece of this is a portrait of the mapmaker Coronelli with Pope Alexander VI who is in the process of ‘demarcating the world between Portugal and Spain’.

Papal donation was ultimately too exclusive. England, France and Holland wanted territories too and Grotius had found a way for this to happen. But if land was res nullius then it became very important, as far as possession went, as to who ‘discovered’ it first. However, this did not always work, as sometimes claims were made to different parts of the same coastline. This is the reason why it had become so important, by the time of the discoveries in the South Seas, to publish the map as quickly as possible to prove ‘first discovery’ to other European powers.

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63 Cosgrove, 2001: 11. Cosgrove says the following: ‘In the lavishly symbolic court of Louis XIV of France the iconic integration of globe, Apollo, and Sun formed the core of imperial rhetoric…’
64 Gowrie Galleries Catalogue, 2000: 46.
65 Fig 12 shows a small part of the top of one of the gores although this reproduction was taken from a much smaller and cheaper version than those mentioned here.
3-10 By right of first discovery

The notion of ‘first discovery’ is of course extremely problematic. For a start, there were indigenous people already living on most of the lands or islands ‘discovered’ in the Pacific. Discovery ‘evokes the notion of a prior void’ and is ‘blatantly asymmetrical’. There has been no suggestion that indigenous people taken to Europe made any discoveries there.\(^{67}\) As far as Australia was concerned, the Aboriginal people were not in a position to discover themselves, they were already there.\(^ {68}\)

In order to prove ‘first discovery’, a chronological sequence had to be formed showing the discoverer and his voyage as a discreet event. Each European discovery in the Pacific was touted as an individual event bringing glory to a discoverer and his sovereign, whose flag was ceremoniously planted on the discovered land. In this way a linear history could be created, thus the voyage of Captain Cook provided a British starting point for the history of Australia.

According to the Pope’s line, the east coast of New Holland was on the Spanish side and, in a sense, Quiros had already claimed it on the 1\(^{st}\) May 1606 on behalf of Phillip III of Spain, proclaiming:

\[
\text{… all this region of the south as far as the Pole, which from this time shall be called}\n\]

\text{Australis del Espiritu Santo}\(^ {69}\)

Quiros had assumed the land he had found to be Terra Australis Incognita,\(^ {70}\) and on the map by Robert de Vaugondy, which Cook had on board the Endeavour,\(^ {71}\) the discoveries of Quiros were shown on the east coast of Nouvelle Hollande. In order to do this, the coastline was depicted with an enormous bulge so that these discoveries could be fitted into the correct latitude.

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\(^{67}\) Zerubavel, 1992: 2. The author uses the example of American Indians taken back to Spain in 1493. No one ever claimed that they ‘discovered’ Europe.
\(^{68}\) Reynolds, 1992: 9.
\(^{70}\) Ingleton, 1958: 466. See also Skelton, 1958: 198.
\(^{71}\) Skelton, 1958: pp 204-205.
Cook was doubtful that the Quiros’ discoveries were on the east coast of New Holland. He did refer to the discoveries of Quiros a number of times in his journal. Perhaps there was a hint of doubt as to whether or not he was sailing in territory that the Spanish might have some claim on by right of first discovery. The de Vaugondy map did show a strait between New Holland and New Guinea [Fig 13]. This was Torres’ discovery and as he and Quiros had begun their voyage together, both sailing under the Spanish flag, it can be assumed that de Vaugondy had access to secret Spanish information.

The Thévenot map told a different story. It showed the Dutch discoveries on the Portuguese side of the line, and beyond, on the Spanish side, only vague, ill-defined space bearing the name ‘Terres Australes’.

When Cook knew he had found the passage shown on the de Vaugondy map and would land no more on the east coast of New Holland, he took possession in the name of King George III, at a place he named Possession Island. In his journal he acknowledged that the Dutch had already discovered much of the ‘western side’, and that he was certain the east coast had not been seen or visited by any European. By this he may well have meant Quiros.

Having satisfied myself of the great Probability of a Passage, thro’ which I intend going with the Ship, and therefore may land no more upon this Eastern coast of New Holland, and on the Western side I can make no new discovery the honour of which belongs to the Dutch Navigators; but the Eastern Coast from the Latitude of 38° South down to this place I am confident was never seen or viseted (sic) by any European before and Notwithstanding I had in the Name of His Majesty taken possession of several places upon this coast, I now once more hoisted English Coulers (sic) and in the Name of His Majesty King George the Third took possession of the whole Eastern Coast from the above Latitude down to this place by the name of New South Wales, together with all the Bays, Harbours Rivers Islands situate upon

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72 Beaglehole, 1955: 273. As cited in chapter one, for example.
73 The voyage of Torres and Quiros and the de Vaugondy map have been discussed in chapter one.
74 Cook took possession from the latitude where he started his journey ‘down to this place’. As far as he was concerned he was sailing ‘down’ the coast not up it. Whether a journey is made ‘up’ or ‘down’ is probably dependant on whether it is towards or away from a destination.
75 The English flag ‘coulers’ had previously been raised at Botany Bay.
76 Beaglehole, 1955: 388. Note 1. This name was inserted into the journal entry at a later date, and is spelt variously; New Wales or Whales in other copies. There are at least four different versions of Cook’s journal in existence today and 14 logbooks from the journey.
the said coast, after which we fired three Volleys of small Arms which were Answered by the like number from the Ship.\footnote{Beaglehole, 1955: 387-388. Citing Cook’s journal entry for Wednesday 22nd August 1770.}

In his orders from the Admiralty,\footnote{Beaglehole, 1955: lxxxv- lxxxvi. These orders given by the Admiralty, with regard to the finding of new territory were “virtually standard” since the voyage of Commodore Byron (about 1765).} Cook had two choices as to how to proceed with Britain’s claim should he find territory that was not already claimed by another European power:

You are also with the Consent of the Natives to take possession of Convenient Situations in the Country in the Name of the King of Great Britain; or, if you find the Country uninhabited take Possession for His Majesty by setting up Proper marks and Inscriptions, as first discoverers and possessors.\footnote{Beaglehole, 1955: cclxxiii. Citing Additional Instructions for Lt. James Cook from the Commissioners for executing the office of the Lord High Admiral of Great Britain & ca.}

3-11 Acts of possession

This ‘act of possession’ was not for the benefit of any indigenous people that might have been present. It took place only for the benefit of other European powers. Cook’s speech and the ceremony existed within a cosmographical context and within a power play between Spain, France and Great Britain, even though no other European powers were present at the time. When a European navigator made a discovery on a land that could be considered \textit{res nullius}, under international law certain acts of possession were required to take place and these involved the raising of flags, gun salutes, and the reading of proclamations. In addition, markers such as carved trees, posts with specially made pewter plates, or metal coats of arms,\footnote{Scott, 1940: pp 3-9.} were often erected. These, combined with a map, were the basis of a claim by right of first discovery.

On reaching Batavia, Cook sent maps of his journey, a copy of his journal and a covering letter, to the Admiralty. The letter contained the following apology ‘… the discoveries made in this voyage are not great’.\footnote{Watson, 1933: 6. Citing Cook’s letter to Phillip Stephens, the Secretary of the Admiralty, dated 23rd October 1770.} However, he had managed to claim the east coast of New Holland on behalf of King George III, as ‘first discoverer’ of that coast.
In the postscript to his journal, Cook became passionate about the possibility that the French may claim Tahiti, because in conversation with a French Officer he learned that the French did not acknowledge ‘first discovery’ by the *Dolphin*. Cook emphasised the need to ‘publish by authority’ the *Dolphin*’s voyage ‘and this of ours’ to fix the prior right of discovery ‘behind (sic) dispute.’\(^{82}\) The publication of the maps and the story of the voyages were vital to claim ‘first discovery’ and therefore put it beyond dispute. In 1773 the publication written by John Hawkesworth\(^ {83}\) and carrying the following title appeared:

*An Account of the Voyages Undertaken by the Order of His present Majesty for making Discoveries (sic) in the Southern Hemisphere And succeffively (sic) performed by Commodore Byron, Captain Carteret, Captain Wallis And captain Cook in the DOLPHIN the SWALLOW and the ENDEAVOUR. Drawn Up from the Journals which were kept by the several (sic) Commanders, And from the papers of JOSEPH BANKS Efq (sic) by John Hawkesworth LLD IN three volurnnes (sic). Illustrated (sic) with CUTS and a great Variety of Charts and Maps relative to Countries now firft (sic) discovered (sic) or hitherto but imperfectly known.*\(^ {84}\)

Inside the front cover of Volume I was a foldout map with the title:

*Chart of part of the South Sea Shewing the Tracts and Discoveries made by His Majesty’s Ships. Dolphin Commodore Byron and Tamar Capt. Mouat 1765, Dolphin Capt. Wallis and Swallow Capt. Carteret 1767 and Endeavour Lieutenant Cooke 1769.* \(^ {85}\)

On the map, New Holland is shown as a complete landmass.\(^ {86}\) Cook’s chart of the east coast has been joined to a much older map, possibly that by Thévenot, and shows all the Dutch discoveries to the 135\(^{th}\) meridian. On the east coast ‘New South Wales disc 1770’ curls around the inside just beyond the edge of the many names that Cook had written along this coast.

\(^{82}\) Beaglehole, 1955: 479. Citing Cook, postscript to his journal, July 1771.
\(^{83}\) This was the official account of these journeys. The Admiralty had hired Hawkesworth and given him access to the maps and journals of the navigators who had made the discoveries.
\(^{84}\) Hawkesworth, 1773: Title page.
\(^{85}\) Prescott, 1984: 62. Prescott says that this map was actually made by W. Whitworth, using the information provided in the maps and charts of the navigators listed in the title.
\(^{86}\) Wherever the coast remained unknown, such as most of the south coast, the map simply showed a line joining the known parts.
Although criticised by some for over flowery language and for putting classical
mythical references in the mouths of seamen who would not have known of such, the
*Voyages* served its purpose by giving ‘authority’ to the discoveries. Included with
the *Voyages* was Cook’s Map of Botany Bay, one of the Endeavour River and Cook’s
chart of the east coast of New Holland.

The voyages documented by John Hawkesworth in 1773 carried a challenge to Spain
with regard to the taking of territory in the east and in the South Sea. Instructions
from the Admiralty to Commodore Byron (and the other commanders included in
*Voyages*) had included the order to survey any territory in the southern Pacific or
southern oceans that had been ‘discovered’ but not surveyed by past British
 navigators such as Dampier and Drake. The voyages published under authority by the
Admiralty in 1773 seemed to imply that Great Britain was claiming this territory on
the Spanish side of the line through right of ‘first discovery’. Cook’s chart of the
east coast of New Holland, joined to the older Thévenot map, ensured that any
possible claim that Spain might make on the grounds of first discovery by Quiros had
vanished.

3-12 The ownership of the South Seas – The Pope’s line casts a
long shadow

The point of the Hawkesworth publication was to show British traces all over the
South Seas as a kind of claim to the whole lot, or at least an assertion of the right to
explore, make discoveries and claim land in that last unchallenged bit of Spanish
territory. Hawkesworth’s *Voyages* was published in English in London in 1773 and

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88 The coastline charted by Cook was included in Hawkesworth’s publication as part of a map that
included not only New Holland but the ‘tracks’ and discoveries of Byron, Carteret, and Wallis. Part of
this map, the coastline charted and named by Cook, is included here as Fig 34.
90 Beaglehole, 1955: pp lxxxiii – lxxxv. Beaglehole does not mention the line that is my addition.
91 At what point ‘the South Seas’ became ‘the Pacific’ is unclear. In 1513 Balboa used the term South
Sea from the ‘native’ who showed it to him. Less than ten years later Magellan named it the Pacific, yet
the term ‘South Seas’ was still in use in the 18th century.
92 Zerubavel, 1992: pp 51-52. Zerubavel claims that in 1513 Vasco Núñez de Balboa actually entered
the water off Panama. He walked into what he called the South Sea (later named the Pacific Ocean by
Magellan) and claimed it for the Spanish Crown.
then in French in Paris in 1774.  

No doubt the French publication was in response to France’s interest in ‘discovering’ territory in the South Seas.

The voyage of discovery carried out by Commodore Byron in 1765 was the earliest covered in the Hawkesworth publication. After Byron’s return, a conversation took place between the Spanish Prince de Masserano and the English Duke of Richmond about the voyage, which had included the Falkland Islands. The Prince was concerned that there might have been a discovery or plans to start a settlement, ‘…since all these countries are the King’s and no one may settle them’. The Duke asked if the whole world was Spain’s and the Prince replied ‘that, as to that portion, yes’. The portion he was referring to was the South Seas.

On behalf of the French, the Chevalier de Bougainville (1729-1811) had attempted to start a settlement on the Falklands in 1764 but because of a treaty between Spain and France he ‘surrendered his claim in exchange for a money grant’. Heading into the Pacific he also discovered Tahiti in 1768, naming it the Archipel de Bourbon. From Tahiti he sailed west and discovered the islands now known to be the Australia del Espiritu Santo of Quiros. Bougainville named these the Great Cyclades. Bougainville reached the outliers of the Great Barrier Reef in 1768 and at this point decided it was too dangerous to continue. Cook ran aground on a reef not far from this point two years later.

The claim to Tahiti seems to have been particularly contentious. Cook’s initial mission was to sail to Tahiti. This island had been ‘discovered’ in 1768 by Captain Wallis, who had claimed it on behalf of King George III and named it George’s Island. Then again, the French had also ‘discovered’ it in 1768, and the Spanish seem to have considered it to have already been Spanish territory.

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94 Beaglehole, 1955: lxxxviii, and Note 2. Although Beaglehole does not give an exact date as to when this conversation took place, it seems to have been not long after a conversation with General Conway that took place in June 1766.
96 Beaglehole, 1955: lxxxviii.
97 Beaglehole, 1955: lxxix.
The Spanish heard rumours that a British settlement had started there, and sent ships in 1772, 1774-5 and finally in 1775, when a cross was erected at Tautira ‘recording the sovereignty of Carlos III of Spain’. However, they decided that it was of no use to themselves or other nations ‘because of its distance from their several bases’.\textsuperscript{101}

When Cook, in 1777, ‘carved on the cross the dates of English visits to the island it was not taken as an act of war,’\textsuperscript{102} which it would have been if the Spanish had continued to regard Tahiti as part of their territory.

3-13 Maps of discovery

Maps of discovery may appear to be chorographical, with names and details of features, but they are essentially cosmographical and exist in the context of European international law connected more to a worldview than to known and habitable space. Cosmography allowed Christian European nations to ‘own’ the world, while chorography proved who owned which bit. Maps of discovery had to contain enough chorography to prove that the navigator had actually been there, and to allow other navigators to refind the place. This was done by outlining and naming the territory.

Cook was particularly skilled at doing ‘running surveys’ of coastlines, which is why he had been chosen for this voyage of discovery.\textsuperscript{103} To this outline he added names and it has been said that in this process he was ‘describing the narrative of the journey’.\textsuperscript{104} Within this narrative there were both cosmographical and chorographical implications, as the following analysis illustrates.

During his journey up the east coast of New Holland, Cook named over a hundred and fifty capes, bays, isles and other landmarks. Cook mentioned in his journal the reason for the names he gave. Sometimes they acknowledged the finding of fresh food such as Bustard Bay or Stingray Harbour, or the lack of fresh water as in Thirsty Sound. Such names celebrated important events for a crew who often had to subsist on

\textsuperscript{101} Beaglehole, 1955: cxviii. Citing ‘a distinguished Spanish naval officer’.
\textsuperscript{102} Beaglehole, 1955: pp cxviii - cxix.
\textsuperscript{103} Skelton, 1958: 243. Here Skelton discusses Cook’s experience at surveying and some of his methods.
\textsuperscript{104} Carter, 1988: 14.
meagre rations of food that was not fresh and water that was foul. These names were chorographical in that they told of an experience of that place.

Cook also used names intended to be recognisable to other Europeans, landmarks that were reminiscent of images that would be familiar, so that the map could be related to the terrain and thus more easily read by other navigators, for example Cook’s names for Mount Dromedary and Pigeonhouse Mountain. At the time, these names were cosmographical, designed to trigger a relationship to images that would be known on the other side of the world, and had nothing whatsoever to do with the space they were naming.

Names are the text defining a landmass, and allowing features to be identified, but the names on Cook’s map also had to please his masters, the Admiralty and the higher echelons of British colonial power. His map was destined for the Admiralty and ultimately King George III. 105 It also asserted a claim on the territory mapped against any claim by other European powers. These names were cosmographical; they were for the benefit of other European powers who might have had designs on this territory. The map was an assertion that this land was now under British ‘ownership’. Later, as the space was occupied and settled by Europeans, if the name remained it might become chorographical in nature. 106

3-14 The east coast of New Holland or New South Wales

As far as Europe was concerned, Cook’s names on his map of the coastline were an act of creation by bringing the land into being in a way that was understandable to the world of European discovery. Without names it was just a jagged line, an isolated bit of space, a scrawl on the edge of the world. Yet even this early cartographic narrative was incomplete. The two most important names given by Cook, ‘Botany Bay’, the centre of the British claim on New Holland and the landing site of the ‘First Fleet’ of

105 Carter, 1988: 2. According to Carter ‘perhaps a third of the one hundred and fifty names that Cook scattered along Australia’s east coast celebrate nautical, political or aristocratic figures of the day.’ Later (pp 4-9) Carter suggests that Cook’s naming of important people was almost a ‘Ptolemaic system with successive spheres of influence going as far as the Royal House’.

106 Carter, 1988: 32. In spite of the above, Carter says the following: ‘The world view embodied in his naming practice stood at odds with the aims of imperialism.’ The suggestion here is that many of Cook’s names did aid imperialism and because of this they were cosmographical. Some of these names went on to become chorographical. Carter’s view is that Cook’s names ‘created a cultural space in which places might eventually be found.’ This, I think is the beginning of chorography.
British colonisers, and ‘New South Wales’, were not given during the journey, but added later.\footnote{107}

Cook had been ordered in his Secret Instructions to take into his possession all logbooks and journals written by officers, petty officers and seamen, seal them up and hand them to the Admiralty immediately on his arrival back in England, and to ‘enjoin the crew not to divulge where they had been.’\footnote{108} At some time the logbooks were separated from the journals. These logbooks use the name Stingray Harbour, or versions of it, instead of Botany Bay and refer to the east coast of New Holland rather than New South Wales. In the journals, spaces had been left and later the names Botany Bay and New South Wales were inserted.\footnote{109}

It seems Cook took possession of the east coast of New Holland without applying a new name to it. It was later, when the maps were published under the authority of the Admiralty, that the differentiation was made between the older New Holland and the new British discovery of New South Wales.

The map by Cook, published under the authority of the British Admiralty,\footnote{110} implied that he had ‘discovered’ the east coast of New Holland.\footnote{111} The British assumed ownership of almost half of what was to be called Australia, and claimed under international law, that this land was owned by King George III because it was ‘first discovered’ by Cook.\footnote{112}

The map of Cook, therefore, does not represent so much the discovery of a territory called new South Wales, but rather projects the grid within which all sorts of territorial movements had already begun to circulate and which, precisely because of the map, could now accelerate on a grander scale: in itself it was a microcosm of England’s scientific, military, imperialist, judicial, etc. ambitions in that part of the world, even perhaps a little imago of the then present

\footnote{107} Cook’s changing of the original name of Stingray Bay to Botany Bay is discussed in chapter one. See also Carter, 1988: pp 9-17.
\footnote{108} Beaglehole, 1955: ccxlv.
\footnote{109} Watson, 1933: 12. Watson discusses the differences between four journals that are attributed to Cook.
\footnote{110} Beaglehole, 1955: ccxliii. Beaglehole says that Lord Sandwich, the First lord of the Admiralty gave ‘the papers’ to Hawkesworth.
\footnote{111} In chapter one it is shown that Cook was less of a ‘first’ and more of a continuum of discoverers and mapmakers.
\footnote{112} Castles, 1982: 20. First discovery had to be followed by ‘effective occupation’ to create a full or ‘perfect’ title and this is discussed below.
state of affairs in the whole of Europe with respect to the expanding interests of its various powers and their conflicts amongst themselves.\textsuperscript{113}

The map of Cook was not a beginning or a completion but something in between. It existed between cosmography and chorography and it played a vital part in the British cosmographical colonial enterprise. In this manner it projected a grid within which all sorts of ‘territorial movements’ began to take place. With his map, Cook had closed a gap on the cosmographical globe. Cook’s detailed coastline, his acts of possession and the publication by Hawkesworth gave his ‘first discovery’ weight in the context of international law of the time. As far as the ‘world’ (Christian Europe) was concerned, the claim was made and now it had to be backed up by settlement. To perfect the title, possession had to be taken\textsuperscript{114} ‘with the intention of holding it as one’s own’. This was the pivotal part of \textit{res nullius}.

3-15 Taking possession to the Pope’s line

In 1788, Governor Arthur Phillip and his fleet arrived in Botany Bay having navigated there by using the map of the outline of the east coast of New Holland by Cook.\textsuperscript{116} Their arrival meant that Britain was assuming the right to colonise New South Wales, or at least Botany Bay, by right of ‘first discovery’. They soon moved to Sydney Cove, as Botany Bay was seen as an unsuitable place to start a settlement.

On the 26\textsuperscript{th} of January 1788, Governor Phillip and his officers performed a ceremony of possession at Sydney Cove. A British flag was unfurled, toasts were drunk and a ‘feu de joie’ was fired by a detachment of marines.\textsuperscript{117} A further ceremony was performed on the 7\textsuperscript{th} of February, in which, as required by the Crown, Phillip read out his Commission to the assembly of convicts and soldiers. These ceremonies were designed to assert that Britain was beginning to perfect its claim over New South Wales by occupation,\textsuperscript{118} and were undertaken for the benefit of other European powers rather than any indigenous people who may have been present.

\textsuperscript{113} Foss, 1981: 22.
\textsuperscript{114} Lawrence, 1913: pp 148-149. Between 1498 and 1524, Spain, England and France all claimed ‘the greater part of the same coast’, that is, much of North America by right of ‘first discovery’. This proved untenable and it was decided that ‘physical possession’ had to follow ‘first discovery’ for it to be valid.
\textsuperscript{115} Lawrence, 1913: 149.
\textsuperscript{116} David, 1984: 54.
\textsuperscript{117} Castles, 1982: 24.
\textsuperscript{118} Castles, 1982: pp 24 - 25.
George III’s Commission, read out by Phillip, included a description of ‘our territory called New South Wales’:

…extending from the northern cape or extremity of the coast called Cape York, in the latitude of 10°37’ south to the southern extremity of the said territory of New South Wales or South Cape, in the latitude of 43°39’ south, and of all the country inland to the westward as far as the one hundred and thirty-fifth degree of longitude, reckoning from the meridian of Greenwich … \(^{119}\)

The representation of New South Wales shown on Cook’s map of the coast \(^{120}\) now stretched from the northernmost tip of Cape York to the southernmost tip of Van Diemens Land and into the interior where the line of the 135\(^{th}\) parallel cut the continent in two just west of the Gulf of Carpentaria in the north, and west of Spencer’s Gulf on the southern coast. \(^{121}\) This meant that Cook’s coastal charting had been turned into a British claim for one and a half million square miles of territory. \(^{122}\)

The British had claimed up to the Spanish side of the Pope’s line, assuming all the ‘blank space’ on the Thevenot map.

…for their having touched only here and there upon a Coast, and given names to a few rivers and capes, were such insignificant things as in no way could entitle them to property… \(^{123}\)

These words were used by the English Queen Elizabeth I in reply to the Spanish Ambassador Mendoza, when he complained that the voyage of Francis Drake had intruded onto lands subject to a Spanish claim. Queen Elizabeth also said that she ‘knew of no right they had to any places other than those they were in actual possession of’. Two hundred years later, the French and other European powers may just as easily have said these words about the English claim to the land of New Holland as far inland as the 135\(^{th}\) meridian, which was made on the basis of the map of the east coast by Cook, and a small settlement at Sydney Cove.

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\(^{119}\) Historical Records of Australia, 1914: 1. George III to Captain Arthur Phillip.

\(^{120}\) In Cook’s possession speech cited above, he claims from latitude 38 degrees south ‘down to this place’ (Possession Island). He does not mention a longitude.

\(^{121}\) Castles, 1982: 25.

\(^{122}\) Reynolds, 1992: 42. See also Castles, 1982: 25.

Almost all of this vast land was cosmographical space in the sense that it was both unknown and conjectured as far as European governments were concerned. The absence of chorography over most of the huge landmass claimed, meant that other European powers could still take territory. Without chorographic mapping there was no ‘proof’ that it was settled and therefore under valid claim by the British.

3-16 The first to map the outline

In 1800 although France and England were at war in Europe, the British gave a French expedition commanded by Nicolas Baudin ‘passports’ because although they were enemy ships they were ‘commissioned for discovery.’ The expedition consisted of two ships, *Le Géographe* under the command of Baudin, and *Le Naturaliste* under the command of Emmanuel Hamelin. Napoleon had ordered the ships be properly equipped for scientific discovery and scientists from all the recognised disciplines of the time were on board. The artists Lesueur and Petit and a cartographer, Louis de Freycinet, were also part of the expedition bound for New Holland. Apart from scientific discovery, orders had been given to complete the cartography of this land and of southern New Guinea.

The British were aware that there were still discoveries to be made in New Holland and ultimately they wanted to be the ones to make them. However, to refuse permission to this voyage of scientific discovery, in ‘the spirit of the time’ would have seemed churlish. They had no choice but to allow the voyage to take place. At the same time, on the advice of Sir Joseph Banks, Matthew Flinders was sent straight back to New Holland from where he had just returned. *The Investigator* was placed under his command because he was, as far as New Holland was concerned, ‘the one man in the Navy who knew what discovery work there was to do, and how to accomplish it speedily.’

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124 Scott, 1910: 163.
125 Ingleton, 1958: pp 492 - 493. ‘…the Institut de France was contemplating a scheme for completing the cartography of New Holland’… Baudin was instructed to ‘complete the cartography of the Australian mainland and of southern New Guinea in the regions explored by the Dutch, with the expectancy that favourable points for settlement might be discovered’.
126 Scott, 1910: 164.
By 1800 the mapped outline of New Holland was much the same as that which had appeared in the Hawkesworth publication of 1773. There was still a large gap on the southern coast from Point Hicks to Nuyts Land. Most of the coastline of the present states of Victoria and South Australia was unmapped, as were parts of the coast of Tasmania. Various offshore islands in this area also remained uncharted. The gaps shown on the Thevenot map remained, apart from the east coast filled in by the map of Cook.

Baudin’s *Le Géographe*, and the *Investigator*, commanded by Flinders, eventually met. To commemorate this, Flinders named the place where they crossed paths, Encounter Bay. Flinders visited Baudin on his ship twice and they discussed, amongst other things, maps. The first time they met, Baudin complained of inaccuracies in an English chart of Bass Strait that he possessed, seemingly unaware that Flinders had contributed to this chart. On the second visit Flinders gave Baudin a copy of a ‘rectified’ chart, and Baudin realised who his visitor was. By the time they met, Flinders had named and charted much of the south coast. However, it was Baudin who explored and mapped from the mouth of the Murray eastward to Cape Banks, and in this, it could be claimed he was ‘first discoverer’.

Flinders went on to circumnavigate Australia in the *Investigator*, but by this time the ship was no longer seaworthy. He returned to Port Jackson and was given the choice of available ships. *The Porpoise*, the best available, was considered to be just about capable of getting him, with his charts and journals, back to England so that he could ‘lay his charts and journals before the Admiralty’. *The Porpoise* made it as far as Wreck Reef. Flinders returned to Sydney Cove and was given the tiny *Cumberland*. It was all there was. The *Cumberland* was in bad repair when he received it, and deteriorated rapidly to the point where Flinders was forced to make for the Ile de France (Mauritius) and ask the French for help. He too had been given a

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127 Scott, 1914: pp 163-164. Scott says that the chart was by Bass and had Flinders’ name on it as well.
128 Scott, 1914: pp 163-164. This was a chart that had been ‘rectified’ by Flinders.
129 Scott, 1914: pp 163-164. Whether or not Baudin recognised Flinders on the first visit is discussed at length by Scott, although an element of uncertainty remains.
130 Scott, 1914: 167.
131 Scott, 1914: 205.
passport of safe passage but this was not honoured.\textsuperscript{133} Flinders was detained by General Decaen, the Governor of Mauritius, from December 1803 until July 1810.\textsuperscript{134}

3-17 Terra Australis or Terre Napoléon

Baudin died before Flinders reached Mauritius. It was left to Peron the naturalist and Freycinet the chartmaker to publish an account of their voyage, and Flinders detention at Mauritius meant that their maps of the complete outline of New Holland were the first off the printing press in Europe\textsuperscript{135}.

…it is significant that he was held in the clutches of General Decaen despite constant demands for his liberation, until the preparation of the French charts was sufficiently advanced to make it impossible for his own to be issued until theirs had been placed before the world.\textsuperscript{136}

Voyage Découvertes aux Terres Australes, an account of the French voyage to Terra Australis, was published in 1807. It contained two maps, both the work of Louis de Freycinet. On the first map the title Carte générale de la Nouvelle Hollandé was inscribed on a scroll held in the talons of an imperial eagle. The title of the second map Carte générale de la Terre Napoléon was held by ‘a feathered Mercury in graceful flight’ that fluttered above a tableau of kangaroos by Lesueur, an artist on the voyage. Both maps placed the name Terre Napoléon across the whole of southern Australia, from Wilson’s Promontory to Cape Adieu in the Bight.\textsuperscript{137}

On the land he called Terre Napoléon, Freycinet had inscribed the names of Frenchmen and women who represented ‘the best and brightest in French intellect and character’ at the time of the publication of the maps, and they included ‘soldiers, statesmen, scientists, authors, and philosophers.\textsuperscript{138} Freycinet got so carried away with his naming that he had more names on his map\textsuperscript{139} than geographical features to be

\textsuperscript{133} Scott, 1914: pp 231-273. Flinders was probably held initially because the French Governor did not believe his story that he had sailed from Port Jackson on the tiny (29 ton) Porpoise and had planned to sail all the way back to England on it. However Flinders behaved very arrogantly towards the governor and this compounded his difficulties.

\textsuperscript{134} Scott, 1910: 90.

\textsuperscript{135} Scott, 1910: 69.

\textsuperscript{136} Scott, 1910: 74.

\textsuperscript{137} Scott, 1910: 70.

\textsuperscript{138} Scott, 1910: pp 70 - 71.

\textsuperscript{139} This particularly applies to Carte Générale de la Terre Napoléon because it was of a much smaller scale.
named. The Terre Napoléon chart read like a ‘who’s who’ of French notables and included:

Lachaise, Laplace, Buffon, Volney, Maupertuis, Montaigne, Lannes, Pascal, Tallyrand,
Berthier, Lafayette, Descartes, Racine, Molière, Bernadette, Lafontain, Condillac, Bossuet,
Colbert, Rabelais, D’Alembert, Sully, Bayard, Fénelon, Voltaire, and Jeanne d’Arc…

Freycinet did not just name features that had not previously been named by Europeans, he also renamed features already named by Flinders. Investigator Strait became Détroit de Lacépède, and Backstairs Passage appeared as Détroit de Colbert.

Flinders had named Spencer Gulf after Earl Spencer, who ‘presided at the board of Admiralty’ when his voyage was planned. St. Vincents Gulf was named after the Earl of St. Vincent, ‘in honour of the noble admiral’ who was head of the Admiralty when the Investigator left England. These were not chorographical names. They bore no relationship whatsoever to the features they named, and instead, like many of Cook’s names, they acknowledged British aristocratic members of the Board of Admiralty. Both Earls were major players in the power structure involved in the appropriation of colonial lands by exploration, the very exercise that Flinders was involved in. The naming of these gulfs was an act of cosmography; it involved power plays in Europe on a cosmographical scale far more than any notion of the chorography of the places being charted. Freycinet also wanted to use names on his map to acknowledge those at the top of the power structure that he represented. He renamed the gulfs Golfe Bonaparte and Golfe Josephine.

Freycinet not only ‘replaced’ the names of the upper echelons of British power with the greats of France, he also commemorated the war between Britain and France that culminated in the Battle of Waterloo (1815). On the map of Terre Napoléon, Freycinet named a small island off the coast Ile Lucas after the commander of The Redoubtable, the man associated with Nelson’s death wound at the Battle of Trafalgar (1805). This had nothing to do with the south coast of Australia. It was not

140 Scott, 1910: 71.
141 Scott, 1910: 71.
142 Scott, 1914: pp 150-151.
143 Scott, 1914: 151.
144 Scott, 1910: 170.
chorography, but entirely for the benefit of the powerbrokers of Great Britain and France. It was cosmography pure and simple.

Freycinet argued that when *Le Géographe* was engaged in charting and naming the coast of New Holland there was no ‘published work’ giving names to these places, and therefore the French were justified in applying their own names. In his preface to Volume III of *Voyages* published in 1815, Freycinet admitted that they knew of the work of Flinders but

...until his book was published the work of the French was truly one of discovery; and as to the names given by the English navigator, ‘it is certain that we could not employ them without knowing them’.

Baudin was dead, and while Flinders was kept in prison he was not in a position to argue that he had already given names to these features, so that when Peron and Freycinet published the maps from their voyage, there was an outcry. By 1817, the influential *Quarterly Review* said the following:

The audacious attempt which was made in the first volume of this work, to rob captain Flinders of the well-earned merit of his nautical labours and discoveries, while he was basely and barbarously kept in prison in a French colony, was regarded with becoming indignation throughout Europe, and with shame by the better part of the French nation.

In 1817, *Voyage Découvertes aux Terres Australes* was re-issued. No longer was the land called Terre Napoléon, and the names of Flinders and Grant had largely replaced the French names. By this time Napoleon had fallen from power, and many of the names Freycinet had used were of revolutionary heroes who were now out of favour in France. Not only did Freycinet have to bow to international pressure but internal pressure as well.

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145 Scott, 1910: 78.
146 Scott, 1910: 77.
147 Scott, 1910: 78. Citing Freycinet preface to Volume III of *Voyages*.
148 Scott, 1910: 73.
149 Scott, 1910: 77.
150 Ingleton, 1958: 489. Ingleton says that in 1800 Lieutenant James Grant had charted and named much of the coastline of the present State of Victoria.
151 Scott, 1910: pp 88-89.
152 Scott, 1910: pp 88-89.
3-18 Finally Flinders is released and his map is published

In 1810 Flinders was released from Mauritius and returned to England with his charts and journal. The official account of Flinders’ voyage was published as *Voyage to Terra Australis* in 1814. Flinders was gravely ill by this time and the first copy arrived at his house the day before he died. Accompanying the account was Flinders’ map *General Chart of Terra Australis or Australia* [Fig. 35], showing a complete outline of the landmass formerly known as New Holland. The cartouche in the middle of the map bears the names ‘Terra Australis or Australia’ and this, with the complete outline, finally demonstrated that the landmass was one country called ‘Australia’. Curling over the landmass to the west of the cartouche were the words ‘New Holland’, and to the east ‘New South Wales’, but today these names do not have the power of the name in the middle of the map.

The manuscript version of Flinders’ published map rarely appears, yet it differs from the published map: the title is reversed. It is called *General Chart of Australia or Terra Australis* and most of the text in the cartouche is missing, so that the two names ‘Australia’ and ‘Terra Australis’ dominate the middle of the map. Perhaps more importantly, running down the middle of the manuscript map, along the 135th meridian, is a strong line implying a clear distinction between ‘New Holland’ and the ‘British Government of New South Wales’. This line does not appear on the published map.

‘Terres Australes’ was the name used on the 1663 map published in Paris by Thevenot, to describe the large area of almost completely uncharted space on the Spanish side of the 135th meridian. It was in this space that Cook’s New South Wales was created. Well before this, Quiros had named his discovery *Australia del Espiritu Santo* and this had appeared on maps on the east coast of New Holland. On Ptolemaic

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153 There were still areas of uncharted territory and these are shown as blanks on the map.
154 This chart is held by the United Kingdom Hydrographic Office in Taunton and was lent to the State Library of New South Wales for an exhibition *Matthew Flinders The Ultimate Voyage* 1 October 2001 to 13 January 2002. The catalogue entry concerning the chart dates it as 1804 and that it is in ink whereas the ‘published map’ shown in the catalogue is printed.
155 Matthew Flinders the ultimate voyage, 2001: pp 18-19. Here it is stated that Flinders was ‘forced’ to reverse the name for publication.
maps an enormous version of the now defined landmass had appeared as Terra Australis Incognita. Flinders, who is often credited with being the first to use ‘Australia’ as the name of the landmass, was reported as saying that he got the name ‘from the old charts’.

In 1822 the Flinders map, without the line, was revised. New coastal discoveries were added to it and it was published by the Hydrographic Department under instruction from an Act of Parliament, implying that it was the official map of Australia. It was at this point that ‘Australia’, as it is recognised today, came into being. Not only was it a name but also the mapped outline and, by implication, was a land in British ownership, even though at the time this was not the case.

3-19 Cosmographical maps with chorographical considerations

The play between these two maps, the Terre Napoléon of Freycinet and the Australia or Terra Australis of Flinders, was almost entirely cosmographical but there were chorographical considerations. Names from both maps still appear on contemporary maps and almost two centuries later they have become part of the known landscape of those who inhabit those places, and simultaneously remain as palimpsests of the voyages of these two navigators. Europeans attempting to ‘feel at home’ in the early days of colonisation might have felt a sense of security in geographical features bearing recognisable names of powerful people from their home country.

Essentially though, the names and outlines and the very reason for the existence of these two maps was cosmographical. They sent powerful messages about colonial aspirations to Europe where the names of recognisable European powerbrokers, scattered across a recently enclosed landmass on the other side of the world, meant only one thing: an assertion to take territory. In this sense, these two maps, more than

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156 ‘Australia’ was used by Quiros and ‘Australia’ had appeared on Dutch maps as a misspelling of Quiros name, but until Flinders had completed the outline, the landmass now known as Australia did not exist, so in this sense he was the first to use the name.

157 Zerubavel, 1992 discusses the ‘mental’ discovery of America in which he claims it took almost 300 years from the time of Columbus’ 1492 discovery before Europe was able to recognise, mentally, the landmass called America as what it was, not part of Asia but, as far as old European maps were concerned, a truly ‘New World.’
any others before them, created a ‘blank canvas’ undergoing ‘colonial inscription’. What enabled such inscription was the completion of a continental/island outline. Before this had been done, maps of the greater part of ‘Australia’ were no more than cosmographical imaginings.

3-20 Ownership on the map but not on the land

Although the published map of Flinders might have implied British ownership of the complete landmass, the British claim in 1822 was still only to the 135th degree of longitude east of the Greenwich meridian. This line, the border between New Holland and New South Wales, was the only ‘colonial inscription’ on the landmass enclosed by the outline provided by Flinders and Freycinet, and it related purely to cosmography because it had nothing whatsoever to do with the land it ran through.

Events in Europe continued to define the cosmography of Australia. In 1824, because of territorial changes in Europe, British trade routes in the east came under threat. In order to safeguard commercial and strategic interests in the Indian Ocean, a British military trading post was set up on Melville Island. It was the first of a series of attempts to establish a British presence on the northern coast of New Holland.

It was acknowledged at the time that by virtue of ‘first discovery’ the Dutch had as much right to the north coast of New Holland as the British had to the east coast, and that it was ‘but a step’ to the northern part of New Holland from Timor. If the British garrison sent to start a settlement at Melville Island found any other European power already in possession, the orders were that ‘hostilities were not to be entered into’. There was no other European presence and in September 1824, flags were

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158 Ryan, 1996: 11. This idea has been discussed in the introduction to this thesis.
159 This is the date of the Hydrographic Office Publication mentioned above.
160 Scott, 1940: 16. After the Napoleonic Wars, Java was ‘restored’ to the Dutch. This caused problems for British trade in the ‘Malay Archipelago’ as goods now had to be exported via Dutch settlements where they were subject to ‘heavy duties’. By establishing a trading station in the channel between Melville and Bathurst Islands and at Port Essington on the Coburg Peninsula, the British hoped to avoid Dutch taxes and secure the eastern trade route to China.
162 Watson, 1933: 6. Citing a letter John Barrow, the Secretary of the Admiralty, wrote to W.H. Horton, Under-Secretary of the Colonial Office, privately, on 22nd January 1824 concerning the proposed settlement.
163 Scott, 1940: 17.
raised and the British took possession of Port Essington and the nearby Bathurst and Melville Islands.\textsuperscript{164}

Melville Island was 5 degrees west of the 135\textsuperscript{th} meridian and Earl Bathurst of the Colonial Office made sure the longitude of Britain’s claim was extended to the 129\textsuperscript{th} meridian to include the island. This shift in the boundary line was written into the commission of the next Governor of New South Wales, Ralph Darling, and was dated 1825.\textsuperscript{165}

In 1825, when Britain claimed Melville Island and moved the line to the 129\textsuperscript{th} meridian, the extent of her colonisation of the mainland of Australia would not have been much more than the territory shown on the \textit{Map of the Nineteen Counties}\textsuperscript{166} and a small settlement at Westernport in the future state of Victoria. Consequently, there was nervousness about other European powers, particularly the French, starting settlements and claiming land\textsuperscript{167} on parts of what was becoming known as Australia.\textsuperscript{168}

\textbf{3-21 The British claim the other half of the landmass}

The military camp at Melville Island had to be moved as it was considered unhealthy and in 1826 Captain James Stirling was sent to remove the garrison. He had to wait until the rainy season had ended and spent his time exploring. He found the Swan River on the west coast of New Holland and decided this would make an excellent settlement.\textsuperscript{169} There was resistance from the Colonial Office about Britain acquiring any more territory in New Holland as it was considered ‘unnecessary’,\textsuperscript{170} but Stirling

\textsuperscript{165} National Archives of Australia, 2003: Governor Darling’s Commission 1825 (UK): pp 1-2.
\textsuperscript{166} The full name of this map is \textit{Map of the Colony of New South Wales Shewing the Mountain Ranges, County Divisions and general features}. Here it will be referred to as the Map of the Nineteen Counties in the interests of brevity. The map, which is discussed below, covered an area of 38,000 square miles surrounding the Cumberland Plain and this was an extension of the settlement at Sydney Cove.
\textsuperscript{167} Scott, 1940: pp 10-16. Scott gives details of the nervous reactions by various governors of NSW concerning French voyages to New Holland between 1788 and 1830.
\textsuperscript{168} Scott, 1940: 13. In 1817, after receiving a copy of Flinders' book, containing the map, Governor Macquarie started using ‘Australia’ in official correspondence.
\textsuperscript{169} Scott, 1940: 17.
\textsuperscript{170} Scott, 1940: 17. Citing Huskisson, the Secretary of State.
was determined that it would make a good colony. During the second half of 1828, Stirling wrote to the Under Secretary for the Colonies:

…His Majesty’s right to that country has never been declared, and as it is reported that the French Government contemplates the formation of a settlement in New Holland, the apprehension is that an expedition proceeding there might find, on its arrival, the best positions occupied and its aim defeated, to the total ruin of the property … I take the liberty of suggesting that [the difficulties] may be obviated by dispatching at once a ship of war to that quarter. Possession might thus be taken of the country surveys commenced, and arrangements made for the reception of settlers.\textsuperscript{171}

The letter obviously caused concern and the Colonial Secretary, Sir George Murray, acting on Stirling’s suggestion, asked the Admiralty to despatch a ship from the Cape of Good Hope to the west coast of New Holland and ‘take formal possession of the territory.’\textsuperscript{172} In 1829 Captain Fremantle was ordered to sail from the Cape of Good Hope to the Swan River, and acting under direct authorisation from the British government he declared that Britain asserted a right to sovereignty over ‘all that part of New Holland which is not included within the territory of NSW’. \textsuperscript{173}

This meant the British now had claim to the whole landmass of Australia but had created a border between the two colonies, Western Australia and New South Wales. This border ran down the 129\textdegree\th meridian. The line that had separated the landmass for centuries had now moved slightly and served a different purpose. Instead of representing the demarcation line between Spanish and Portuguese territory, it now divided British territory into two colonies. It was still the Pope’s line. The Spanish may have preferred the 135\textdegree\th meridian but the Portuguese considered the 129\textdegree\th to be the ‘Great Meridian’ and it had served their purposes well.

3-22 Lines of power on cosmographical maps
The grid projected by the map of the east coast by Captain Cook had reached the western coast of what had been known as New Holland within a span of 60 years. The one line shown on cosmographical maps represented two colonies with separate

\textsuperscript{171} National Archives of Australia, 2003: Instructions to the Admiralty to take formal possession of the western portion of the continent 5\textdegree\th November 1828 (UK): 2.
\textsuperscript{172} National Archives of Australia, 2003: Instructions to the Admiralty to take formal possession of the western portion of the continent 5\textdegree\th November 1828 (UK): 2.
\textsuperscript{173} Castles, 1982: 27 Note 35. Citing Battye.
colonial administrations on the ground, but both ultimately administered from London. Western Australia remained intact from that day to this, but the colony of New South Wales was gradually divided as new colonies were erected within its original borders, causing more lines to appear on the map.

On the 19th February 1836, William IV issued ‘Letters patent to establish the first of these, the Province of South Australia’. This document defined the boundaries of the new province.

And we do hereby fix the Boundaries of the said Province in manner following (that is to say)
On the North the twenty sixth Degree of South latitude On the South the Southern Ocean – On the West the one hundred and thirty second Degree of East Longitude – And on the East the one hundred and forty first Degree of East Longitude…

The boundaries of the new province left a sliver of land between the 129th meridian, the border of the colony of Western Australia, and the 132nd meridian, the border of newly formed province of South Australia. This territory was still part of the initial colony of New South Wales. The situation not only looked particularly clumsy on a map, but also caused all sorts of administration problems as the ‘sliver’ had been separated from the rest of the colony of New South Wales by the province of South Australia.

On the 10th December 1861, the western boundary of South Australia was extended to coincide with the eastern boundary of Western Australia. Now the border of South Australia and Western Australia sat on the 129th meridian up to the northern border of South Australia at the 26th parallel. From this point the 129th meridian bordered an area that is now called the Northern Territory.

On the 6th of June 1859, Queen Victoria signed Letters patent to ‘erect’ the colony of Queensland. In these papers the western border of the colony was set at 141 degrees of longitude. This was an extension of the eastern border of South Australia. In 1862 ‘Letters Patent’ were issued moving the Queensland border to 138 degrees of longitude thus adding 310, 800 square kilometres of territory to the colony. The

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border change was in accordance with Queensland’s wish to acquire a deepwater port in the Gulf of Carpentaria and the ‘Plains of Promise’, a potentially rich pastoral region bordering the Albert River.\textsuperscript{176}

Such border lines were cosmographical, set on maps on the other side of the world. Later they would have to actually be set on the ground and this would be an act of chorography. These cartographic lines represented proof of a claim that had started with Cook’s map of the east coast of New Holland, and was continued when Flinders’ and Freycinet’s maps enclosed the landmass. Border lines implied that this territory was in the process of being occupied, and that Britain’s claim on this land was becoming stronger. The lines existed purely in cosmographical space and would remain so until European settlement spread towards them. At such a time chorographic issues would arise: which colony was responsible for infrastructure and to whom should taxes be paid?\textsuperscript{177}

In Europe, borders had been formed over centuries. Changed as the result of various wars or for reasons that were no longer remembered, they formed an integral part of the landscape and of daily life for those who lived close by. These borders were chorographical. But in a vast land such as Australia, with a few Europeans hugging the coastal fringes, most would never wander near, let alone cross the border lines that defined the edges of their colonies. At the time they were written into official documents these lines were disembodied, invisible and had no relationship whatever to the land on which they were set, even though on cosmographical maps they appeared to impose order and define space. The chorographical setting of these lines on the ground would be a far more arduous process than the flourish of a quill pen in London across a blank map of Australia.

\textbf{3-23 From cosmographical ownership to ownership by chorography}

Cosmographical ownership of the east coast of New Holland had been established as far as other European nations were concerned. Now, with the arrival of the First Fleet, chorographical ownership had to be proven. If full title required settlement then


\textsuperscript{177} A sort of ‘no mans’ land’ existed for a while between South Australia and New South Wales as there were difficulties determining where this border was on the ground. It was possible to escape the law here because it was unclear which state’s law should be followed, this is discussed in chapter four.
settlers needed individual ownership of land. International law had become a context within which cosmographical maps ‘proved’ ownership but it was ‘common law’ that allowed chorographical maps to become powerful documents of ownership.

When Governor Phillip stepped ashore at Botany Bay in 1788, he carried with him a commission that implied that all the land in the colony of New South Wales was ‘owned’ by King George III of Great Britain.\(^{178}\) Phillip also brought with him the common law of England, and from that point in time this became the law of the colony of New South Wales.\(^{179}\)

In England by 1788 the notion that the sovereign ‘owned’ all the land was ‘generally a fiction’,\(^{180}\) however, in the colony it gave the Crown the right to parcel up the land and distribute it.\(^{181}\) In this way land passed from cosmographical ownership into individual, chorographical ownership, and this ownership was registered and legitimised by the cadastre.

The word ‘cadastre’ came from the Greek word *katastikhon* meaning line by line. It came to mean ‘a register of property showing the extent, value, and ownership of land for taxation’.\(^{182}\) Maps are an important part of this system\(^{183}\) as they provide the graphic description of the boundaries that define land ownership.\(^{184}\) All levels of government use these boundaries and the associated register for the purposes of taxation, for example, the imposition of council rates.

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\(^{178}\) Historical Records of Australia, 1914: 2. Governor Phillip’s 2\(^{nd}\) commission from George III who referred to himself as King of Great Britain, France and Ireland, and appointed Phillip ‘Captain-General and Governor-in-Chief in and over our territory called New South Wales’.


\(^{181}\) Brennan, 1993: 50.


\(^{183}\) For example the parish maps discussed in chapter two and shown as Fig 21,22,27,29, & 30. In particular Fig 21 and 22 show rectangular parcels of land with the name of the ‘owner’ written on them.

\(^{184}\) Although much more complex and organised now, the cadastre still operates under the same basic principles. In NSW it is controlled by the Land Titles Office and the following is from the LTO Records Guide, 1999: 13. ‘Reference maps located in the Plan Room on the second floor, records wing *provide the legal description of land*, an index to title and to the plan which gives a graphic representation of the parcel boundaries. Included in the reference system are county, parish and town maps, Central Mapping Authority cadastral sheets and reference sheets’.
Three fundamental dimensions emerge from these expressions of the meaning of cadastre.\(^{185}\) Firstly, it is concerned with the delimitation and mapping of land parcels. Secondly, cadastre involves the registration of ownership or real rights in and over land. Thirdly, the cadastral process includes the assessment of land parcels where the term assessment is defined as the classification of land by value, type and use.\(^{186}\)

One of the first steps in creating this register was to begin to delimit the enormous landmass of New South Wales and this was done with the creation of the County of Cumberland by Governor Phillip.\(^{187}\) Phillip, under instruction from the Crown and as soon as practical after landing, was required to establish a court to administer English common law in the colony of New South Wales. Because counties as territorial divisions had been for centuries ‘the chief unit for administrative, judicial and political purposes’\(^{188}\) in England, Phillip created such a county in New South Wales,\(^{189}\) which provided not only a territorial division within which to hold the court, but also the first major unit of the cadastre.\(^{190}\)

The boundaries of the County of Cumberland were fixed to the west by the Carmarthen and Lansdowne Hills. To the north, the northern parts of Broken Bay, and to the south, the southernmost part of Botany Bay formed the boundaries.\(^{191}\) The county was mainly unexplored bushland and those who had arrived on the First Fleet would not reach the boundaries of this first European delineation of land for many months.

3-24 Land grants – the need for chorography

In England the feudal doctrine of tenure reflected the complex system of relationships that formed the ‘basis of the social organisation of the country’.\(^{192}\) This

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\(^{185}\) Toms, 1976: pp 187-188. Toms is comparing and summarising various definitions of a cadastre.

\(^{186}\) Toms, 1976: 188.

\(^{187}\) When Phillip initially created the County of Cumberland he was probably much more interested in the administration of common law than in the cadastre.


\(^{189}\) Castles, 1982: 381. ‘Phillip seems to have regarded it as being “necessary” to name the area around Sydney as the County of Cumberland to provide an appropriate English-style venue for the first sitting of the court of Civil Jurisdiction’.

\(^{190}\) The importance of counties as a cadastral unit becomes clearer in the discussion below concerning the Map of the Nineteen Counties.

\(^{191}\) Historical Records of Australia, 1914: 58. Phillip to Nepean, July 9\(\text{th}\) 1788.

chorographical relationship can still be seen in the landscape of the English countryside. The low stone walls that surrounded the fields of the small tenant farmers, the common, the manor or castle dominating the land, and the church in a central position, its spire reaching into the sky. This chorographical relationship of known, lived space had grown up over many centuries. The colony of New South Wales was a very different place: it was not initially known nor a lived space as far as the few European settlers were concerned.

The Crown gave very specific instructions as to how land was to be granted in the colony. These were contained in the commission of the first governor, Phillip, and revised at various times after his arrival in the colony. The Crown specified how much land each convict would receive once emancipated, and made allowances for extra land for the upkeep of wives and children. The land had to be lived on, cultivated and improved.

Land was the only currency available and it was used to encourage the marines from the First Fleet to stay and become members of the specially commissioned New South Wales Corps. It was thought that the marines would be ‘of great utility’ in the cultivation of land and their continuing presence, it was assumed, would help maintain order. The Crown was once again quite specific as to how much land would be granted and the quantity increased according to the length of time of service.

The Crown stipulated that grants have proportional amounts of ‘profitable’ and ‘unprofitable’ acres and that they should not extend along the banks of a watercourse but into the ‘mainland’ so that water would be available to all grantees. In addition there was a requirement that between ‘every two such grants’ there be an area ‘10 acres in breadth and 30 acres in length’ reserved ‘for the benefit of Us, Our Heirs and

193 These instructions from the Crown were included in the commissions of all the early governors until the beginning of land sales, which are discussed below.
194 Historical Records of Australia, 1914: pp 14-15. Governor Phillip’s 2nd commission from George III.
195 Historical Records of Australia, 1914: pp 122 -123. Grenville to Phillip, 19th June 1789.
197 Historical Records of Australia, 1914: 125. Grenville to Phillip, 22nd August 1789.
Successors’. These areas could be leased for a period of 14 years but not granted.\textsuperscript{198}

\section*{3-25 Land grants – the need for surveys}

In 1792 the first grants of land were issued. But it was not until December 1794 that a surveyor’s description of the land granted was incorporated with the grant.\textsuperscript{199} The earliest grants did not include a map but a verbal description of the land, as was the custom in England. But England, certainly since feudal times, was a landscape of well-worn key features, church steeples, stone walls, manor houses, castles, streets and roads.

The land laws in force at that time \textsuperscript{[1792]}\textsuperscript{200} were based on the English system of conveyancing, where land was described in terms of the physical features surrounding it. This type of system works well in an area of established settlement where there are walls, buildings, and other structures in close proximity to the boundaries, but it was totally unsuitable in the new colony.\textsuperscript{201}

In New South Wales at this time, the only recognisable key features were the occasional track, that could bear the title of ‘road’, and water. Because of this, early grants tended to have water as one of their boundaries. An example of a grant using a verbal description is that of Phillip Schaffer’s, who was one of the first to be granted land:

\begin{quote}
In Pursuance of the Power and Authority vested in me as aforesaid, I do by these Presents Give and grant unto P.S. His Heirs and assigns to have and to hold for ever, One Hundred and forty acres of Land in one Lot, to be known by the name of THE VINEYARD laying on the North side of the Creek leading to Parramatta and crossed by a Publick Road of One hundred feet in breadth; …
\end{quote}

Initially, land was requested by the grantee probably because they had already been cultivating and living on it. The grant was plotted on a map by the Surveyor-General or his officers, but only in relation to other grants. To begin with, this was not too great a problem as there were few settlers in a vast area of land. But this system,

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\textsuperscript{198} Historical Records of Australia, 1914: pp 126-127. Grenville to Phillip, 22\textsuperscript{nd} August 1789.
\textsuperscript{199} Historical Records of Australia, 1914: 757 (Note 174).
\textsuperscript{200} It was in 1792 that the first grants were registered.
\textsuperscript{201} Elfick and Fryer, 1992: 88.
\textsuperscript{202} Historical Records of Australia, 1914: 310. Phillip to Nepean, 18\textsuperscript{th} November 1791.
\end{flushright}
begun by Surveyor-General Alt in 1792, was still working on much the same principles in the 1820s when there were many more grantees vying for the choicest portions of land.

Once the grantee had requested a particular block of land it was approximately charted on a map and the name of the settler and the acreage to be granted were published in *The Gazette*. When a surveyor was available he would go to a particular district and survey any land that had been granted but not surveyed.203 There were few surveyors available and they could not spend much time in any particular place. Many grants remained unsurveyed long after the grantee had taken possession of them. Once the grants were surveyed

…the measurements and prepared description were returned to the Governor’s secretary who made out the grants. After placing the Colonial Seal, registering the grant and the payment of fees, the document would be delivered to the applicant.204

As the field notes for each survey filtered back to the Surveyor-General’s office, the newly surveyed grants were plotted onto charts next to earlier grants and without any underlying trigonometrical survey. No relationship was made between the parcels of grants in one district to another, nor to the coastline. The plotting of parcels on the charts in relation to other parcels was largely a matter of conjecture.205

This process, the registering of the grant and the plotting of it onto charts, although primitive and unwieldy, represented the early cadastral system in the colony. The British Crown had assumed ownership of all the land in the colony of New South Wales but as each parcel of land was granted it became ‘owned’ by someone else. The cadastral system registered the ownership of each parcel of land as an act of chorography.

The early cadastre could register initial ownership of grants but little allowance was made if that original ownership changed hands quickly. As early as the 1790s there was a flourishing market in land grants, which were changing hands very quickly, often before they were even registered. As there was no system in place to record

203 Williamson, 1984: 5.
these transactions they were often just written on the back of the grant or not recorded at all. By 1800, of the 390 grants given to exconvicts, only 212 were still in the possession of the original grantee.  

3-26 The Crown’s instructions? or out of control?

Governor Phillip followed the Crown’s instructions as far as the granting of land was concerned. He returned to England and until his replacement arrived the administration of the colony, and thus the granting of land in the name of the monarch, was left in the hands of the highest-ranking officer of the New South Wales Corps. First Major-General Grose and then Lieutenant Colonel Patterson granted land as they saw fit, and generally this favoured officers of their own regiment.  

When Governor Hunter arrived on the 11th September 1795, he found the land situation in the colony was quite out of hand. Apart from land officially granted and noted on returns to London as instructed, Hunter found ‘considerable numbers of convicts’ who had neither served their time nor were emancipated, who had settled on land they took to be theirs. These convicts were in possession of a ‘slip of paper’, signed by the Lieutenant Governor and giving them permission to settle wherever they pleased.  

Not only this, but ‘the late Lt. Governor’ had granted 25 acres of land wherever they chose to have it, to every private soldier under his command. These men were still employed by the army and had duties to perform but, because of the residential clause, they were not in a position to occupy and cultivate the land they had been granted. They could not be in two places at once, a fact that must have been fairly obvious to their commanding officer. They had no alternative but to sell the land they had been granted, and, the buyers were generally their own officers, who in this

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207 Crundwell, Golder & Wood, 1995: 3. Between them, Grose and Patterson had alienated 21,225 acres of land in the form of grants and leases, often to the benefit of their own men.
208 Historical Records of Australia, 1914: 126. Grenville to Phillip, 22nd August 1789.
211 Historical Records of Australia, 1914: 441. Dundas to Grose, 31st June 1793. The residential clause required grantees to ‘reside upon and cultivate’ the land they had been granted for at least five years before they could sell it.
manner acquired a great deal of land.

By 1800 land deals or disputes about them had begun to overload civil courts so a public record of land transfers was instigated.212 In 1802, Governor King streamlined the system and made the office of the Judge Advocate responsible for the register of land transfers and issued a warning that ‘no assignment of property will henceforth be considered legal unless regularly drawn up … and duly registered’. However, many ignored this warning and did not register the transfer of grants. Although land transactions from 1802 do form a ‘continuous series’, it was not until reforms made to the registration of deeds by Governor Macquarie in 1817 that the first ‘recognisable register of deeds’ existed in New South Wales.213

3-27 Boundaries begin to collide

The specific function of maps in the exercise of power also confirm the ubiquity of these political contexts on a continuum of geographical scales. These range from global empire building, to the preservation of the nation state, to the local assertion of individual property rights. In each of these contexts the dimensions of polity and territory were fused in images which – just as surely as legal charters and patents – were part of the intellectual apparatus of power.214

The primitive cadastral system that had been set up in the early colony was not working very well. This meant that the boundaries of individual parcels were in doubt as was chorographical ownership itself. The limits of the boundary of the County of Cumberland had been well and truly breached and the spread of settlement meant more and more parcels of land were being granted. The practice of defining land only in relation to adjacent parcels was beginning to cause problems as more and more land was granted and boundaries of pockets of parcels crept closer and eventually collided.

In 1819 Earl Bathurst, the Colonial Secretary, appointed John Bigge as a commissioner to travel to New South Wales and investigate the state of the colony. Bigge215 found that by 1820, 324,251 acres of land had been granted, but the settlers

215 Foster, 1985: 98. The third of Bigge’s reports, On the State of Agriculture and Trade in the Colony of New South Wales, which was ordered to be printed by the House of Commons in 1823, concerned
had preceded the surveyors, and thousands of blocks in the country and nearly four-fifths of the houses in Sydney and Parramatta were without title. This implied that the Surveyor-General’s Department had not been able to keep up with the surveying necessary to define the boundaries of the land granted, and that this was leading to people taking up land before they had title to it. Others were not taking up their grants and settling because of the confusion over where their land boundaries actually were.

3-28 Counties, hundreds and parishes

Bigge made a number of recommendations, one of which led to the ‘King’s Instructions of 1825’. All the land in the colony was to be divided into counties, hundreds and parishes. Each county was to be about 40 miles square, each hundred about 100 square miles, and each parish about 25 square miles. However, natural boundaries of watercourses or other topographical features were to be used in this division and ultimately these would determine the actual size of counties, hundreds and parishes.

Those who had been given the task to divide the colony into counties, hundreds and parishes were not able to do so, except in the County of Cumberland, because of the lack of a basic map. A comprehensive survey, to form such a map was considered vital for the progress of the colony.

It is not merely the measurement of the boundary lines of farms which is required of the Survey Department, but the true situation of each farm with reference to others, and to the boundaries of Counties, Parishes and Hundreds; all of which are to be determined by such natural features as the country permits. A general survey is an indispensable requisite for the satisfactory accomplishment of the location of grants, the division of the Colony and the construction of permanent works.

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217 Foster, 1985: 117.
218 Foster, 1985: 196. Surveyor-General Mitchell used this term.
219 Foster, 1985: 197.
220 Beaver, 1952: 88. Commissioners appointed by the governor had been set this task.
221 Beaver, 1952: 89. Citing 'the magazine of the day'.
In order for the cadastre to function, ‘a proper system of survey’ that could form the basis of chorographical maps was required. From this survey, maps could be more accurately made to correctly chart the borders of parcels of land that were now under individual ownership. A series of county maps was needed, divided into parishes, each of which would also require a map. Parish maps, chorographical maps of ownership, would show numbered portions that related to each individual parcel of land.

3-29 The map of the nineteen counties

On the 17th October 1829, nineteen counties were proclaimed in the Sydney Gazette even though only two of these were even partly surveyed. The declaration of these counties was in accord with Bigge’s instructions and represented an important improvement to the cadastre, allowing land to be more easily and efficiently taken into British individual ownership. Firstly, however, it had to be mapped and surveyed.

For the counties to be of real benefit they had to allow land to be allocated and plotted in relationship to other land and at least some identifiable topographical features apart from watercourses. A trigonometrical survey of all nineteen counties was needed. For the boundaries of each portion to be correctly located, the boundary of each parish and county had to also be in the right place in relation to each other. This would allow grants to be properly located, organise the division of territory and aid the construction of permanent works.

The Governor and the Colonial Secretary agreed government money should be spent to do it, but the Secretary for State forbade it. Because of this the survey had to be accomplished by the Surveyor-General and his assistants, in conjunction with other tasks such as the laying out of roads, determining parish and county boundaries or the laying out of grants.

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223 Foster, 1985: 124.
225 Beaver, 1952: 89.
Every time the line of a road was set, or a parish or county border determined, the surveyors found high points to take readings from and connect these stations to those already established.\textsuperscript{226} Even though the methods were rudimentary, the area surveyed covered an area about the size of Scotland\textsuperscript{227} and at this time was the largest area in the British Empire to have been ‘scientifically’ surveyed and mapped.\textsuperscript{228} However, it represented no more than a speck on the map of the colony of New South Wales. The territory under the jurisdiction of Surveyor-General Mitchell\textsuperscript{229} stretched all the way to the 129\textsuperscript{th} meridian.

The information obtained from the general survey culminated in a map in three sheets.\textsuperscript{230} The *Map of the Colony of New South Wales Shewing the Mountain Ranges, County Divisions and general features*, more commonly known as the *Map of the Nineteen Counties*, was published in 1834. Nine hundred plans went into the formation of this map, which was drawn to a scale of eight inches to a degree and covered an area of 38,000 square miles.\textsuperscript{231} It represented the first large-scale European map of any part of the colony of New South Wales. This extraordinary map so impressed the powerbrokers of Great Britain that the Surveyor-General, Sir Thomas Livingstone Mitchell, was knighted for his accomplishment.\textsuperscript{232}

It was not only beautifully rendered, but Mitchell’s map represented the next assertion of British ownership (after that of Cook and Flinders) of the territory now known as New South Wales. A claim that had begun with the map of the east coast, then a

\textsuperscript{226} McLean, 1967: 137. These ‘stations’ were ‘established’ because they had been related to other points, but they were not ‘established’ in the sense that any permanent marks were put in place. This happened much later. During Mitchell’s time and for many years after, the most permanent mark left by the surveyors was to clear the top of the hill leaving just one tree as a marker that could be seen in the distance. Many of these surveying stations came to be called ‘One Tree Hill’.

\textsuperscript{227} McComb, 1935: 330.

\textsuperscript{228} Although the ordinance survey of the United Kingdom had begun in 1791, by the time Mitchell reached New South Wales in 1828 the idea that it was possible to survey such a large area was only just beginning to form and the colony of New South Wales was considerably larger than the whole of the United Kingdom. The survey of Ireland was underway during Mitchell’s tenure, with considerably more surveyors undertaking the task than he had at his disposal and Mitchell complained about this.

\textsuperscript{229} Carter, 1988: 100. Major Thomas Livingstone Mitchell was the fourth Surveyor-General of New South Wales and he held this office from 1827 until his death in 1855.

\textsuperscript{230} McLean, 1967: 137.

\textsuperscript{231} McLean, 1967: 137.

\textsuperscript{232} Carter, 1988: pp 117-121. Carter suggests that Mitchell with his Peninsular War survey experience and the skills he learned there, was perfectly suited to be a ‘geographical Wellington’. Carter claims that Mitchell ‘possessed’ the country with names and views quite as effectively as would a general ‘deploying his troops’. In both these statements, Carter is referring to explorations carried out by Mitchell later in his career. The *Map of the Nineteen Counties* was one of Mitchell’s first major efforts in the colony and I am suggesting that he is using the same approach here.
mapped outline and now a detailed map of a ‘tiny’ portion of the landmass, (an area the size of Scotland) would be granted or sold on behalf of the British Crown.

3-30 Land sales

The map allowed for another of Bigge’s recommendations, that of land sales. Land granted by the Crown did not have to be quite so specifically defined as it was, in a sense, given away. When it came to purchasing land, the purchaser required a much more accurate title as to what had actually been bought. All land was given away in the form of land grants by the Governor until 1826. Grants promised were still granted until 1831, but the first land sales took place in 1826.

As soon as the necessary arrangements have been completed, with respect to the survey of a parish, notice will be published in the *Gazette*, that a chart thereof will be exhibited in the Surveyor General’s Office for public information, shewing its boundaries, the public reserves, the Lands already appropriated, and those remaining for Sale; the latter being divided by lines into sections of one square mile, or six hundred and forty acres, as nearly as practicable, and each section distinguished by a numerical mark; together with a schedule pointing out and describing the natural and artificial marks corresponding with the division lines of every such section.233

Land was only for sale within the nineteen counties that stretched into the recently discovered central west.234 This idea proved to have been not well thought through. Those who could not show sufficient capital, or did not wish to purchase land, simply went beyond the nineteen counties and squatted.235 Thus the *Map of the Nineteen Counties* came to represent a zone of inclusion and exclusion. It defined the limits of occupation beyond which settlement was forbidden, thus representing the next border of British occupation and the extent of the cadastre.

As has been established, from the time of the first land grants, European space in the colony had been defined in isolation and this practice continued with Mitchell, who developed regulations for the control of surveys that

233 *The NSW Calender and General Post Office Directory*, 1832: 158.
234 Grimes, 1958: 230. Settlement beyond the nineteen counties ‘was prohibited under threat of prosecution’.
…consolidated the current practice of fixing boundaries by locating their relationship to adjacent parcels of land only. There was no attempt to provide an overall survey control system, and parish and county maps were mainly an aggregation of individual parcel surveys.236

The borders of some parishes and counties were determined by the boundaries of parcels of land already granted; they were simply aggregations of land parcels.237

Parcels of land crossed boundaries that should have stopped them, if they had been in place at the time. This applied initially to individual parcels, but when aggregates of these formed parish and then county borders, these too were defined after the line that should have defined them had been crossed. Sometimes strong topographical features, such as rivers, insisted that a natural boundary be abided by but when no such obstacle presented itself, what had been taken and lived on took precedence over the empirical grid of the nineteen counties.

These parcels that had formed their own borders were chorographical because they denoted lived rather than imposed space, and they often defined the borders of parishes and counties. Thus the map itself played with the cosmographical, imposed from outside, and the chorographical that had arisen from space already inhabited by Europeans. Many of the boundaries of parishes and counties that the map attempted to assert came after the space was known and lived in, that is, inhabited in a chorographical way. Although parish maps are chorographical, the imperial grid of parishes and counties set in place by the Map of the Nineteen Counties is not.238

3-31 Nineteen counties – an imperial grid

This map appeared to represent chorographical space, and by implication, this was land tied and bound, ready for settlement under British ownership and secure in the titles provided by legal precepts that were descendents of the feudal system.239 Land here could be measured, bought and owned with the backup of British common law. Yet many of the names of the counties on the map were cosmographical, representing

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238 Beaver, 1952: pp 93-94. Beaver said the following in 1952, concerning the ultimate extension of the grid: "To-day this State has been divided into 141 Counties and 7,422 parishes and many of these Parishes are still blanks and cover areas that carry no population whatsoever." Various parishes that still to this day carry no population; have been discussed in chapter two.
the major players of British colonial power, in the same way that the maps of Cook and Flinders had done. Consequently, the Map of the Nineteen Counties sits in the gap between cosmography and chorography, implying the British have the right, as far as other European powers are concerned, to chorographical ownership and, therefore, to not just grant but to sell portions of this land as well.

The early governors of New South Wales became the names of counties: Phillip, Hunter, Bligh, King, Brisbane and the most renowned British war hero of the time, Wellington. Macquarie was not included but Westmoreland, the county he named, was. Macquarie named it because it reminded him of the county of Westmoreland in England, and because he and many others in the colony dreamed that in the west there would be more land (west-more-land).\textsuperscript{240}

The county of Camden was named after Lord Camden, Secretary of State for the Colonies who had authorized the issue of the land granted there to Macarthur.\textsuperscript{241} The 3\textsuperscript{rd} Earl of Bathurst was Secretary for War and the Colonies until 1827. It was Macquarie who named the town of Bathurst in 1815.\textsuperscript{242} Phillip named Cumberland on King George III’s birthday on the 4\textsuperscript{th} of June 1788. The Duke of Cumberland was one of George III’s sons. The Earl of St.Vincent was the ‘noble admiral’ who was head of the Admiralty when Matthew Flinders left England.\textsuperscript{243} Sir George Murray was Colonial Secretary in 1828. Northumberland, Gloucester, Roxburgh, and Argyle were the names of counties in the British Isles and of the aristocrats who gained much of their wealth from the ownership of the lands from which they took their names.

The names of the nineteen counties read like a who’s who of British colonial power transplanted onto the land of New South Wales. This was cosmography, created for the benefit of London, not those who lived on the land.

There are innumerable contexts in which maps became the currency of political ‘bargains’, leases, partitions, sales, and treaties struck over colonial territory and, once made permanent in the image, these maps more than often acquired the force of law in the landscape.\textsuperscript{244}

\textsuperscript{240} Barrett, 1994: 6.
\textsuperscript{241} Australian Encyclopaedia, 1958: 243.
\textsuperscript{242} Australian Encyclopaedia, 1958: pp 454-455.
\textsuperscript{243} Scott, 1914: 151. Scott was describing the naming of St. Vincents Gulf by Matthew Flinders, it was the same ‘noble admiral’ who inspired the naming of this county.
\textsuperscript{244} Harley, 1988: 283.
3-32 The myth of emptiness

The projection of Cook’s map led to the assertion of British ownership of the whole in Flinders’ map. The *Map of the Nineteen Counties* enabled organised individual ownership to take place yet on the ground, at the level of chorography it was a different story. Very few Europeans had attempted to inhabit a vast space that was already inhabited.

In time, the whole of Australia was settled and mapped as if it was *terra nullius*, as if there was no owner other than the sovereign of Great Britain. Aboriginal people were mapped off their land ‘parcel by parcel’. These parcels were gathered together initially to form parish maps, until eventually the boundaries of parish maps were in place before the parcels were granted or sold. Either way, the cadastral system of white ownership crept across the land ‘extinguishing’ indigenous systems of ‘ownership’.

Imperial Britain imposed *terra nullius*, of territory/land, law and people, and covered every part of my Nunga being with its myth of emptiness. This justified the lie that a space existed and still exists for their invasion and settlement of the ruwi of my ancestors as part of God’s good plan. Their claimed sovereignty denied ours and in planting the flag – supported by violence – an act of state, they violated the laws of the first peoples. Terra nullius and its violence made Nungas and our laws invisible, while our ruwi become (I use this tense because it is, as I know it, a continuum) enslaved, commodified and entrenched in their rules of property.

This ‘myth of emptiness’ that rendered Nungas (Aboriginal people) invisible attempted to cover a world view that was far older and more complex than any of the European world views discussed elsewhere in this work. Nunga’s relationship to ruwi operates in the past, the present and the future and manifests as a complex series of connections between Nungas, the land, spirits and ancestors not just the ‘ownership of a piece of property. It has been described as an ‘ontological relationship’.

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246 Whether ‘Native Title’ was actually extinguished or not was the subject of both the ‘Mabo’ and ‘Wik’ cases before the High Court of Australia.
247 Watson, 2002: 3.
Our ontological relationship to land is a condition of our embodied subjectivity. The Indigenous body signifies our title to land and our death reintegrates our body with that of our mother the earth. However, the state’s legal regime privileges other practices and signs over our bodies. This is because underpinning this legal regime is the Western ontology in which the body is theorized as being separate from the earth and it has no bearing on the way subjectivities, identities and bodies are constituted.248

Nunga relationships to ruwi are more complex than owning and controlling a piece of property. State sovereignty is established through the power of force and the planting of a flag, wherefrom the land becomes enslaved and a consumable, which is traded or sold. We are the natural world; it is a mirror of our self, our Nunganess, so how can we sell our self?249

The cadastre, the maps that support it and the world view embedded therein, cannot relate to an ‘embodied subjectivity’ yet these maps are no more objective than any other and ‘can only be read through the myths that Europeans tell about their relationship to the land’.250 These European myths appear to overpower Indigenous world views ‘because they enable forms of association that make possible the building of empires ... disciplines like cartography and the concepts of landownership that can be subject to juridical processes’.251 Yet embedded within the Aboriginal ‘ontological relationship to land’ are complex systems of law that relate to the land, originating in ancient times, they remain dynamic today.

Our laws of ruwi are ancient. They come from a time the old ones called Kaldowinyeri – the dreaming. A place of lawfulness, a time before, a time now, and a time yet coming to us. A time when the first songs were sung, as they sang the law. Laws were birthed as were the ancestors – out of the land and the songs and stories recording our beginnings and birth connections to homelands and territories now known as Australia. Our laws are lived as a way of life; they are not written down as the knowledge of the law comes through the living of it. Law is lived, sung, danced, painted, eaten, walked upon, and loved; law lives in all things.252

Numerous groups of people occupied the continent, each bound together by a system of customary law that governed their social, economic and political life. Intricate rules regulated

249 Watson, 2002: 3.
252 Watson, 2002: 3.
The European justifications for assuming land to be terra nullius had evolved since Grotius had first suggested them. By the time of the settlement of Australia two main principles were in place, firstly that the land had no sovereign and secondly that it had no law. As far as Australia was concerned neither was the case and yet the ‘mindset’ of terra nullius prevailed, operating ‘as a background assumption’ that became the ‘bedrock upon which the colonies and later the Australian nation were built.’ This mindset led to the dispossession of Aboriginal people and rendered Nunga life and laws ‘pre-historic, invisible, un-evolved in time, in presence terra nullius.’

In the 1992 Mabo case the High Court re-examined the ‘assumptions behind the acquisition of British sovereignty’ and identified the ‘discriminatory world view’ upon which they were based. The High Court found that this world view was ‘no longer an acceptable base upon which to justify ownership of the Australian continent.’

The Mabo judgement decided that British sovereignty had not extinguished ‘all the land rights of Australia’s Indigenous peoples’ and this decision led to the Native Title Act 1993. However the Act was changed by amendments outlined in the ‘ten-point plan’ because of the fierce opposition from many white landowners after the Wik case at the end of 1996 granted native title over land that had once been leased. The plan enabled Deputy Prime Minister Tim Fischer, to pour ‘bucket-loads of extinguishment’ on the native title rights of Indigenous peoples.

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255 Watson, 2002: 2. Watson says this in relation to the violence of the ‘krinkris’ (white people). The suggestion here is that they perpetuated the ‘mindset of terra nullius’ even if they were not familiar with the term.
257 Brennan, Behrendt et al, 2005: 104
258 Although the land in question had only been leased for a short time and had long since been given over to Aboriginal people, the fact that it had once been leased was used to stir up fears that leasehold and even freehold land could be subject to native title.
... the origin and assertion of property law in Australia continues to be based on racial domination. The intersection between race and property continues to play a definitive role in constructing and affirming Indigenous dispossession.\textsuperscript{260}

Unfortunately the mindset of terra nullius and the discriminatory world view that supports it, is not just historical but still embedded deeply in the structures of white power and thinking to this day, and because Aboriginal people are so strongly connected to their land, the consequences of terra nullius, dispossession, are far reaching.

We may enter the native title process and become a consenting party to the genocide, where one is stamped native or extinguished, but whatever the stamp, once in the process you are open to a determination of extinguishment at a time determined by the state.\textsuperscript{261}

Native title is the only kind of title that can be extinguished by other tenures\textsuperscript{262} and if a native title claim is unsuccessful it implies extinguishment of that claim which is devastating for the Aboriginal people involved. Since the revised ‘ten point plan’ came into operation it has become more and more difficult to prove native title.

Between 1995 and 2001 the Yorta Yorta people took their case for native title to the Federal Court and finally, on appeal, to the High Court where five of the seven judges agreed to the following

The forebears of the claimants had ceased to occupy their lands in accordance with traditional laws and customs and that there was no evidence that they continued to acknowledge and observe those laws and customs.\textsuperscript{263}

In this decision, key concepts such as ‘tradition’, ‘continuity’, and ‘connection’ became ‘socio-legal constructs that took on a pseudo-objective form’. By claiming to be objective the judges were able to ‘mask the racialisation of their knowledge and its partiality’.\textsuperscript{264} For example one judge used the ‘Oxford dictionary’ to define tradition and said the following

\textsuperscript{260} Moreton-Robinson, 2004: 7.  
\textsuperscript{261} Watson, 2002: 5.  
\textsuperscript{262} Moreton-Robinson, 2004: 2.  
\textsuperscript{264} Moreton-Robinson, 2004: 7.
Tradition, myth and legend are often indistinguishable, but mere existence of either of the latter, in the sense of a fictitious narrative, or an unauthentic or non-historical story, however venerated by repetition, will not suffice of itself to establish native title rights and interests possessed under traditional laws or customs by people claiming a relevant connection to land.\textsuperscript{265}

Thus Yorta Yorta ‘tradition’ was defined from within a European world view originating in Greco-Roman thinking, that has nothing whatsoever to do with Yorta Yorta epistemology. Furthermore, within the narrow definitions applied by the judges, any perceived evolution of ‘tradition’ was considered to be proof of a discontinuous connection to land. Farming that the Yorta Yorta had undertaken was ‘incompatible with the traditional way of life or any evolution of it’.\textsuperscript{266}

The Yorta Yorta did not have a written language yet evidence was dismissed because it was not written, ‘epistemological privilege was given to white written history rather than oral testament,’ because it may have been ‘embellished subject to memory’.\textsuperscript{267}

The writing of history is assumed to have validity through the act of writing, whereas for Indigenous peoples, history is worn in the body and in the connection between memory and practice.\textsuperscript{268}

The white judiciary and white historians claim ownership of history whether it is Aboriginal or white, and this history begins in 1788 with the arrival of the First Fleet. Aboriginal history is considered ‘pre-historic’ while white history defines Australia and who belongs and who doesn’t. Many white historians who write on Aboriginal history ‘use it to reinforce an unspoken or unacknowledged position of power in terms of control over truth.’\textsuperscript{269} Often it is not just history that is written but identity as well, historians are ‘writing identity into history’.\textsuperscript{270} It is these historical identities that define ‘appropriate behaviour’ for ‘traditional’ Aboriginal people.

Indigenous people now face an unrealistic and inflexible burden of proof to meet ‘white Australia’s cultural and legal prejudices about what constitutes “real Aborigines”.\textsuperscript{271}

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\textsuperscript{267} Moreton-Robinson, 2004: 5.
\textsuperscript{268} Brady, 2001: 23.
\textsuperscript{269} Brady, 2001: 26.
\textsuperscript{270} Brady, 2001: 25.
Terra nullius meant that the land was taken without negotiation, without any Treaty being entered into even though Cook was given the option to do this and even though the British had participated in Treaties with Indigenous people elsewhere. For example New Zealand and North America. The legal process by which Australia was taken was called ‘settlement’ rather than ‘conquest’ the inference being that there was no one to conquer. All the maps discussed in this chapter exist within this mindset of terra nullius on a cosmographical level and chorographically in a historical context of violent conflict and indigenous dispossession. The myth of emptiness is still played out in the law of the land to this day. Refusing to acknowledge prior ‘ownership’ based on an ontological relationship to land; it dismisses or silences Indigenous ways of knowing.

The politics of such silencing is enabled by the power of Western knowledge and its ability to be the definitive measure of what it means to be human and what does and what does not constitute knowledge. Questioning the integrity and legitimacy of Indigenous ways of knowing and being has more to do with who has the power to be a knower and whether their knowledge is commensurate with the West’s ‘rational’ belief system.

3-33 Settlement / unsettlement, then and now

The ‘settlement’ of land, which ignored the need to at least find ‘settlement’ with the original owners and occupants of that land, continues to create a sense of a lack of ‘moral legitimacy’. This is still felt by many Australians both indigenous and non-indigenous. The initial foundation of the nation has led to ongoing disadvantage and powerlessness as far as Aboriginal people are concerned, this past influences the present and future of Indigenous people in Australia.

Still, today, every title to land in New South Wales has, written on the deed, the portion number of the block followed by the parish and county that portion of land is

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273 This is the case in 2006 after the ten point plan mentioned above. There have been native title cases before especially in the Northern Territory under different legislation where attempts were made to understand and incorporate the complexities of Aboriginal ‘ownerships’ to land. An example of this is given at the beginning of this chapter in footnote 14.
275 Brennan, Behrendt et al, 2005: 5.
in. It is the parish and county maps that provide ‘the legal description of land’. The maps themselves are no longer made and the cadastre is now on computer. The initial purpose of the maps, to chart the distribution of ‘Crown land’, has been completed or the land re-categorized, but all these maps contain an extraordinary ‘silence’, suggesting that Europeans had always lived there.

It has been suggested that maps have taken more indigenous territory than guns. The parish maps of Cooba, Wingecarribee and The Peaks imply that all the land defined by these maps, all the land in the colony of New South Wales and ultimately the whole of Australia, could be considered to be an empty land owned by the British Crown ‘because there was no other proprietor’. This ‘ownership’ by the Crown brought with it a system of mapping that had become an instrument of European colonial power. Parish maps became documents of ownership and land classification backed up by a powerful legal system. This system of mapping is still today deeply embedded in the political structures of Australia, from local councils to the highest court in the land. Parish maps were very specific, using only such topographical features that were absolutely necessary to identify boundaries of land granted or sold. Their official purpose was to graphically describe the boundaries of land ownership.

…boundary lines on the map were a medium of appropriation which those unlearned in geometrical survey found impossible to challenge. Maps entered the law, were attached to ordinances, acquired an aureole of science, and helped create an ethic and virtue of ever more precise definition. Tracings on maps excluded as much as they enclosed. They fixed territorial relativities according to the lottery of birth, the accidents of discovery.

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277 This is a reference to the Land Titles Office information discussed above.
278 Parish maps have recently been discontinued and the cadastre is now on computer. This change was made because parish maps were originally to administer ownership and distribution of Crown land and this has essentially been completed. Crown land that is not already in private ownership has been re-categorised under other headings, for example National Parks or land held by the Department of Roads or Railways. Any ‘bits’ that are left will probably be returned to Aboriginal ownership via Native Title legislation. This information came from a senior employee of the Lands Department. Pers. comm. Lands Department of NSW.
279 Harley, 1988: 292. The ‘silence’ is a reference to a discussion by Harley concerning colonial mapping in 18th century North America in which he suggests that silences on maps discriminate against ‘native peoples’: ‘Silences on maps – often becoming part of wider cultural stereotypes – thus came to enshrine self-fulfilling prophecies about the geography of power’. The suggestion here is that the same thing happened in the colonial mapping of Australia.
281 The relevance of these particular parishes will become clear below.
283 Harley, 1988: 285. In particular, Harley is referring to ‘former Indian lands in North America’.
From the time that Cook sailed along the east coast and his map was published under authority by the Admiralty, there was a European colonial agenda to take the land now known as Australia into British ownership, probably initially to start a ‘thief colony’, and ultimately this meant the taking of a land that was already inhabited and had been for perhaps 40,000 years, probably a lot longer. This meant that the Europeans who kept arriving had to ignore the people already living there, or attempt to eliminate them. Both happened.\textsuperscript{284}

3-34 Mapping over an Aboriginal map – The Burragorang Valley

The impact on the indigenous people of the cosmographical manoeuvrings that produced what is now known as Australia, cannot begin to be imagined by those Europeans who now see themselves as chorographical owners. Yet perhaps an idea of this impact can be seen at the level of the chorographical mapping of the Burragorang Valley, which is now examined in detail, not to ascertain memories of past inhabitants as it was in chapter two, but here to show how the power play of cosmography, discussed throughout this chapter, impacted on the lives of the Gundungurra people who had lived in this area for as long as they and their ancestors could remember.

In September 1826, the Land Board of Commissioners examined all land in the county of Camden between Mt. Hunter and the Warragamba River and the valley of the Wollondilly. They estimated that this area contained about 80,000 to 90,000 acres of well-watered, ‘tolerably good’ grazing lands.\textsuperscript{285} By 1906 just under 805 acres\textsuperscript{286} of this land that had formally been Gundungurra territory, remained in Gundungurra ownership as six ‘Aboriginal Reserves’. The rest was in European ownership.

The Burragorang Valley and surrounds had been ‘discovered’ and ‘settled’ for years by those Europeans who pursued the ‘wild cattle’, before it was ‘officially discovered’ in 1823 by William Hovell. He received a substantial grant of land for this and for devising a way the cattle could be used to bring revenue for the

\textsuperscript{284} Much has been written on this subject, in particular Henry Reynolds, 1982, \textit{The other side of the frontier}, Penguin, Ringwood, Victoria.
\textsuperscript{285} Jervis, 1934: 190.
\textsuperscript{286} How this is calculated is discussed below.
government. Once the valley had been officially ‘discovered’ it was subsequently surveyed and settled. In 1824, Surveyor Hoddle went on an exploratory journey into the valley accompanied by T.C. Harrington, who was the first European to officially take up land there. In 1823 Harrington had become an absentee ‘owner’ in the valley under a ‘ticket of occupation’, and started a cattle station.

The essential requirements for a ticket of occupation were that the applicants should erect a stockyard as the centre of their licensed area, lodge samples of the brand that would identify their cattle, and should nominate the person or persons in charge of stock. There was no charge for these tickets of occupation until 1827. The lands were unfenced stock runs of generally two to three thousand acres, chosen and requested by the ticket holder. There was no security of tenure as the land could be granted to someone else while held under a ticket of occupation.

In September 1827 Surveyor Dixon received instructions to survey the area, and he spent many months in the valley carrying out his orders. It was up to Dixon to work out the borders of portions of land granted and plot them onto parish maps. The main areas of settlement were the Upper Burragorang, Lower Burragorang and Coxs River. Some of the settlers whose land Dixon surveyed are still names on the maps of today, such as John Lacey, remembered on the map in ‘Laceys Creek’. He was the first settler in the Lower Burragorang and his grant, shown as Portion 1 on the parish map of Bimlow, was apportioned and surveyed by Dixon in 1828.

Between 1834 and 1840 large areas of land in the Burragorang valley and surrounds were leased, but as demand for land in the area increased, the leases were withdrawn and the land was subdivided into small grants. These grants of 30 to 80 acres, with river frontage, were eagerly taken up and by 1860 only the inferior land in the foothills away from the river remained. As more and more settlers took up land in the valley and surrounds, the Gundungurra people were pushed off their land.

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287 Jervis, 1934: 172. Citing a ‘memorial’ from Hovell to Governor Darling asking for a ‘further’ grant of 500 acres because of his discovery of the Borogorang, and ‘a plan for converting the wild herds to profit for the Crown’.
In 1874 Father George Dillon of the Catholic Church purchased 30 acres of land on behalf of the Gundungurra people and organised a lease on the adjoining 40 acre lot. These 70 acres were known as St Joseph’s Farm and about 60 Gundungurra people lived there and cultivated the land. Father Dillon, Archbishop Vaughan, head of the Sydney diocese, and the Bishops of Bathurst, Goulburn and Maitland had raised the £300 necessary to buy the land.

Earlier that year, Archbishop Vaughan came to the valley to open the ‘Church of the Guardian Angel’. The highlight of the celebrations for the ‘opening’ was a presentation of a possum skin cloak to the Archbishop by members of the ‘Aboriginal Catholic tribe of Burragorang’. John Riley, a boy from the tribe, read an address that was probably written by Dillon. The address emphasised that the tribe, now converted to Catholicism, was in need of land and included the following:

The white man signed a petition to Government to give us land. We were promised the land, but there is none fit for cultivation in our valley the Government could give us; and if we left our valley, our hearts would break. Our priest told us you would be our father, and try and get us land fit for corn and potatoes.

We heard you were told by the Holy Father, our Pope, to look after us. We know from our catechism that the Holy Father is the vicar of Jesus Christ. He is very good to think of us when no one does. We heard bad men took away all he had. If we had money we would send it to him; but we have nothing but possums. We are making him a possum-cloak to keep him warm, and we will give it to you to send it to him.

Archbishop Vaughan promised to get the address translated into Italian in order to send it to the Pope. He also promised to ‘procure’ land for the Gundungurra to

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292 It is more than likely that this purchase was only for the use of the Gundungurra people known as the ‘Aboriginal Catholic Tribe of Burragorang’, who are discussed below.
296 Smith, 1991: 17. Citing The Freeman’s Journal (no date). It seems that along with the publication of this speech, an appeal for funds to purchase land was made. ‘In October 1874, the Burragorang correspondent of the ‘Freeman’s Journal’ sent word that the appeal to raise the money for the land was well under way’.
cultivate. In a later address it was acknowledged by the tribe that they had heard the Pope did indeed get his ‘possum cloak’.

Dillon left in 1878, and although the Aborigines had every reason to believe they owned the land they were living on, it was in fact owned by the Catholic Church. The rent on the adjacent portion that was leased fell into arrears after the departure of Dillon. In 1892 the church forfeited the lease on the 40 acre portion and the Aboriginal Protection Board took over the lease, adding 38 adjacent acres and gazetting the 78 acres as Aboriginal Reserve 17023. Within a year most of those still living at St. Joseph’s Farm had moved away, and by 1924 the gazettal had been revoked. St. Joseph’s Farm was no more, and today it lays 60 metres below Lake Burragorang.

St. Joseph’s Farm was on Pocket Creek near Coxs Junction and appeared on the parish map of Cooba.

Billy Russell took the name of his father, Major William Russell. His mother Wonduck had called him Werriberri as he had been born on the banks of Werriberri Creek. He was later to become chief man of the Gundungurra. In 1871 he and a cousin, Billy George, discovered silver at Yerranderie and this eventually led to a mining boom on the outskirts of the Burragorang Valley.

Russell applied for 100 acres of land under the Free Selection Act. Three other Gundungurra men, one of who was George Riley, applied for 100 acres each in the same way, and on adjacent land. The land, which was between Byrnes Creek and Tonalli River, had been the site of a traditional Gundungurra camping ground known as ‘Big Flat’, where Russell had camped as a young boy. It appears today on the topographical map of Nattai in the parish of The Peaks as ‘Murphys Flat’.

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302 Billy Russell (Werriberri) has been discussed in chapter two.
306 Smith, 1991: 11. See also William Russell: My recollections by William Russell “Werriberrie”, discussed in chapter two. In this title the name is spelt ‘Werrieberrie’ yet the name of the parish and the creek from which the name was taken is spelt ‘Werriberri’.
It seems there was local resistance to Gundungurra people requesting land under the Free Selection Act. The Aboriginal Protection Board became involved and in 1878 they gazetted Russell’s selection as Aboriginal Reserve 27. The 300 acres adjacent to this, selected by the other three men was gazetted as Aboriginal Reserve 26, and this became known as Nulla Nulla Camp. It was at Nulla Nulla Camp that R.H.Mathews was told the story of Mirrigan and Gurrangatch.

The Sherritt family applied for slightly less than 100 acres of land and this was gazetted in 1889 as Aboriginal Reserve 10159 in the parish of Wingecarribee. It was abandoned in 1891 as ‘too steep to water’. The Sherritts moved to Aboriginal Reserve 14937, consisting of 50 acres on the Wollondilly River between Jooriland and Byrnes Creek, which they lived on until 1904. After this time John Riley lived there. In 1906 the sixth Aboriginal reserve was gazetted. Aboriginal Reserve 40798, an area of 277 acres on the Wollondilly River, was where Walter Riley lived from 1914.

These six Aboriginal Reserves totalled just under 805 acres in an area that had been declared in 1826 by the Land Board of Commissioners as consisting of 80,000 or 90,000 acres of ‘tolerably good, well watered grazing lands’. As gazetted reserves they were gradually revoked, the last two 14937 and 40798, in 1954. It was at this time that the Water Board began buying properties that would be subject to inundation by the backwaters of the Warragamba Dam. Aboriginal Reserve 14937 was half-submerged by the lake, and Aboriginal Reserve 40798 now lies at the bottom of Lake Burragorang.

The less than 805 acres that had been reserved for the Gundungurra people was not even half the size of one of the runs in the same area granted in 1827 to European settlers under a ‘ticket of occupation’. The Gundungurra people had been mapped off their land ‘parcel by parcel’. Here in this local area, lived on for tens of thousands of years, some of the chorographical implications of cosmography in the service of colonialism discussed in this chapter, become clear.

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308 Smith, 1991: 8. Smith writes of at least one visit by Mathews and several by his associate Miss Everitt, to Nulla Nulla Camp. The story of Mirrigan and Gurrangatch is discussed in chapter two.
Even though the ancient legal notions embedded in the map of Cook and subsequent maps of ownership of Australia caused only the faintest of resonances in the Burragarong Valley, they caused disenfranchisement. Attachments to land going back tens of thousands of years were wiped out. The ‘will of Father Adam’ a cosmographical concept, allowed a few Christian European sovereigns to believe that they had the right to own all the world.

John Riley who, as a young Aboriginal boy, read the address to Archbishop Vaughan and offered a possum cloak to the Pope, was ultimately left with no option but to live on the 50 acre Aboriginal Reserve 14937. His father, George Riley had applied for land under the Free Selection Act but this had been taken over by the Aboriginal Protection Board and had become known as Aboriginal Reserve 26. Walter Riley, who was probably the son of John Riley and the grandson of George, lived from 1914, on Aboriginal Reserve 40798.

It was a former pope, who, with his division of the world, played a part in the development of ideas that were centuries later part of the formidable colonial machinery used to disenfranchise ‘the Catholic Tribe of the Burragarong’. An act of cosmography, a line circling a map of a world only partly known, led ultimately to a chorographic denial: land known and lived upon for tens of thousands of years could somehow become the property of someone else who did not know it and had no immediate connection with it whatsoever. This was cosmography ignoring a far more ancient and complex knowledge of this land with an overlay of European maps.

Parish maps might appear to be pure chorography, depicting only local lived space with the delineation of the boundaries of individual blocks of land and enough key features to relate the boundaries to the land. Yet their existence implies a cadastral system of European ownership born of cosmography that would have repercussions that continue to be played out in contemporary Australia.

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313 Smith, 1991: 11.
314 The reference here is to Pope Alexander IV, whose actions were discussed at the beginning of this chapter.
CHAPTER FOUR:

The dance between cosmography and chorography
time enters the map

4-1 Geological time and human time

Maps get out of date and must be kept revised if they are to continue to be of use… Mapmakers had for so long concentrated their ingenuity on the difficult problem of accurately depicting three dimensions on a flat piece of paper that the full significance of the fourth escaped them… A map then must be regarded not as something static, but rather as something that will change and develop as time passes, reflecting faithfully the change and development in the land it represents. But it is not only in the depiction of man-made data that the fourth dimension has become so important. Surveyors have been forced to recognise that the Earth itself is in a continual state of change, and their most accurate measurements of height and position will eventually become obsolete.¹

This writer suggests that the fourth dimension, time, is important to mapmakers, that maps are not static. Here the distinction is made between chorography, which includes ‘the depiction of man-made data’, and cosmography that is more concerned with ‘the Earth itself’. As information concerning the exact dimensions of ‘the figure of the earth’² has become more and more accurate,³ the mathematical calculations that determine the positioning of ‘height and position’ have changed,⁴ perhaps insignificantly on a cosmographical map but with tangible repercussions for a chorographical map.

Even though geological features do move, the time depicted on cosmographical maps is almost imperceptible as far as humanity is concerned. Since the time Cook finally determined the outlines of both New Holland and Alaska,⁵ little has changed in the

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² This concept is discussed below.
³ There may be no end to this. As these calculations have been refined and reworked over the years there is every reason to suspect that the current calculations will also be subject to change with time.
⁴ Lines, 1992: 235. ‘Surveys of this type [Aerodist positioning as used by National Mapping] have now been superseded by Global Positioning System (GPS) equipments which derive position and height data from orbiting satellites.’
⁵ Cook’s ‘discovery’ of the east coast of New Holland finally defined the landmass now known as Australia and this has been discussed at length in the preceding chapters. Zerubavel, 1992: pp 65-66, points out that it was Cook’s charting of the coast of Alaska in 1778 that finally showed that there was no connection between America and Asia, and that he ‘…finally established the absolute separateness of the New World from the Old’.
depiction of the world as a whole. The only unknown spaces left to depict are inside the now fixed outlines on world maps. But much of what chorography depicts are humanity’s marks upon the landscape, and in a series of chorographic maps, or even a single map, the evolution of the involvement of particular people (indigenous and non-indigenous) with place can be charted. Time is involved and because of this chorography is dynamic, incorporating the ‘fourth dimension’ into the landscape.

In chapter two, which centred on a steep and mountainous region with many more geographical features than placenames, the idea that the names on a map contain the memory of those that have lived on the land was explored. In this chapter the idea of time and the evolution of key features in chorographical maps is discussed, and to do this, maps of various deserts in Western Australia are used. Paradoxically, in this chapter that is centred on time, an area once considered timeless is used. Because the Australian desert appeared to Europeans to contain so few landmarks within endless amounts of space, time seemed to stand still and this gave rise to the view that the desert was ‘unchanging, the land that time forgot.

These deserts were almost entirely devoid of geographical features as far as Europeans were concerned, they were perceived as featureless and without potential for European development. In the nineteenth century explorers had made...

... dismal attempts to subdue the wayward geography of Australia’s central desert to the domination of the map. Seeking landmarks and peculiarities to record, they found for the most part only a vast and monotonous sameness.

Yet there came a time when European chorography was needed to show that there had been a European involvement with the land. A ‘complete’ atlas of Australia was produced, and the requirement was for chorographical features to appear on every

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6 The exception to this is Antarctica.
7 Gregory, 1994, suggests that notions of space are as crucial as time. Many historical geographers see time as an important part of inhabiting space. In this chapter the relationship between the map and time is considered especially the temporal relationship between the land, those that experience it, and the way a map can represent this.
8 The discussion of the setting of the border that lies on the 141° meridian is an exception. This border, separates South Australia from Victoria, New South Wales and Queensland, and runs through a considerable amount of territory, not all of which is desert.
map so that the atlas could truly be ‘complete’.

In spite of the scarcity of recognisable geographical features in the desert, the need for European chorography had to be addressed, and because there were so few features any ‘relic’ had to be used. Here the term ‘relic’ means any possible feature in the landscape that is made or left by Europeans and considered important enough to be put on a map. In the maps discussed here this includes a burnt out truck\(^{11}\) and a line of disused wells.\(^{12}\) Aboriginal people had no need for relics they read the country in quite a different way.

In chapter one the idea that mappaemundi contained ‘Christian time’ has been examined, noting that maps such as these were often called ‘histories’. Here the relationship between time and space is more to do with what I will term ‘evolution’, in particular how European marks on the landscape can evolve to serve different purposes as times change. This is the reason that the desert was chosen as a place for this study: it is the lack of geographical features recognisable to Europeans that means that those few that do exist remain, even if they are now in a degraded state, and evolve through time to become part of a changed perception of that place.

Memory and history both derive and gain emphasis from physical remains. Tangible survivals provide a vivid immediacy that helps to assure us there really was a past. Physical remains have their limitations as informants, to be sure: they are themselves mute, requiring interpretation; their continual but differential erosion and demolition skews the record; and their substantial survival conjures up a past more static than could have been the case. But however depleted by time and use, relics remain essential bridges between then and now. They confirm or deny what we think of it, symbolize or memorialize communal links over time, and provide archaeological metaphors that illumine the processes of history and memory.\(^{13}\)

The ‘archaeological metaphors’ discussed here are not examples of ‘monumental human achievements’\(^{14}\) although the original construction of the wells required

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\(^{11}\) This relic appears on *Australia’s Great Desert tracks N W Sheet* (2001) which is reproduced here as Fig 37.

\(^{12}\) The wells appear as part of the Canning Stock Route on maps 70, 76, 77, 78 and 92 of the *Reader’s Digest Complete Atlas of Australia* (1968) and on *Australia’s Great Desert Tracks N W Sheet* (2001).

\(^{13}\) Lowenthal, 1985: xxiii.

\(^{14}\) That is, they are not works of architectural or engineering significance.
extraordinary human endurance. This was also the case with the relics left by the
surveyors when they marked the borderlines in excruciating chorographical detail.
But the relics discussed here are just as important as monumental human
achievements because over time they have been re-used or just continued to be
relevant as a conduit, a familiarising factor between human and earth as shown on
chorographical maps. The map does not even begin to tell a complete story of the
past, but here and there on the surface of chorographical maps faint scatterings can be
seen, relics of past times lie jumbled together.

Without a key feature or marker on the ground, the map cannot be related to the earth;
there is no recognisable connection between the two. Chorographical maps require a
means of finding something that can be recognised both on the land itself and on the
map, and when natural key features are not available then markers have to be made.
This is usually the task of the surveyors. Whether the marker is a natural feature or a
human construction it shows where the point of agreement between the map and the
earth is, and without it the map would be no use at all as a means of orientation.

In the desert where there are so few geographical features recognisable to Europeans
it has been necessary, in order to make the map usable, to include markers that may
have only been originally intended to show where an aspect of the map was. For
example the border lines that were set cosmographically required chorographical
markers on the ground to show those inhabiting the area where the boundary actually
was. Sometimes these markers, made by surveyors in the absence of any significant
natural features that could be used for this purpose, went on to be
shown as ‘landmarks’ on the map. In this way, marks made on the ground to relate the
map to the earth later returned to the map.

The chorographical maps discussed in this chapter also interpret the relics on the
map.\textsuperscript{15} Blazed trees, a burnt out truck and some disused wells may appear to be quite
unconnected on the ground, consequently the map becomes the territory\textsuperscript{16}

\textsuperscript{15} It is not suggested that all maps do this or that it is the only way relics are interpreted but a particular
map is examined below to show this can be the case, and other relics discussed here as markers are
only relevant as relics with relation to the map.
\textsuperscript{16} Turnbull, 1989, 3 & 61.
because it interprets these relics. Without the map it would be quite unclear on the ground that these items are in fact chorographical features.

Chorographical maps facilitate very important relationships, initially between the map and the place it represents and also between the map and the people who inhabit that place. In chapter two, chorographical maps ensured the memory of those who had been there would live on, and here the concern is the evolution between the inhabitants or visitors and their concept of the place. In chorographical maps, connections are formed between the map and the ground and the map and humanity, and all these relationships evolve over time.

A more timeless affiliation is that between the map and the universe. To accurately set a point on the ground to be mapped requires positioning that point in relationship to the universe. This has traditionally been done by taking readings from certain stars. In order to set a longitudinal position the transportation of time is also required. As this transportation has become more accurate it has meant that positions that had once appeared to be certain and set, are now out of date.

4-2 No need for relics – reading the country

The “dreaming” is not a set of beliefs which is being lost because it is no longer valid, it is rather a way of talking, of seeing, of knowing, and a set of practices, which is as obtuse, as mysterious and as beautiful as any poetry. Reading its present and public forms as religious, as apolitical, and as the relics of past customs is to deliver it a death-blow. Except where it appears in books, embalmed as it were, it depends on people living in the country, travelling through it and naming it, constantly making new stories and songs.

Because the dreaming is dynamic, Aboriginal ways of knowing their country do not get ‘out of date’ but are able to incorporate past, present and future simultaneously. Even when the land itself changes significantly, such as a hill moving, a chorographical map would have to be ‘updated’ whereas within an Aboriginal knowledge system it might mean a new story is required to explain why the hill moved.

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17 Time is involved in the setting of longitude because both the earth and the stars move. Comparisons need to be made between a ‘point of origin’ (see below) and the point where the reading is required at the same time in both places. The ‘transportation’ of the time from the point of origin was usually done by wireless signal (see below).

18 Muecke et al 1984:14
Paddy Roe’s story about the hill that moved, shows how the land can change within a lifetime, and how that land, its significance and the form it takes in discourse, are a product of his community and family. The existence of the red hill and the billabongs is a function of his father’s dreaming. It is examples like this, infinite and successive local operations which link a specific place with a story or a song (in other words, with processes of meaning) which work towards an absolute, but not universal, nomadic way of life.\textsuperscript{19}

Paddy Roe’s country is Roebuck Plains, which is inland from Broome and lies above the Great Sandy Desert. Whereas the European surveyors and 4WD adventurers who pass through the desert need any possible relic to use as a landmark, in order to relate the land to the map, Aboriginal people of the desert ‘read’ the country in quite a different way. These ‘readings’ are to a certain extent personal but are ultimately culturally determined.

Evidence for this lies in the widely differing Aboriginal and European responses to the country. Not even the wildest European imagination could produce Paddy Roe’s reading of the country: the words are just not there. It makes more sense, therefore, to see the readings in terms of their cultural and historical determinations, rather than in terms of individual differences.\textsuperscript{20}

Enabled by an extraordinarily complex interrelationship between land, individual, ancestors and mythic beings from the dreaming, these readings allow mapping to take place by imparting knowledge of routes between ‘landmarks’ and where to find food and water along the way. This mapping cannot be dichotomised between cosmography and chorography. Local knowledge of the land is far more intricate and comprehensive than any European chorographic map could possibly depict, and the world view embedded in these mappings is much more than cosmography, it is an ‘ontological relationship to land’.\textsuperscript{21}

Aboriginal people of the desert see in the landscape the places where original creative beings have left their marks upon the land. It has been suggested that in Aboriginal myths of the desert these marks can show three types of transformation. The body of the ancestral being may have metamorphosized into a material object, or an imprint is

\textsuperscript{19} Muecke et al, 1984: 224.
\textsuperscript{20} Muecke et al 1984: 13
\textsuperscript{21} Moreton-Robinson, 2003: 36.
seen which signifies that the ancestor has left an impression of his or her body or a tool. Then again, a ‘landmark’ might show where an object has emerged from ‘or is taken out of the ancestor’s body’.

Thus a topographical feature is often both a hill or creek and at the same time a transformation of such a kind, and it remains understood as an ancestor’s body or body part or as an excrescence or imprinting (such as a track) left by an ancestor. The same feature can also be a transformation of a sacred object that “is” the ancestor’s body. A particular hill may thus be a digging stick, a bull-roarer the stick turned into, an ancestral being’s body, and a hill.

In order to read these marks on the land the story that involves the ancestral being needs to be known and this is the role of storytellers, there is not a sole source, the story is a ‘collective production’. The connection between land and story is considered to be so important that only a shortened version of the story can be given when it is told in a place other than that to which it refers. Then again, when told at the site itself, the story can ‘disappear over the horizon into another man’s country’.

It is not just individual sites that are known in story and song but also the tracks that connect them. Unlike the European maps discussed here, these move across the country rather than just being a series of unrelated relics or landmarks whose primary purpose is to provide a connection between map and land.

Paddy Roe and his people have their intellectual baggage too, their culture and philosophies. Significantly, these are located in the country, the stories and songs are strung out across the Plains and are brought out as one moves along the tracks. Paddy Roe has an expression for the production of this culture: We must make these things move.

While moving through the country a song dialogue called ‘tracking’ is performed. This is ‘the progression, song by song, along a given track in the country, from place to place’. The song cycles are given in dreams by a ‘balangan (spirit of the dead)’ to particular members of the community. Those to whom the songs are given are in

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24 Muecke et al 1984: 72
25 Muecke et al 1984: 22
effect vehicles for the voice of the spirit who is part of the land and in this way the
song cycle emanates from the country itself.  

... each spring has its song, ritual and set of stories. Activity is contingent upon the place,
stories come to mind as one moves towards the site at which they can be repeated and there
isn’t an all-encompassing story.

This intricate weaving between land, song, story, spirits of the land, ancestors, the
individual and their responsibility to all of the above, is not only extraordinarily
complex, it is also essentially local. Rather than the European vision of a country
divided into eight states or territories with ‘boundaries to be patrolled’, Aboriginal
people read the land as ‘criss-crossed with tracks’.

The nomad does not try to appropriate the territory, there is no sense of enclosing it and
measuring it as did the early surveyors. What is important to know are the ways of
representing the tracks which cross it.

4.3 Surveying in isolation

James Cook’s map of Botany Bay was the first European chorographical map of the
landmass now known as Australia. Matthew Flinders completed an outline and
provided a name. As far as a European perspective was concerned, it was mainly
unknown cosmographical space that lay inside the outline. From Cook’s initial
chorographic map to the chorography of a whole country took almost 200 years.

Settlement spread out from Botany Bay and land was granted. The earliest grants
were surveyed in isolation. As separate colonies formed they too were surveyed in
isolation. From initial settlement around capital cities it must have seemed that
borders would never be reached, other colonies being so far away. But as more and

26 Muecke et al 1984: 55
27 Muecke et al 1984: 72
30 Staiff, 1995, pp 18-21, shows that the methods used in the early surveying of the Province of South
Australia came directly from a military manual written by Surveyor-General Frome. The maps that
arose from this process ‘became an important means of authenticating European ownership’. At this
time the resource most required by European settlers, and being looked for by explorers and mapped by
surveyors, was well-watered pasture. By the end of the 19th century all this had been found and
mapped, and was generally under some form of European ownership.
more European movements took place, explorations to find new pastures, cattle routes and so forth, colonial borders were reached and transgressed.

Each colony set up its own observatory, primarily to supply time to ships as they left the port, but also to create an individual longitudinal position to act as a point of origin for determining the colony’s position on the planet and from which to start surveys.³¹ Astronomical readings were taken to establish the ‘point of origin’ and in this there is a cosmographical relationship. From the point of origin, theoretically, measurements could be taken to establish the longitudinal position of any chorographical point.³² However, as with the setting of the meridians, this theory was difficult to translate onto the ground.

Geodetic³³ work that had been carried out was particular to each colony, consequently there was no consistency when it came to ground markings and precision of observations. Geodetic surveys did not connect across state borders and did not have a common origin.³⁴ Instead, they were calculated from different observatories using different figures of the earth.

New South Wales was using a figure calculated by Bessel that gave an equatorial radius of 20,923,230 feet and a polar radius of 20,853,429 feet. Victoria was using quite a different figure that had been calculated by Clarke in 1858 and gave an equatorial radius of 20,926,348 feet and a polar radius of 20,855,233 feet. A slightly different figure again, calculated by Everest, was in use in Western Australia and gave an equatorial radius of 20,922,931 feet and a polar radius of 20,853,374 feet.³⁵

After Federation in 1901 the colonies became states. They retained control of the all-important basis of land ownership, cadastral mapping, and traverses were mainly to do with this. Systems continued to evolve differently in each state.³⁶ Under the laws put in place at Federation the Commonwealth had no control over state mapping and

³² Beaver, 1952: 93. In the early colony of New South Wales the Surveyor-General Major Mitchell actually chained distances from Parramatta Observatory.
³⁵ Johnston, 1948: 68.
could only map for its own purposes. But the army was under Commonwealth control, and the Survey Corps was now required to try and bring some coherence to the mapping of the country as a whole.

In 1915 an army triangulation began which linked the states of Queensland, New South Wales, Victoria and South Australia, a primary chain with a total length of about 1,600 miles. It was when the trigonometrical stations on the border betweenVictoria and New South Wales were connected that it was discovered that the states had been mapping in such isolation that each observatory had been using a different figure of the earth. This had caused a longitudinal discrepancy of about 9 seconds, which was considered ‘a serious disparity requiring investigation’.

4.4 A national geodetic survey or the chorography of a country

From the linking of these three states in 1915 it was not until 1951 that a complete geodetic survey of the whole country began. The purpose of this was to link points all across the country into a national whole, and this was carried out by a newly formed organisation called National Mapping. States had mapped their towns and cities and the country to their borders, but vast tracts remained between populated areas that were not connected. Surveys of Perth and the main townships of Western Australia did not connect to the settled areas of South Australia and the Northern Territory, nor to any of the eastern states.

The idea of a survey of the whole country on which to base all Australian maps and situate every place in relationship to every other place on the continent represented a fundamental shift in thinking: from the isolated space of states to a spatial database

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38 Johnston, 1948: 68.
39 Johnston, 1948: 68.
40 Ford, 1979a: 377. Ford says that although ‘the first move to take part in the geodetic survey of Australia was in 1949’, it was not until 1951 that ‘the first actual triangulation survey’ began and this was on the Eyre Peninsula. Lines, 1992: 215. Suggests that the Broken Hill to Carrietton triangulation marked the beginning of the geodetic survey. Ford, 1979a: 376. Ford dates this triangulation as 1954, and begins his list of ‘Contents’ with the 1951 triangulation, which is the date I am using.
41 Lines, 1992: pp 163-175. National Mapping was a Commonwealth Government initiative that emerged in the post World War II ‘reconstruction era’. Its mission was to carry out a geodetic and topographical survey of the whole of Australia including ‘the new frontiers of development’, not just ‘the more intensely settled areas’. The search for minerals, oil, underground water, sites for large dams, and development of these resources, was seen as a major post-war priority and maps were an essential part of this.
for a whole country. States had mapped as if they were individual countries but now Australia would be mapped as a complete entity. Flinders’ cosmographical outline would finally be filled with chorographical features. Until this time the emphasis had been on the chorographical mapping of areas of settlement and these were islands in vast amounts of unknown and unmapped cosmographical space.

When a house is built, foundations are laid down, and when a country is to be mapped, foundations must also be laid down, if all features, whether they are man-made towns, railways, roads and bridges, or natural features such as rivers, creeks, hills and ranges, are to be coordinated and in correct relationship in distance and direction with each other. Accordingly, once in a country’s lifetime, a main framework of mapping control is laid down, and every future mapping survey of any sort and of any scale will commence and finish on points on this base. Not only does it control and coordinate all mapping, but it supplies essential data for oil search, the exact size and shape of our planet which is necessary for satellite and space projects, and not least, for the defence of a country.

By the end of 1960, Perth and Darwin ‘were, for the first time, joined by geodetic survey to the eastern states’. By 1965, the whole country had been covered by the geodetic survey.

The general criterion adopted for the component survey threads of the primary network was that no point in the more remote areas of the country should be more than 100-150 miles (150-250 km) from a first order station… the intervening spaces [would then be divided] …to a

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42 Lines, 1992: 227. This was facilitated by the adoption of the Australian Geodetic Datum in 1966 as a single point of origin for all co-ordinates throughout the country. There had been ‘as many as twenty’ that had been in use by various states up until this time. The position of the AGD was calculated from the work done in the geodetic survey and Lines quotes the following from the AGD Technical Manual: ‘The introduction of the Australian Geodetic Datum created a unique system of co-ordinates for geodetic surveys all over Australia that was free from the discontinuities caused by the use of various state co-coordinate origins. Co-ordinates on the Australian Geodetic Datum provide a firm foundation on which lower order surveys and all mapping can be based; furthermore, they provide a basis for a point reference system on which any point in Australia…can be described in precise and unambiguous terms.’

density of points appropriate for the control of the aerial photography to be used for the end
product - topographical maps.\textsuperscript{48}

The geodetic survey required thousands of tiny chorographic points to be positioned
all over the country.\textsuperscript{49} Each one needed to be correctly placed, not only in relation to
all the other points, but by astronomical readings as well.\textsuperscript{50}

In remote areas such as the deserts, where to European eyes there were so few natural
features or human marks on the landscape to use, markers had to be made to show
where these points were on the earth. The markers made on the ground specifically
for the survey did not always appear on the map, yet the map would not be in correct
relationship to the features of the earth without them.

4-5 Human inscriptions on the face of the earth

This countrywide survey led to the production of a ‘complete’ atlas of Australia, \textit{The
Reader’s Digest Complete Atlas of Australia}, published in 1968. On the inside flap of
the dust jacket is the following:

These maps are reproduced from material supplied by the Division of National Mapping,
Department of National Development, Canberra, A.C.T. and are presented here for the first
time in book form.

In the atlas, the extraordinary effort of the surveyors of National Mapping fell from
sight,\textsuperscript{51} except for a few marks on the earth that still remain. A ‘complete’ atlas of
Australia required European chorographical features to appear on every one of its 39
two page maps\textsuperscript{52} to show that all of European Australia was known and lived space.

\textsuperscript{48} Lines, 1992: 223.
\textsuperscript{49} Lines, 1992: 226. National Mapping did not carry out all this work by itself. For example in the year
1960 the following mileage was mapped by various organisations: National Mapping 3240 miles,
Army Survey 1220 miles, Lands Departments, WA 1000 miles, SA 750 miles, Qld 120 miles, NSW
1000 miles, Victoria 300 miles, Tasmania 180 miles, total 7810 miles (12500 km).
\textsuperscript{50} This is further discussed below.
\textsuperscript{51} Staiff, 1995: pp 20-21. Staiff discusses the disappearance from the finished map of ‘the difficult data
gathering processes undertaken by those in the field’. This was not all that vanished: so did
‘the underlying geometry of the map’. ‘In the completed edition of the map, the geometry was not the
only thing to slip from view; with it went all but a trace of the surveyor’.
\textsuperscript{52} The atlas includes maps of New Guinea, an Australian ‘territory’ at the time and part of the National
Mapping Survey. These are not included in this figure. Only the chorographical maps are included here
and these start on page 28 with Canberra. In this work, maps will be referred to by page number for
ease of reference.
This also implied total European ownership of the whole country. Because it required chorographical features on every map, *The Reader’s Digest Complete Atlas of Australia* (1968) is a chorographical atlas and because of this it incorporates time into the landscape.

Although the word ‘atlas’ was used by Mercator for the first time in 1595 for a collection of maps, it was Abraham Ortelius’ *Theatrum Orbis Terrarum* (The Theatre of the Whole World), first published in 1570, that began the genre. Both these atlases were depictions of cosmography, and human aspects, such as the city, were downplayed in order to avoid incorporating time into the timeless.

When cosmographical works began to reduce the city to a standardized cartographic symbol in the visual display of human geography, a mere point on the map – which they did from Ortelius and Mercator onwards [note 25] – they consciously opted for a mode of global representation that embraced the unchangeable, the timeless.

At about the same time, 1572, a chorographical atlas, *Civitates Orbis Terrarum* (Towns of the World), was produced by Braun and Hogenberg. There were problems of representation but the purpose of the atlas was to show ‘human inscriptions on the face of the earth’. The towns of the world were ‘inescapably temporal images of human achievement’, and because of this they were subject to change. Time was an unavoidable part of *Civitates Orbis Terrarum* just as it had been purposely eliminated in Ortelius’ atlas.

It is obvious that the land depicted, say, on a world map outscores the city both by order of precedence and by its susceptibility to change. Physical landscape predates the arrival of man.

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53 The term ‘European’ becomes problematic here because at this time many migrants from all over Europe as well as Asia and Africa were coming to live in Australia and certainly, initially, not all were treated as having ‘ownership’ of the country.

54 Klein, 2001: 34.

55 Klein, 2001: 32.

56 Klein, 2001: 32 and Note 27. *Civitates Orbis Terrarum* was first published in 1572 and continued to be published until 1617.

57 Klein, 2001: pp 28-34. Klein discusses the problems of perspective in the city views on these maps. Representations ranged from a bird’s-eye view to those that showed many buildings in detail but upside down. ‘The alternative to the bird’s-eye view was the ground plan, neither showed what was actually seen…’

58 Fig 1 is a late 15th century chorographical map of Rome. Even though many of the buildings shown on the map were centuries old when the map was made, yet can still be visited today, their age is but a twinkle in the eye when compared to the age of the river that runs through the city or the hills that surround it. This map is a particularly clever combination of ‘bird’s-eye view’ and ‘ground plan’.

59 Klein, 2001: 32.
both in biblical and natural history and its essential forms – the hills and valleys, the rivers and coastlines – are invested with the quality of permanence; cities, however, are human inscriptions on the face of the earth. 60

Cosmography is more concerned with geographical outlines and features, which are of course also subject to time, but such changes normally lie outside the general human concept of time. Geological time moves much more slowly. Rocks do flow, mountains crumble or erupt, rivers change course or dry up, and coastlines gradually change, but generally this takes a long time in human terms. The desert, often characterised as timeless has been subject to considerable geological change over time.

the ancient Finke River was flowing before the McDonnell Ranges were laid down on top of it; the now dry watercourses and heavily eroded mountains and chasms are witness to the dynamics of geological time; indeed, until 350 million years ago, the whole central desert area was covered by a shallow sea, while the McDonnell Ranges, now eroded to a mere 1000 metres, reached 9 kilometres, the height of the Himalayas, at the time of their emergence 300 million years ago. 61

The cosmographical view changed over time as more was known about the world but once the shape of a continent or country or sea was determined to be reasonably accurate, the cosmographical view was set. As more knowledge about these outlines was acquired, corrections were made until these refinements were too small to be picked up on cosmographical maps. However, inside the outlines of countries, unknown spaces gradually shrank, swallowed up by chorography.

Natural features and human marks, such as cities, do appear on cosmographical maps but as mentioned above, the city is often reduced to a dot because of scale. This allows the map to appear timeless. Chorographical maps depict local lived space and require human marks and because of this are much more tied to time. Chorography attempts to humanise the landscape. This could be in the form of whole cities or key features no bigger than a disused well.

60 Klein, 2001: pp 31-32.
4-6 – Chorography on every page

*The Reader’s Digest Complete Atlas of Australia* (1968) is a chorographical atlas and in this can be compared to *Civitates Orbis Terrarum* even though not all of the maps actually show cities.\(^{62}\) Where there were no cities or obvious European marks on the landscape, chorographical features still had to be found because without them chorographical maps could not be made and the whole country would not appear to be mapped and known in a European way. Consequently each map in the atlas had to show some kind of European landmark.

Many of the chorographical maps in *Civitates Orbis Terrarum*, with their depictions of costumes and aspects of the culture of the cities they depicted, contributed to an early kind of ‘national’ identity.\(^{63}\) *The Reader’s Digest Complete Atlas of Australia* (1968) fulfilled a similar function for Australia. The mapping of the whole country and the production of an atlas meant that Australia was completely mapped in a European way for the first time; and this became an important aspect of an Australian national identity.

The way time was incorporated into the Reader’s Digest publication means that the atlas is now out of date. On the edges of the desert, dots that appeared as key features marked ‘homestead’ or ‘station’ are now marked as towns or communities. Missions have vanished to be replaced by the Aboriginal name of the community that lives there, and of course many more roads are shown.

In 1968 the atlas had plenty of chorographical features to show in the settled areas of Australia, but what is of interest here is how this was done in marginal areas such as the deserts. The major European chorographic feature, shown on large-scale maps that included the deserts of Western Australia, is the Canning Stock Route.\(^{64}\) The route is

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\(^{62}\) Fig 36 is a reproduction of Map 77 of *The Reader’s Digest Complete Atlas of Australia* (1968). This is one of the more minimal maps in the atlas showing very little apart from some of the wells that make up the Canning Stock Route.

\(^{63}\) Klein, 2001:138.

depicted as a line of disused wells\textsuperscript{65} stretching almost 2000 kilometres, and they appear on the map as a broken red line. However, on the ground there is no actual connection between the wells. Because time is an aspect of chorographical maps, key features such as the Canning Stock Route have evolved as new maps use the line in the absence of any other chorographical feature in this area.

The wells were made on the ground before they appeared on the map but the other two lines discussed here appeared on the map long before they were set on the ground. These were the 129\textsuperscript{th} meridian and the 141\textsuperscript{st} meridian both border lines. The wells became key features because there was no other European chorography to put there. The border lines required chorography to set them on the ground and some of these markers came to be shown on the map. In these marginal areas \textit{The Reader’s Digest Complete Atlas of Australia} (1968) required any possible European chorographical feature in order to prove that the European mapping of Australia was ‘complete’.

4-7 Cosmographical lines set chorographically- the 129\textsuperscript{th} meridian

Running through maps 51, 68, 78, 92, and 96 in \textit{The Reader’s Digest Complete Atlas of Australia} (1968), is the border between South Australia and Western Australia, and this follows the 129\textsuperscript{th} E meridian of longitude from the Royal Observatory at Greenwich. This line, which is about 1840 kilometres long,\textsuperscript{66} is now taken for granted as fixed, unquestionable and in a sense, standing outside of time, as if it had always been there. The implication of this line in the atlas is that it represents something definite on the ground. This is not the case.

The line had originally been set cosmographically, initially as the ‘Pope’s line’ and then as a line on a map in London, when, from 1825, the 129\textsuperscript{th} meridian east of Greenwich formed the western boundary of the colony of New South Wales. From 1829, when the British claimed the western half of the landmass now known as Australia, the line became the border between the colonies of Western Australia and New South Wales. After 1861 the line, which ran all the way to the Timor Sea, formed the border between Western Australia and the newly erected Province of

\textsuperscript{65} The wells were ‘disused’ by 1968, but their evolution as key features is discussed below.

\textsuperscript{66} Campbell-Kennedy, 1991: 121.
Beyond the 26th parallel of south latitude it bordered what is now known as the Northern Territory.

There had been no need for the colonial administration in London to even contemplate the setting of the line on the ground. It was sufficient for it to appear on cosmographical maps and be written into the commissions of governors. Those who recognised the papal authority of the 129th meridian in the 15th and 16th centuries could have had no idea that the line would end up being a 19th century border in an unknown land and would need to be set on the ground. The line had evolved through time and even though once cosmographical, it now had to be set chorographically.

4-8 Where a line of longitude would ‘touch’ the earth

As Europeans took up land closer to the border in both colonies, the question of where the border actually was became important and this abstract line of longitude had to become a line defined on the earth. It was the surveyors who had to determine where the border line lay on the ground. To do this they had to find where on the ground the theoretical and invisible line of longitude would ‘touch’ the earth. This involved taking readings from ‘clock stars’ to determine time, and the carrying of time from a ‘point of origin’ (an observatory). In a sense they were invoking probably the most ancient cosmographical memory of them all, the relationship of a position on the earth to the heavens, but with the added consideration of time.

Once the position was found it had to be marked and the surveyors were required to create key features or markers with whatever was at hand. These marks determined something as important as a border line so they had to be as permanent as possible.

Sometime before 1877, Lieutenant Douglas erected a cairn on what he calculated to be the 129th meridian. It is not certain how he calculated his longitudinal position but it is thought he brought chronometers from Adelaide. By 1902 the longitude of the cairn, which was near Eucla, was in dispute, with five different longitudinal readings having been assigned to it, including that of Douglas and one from a Captain Howard.

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67 The Province of South Australia was erected in 1836 but its western border was initially the 132nd meridian and this was moved west to the 129th meridian in 1861. This is discussed in chapter three.
68 The cosmographical history of the 129th meridian is discussed in chapter three.
who had exchanged telegraph signals with Adelaide from the Eucla Telegraph Office.\textsuperscript{69}

Western Australia had leased land as far east as the Douglas cairn, assuming it to be on the border. Because of the variable readings, land forty chains in width on the West Australian side of the cairn was now claimed by the South Australian government. By 1908, when more readings had been taken to set the line of the Trans-Continental Railway, the Douglas cairn was considered by South Australia to be ‘over forty chains within its border’ and by the West Australian Government to be ‘thirty chains within its border’.\textsuperscript{70}

Once the railway line was in place, the border marker was moved from the Douglas cairn, which was near Eucla, further inland to Deakin, a stop on the Trans-Continental Railway\textsuperscript{71} and almost on the border itself.\textsuperscript{72} By 1918 pastoralists to the north, in the Kimberleys, also wanted the boundary line to be fixed on the ground\textsuperscript{73} as Europeans were taking up pastoral leases\textsuperscript{74} there as well as in the south. Between these two coastal edges the border line ran through the desert.

In 1921 the government astronomers of Western Australia and South Australia ‘observed for latitude and for longitude’ at the ground point at Deakin, and in the Kimberleys at a ground point about 18 miles north-east of Argyle Downs homestead, that came to be known as the Austral Pillar. During the late 19th and the early 20th century, wireless was considered to be an accurate way of transmitting time signals to establish longitude, and these were sent from around the world. In order to set the longitude of the border as accurately as possible, the Astronomer Royal sent time signals from Greenwich. They were also sent from Bordeaux and Lyons in France and

\textsuperscript{69}Spigl, 1940: 105. The Readings were: Douglas, 129° 0’ 0” E., Howard 128° 59’ 58” E., Delisser 129° 1’ 54” E., traverse (South Australia) 129° 0’ 39” E., traverse (Western Australia) 129° 59’ 21” E.

\textsuperscript{70}Spigl, 1940: 105.

\textsuperscript{71}Spigil, 1940: 106.

\textsuperscript{72}Map 51 of \textit{The Reader’s Digest Complete Atlas of Australia} (1968) shows Eucla to be quite a way from the border and Deakin to be almost on it.

\textsuperscript{73}Spigl, 1940: 106.

\textsuperscript{74}Spigl, 1940: 103. Apart from the problem of leased land flowing over the border from one state to another, the Kimberley pastoralists did not want to improve their land until they were certain which state it was in. In addition, oil exploration was taking place very close to the border with possible financial advantage to whichever state it was in.
from Annapolis near Washington in the U.S.A. These cosmographical signals, received at the chorographical points of Deakin and the Austral Pillar were considered to be of the utmost accuracy and therefore not subject to change.

In 1922, when a Boundary Agreement (W.A. Crown Law Deeds No. 9023) was signed by the heads of the Commonwealth, South Australian and Western Australian Governments, the agreement included the following clauses:

1. A Board of Surveyors-General of the Commonwealth, Western Australia, and South Australia, from the astronomers’ values shall determine the position of the 129° Meridian and shall mark ground points on the boundary in the vicinity of the astronomical stations. Despite any further observations, these ground points shall be considered as on the boundary.

2. (a) A line through the point on the boundary in the vicinity of Deakin, true south to the coast, and true north to the parallel of 26° South Latitude shall for all time be recognized as the boundary between Western Australia and South Australia.

(b) A line through the point on the boundary in the Kimberleys true north to the coast, and true south to the parallel of 26° South Latitude shall for all time be recognized as the boundary between Western Australia and North Australia.

The boundary that was the subject of this agreement had been set in relation to the two ground points because in 1922 the positioning of the ground points by wireless time signals was certain and factual, the cutting edge technology of its time. Over the years, instruments capable of measuring and of sending time signals achieved greater and greater accuracy, casting doubt on the certainty of the longitude of the ground points, but this agreement had set these two points in the vicinity of Deakin and the Austral Pillar as the boundary to be recognised ‘for all time’.

A South Australian government surveyor erected a ‘substantial obelisk’ near Deakin in 1926 ‘at the calculated distance to the meridian from the astronomer’s observation pillar’. West Australian surveyors erected a similar obelisk at the required distance from the Austral Pillar in the Kimberleys. Unlike Deakin, the Austral Pillar did not...

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75 Spigl, 1940: 107. See also Campbell-Kennedy, 1991: 117. Campbell-Kennedy refers to a ‘world-wide time signal radio link’.
77 Campbell-Kennedy, 1991:121.
78 Spigl, 1940: 105. Barclay, 1938: 169. Barclay says that the Austral Pillar was 130 chains from the obelisk. Why it was positioned so far away is unclear.
exist as a chorographical feature before it became a marker for the border. The
surveyors created the Austral Pillar and it appears on Map 93 of *The Reader’s Digest

4-9 Two obelisks mark a border

These obelisks were the major chorographical features that set the cosmographical
line on the ground. Without these features the line could not appear on the earth. The
astronomical readings that had defined the position of the obelisks also defined a
relationship between the heavens and the earth, and yet they were the only two
markers on a border that was 1840 kilometres long.

In 1935 a party of surveyors including Spigl and Barclay went to considerable effort
to mark a small part of the 129th meridian onto the ground mile by mile. Mining and
pastoral interests in the Kimberleys considered this necessary.\(^79\) The line was marked
for 78½ miles to the north from the obelisk in the vicinity of the Austral Pillar to the
coast, and to the south for 215½ miles.\(^80\)

Starting from the obelisk, the astronomical position having been fixed by its
proximity to the Austral Pillar, the meridian was to be chained, and at each mile a
length of cement-filled piping was driven into the ground, on top of which was a
copper plate showing the mileage. Over the top of this a rock cairn 3ft. 6 in. high was
built and a wooden survey post, also showing the mileage, was placed ‘on the
meridian 10 links from the piping and facing the initial obelisk.\(^81\)

Every ten to twelve miles, ‘in commanding positions’, if such a position was
available, concrete posts six inches square and five feet long were to be erected. On
each post was a numbered copper plate with the mileage of the post cut into it. In the
centre of the top of the post was a copper plug with a cross cut into it, and 20 links
away reference tubes were placed, to the north, south, east and west of the points of

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\(^79\) Spigl, 1940: 103.

\(^80\) Campbell-Kennedy, 1991:121. Campbell-Kennedy gives the distance as 450 kilometres. Barclay,
1938: 169. Barclay states that it was 293½ miles. Spigl, 1940: 105. Spigl calculated 294 miles (to the
nearest mile).

\(^81\) Barclay, 1938: 169.
the cross. The posts were sunk into the ground for half their length and a large rock cairn was built over the north and the south reference tube.  

In this way the line, once set on the ground, would not be lost. If the chorographical landmarks above ground were removed, those buried beneath the ground would still bear witness to the exact whereabouts of the line. As the line was carried forward from the Austral Pillar, ‘very careful and precise observations for time, azimuth and latitude’ were taken. The observations for the azimuth were taken on ‘close circumpolar stars’, and for greater accuracy each surveyor took independent readings on different nights using different instruments.

These markers do not appear on any map, where they fall from sight, although it is more than likely they still appear on the ground, yet they are implied in the dark and certain line marked as the border between Western Australia and the Northern Territory. The extraordinary physical effort expended in setting the line mile by mile was based on the assumption that the 129th meridian actually ran between the obelisks in the vicinity of Deakin and of the Austral Pillar; but unfortunately this was not the case.

4-10 The Surveyor-General’s Corner

In 1967, the boundary between South Australia and the Northern Territory that ran along the 26th parallel was placed on the Australian Geodetic Datum (1966), as were the obelisks near Deakin and the Austral Pillar, and a discrepancy was found. These two points that had been so carefully calculated in 1922 as northern and southern markers of the invisible line of the 129th meridian, were not in alignment.

Lines taken from each ground point would represent ‘separate entities’, in other words, the border of Western Australia, using the ground point in the vicinity of Deakin as a marker, would be a different border to one using the ground point in the vicinity of

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82 Barclay, 1938: 169.
proximity of the Austral Pillar as a marker. However, the 1922 agreement had stated that these two points would be used to define the border ‘for all time’. The solution was a ‘step’ on the 26th parallel. This ‘step’ was called ‘The Surveyor-Generals Corner’ and was officially marked on June 4 1968. The ‘corner’ consists of two concrete markers with ‘true north-south lines’. The first represents a line that runs 1211 kilometres from the Timor Sea to a concrete marker on longitude 128°. 59’. 57”. The line then turns east for 127 metres to another concrete marker set on longitude 129°. 00’. 01”, from which it runs south to the coast.

The setting of the 129th meridian on the ground as the border between Western Australia and South Australia required the creation of two major chorographical features by the surveyors. Having arrived on the earth, the line returns to the map, taking markers such as the Austral Pillar with it. The Austral Pillar, which was built to set the line on the ground, now appears on the map as a testament, a memory to the physicality of the setting of the line on the ground. Surveyor-Generals Corner does not appear in The Reader’s Digest Complete Atlas of Australia (1968) but it does appear on more recent maps of Australia.

4-11 Cosmographical lines set chorographically - the 141st meridian

Running through Maps 37, 39, 55, and 64 of The Reader’s Digest Complete Atlas of Australia (1968) is the 141st meridian. Today this line forms the border between South Australia and the states of Victoria, New South Wales and Queensland.

The Letters Patent issued by William IV on the 19th February 1836 to establish the Province of South Australia, defined two longitudinal borders, one on the 132nd meridian (discussed above) after it had been moved to the 129th, and the other on the 141st meridian. Both these borders were initially set cosmographically as lines on a map of Australia that in 1836 was almost completely blank. These lines were set in

86 The ‘agreement’ has been cited above.
89 Fig 40, which is a reproduction of part of a current map of Australia (2004) shows Surveyor-General’s Corner.
90 In the latter part of this section the setting of the other South Australian border, running along the 26th parallel, is mentioned, and this border appears in maps 64, 66, 67, 68, and 69 of The Reader’s Digest Complete Atlas of Australia (1968).
Britain, on the other side of the world, and bore no relationship to the ground, only to
the map on which they were drawn.

While it remained only on cosmographical maps, the eastern border of South
Australia was invisible on the ground, a theoretical concept with no practical
application. The line had to be measured and marked onto the land itself so that those
who actually inhabited the place could see it. In order to show where the line was on
the ground, just as in the earlier example the surveyors were required to establish
permanent marks. These included blazed trees, broad arrows, cairns, pillars and
corners, some of which came to be shown on the map.

Until the line could be established on the ground the mouth of the Glenelg River
operated as a natural boundary on the coast between the two colonies. At this time (1836-1839) the border was between New South Wales and South Australia as the
colonies of Victoria and Queensland had not been erected as yet.

Two maps were published that gave a meridional reading in relation to the mouth of the river.
The English mapmaker John Arrowsmith published a map to accompany a report on
South Australia that showed the 141st meridian to be three miles to the east of the
mouth of the Glenelg River. The New South Wales Surveyor-General Sir Thomas
Mitchell included a map with his published Journal Three Expeditions into the
Interior of Australia, in which he showed the 141st meridian to be 16 miles to the west
of the mouth of the Glenelg River.

The dispute remained cosmographical. There was still no marked line on the ground
and the mouth of the river could be within one colony or the other depending on
which map was used. The line only existed on the maps, which in this way entirely
defined the territory.

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91 At this time (1836-1839) the border was between New South Wales and South Australia as the
colonies of Victoria and Queensland had not been erected as yet.
92 The exact dates of the publication of these two maps is not given but I am assuming that it was after
the erection of the Province in 1836. This assumption is based on the idea that the meridian to form the
boundary would not have been officially known before then. Arrowsmith defended his map in 1841
(see below) so it must have been published by that time. See Winton, 1946: pp 183-184.
94 Winton, 1946: 183. See also Beaver, 1952: 96.
4-12 Surveyor Tyer’s limestone ‘broad arrow’

In 1839 the Governor of New South Wales sent Surveyor Tyer to the mouth of the Glenelg River to determine where the border should be set on the ground, and whether the mouth of the Glenelg River was in New South Wales or South Australia. After much deliberation, Tyer determined that the eastern point of the mouth of the Glenelg was within New South Wales. An approximate position was selected to mark the boundary and a large trench was dug in the form of a ‘broad arrow’, which was filled with limestone. From this marker a line was run inland for a few miles. The line had been marked on the ground, finally, with Tyer’s limestone broad arrow.

However, one of Tyer’s calculations of longitude had originated at the Sydney observatory, and Arrowsmith disputed this as the position of the observatory itself was in doubt. This criticism cast doubt on Tyer’s placement of the boundary line, marked by the limestone broad arrow.

The Governor of South Australia proposed in 1844 that a series of connecting natural features be used to constitute the boundary. New South Wales amended the proposal and the Superintendent of Port Phillip raised objections to these amendments. In February 1846 the New South Wales Executive Council ‘decided to adhere to the 141st meridian’. It was recommended that the line could deviate slightly in order to use natural features as boundary markers.

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95 Winton, 1946: 183.
97 Williamson, 1984b: 109. ‘In 1852, an act was passed directing that the official mark for surveys conducted for the Government was the broad arrow…’ This same mark, the broad arrow, was printed onto clothing issued to convicts as a sign that the clothes were owned by the government.
99 Winton, 1946: 184. In a letter written by Arrowsmith to the South Australian Register of 18th September 1841, Arrowsmith disputed one of three longitudinal readings taken by Tyer, who had created a ‘mean’ figure from the three. If one of the three readings was out then this would make the ‘mean’ inaccurate.
100 Beaver, 1952: 93. The Government Astronomer’s reading of the position of the observatory differed from that of Captain Fitzroy of The Beagle. This vessel carried over 30 chronometers and was on a mission to set longitude at various points around the world.
Land was being taken up at a rapid rate either side of the border and by 1846 it had become obvious that when a border line was set on the ground it would not be able to run along the meridian but would have to take into account the boundaries of individual parcels of land either side of the border. In a sense this meant chorographical boundaries were impacting on the border that had been set cosmographically.

The area close to the border was in dispute. Without a line set on the ground it was unclear which colony held jurisdiction with regard to the collection of taxes or the administration of law. Revenue was being lost and the border area had become the haunt of criminals, as the police (from either colony) could not prove they had the right to apprehend them. 103

In 1847, after much deliberation,104 a point was adopted 14 chains west of the line Tyers had begun with his large limestone ‘broad arrow’ dug into the sand dunes. The Government of South Australia appointed Surveyor White and the Government of New South Wales appointed Surveyor Wade to set the line which was to be marked on the ground with surface lines, marked trees, piles of stones or mounds of earth. 105

4-13 ‘Termination Mound’

Surveyor Wade ran the line for 123 miles to Tatiara Creek, but sickness in his party and lack of supplies forced an end to their work. His line ran out near Bordertown, South Australia, in a ‘patch of heath’ where he erected a large earthen mound surrounding a post bearing the magnetic variation. He called this mound ‘Termination Mound’. 106

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103 Winton, 1946: 185. In July 1846 the South Australian Commissioner of Crown Lands complained that a lot of settlement had occurred in the disputed area and many runs ‘overlapped’ the Province boundary. He could not be certain whether they were under his jurisdiction or not and much revenue was being lost to the state because of the situation. Not only this, the area was ‘becoming the haunt of criminals, who were well aware that the police could take no action against them, the authorities not knowing to which province this neutral ground belonged.’


In 1849 Surveyor White continued Wade’s line until it reached just over 206 miles from the coast. At this point White had to stop because of a severe drought. He and his party buried their equipment and returned a year later, continuing the line for another 73 miles to the Murray River where they erected a large cairn of stones on the southern bank.107

The South Australian Government issued a proclamation in 1847 that they and the New South Wales Government had ‘correctly’ ascertained the position of the 141st meridian near the mouth of the Glenelg River and ‘correctly’ surveyed it northward to the 36th parallel,108 ‘correctly’ marking the line with blazed trees, mounds and posts. In 1849 the New South Wales Government issued a proclamation to the same effect, thereby implying an agreement had been reached.109

The Murray River crosses the border very close to the 34th parallel, and Surveyor White had taken his line to the river. In spite of this, in 1868 Sir Charles Todd, representing South Australia, and the Government Astronomer of New South Wales agreed to fix the ‘Province Boundary’ on the River Murray. Longitude would be determined by sending the time by ‘electric telegraph’ from the observatories in both Sydney and Melbourne and by simultaneously taking the transits of selected stars at Sydney, Melbourne and a temporary observatory at Chowilla on the Murray River and comparing them.110

4-14 ‘Province Boundary’

Unfortunately these determinations found that the 141st meridian was 2 miles 19 chains due east of the Wade White line, even though this line had been ‘correctly surveyed’ and marked on the ground all the way from the coast to the river and adopted as the boundary between New South Wales and South Australia as per the 1847 and 1849 proclamations. The new boundary, the result of the 1868 determinations, was marked by a brick monument 13 feet 6 inches high and 5 feet 6

108 The line set by Surveyor Wade in 1847 as far as Termination Mound ran out near Bordertown, which is roughly 25 kilometres short of the 36th parallel, yet it must have been on the strength of this work that South Australia made this claim as the survey was not taken further until 1849.
inches square at the base and emblazoned with the words; ‘Province Boundary’. \(^{111}\) This would have been a much more imposing marker than White’s ‘large cairn of stones’.

The Government of South Australia claimed the strip between the Wade White line and the new line marked by the ‘Province Boundary’ and although it varied in width slightly between the coast and Chowilla, because the Wade White line was not quite straight, it formed a ‘disputed territory’ of 332,800 acres. \(^{112}\)

When the Colony of Victoria was proclaimed, boundaries were defined to the north by the River Murray and to the west by ‘the boundary of the colony of South Australia’. The 141\(^{st}\) meridian was not mentioned. By 1911 both parties ended up in the High Court. South Australia contended that the governor in 1847 had no power to alter the boundary of the province by proclaiming a line meant to be the 141\(^{st}\) meridian. ‘Victoria contended that a line of meridian is not a boundary until it is marked upon the surface of the earth, but only a direction for a boundary’. \(^{113}\)

On Map 39 of *The Reader’s Digest Complete Atlas of Australia* (1968) at the point where the 141\(^{st}\) meridian crosses the Murray River a step is shown. To the north the border follows the meridian but to the south, two lines are shown: one is the meridian and the other is the border.

The technology required to accurately set a cosmographical line on the earth using readings from particular stars to determine a position on the ground was refined as the transmission of time became more and more accurate. This process of measurement represented the most ancient of relationships, that between the earth and the heavens, and it was this relationship that had been the original concern of cosmography. Cosmographers from before the time of Ptolemy spent much of their time taking readings from the heavens in order to better position the places they knew of on the earth. They could see and chart the stars, even if most of the lands on earth remained unknown to them. In the 21\(^{st}\) century, a point on the earth can be accurately deduced

\(^{111}\) Winton, 1946: 188. 
\(^{112}\) Winton, 1946: 188. 
\(^{113}\) Winton, 1946: 188.
from Geographical Positioning Systems\textsuperscript{114} that rely on satellite technology in orbit above the earth. We cannot remove ourselves from the cosmos if we want to know where we are on the earth.

Between 1869 and 1879 the rest of the border was marked. Surveyors MacGeorge, Evans and Pearson, starting at the ‘brick monument emblazoned Province Boundary’ on the River Murray, took the line north towards the corner where the 141\textsuperscript{st} meridian met the northern boundary of South Australia on the 26\textsuperscript{th} parallel.\textsuperscript{115} 348 miles were marked with mounds, trenches and mileposts. Each milepost had attached to it a zinc plate marked with the mileage from the River Murray. Surveyor Barron took the line a further 90 miles before he too fell ill and had to return to Adelaide. Surveyor Poeppel then took charge and took the line to the corner.\textsuperscript{116}

4-15 A ‘corner marker’ – the willow tree post
Chorography is concerned with lived, known space and because of this key features are required that can relate the land to the map, landmarks that can be recognised on the ground and on the map. Europe had been full of recognisable landmarks for millennia but in Australia these boundary markers had to be created by the surveyors with whatever materials they had or could find.

Surveyor Poeppel’s party made sure this important corner was dignified with an imposing mark. A twelve-foot post made from a willow tree was ‘suitably marked’ and sunk into the ground where it rested on an iron bar. A mound twelve feet square and five feet high was built around the post and faced with logs. Ten links west of the corner a pipe six feet long was set three feet into concrete.\textsuperscript{117} In the unlikely event that the corner marker would vanish without trace, its position could still be calculated from the pipe.

On Map 64 of \textit{The Readers Digest Complete Atlas of Australia} (1968) the corner of the border is shown and although it is not marked ‘Haddons Corner’, Haddon Creek

\textsuperscript{114} Lines, 1992: 235.
\textsuperscript{115} Winton, 1946:189. Winton gives the distance from the Murray to the corner as ‘slightly more than 552 miles.’
\textsuperscript{116} Winton, 1946: 189.
\textsuperscript{117} Winton, 1946: 190.
meanders through the corner and Haddon Downs station outpost is nearby. Haddon Corner does appear on Plate 13 of the *Times Atlas of the World* (1983). It also appears on one of the most recent maps of Australia,\(^{118}\) having been resurrected as a point of interest.

Surveyor Poeppel’s task was not yet finished. From Haddons Corner the border of South Australia ran along the 26\(^{1}\) parallel to the 138\(^{1}\) meridian. He and his party chained the 186 miles from the 141\(^{1}\) meridian to the 138\(^{1}\) meridian, the country deteriorating as they progressed.\(^{119}\) It is clear on Map 64 of *The Reader’s Digest Complete Atlas of Australia* (1968) that after present day Birdsville, then called Diamantina Crossing, the waterholes and watercourses that appear plentiful to this point vanish and are replaced by the brown dashes that represent sand dunes.

### 4-16 A ‘corner marker’ – the trunk of a coolibah tree

The corner was reached and a marker erected.\(^{120}\) Surveyor Poeppel and his party had to rely on camel teams to haul food, water and equipment to keep them alive and finish the line. It was the camels that dragged the trunk of a coolibah tree across salt lakes and sand-hills, 60 miles from Mulligan Flats, which was, perhaps, the nearest place a tree could be found in this part of the desert.\(^{121}\)

The coolibah trunk, which was seven feet long and ten inches in diameter, was ‘strutted, trenched and adzed’.\(^{122}\) Deeply chiselled into the wood on each of three sides were Q., N.T.\(^{123}\) and S.A. The coolibah trunk represented the marker of the corner of the boundary between these three. Also chiselled into the wood were the words ‘latitude 26 degrees south’, ‘longitude 138 degrees east’ and ‘magnetic variation 3° 32’ east’.\(^{124}\)

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\(^{118}\) Fig 40, a reproduction of part of the map *Australia* (2004), shows Haddons Corner.


\(^{120}\) Fig 40, a reproduction of part of the map *Australia* (2004), shows this corner as Poeppels Corner.

\(^{121}\) Winton, 1946: 191.

\(^{122}\) Winton, 1946: 191. An adze is like an axe at a 90 degree angle and it is used for squaring and smoothing irregular edges.

\(^{123}\) Winton, 1946: 192. Winton points out that the Northern Territory was added to South Australia in 1863 and to the Commonwealth in 1911.

\(^{124}\) Winton, 1946: 191.
The creation of these corner markers was part of the surveyor’s subtext of placing European marks on the earth. This process, from the map to the ground and back to the map, is a physical process and although much of the effort drops from the sight of the map, some remains. It remains in the markers that return to the map with the line and in the stories told about the difficulties of setting the line. Chorography concerns ‘lived space’ and this involves stories that limn the place and consequently the map.

These markers put in place by the surveyors do not represent the grandeur of key features in Europe, steeped in history and telling complex stories of human involvement with the landscape. They are basic, crude and named with little fancy, yet as far as chorographical maps are concerned they serve a similar function: without names and features the relationship between the map and inhabitant cannot exist. In this sense the map is the territory but the map has to relate to the earth with identifiable ‘relics’ that can be recognised both on the map and on the ground. When the map is required to create a space that will allow those that have come from the other side of the world to feel part of the landscape there are difficulties because there is so little that is recognisable and that would be considered to be landmarks in Europe.

Without landmarks there can be no chorography and without chorography there can be no sense of lived, known and habitable space as far as Europeans are concerned. These brutish marks of surveyors at least provided points of certainty and propagated the idea that this land could be tamed and organised; boundaries and borders put in place so that law and order could prevail.

Cosmographical maps do not require key features, nor do they necessarily relate the map to the ground. Difficult bits can be dismissed as unknown space or filled up with cartouches, elephants or anything really. But chorographical maps must have key features so that the details of the map can be found on the land. In the Australian desert, what European eyes saw was essentially a featureless expanse. Aboriginal people saw a rich tapestry of life, knowledge and connection.

\[125\] Klein, 2001:3. Klein’s surveyor is a European surveying Europe, he has a church steeple to climb to the top of to survey the surrounding land. Klein suggests space is first measured, then visualised, then narrated by the surveyor.
These border lines between the states are examples of cosmography coming onto the earth and held in place by key features that, in turn, are examples of chorography in action, point by point, set in place by longitude. This ancient relationship between the heavens, the earth and humankind is as present in maps now, as it was in the time of Ptolemy. It is maps, both cosmographical and chorographical that illuminate this.

4-17 The Canning Stock Route

In *The Readers Digest Complete Atlas of Australia* (1968) the Canning Stock Route runs through Maps 70, 76, 77 and 78 and just appears at the bottom of Map 92. It also appears on Plate 14 of *The Times Atlas of the World* (1983). On the ground, the route runs through three deserts, the Great Sandy Desert, the Gibson Desert, and the Little Sandy Desert. The route would probably have just vanished back into the desert completely if it had not remained as a line on the map.

The other lines discussed in this chapter originated in abstract space as meridians or parallels on cosmographical maps, that then had to be set on the ground. Once set on the ground, using key features as landmarks, the lines could then be mapped chorographically, and at times the landmarks used to set the line on the ground were shown on the map.

The Canning Stock Route, named after the surveyor who set it, was made on the earth before it appeared on the map. It has remained on the map long after it was able to fulfil its original function as a line of 51 usable wells, because there were no other chorographical features in this vast area that could be put on a European map.

Apart from the route, there is little chorography to be seen on the maps mentioned above, which consist mainly of dashes representing sand dunes and thin strings of salt lakes, optimistically coloured blue. Some of the lakes and a few of the ‘rockholes’, ‘soaks’, ‘hills’ and ‘mountains’ do have European names but these are few and far between in an enormous desert of seemingly featureless space, the implication being that the area, to European eyes, is almost entirely featureless.

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126 Map 77 is reproduced here as Fig 36.
127 This is shown to the left of the track on *Australia’s Great Desert Tracks NW Sheet* (2001). Only the first two deserts appear in the *Readers Digest Atlas of Australia* (1968).
128 Fig 36 is an excellent example of this.
This is why this line, almost 2000 kilometres long and stretching from Billiluna just south of the Kimberleys to the railhead at Wiluna is so important. Each of the 51 wells represents a European key feature in an area where there are so few. Even though in *The Reader’s Digest Complete Atlas of Australia* (1968) many of the wells were not named, only numbered, they appear as individual key features linked by a broken red line.

Without the route, the desert could not be mapped chorographically, could not possibly be represented as anything approaching known European space. If it could not be represented this way then the atlas could not be touted as the ‘complete’ atlas of Australia. Vast tracts of the country would be hidden from sight, not mapped and therefore not part of the European knowing of the land. The Canning Stock Route and its wells had become indispensable and because it remained on the map, its function on the ground evolved over time.

**4-18 Surveyor Canning finds water in the desert**

In 1906 the Western Australian Government wanted to explore the possibility of moving stock overland from the Kimberleys to the stock routes near Wiluna. Surveyor A.W. Canning was asked to see if a way could be found with ‘sufficient water and sufficiently good country’ to ‘enable a fair mob of cattle to be overlanded with safety’. In order to do this, water needed to be supplied at 20 mile intervals even though the route would pass through three deserts.

Canning and his party set out from Wiluna in July 1906 to find out if a stock route was viable. They experienced little difficulty in the first 200 miles, and reached

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129 Staiff, 1995: pp 49-51. Staiff describes the panic experienced by colonial surveyors in South Australia when they discovered an area that was to them at the time ‘featureless’ and unmappable.


Goodwin Soak (Well 11), following a route that ‘seven parties’ had travelled before them. Beyond Well 11, Canning ‘utilised the natives’ to find water.

We utilised the natives, who were plentiful, catching young men if possible, and getting them to draw maps in the sand of the country ahead and pointing to the different waters; also conveying to us the approximate distance by the sun, and we could generally tell by the growth around them as described by the natives, whether they were usual native wells and permanent, or just rock holes of no value to us. Thus we were able to satisfy ourselves, with the aid of a few bores where the native wells were scarce, that sufficient water could be got for a stock route as far as where the Sturt Creek runs into the lakes, and from there up the Sturt there are a number of pools – excepting perhaps in a very dry season – and on into Hall’s Creek, about 900 miles from Wiluna.

It seems fairly clear from this statement that the stock route would not have been possible without forcing Aboriginal people in the area to show where water could be found. Using this method, Canning and his party arrived at Halls Creek and camped nearby at Flora Valley. After a brief rest the party began the journey back to Wiluna. On the return journey Michael Tobin, a member of the party, was speared by an Aborigine at Wallawalla Well 40. Tobin shot him and both men died. The nearby salt water, Lake Tobin, was named after him.

Arriving back in Perth, having lost only Tobin, Canning was given instructions that a route of 52 wells, there being ‘two natural waters’, was to be undertaken. The ‘waters’, found with the enforced help of local Aborigines, had to be turned into wells in order to construct a viable stock route through the desert.

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132 The Reader’s Digest Complete Atlas of Australia (1968) shows only the number, not the name of this well. Australia’s Great Desert Tracks NW Sheet (2001) shows the number and the name.
133 Canning, 1936: 62. The ‘seven parties’ included that of Lord Forrest, who had travelled from Windich Springs (between Wells 4A and 4B) to Weld Springs.
135 In an Obituary to Canning in The Australian Surveyor, vol 6, September 1936, the following was said: ‘A Royal Commission was appointed to inquire into his treatment of the natives, but its finding completely exonerated him from blame, and in 1908 he was sent out again over the same route to equip the wells.’
136 Canning, 1936: 63.
137 Canning, 1936: 63. Canning seemed proud that no camels or ponies were lost. It seems only 51 wells were actually built.
Canning’s party left the Water Supply Yard at Day Dawn, near Wiluna, at the end of July 1908. Apart from 20 men, there were 62 camels, some of which pulled wagons. Around their feet swarmed 400 goats to provide fresh meat and milk along the way. It was almost two years before they returned and they had to carry all the equipment needed to build the wells in addition to provisions for this length of time.

Amongst the equipment were massive steel lids to cover the wells, pulley wheels for the derricks that would be built, and for each well an eight-gallon bucket. All this had to be carted across the desert by the camels. Once in place, the buckets would be raised from the well full of water, using the strength of horses or camels. Whatever materials could be found in the desert were also used. The wood from desert oak trees was used for its durability and often carted many miles to form supporting posts.

The wells were ‘craftsman-built’, with timber walls put in place to hold the sand back, reaching down ten feet until striking rock, and in this a reservoir of water formed. Some of the wells produced water that was too salty for the cattle to drink and others made water very slowly, but there was enough good water supplied by the wells to make it a usable stock route.

At this time there were many Aboriginal people living in the desert. It seems more than likely that Canning had obtained the information he needed to find the waters by force. Now these waters had been turned into wells and large quantities of hard hoofed beasts were trampling the desert, it seems hardly surprising that at times Aborigines burnt some of the wells or filled them with debris.

In 1909, on the first attempt to use the route, the five drovers in the party, Aboriginal and European, were attacked and killed by Aborigines at Libral Well Number 37. The next party through found their bodies and buried them, and in 1922 a member of the

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Locke Oil Expedition was killed near the same place.\footnote{Johnson, 1964: 171.} The route must have gained a reputation as a dangerous place for Europeans.

In spite of the enormous effort put into it, the route became less and less viable. Its original purpose was to bring stock down from the Kimberleys to the railhead at Wiluna but a pleuro-pneumonia scare meant southern farmers did not want infected stock coming down the line and bringing the disease with them. Only cattle from Billiluna Station, which seems to have been free from the disease, could use the route. During the winter months, between May and August, about 400 cattle were taken down the route from Billiluna to Wiluna until 1959 when the last ‘mob’ undertook the journey. In 1962 a new route, now called a ‘beef road’, took the cattle from Billiluna to Alice Springs.\footnote{Johnson, 1964: 171.} The Canning Stock Route was obsolete.

The route remained on the map because once the troughing and derricks were in place and the Aboriginal ‘waters’ became wells, the wells became key European features. By enabling chorography to take place and allowing European time into the landscape, as the wells were re-invented the route evolved and was used for other purposes. European time began when European marks were made on the landscape. Aboriginal landmarks were essentially invisible to Europeans who considered Aborigines and their culture to be ‘fossilised, unaltered through centuries’ just as the desert that they inhabited was thought to be unchanged ‘geologically and geographically’.\footnote{Haynes, 1998: 5.} As far as Europeans were concerned time, in the desert, did not start until European key features were put in place.

4-20 Well 35 takes on national significance

In order to carry out their task, National Mapping had to use any European key features they could find, or create their own with whatever was at hand. Without these they could not possibly construct chorographical space. It has been shown above how surveyors created their own subtext on the landscape with blazed trees, limestone
broadarrows, pillars and cairns. National Mapping re-used any such feature\(^{145}\) where it could be found and created its own where there were none.

Because it remained on the map as an identifying feature in a seemingly featureless expanse, the Canning Stock Route was partly resurrected for an entirely different purpose. Minjoo Well 35 became an obvious centre point when it was decided to extend a geodetic survey across Australia. As far as a map was concerned it was a dot on a line that could be intersected to join the west to the east and the north to the south.\(^{146}\)

Well 35, a key feature in the nationwide survey, operated as the point in the middle, like the screw that held in place the hands of a clock.\(^{147}\) Traverses were taken from Callawa near Marble Bar to Well 35, then up the Canning Stock Route from Well 35 to Halls Creek. From the other direction the traverse ran from Mt. Leisler, which was across from Alice Springs, to Well 35, and the final part of the cross was a traverse from Well 35 down to Young Range.\(^{148}\) Minjoo Well 35 thus became a ‘strategic point for the geodetic traverse’ linking Alice Springs to Marble Bar.\(^{149}\)

By the time Surveyor Johnson was travelling the route, it was for the most part in ruins. Any signs of the cattle that had used the route were fast disappearing, and only occasionally could any sign of their previous passage be seen.\(^{150}\)

Most of the wells were hidden in tea tree and could only be seen from about 75 yards away. The sight of their ‘decaying grey posts and rails’ still created ‘a sudden surge of relief’ on a day of searing heat.\(^{151}\)

\(^{145}\) Johnson, 1964:167. And Ford 1979: 405. Some of the massive stone cairns built by colonial surveyors in South Australia were resurveyed and rebuilt when necessary. 20\(^{th}\) century surveyors revered them for their craftsmanship even if their actual position needed to be redefined by more modern instruments.

\(^{146}\) Lines, 1992: 220. By 1955 the ‘first large loop’ of the geodetic survey had been completed with the triangulation and connection made between Sydney-Melbourne-Adelaide-Port Augusta-Broken Hill-Cobar-Sydney.

\(^{147}\) Ford, 1979b: See map page 481.

\(^{148}\) Johnson, 1964: 166.

\(^{149}\) Johnson, 1964: 172.

\(^{150}\) Johnson, 1964: 183.

\(^{151}\) Johnson, 1964: 183.
The troughings of the wells are rusted and broken, with many sections knocked out or pulled away, and the wood has rotted around the hinges of the heavy steel double-lids, which originally covered every well, but which are now mostly thrown aside, leaving the wells wide open. In drawing the water, the pathetic scum of dead birds was brushed to one side with the rope and bucket, after always the dread, in first looking down a well, of seeing a floating, bloated kangaroo or dingo, which had been unable to suffer its torture of thirst; but at only one well, No. 45, 35 feet deep and in danger of a complete cave-in,\textsuperscript{152} [did the water need to be boiled]

4-21 Marking the earth so that it can be seen from the air

The purpose of the 1962 journey by Surveyor Johnson and his party was to link Callawa, and ultimately Marble Bar, to Well 35. Their job was reconnaissance, and this involved traversing, marking routes for the grading party that would follow, and establishing stations. From Marble Bar the reconnaissance party travelled to Callawa homestead and from there they followed the telephone line in a north-easterly direction until they reached the Western Australian Lands Department trig station known as M6. Here they met the rest of the survey party. One of the vehicles dragged a ‘track scraper’ in order to clear a track for the following vehicles and to scrape a baseline on which to establish ‘recovery marks’.\textsuperscript{153}

The recovery marks were established on the loamy flat between the sand ridges that dominated the area. A circular trench 12 feet in diameter, 18 inches wide and 18 inches deep was dug around the mark and a ‘heavy white painted bush tripod’ was erected over the top of it. These were located between 300 and 400 yards from each ‘station mark’ set on the sand ridge. Station marks were marked with a beacon in the form of a 12 foot steel pole with four vanes, each one ten feet long.\textsuperscript{154}

The Bedford truck dragging the ‘track-scraper’ broke down so the track ended 130 miles from the telephone line near M6. The rest of the 398 miles to Well 35 were only defined by wheel tracks. During the traverse from Callawa to Well 35, 28 stations were established, 31 observed and identified on air photos, and the track was plotted.\textsuperscript{155} From Well 35, Surveyor Johnson ‘battled his way up the Canning Stock

\textsuperscript{152} Johnson, 1964: 183.
\textsuperscript{153} Ford, 1979b: pp 514-516.
\textsuperscript{154} Ford, 1979b: 514.
\textsuperscript{155} Ford, 1979b: 516.
Route’ and had marked 12 stations by the time he had reached a point just north of Well 45.  

Having selected and marked these stations, the ‘supervising surveyor’ (Johnson) now required a field party to ‘scrape a track from Well 45 to Well 35’ and to take ‘astronomical observations at certain stations’ and ‘photo identification of all points on aerial photography’ was also required.  

At first there was confusion as the field party was unable to find the marks left by Johnson on the 1962 reconnaissance survey and shown on the ‘strip maps’ they carried. Eventually a pile of sticks that had once been a bush tripod was found, then a blazed tree. The problem was that Johnson had expected them to be approaching from the south so had blazed the trees in that direction, whereas the field party was approaching from the north. The tripods had simply not stood the test of time nor the elements.  

The white painted bush tripods might have collapsed but the large circular trenches they marked stayed in place long enough to be photographed. Some stations in the desert were marked with a circle of large stones painted with whitened lime, and at a calculated distance from the circle of whitened stones stood a ‘witness post’, also painted white.  

In the desert areas... Most of the ground marks placed by National Mapping were surrounded with a circular trench or white painted stones to assist with the spot photography of the station mark. These spot photographs were exposed from a range of heights over each mark to enable the correct transfer of the station to successively smaller scales of photography and finally to the 1:84 000 mapping photography.  

Stations and markers, and the circles of white stones that allowed them to be photographed, allowed for the cosmographical space of the desert to be tied up and plotted chorographically. In Europe an area this size would probably represent a couple of countries with millions of established key features representing an

156 Ford, 1979b: 518.  
158 Ford, 1979b: 530.  
159 Johnson, 1964: 164. On this page is an illustration of a bush tripod.  
attachment to place over many generations. Here it was a kind of overlay, over the top of Aboriginal key features known for thousands of generations but invisible to Europeans.

National Mapping’s laboriously marked stations were vital. Their function was to create points that could be seen on the ground and from the air. These points eventually tied the land to the map, and by the astronomical readings taken at these points, to the universe as well.

4-22 Readings from the stars to establish points on the ground

Throughout the geodetic survey, relationships between the earth and the cosmos were constantly made as astronomical readings were taken to fix chorographical points on the ground by observation of certain stars. These readings were vital to ascertain exact positions because it is only in relation to the heavens that positions on the earth can be accurately fixed.

Surveyors are only indirectly interested in Time. They are basically interested in latitudes and longitudes, co-ordinated positions on the surface of the earth. Latitudes and longitudes can be calculated in two ways. Geodetic latitudes and longitudes are obtained by measuring angles and distances between points on the ground and making computations on a geometrical model of the earth... However, geodetic co-ordinates are only relative, in that they are derived by adding differences of latitude and longitude to the co-ordinates of neighbouring points. It is therefore necessary to make absolute determinations by measuring astronomic latitudes and longitudes directly from the stars.

In general, the observation of astronomic latitude causes the surveyor little trouble. It is essentially a matter of measuring a vertical angle to the elevated celestial pole, or to some convenient star whose position relative to the pole is known. Measuring angles is the surveyor’s traditional task, and observations for time are not essential. But longitudes are different. Unfortunately for surveyors, the earth is turning on its axis. When a surveyor points his telescope to the east or west, in order to measure the altitude of a star on his prime vertical

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161 For example the area of the Great Sandy Desert as decided in the Native Title Case discussed below is in excess of 77,800 sq km. According to The Times Atlas of the World, Switzerland at 41,287 sq km or the Netherlands at 41,160 sq km could comfortably fit into this area along with Belgium at 30,519 sq km.

and thus derive his longitude, the star moves rapidly across the field of view of his telescope, and the surveyor becomes involved with problems of Time.\textsuperscript{163}

National Mapping’s task was to create key features, both permanent and temporary, all over Australia and from these ‘stations’ to take astronomical readings to determine the exact position of these points on the earth. In this process they invoked that most ancient cosmological relationship between the heavens and the earth and humanity’s position in the cosmos.

Jupiter Well signifies this relationship. It is the only feature shown on Johnson’s map between Mt. Leisler and Well 35. A track had been graded\textsuperscript{164} for the use of National Mapping from Sandy Blight Junction past Mt. Tietkens ‘to 100 miles past Pollock Hills’;\textsuperscript{165} and near the end of this track a well was dug to save the following party from having to carry all their water.

Near the end of the graded track a well was dug on a ti-tree flat and damp soil was located at the end of the first days excavating. It was fairly slow going as the sides had to be shored up all the way; water was located on the second day and although very brackish was quite usable... The well was named Jupiter Well because when looking down the well in the dark to see if it had “made water” the first thing they saw was the reflection of the planet Jupiter in the water which had seeped in.\textsuperscript{166}

The track that ended at Jupiter Well\textsuperscript{167} was graded by Len Beadell and his party, and apart from this track that began at Sandy Blight Junction, they made a number of graded tracks through the desert to aid National Mapping and the geodetic survey. Beadell was employed by the Blue Streak Rocket Project, which in turn was administered by the Weapons Research Establishment.\textsuperscript{168} It has been said that without the assistance of this organisation, National Mapping would not have been able to complete the survey in this area because they would not have had the resources to do so.\textsuperscript{169}

\textsuperscript{163} Bomford, 1964: 273.
\textsuperscript{164} This ‘track’ became known as the ‘Gary Junction Road’ and is discussed below.
\textsuperscript{165} Ford, 1979b: 497.
\textsuperscript{166} Ford, 1979b: 497.
\textsuperscript{167} Fig 37, part of Australia’s Great Desert Tracks NW Sheet (2001) shows Jupiter Well and the track graded by Beadell, which is called Gary Junction Road.
\textsuperscript{168} Ford, 1979b:  475.
\textsuperscript{169} Ford, 1979b:  486. ‘Probably the geodetic survey of Australia came out best; it is most unlikely money would have been available to push the survey ahead at such a fast pace if it hadn’t been for the ‘Blue Streak’ requirement.’ Lines, 1992: 284. Money also came from other sources such as the
The Weapons Research Establishment required a 2700-mile ‘loop of traverse’ from Alice Springs to Finke, Giles, Roy Hill, Derby, Hall’s Creek and, to complete the loop, back to Alice Springs. This had to be completed by the end of 1959 to provide the required control at Talgarno (between Broome and Derby) for the firing of the Blue Streak Rocket in 1960.  

National Mapping completed the ‘loop of traverse’ on time, but the Blue Streak Rocket project ‘was aborted just after the loop was completed’. In 1965, fieldwork for the Geodetic survey included a Theodolite/Tellurometer traverse from Well 35 south to the Young Range. While in the area the party was requested to look for parts of the ‘Blue Streak Rocket’ that had come down to the north-west of Well 35. There is no mention made of whether or not they found bits of the rocket.

Apart from the stations forming a density of dots on the aerial photographs, the tracks of Len Beadell were also identified and marked on aerial photographs for the 1:250,000 map sheets. In The Reader’s Digest Complete Atlas of Australia (1968) some of the tracks appear as unnamed red dotted lines especially where there are no other roads in the area.

4-23 The Route is re-invented again as a Tourist destination.

Canning took Aboriginal knowledge of water in the desert and used it to create a line of wells, forming a stock route that was occasionally travelled for less than fifty years. National Mapping resurrected Minjoo Well 35 as an important marker in their survey of the country, and in the 21st century, the route and its wells have evolved again. The disused stock route has become a trail for those seeking adventure, danger and wilderness.

‘accelerated oil search programmes associated with the earlier Petroleum Research Subsidy Act 1959’ which allowed National Mapping to ‘increasingly employ private sector contract assistance.’

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170 Ford, 1979b: 482.
171 Lines, 1992: 274. See also Ford, 1979b: 486. Both Lines and Ford suggest that the project was cancelled by the British Government.
174 For example Len Beadell’s Gary Junction Road is shown as an unnamed broken red line on maps 78 and 79 of The Reader’s Digest Complete Atlas of Australia (1968). It can be compared to the Gary Junction Road as shown on Australia’s Great Desert Tracks NW Sheet (2001) [Fig 37]. Both maps show a distinctive bend in the road as it circumnavigates Pollock Hills.
The technological breakthrough that recast the cultural perception of the desert was the four-wheel-drive vehicle, which became readily available to a mass market in the 1980s. Thus equipped, armed with the added safety precautions of Codan radio or global positioning system (GPS) and with reasonable expectation of fuel stops at appropriate intervals, the traveller can readily negotiate the terrors and monotony of the desert, transforming them into a safe, an aesthetic and, perhaps most importantly, a limited engagement with the sublime.175

The Canning Stock Route remains on the map in the 21st century. It has become a tourist destination, and tourist companies plying it as the ultimate ‘four-wheel-drive experience’ have attached any possible chorographical feature that can be found. This might not have been lived and known space in the traditional sense, yet here is a place on the edge of cosmography, with just enough chorography to make it viable as a European destination in the desert.

There are now specialist maps that are concerned primarily with the Canning Stock Route, and because it is a chorographical feature there is supporting material containing narratives that embellish the route and other relics that are shown on the map. One such specialist map is Australia’s Great Desert Tracks NW Sheet (2001). It is a chorographical map with a particular purpose: to create out of a line of disused wells a place that people might want to visit, a destination. The map provides an illusion of chorographical space for those who very much want to believe that there is something there. To wander off the map in an area like the Great Sandy Desert is life-threatening for a European. The map gives a sense of safety and it appears to portray a thin line of known space within the vast unknown cosmographical space of the desert.

4-24 The map becomes the territory and time is factored in

Again, here the map is the territory. Without the map, the Canning Stock Route does not exist. The Reader’s Digest Complete Atlas of Australia (1968) depicts the route as a broken red line [Fig 36] running through almost featureless desert (to European eyes) broken only by the occasional salt lake, rock hole, claypan, hill or mountain, some of which carry European names. On Australia’s Great Desert Tracks NW Sheet (2001) the route is depicted as a broken black line [Fig 38, 39], but on the ground no line exists at all. Not only this, but in places there is considerable vegetation that

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effectively hides some of the wells. Senior Surveyor Johnson in 1962 described the sense of relief he experienced when, in need of water, he finally found a well. He had not been certain it was there because it was ‘hidden in teatree as high as the tops of the derricks’.\textsuperscript{176} There is no sign of vegetation on either map.

On both maps the route appears to consist of a line linking 51 wells the inference being that on the ground there is a definable route and that it is possible to travel this line from well to well, whether by camel, with a ‘mob’ of cattle or by vehicle. This is not the case, or not any more; the chorographical features, the wells, are not coherently linked.

In 1998 the West Australian Tourist Commission produced a ‘product snapshot’ for the Canning Stock Route, which consisted of information ‘compiled from the Royal Automobile Club Canning Stock Route map’.\textsuperscript{177} The ‘snapshot’ points out that even though the distance from Halls Creek to Wiluna is 1820 kilometres, their trial vehicle clocked up 2200 kilometres as the route is not a road but simply wheel tracks that have formed over the past few years and sometimes there are many tracks going in different directions. Heavy rain or fire can disguise the track and many of the wells are not directly on the track that has been formed so that backtracking and losing the track are part of the process of attempting to follow the route.\textsuperscript{178}

Because they have evolved over time and have been put to different uses, the wells have become relics of an earlier history. The same can be said of other features included on the map. The wells, though, are the strongest aspect of European history here and represent the chorographical features that carry most weight. Without Canning’s 51 wells there would not have been a stock route, nor would there have been anything on the map to which any other possible European relic in the area could be attached.

We respond to relics as objects of interest or beauty, as evidence of past events, and as talismans of continuity. These responses may mistake their original function, but do evince at

\textsuperscript{176} Johnson, 1964: 183.
\textsuperscript{177} The map is not available and is no longer produced.
\textsuperscript{178} Western Australian Tourism Commission, 1998: pp 1-2.
least some concern with the past. All knowledge of the past requires caring about it – feeling pleasure or disgust, awe or disdain, hope or despair about some aspect of our legacy.179

The wells have become ‘talismans of continuity’. Their original purpose may have been to facilitate the movement of stock through the desert, but they have now existed for long enough to perform other functions. They were reused as a key feature in a nationwide survey, and now the wells are relics for tourists to visit. Not all the wells are able to fulfil their original function of providing a water supply in the desert.

The hardship caused by the scarcity of water is probably more acute now than it was in the time of Canning. There are no ‘natives’ to show where the wells are and those wells that Canning built are often no longer usable. This becomes a selling point for some of the tours that use the route. Wells ‘in various stages of decay’ are interpreted as relics containing memories of the past that can be relived by those using the route today.

Wells 13 to 15 all in various stages of decay, really makes us all aware of the hardship of these droving days and the well sinking team who dug holes up to 30 metres deep to find precious water.180

Between Wiluna and Bililuna, at either end of the route, only ten sources of water are shown and these are marked ‘remote areas only - use at own risk’.181 Not all of these are wells and they are not evenly spaced, so it could be more than 200 kilometres between some of them.

Well Number 6, 182 also known as Pierre Spring, is fully restored. It is the first well on the tourist map to show drinkable water after leaving Wiluna.183 It was reconditioned in 1991 by the Geraldton four-wheel-drive club.184 Well 15, the second one with drinkable water shown after Wiluna, was completely restored in 1998 and Well 18 is fully restored.185 Well 26, Tiwa Well, is marked on the map as fully

179 Lowenthal, 1985: xxiii.
182 Wells 4A to 21 are shown on Fig 38, and wells 25 to 40 are shown on Fig 39. Fig 38 and Fig 39 are both parts of Australia’s Great Desert Tracks NW Sheet (2001).
185 Australia’s Great Desert Tracks NW Sheet (2001) shows Well 18 as fully restored but does not show a red tap, which according to the legend on this map, is the sign for drinkable water.
restored and operational with drinkable water. It was reconstructed in 1983 by David Hewitt and a party of volunteers. The windlass, whip pole, well bucket, troughing and timberwork are all reproductions of the equipment used in 1908 by Canning and his party. Tiru Well, Well 41, has also been restored and offers drinkable water, as does Kuduarra Well, Well 46, and Well 49, Lumba Well.

It is not clear whether all the wells were restored in the way of Well 26, Tiwa Well, that is, as an historical recreation of Canning’s work. The fact that the wells have been restored at all suggests a strong desire to retain key features in an area where there are so few European features. The necessary materials to reconstruct the wells might now be carted by four-wheel-drive vehicles rather than pack camel, but the conditions are still harsh.

4-25 Connecting the map to the earth using relics

Reconstructing the wells may be seen as a charitable deed for the rest of the four-wheel-drive community designed to provide usable water along the route. The wells have become valuable relics, some of the very few European chorographical marks on the ground. The whole reconstitution of this place as a tourist space illustrates the need for there to be features on the map that can be recognised on the ground. Without this there is no connection between the map and the earth, or non-indigenous people and the earth. The chorographical map acts as a conduit through which this relationship can take place and the map requires features to do this.

If the four-wheel-drive community had not reconstructed these cartographic markers, any remains of the wells would have just dissolved into the desert, these few European chorographical features simply rusting away to nothing. Now they exist as relics on the ground and features on the map, and in this way the relationship is safe. The map has become the territory and it incorporates chorography and history into the landscape through the wells and, along with this, European time.

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186 Australia’s Great Desert Tracks NW Sheet (2001)
188 Austour, 2003: 3.
189 Australia’s Great Desert Tracks NW Sheet (2001). This map also shows red drinking taps (drinkable water) at wells 33, 36, and 37 but no mention is made of them being restored.
190 Aboriginal reading of this country has been discussed above.
There is no other European lived space that can fulfil this purpose near here. Without chorographical marks on the map that can be found on the land, such space appears void of European habitation, history and memory. Now the stories that have become attached to the route are told through the map.

Apart from the wells, Canning and his party are remembered in other features shown on *Australia’s Great Desert Tracks NW Sheet* (2001). A cairn left by him lies between Well 16 and Durba Spring, and this is shown, as is his 1907 camp, which is marked just past Well 26, Tiwa Well. The salt water Tobin Lake is crossed between Wells 39 and 40, and it is at Well 40 known as Waddawalla, that Michael Tobin’s grave is marked. He was killed on the original evaluation of the route.

There is supporting material in tour company brochures that seeks to embellish the features of the route beyond the narrative of the map. For example Well 19, Kunanaggi, which lies on the shores of the salty Lake Disappointment, and is surrounded by the ruins of Wells 20, 21 and 22, has become known as the ‘Lonely Well’. Libral Well, Well 37, the site of the graves of the first stockmen killed on the route, is now referred to as the Haunted Well. A caption on the map tells of the naming of Lake Disappointment. It was ‘named by Frank Hann in 1897’ as he ‘was disappointed in not finding water in it’.

Because the Canning Stock Route remained on maps, by the end of the 20th century it came to signify an Australia that had long gone but some chose to revisit, because within the line on the map that linked the wells, a number of lost cultural performances were played out. The route has been described as a ‘pilgrimage through history along Australia’s greatest heritage trail’.

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191 Fig 38 shows Cannings Cairn.
193 Tobin Lake and Tobins Grave are shown near Well 40, Waddawalla on Fig 39.
195 Austours, 2003: 3. See also Oldzac, 2003b: 1. The story of the murdered stockmen and the oil prospector killed near this well in the early part of the 20th century has been mentioned above. One of the stockmen was George Shoesmith and Mount Shoesmith is shown on the map near Well 37.
196 This caption is shown on Fig 38, which is part of *Australia’s Great Desert Tracks NW Sheet* (2001).
For many Australians, the journey to the Centre is inevitably linked with the exploring expeditions of last century, and they see their journey as a form of pilgrimage, preserving the nations history by participating in a ritual celebration of its heroes.\textsuperscript{198}

In order to create this ‘pilgrimage’, any European historical occurrence that could possibly relate to the itinerary has been collected and purposefully attached to the route to help create a tourist package. Perhaps without this one piece of chorography, these slight European histories and memories would have dissipated, their energy run out, melting back into the desert like the disintegrating derricks and windlasses of the wells.

Earlier explorers are remembered at the points where their tracks crossed the Canning Stock Route and the memory of them is now attached to some of the wells. In this way the explorer’s journey can be attached to the chorography of the Canning Stock Route by associating it with the key features, the wells. Without this attachment these journeys are merely footprints in the sands of the desert, often authenticated only by a map of where the explorer imagined he had been.\textsuperscript{199}

Canning had experienced little difficulty in the first 200 miles of the route as ‘seven parties’ had travelled the route before him. One of these parties, that of ‘Lord Forrest’ had travelled from Windich Springs,\textsuperscript{200} between Wells 4A and 4B, to Weld Springs.\textsuperscript{201} Judging from where it is shown on the map, Weld Springs is now known as Well 9 on the Canning Stock Route. Well 9 has become associated with Alexander Forrest, the younger brother and assistant (both were surveyors) of Lord Forrest. It is said, in one of the tourist packages describing the features of the Canning Stock

\textsuperscript{198} Haynes, 1998: 264. Haynes is referring in particular to the Central Desert.
\textsuperscript{199} The isolated personal progress of explorers as opposed to the work of the surveyors has been described in the following way: Lines, 1992: 22. Says that ‘explorers diagrams …tend to give the appearance of fairly complete knowledge of the topography, they should be taken as indicative only, as explorer’s horizons either side of their traverses were necessarily limited.’ Foster, 1985: 217 Note 28. Foster points out that Charles Sturt admitted he was into exploring, not surveying. He ‘lingered not on the way’ and experience had told him ‘how difficult it is to fix a longitude by the compass and chronometer in such hurried journeys as mine.’
\textsuperscript{200} Canning, 1936: 62. The positioning of Windich Springs between Wells 4A and B is according to \textit{Australia’s Great Desert Tracks NW Sheet} (2001).
\textsuperscript{201} Weld Springs is not shown on \textit{The Reader’s Digest Complete Atlas of Australia} (1968) or \textit{Australia’s Great Desert Tracks NW Sheet} (2001), but it is shown on Plate 14 of \textit{The Times Atlas of the World} (1983).
Route, that it was at Well 9 that Alexander Forrest held back a ‘native attack’ in 1874, and that his rock fort can still be seen there.  

Apart from the Forrest brothers, the Canning Stock Route was crossed at various points by other explorers, for example Giles in 1876 and Warburton in 1873. They were travelling from the West Australian coast to points on the Overland Telegraph Line which ran down the centre of Australia from Port Darwin to Adelaide. Giles is remembered as crossing the route between Killagurra Gorge, which is known as Water 17, and Cannings Cairn. It is said that a plaque in memory of Warburton who ‘crossed this point in 1873’ can be found by backtracking from Well 47, but this plaque is not shown on Australia’s Great Desert Tracks NW Sheet (2001).

The surveyor L.A. Wells was in charge of the Calvert Expedition which left Cue, the next stop up the great Northern Highway from Day Dawn, in 1896, heading for the Fitzroy River. A track between Well 27 and the now abandoned Well 28 leads to Separation Well, which Wells found during the 1896 expedition. It was subsequently lost and, according to a caption on the map, re-discovered by a group re-tracing the explorer’s footsteps in 1979. The ruined Well 29 lies near Lake Auld and Thring Rock. A connection is made in one of the tourist brochures between the lake, the rock, the explorer and the stock route.

We are now in the area first sighted by the explorer Wells in 1896. Helen Hill, Lake Auld and Thring Rock are sighted as we continue our journey along the Canning Stock Route.

Sitting above Lake Wells alongside the Canning Stock Route is Lake Carnegie, named after the Hon David Carnegie, whose father the Earl of South Esk is remembered in the South Esk Tableland which stretches across the route between Wells 47 and 48. It was at the nearby Godfrey’s Tank that Carnegie and his party crossed the Canning Stock Route and named not only the tableland, but also Breaden Pool, after Joseph A. Breaden who was second in command of the expedition.

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202 Austours; 2003: 2.
203 Warburton was going the other way, from east to west.
204 Austours, 2003: 2. ‘We have just crossed the track where the explorer Giles passed on his epic journey from central Australia to the West Coast…’ This is after Well 15 and before Cannings Cairn.
205 Oldzac, 2003b: 1. (page numbers inconsistent this is the third page, although it is numbered ‘1’)
207 Separation Well and the caption are shown on Fig 39, part of Australia’s Great Desert Tracks NW Sheet (2001).
208 Austours, 2003: 3.
Although complaining that Godfrey’s Tank was almost inaccessible to camels, he estimated it to contain, when full, about 40,000 gallons.\textsuperscript{209} Carnegie undertook a number of expeditions in the country the stock route now runs through, and apparently came to the conclusion that a stock route through this area linking the Kimberley cattle country to the southern goldfields was ‘utterly impracticable’.\textsuperscript{210}

*Australia’s Great Desert Tracks NW Sheet* (2001) obtains its base information from the database begun by National Mapping’s efforts.\textsuperscript{211} It includes positions obtained from the key features they made and some of these are shown. The bush tripods put in place by National Mapping are long gone, blown away by the wind, back into the desert from which they were formed. Perhaps some of the white painted stone circles remain.

Senior Surveyor Johnson of National Mapping is remembered in Mount Johnson on the side of the Gunbarrel highway. It was Johnson who, on reconnaissance for the Giles to Carnegie homestead traverse, determined a route for a road that was graded by Len Beadell and came to be known as the Gunbarrel Highway.\textsuperscript{212} In turn, Johnson was assisted by Beadell’s efforts. In his 1961 reconnaissance from Mount Tietkens to Well 35, Johnson used the track that Beadell had graded from Sandy Blight Junction near Mount Leisler. The track went west past Mount Tietkens, Mount Webb, beyond Pollock Hills,\textsuperscript{213} and on to Well 35. This track is now known as Gary Junction Road.

From Well 35, Gary Junction Road runs roughly south and is intersected about 50 kilometres from Well 35, at Gary Junction, by Gary Highway, which runs towards the south. Along these two ‘tracks’, survey markers with the prefix NMF are shown on the map. It can be assumed from the prefix and the whereabouts of the markers that these are relics from the Australia-wide geodetic survey conducted by National Mapping in the 1950s and 1960s.

\begin{flushright}
\textsuperscript{209} Carnegie, 1898: 272.
\textsuperscript{210} Carnegie, 1898. 274.
\textsuperscript{211} Department of Administrative Services, 1989: 640. The work completed by National Mapping in 1965 now forms part of the information owned by AUSLIG, Australian Surveying and Land Information Group. From the work completed in 1965 by National Mapping a 1:100,000 national topographical map series was completed in 1988. Although only 60% of the coverage is printed maps the rest is on a database available on request. The *Great Desert Tracks NW Sheet* (2001) discussed here has written on it ‘Base data supplied by (Auslig)’.\textsuperscript{212} Ford 1979b: pages 475 & 479. A portion of the Gunbarrel Highway is shown on Fig 37.
\textsuperscript{213} Ford 1979b: 497.
\end{flushright}
Any name, any feature, any relic, is a welcome addition to a map that is almost blank. A route linking barely usable wells, or a graded track can begin a legend simply because of its inclusion on a map as empty as this one. Even though there are so few key features, making the map almost ‘a perfect and absolute blank’ from a European perspective, these chorographical features had to be found if this area was to have any kind of chorographical representation at all. Otherwise, it would be cosmography, unknown space.

4-26 The Gunbarrel Highway construction party

Decisions were made as to which relics were to be shown on a map and how they would be interpreted. On Australia’s Great Desert Tracks NW Sheet (2001) the Canning Stock Route, which could perhaps be called one of the few European ‘achievements’ in the area, is joined by the achievements of Len Beadell. It is not just Beadell’s system of tracks that is shown but various relics as well, and through the captions the map tells aspects of the Beadell story. Canning rates one caption and Beadell at least seven. What is significant is the way historical time connects the separate events in a manner suitable for tourist consumption. The map is a critical aspect of this transaction.

Australia’s Great desert Tracks NW Sheet (2001) created a tourist destination that was centred around the Canning Stock Route because there were no other European features in this part of the world. Here was a place that was fascinating precisely because European features were so sparse. The very few relics that could give this place a European history had to be documented on the map and stories found to give them a resonance that would be attractive and worth visiting. It was the task of the map to interpret these relics and create the territory, giving it a European history and a sense that it had been lived in or at least travelled through by Europeans.

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214 Presumably these decisions were made by the publisher or the cartographer of the map. Australia’s Great Desert Tracks NW Sheet (2001) discussed here is especially for those who would drive the Canning Stock Route, and these are people who would understand more than most the specific skills that someone such as Len Beadell had.

215 Turnbull, 1989: 41. Discusses how English Ordinance Survey maps omit details; in other words a choice is made as to what is relevant and should be shown on the map, and that is usually determined by function.

216 Some of the Beadell captions are shown on Fig 37.
The tracks Beadell and the Gunbarrel Highway construction party graded through the desert in the 1950s and 60s, became known as ‘highways’ even though they only consisted of a pair of bulldozed wheel ruts that were generally used so infrequently that tall grasses often grew between the ruts.

Some of these highways were shown on maps in *The Reader’s Digest Complete Atlas of Australia* (1968) as unnamed red dotted lines. They were the only ‘roads’ through many parts of the desert until recently. On *Australia’s Great Desert Tracks NW Sheet* (2001) Beadell’s names have been added to his tracks.

Apart from the Gunbarrel Highway and the Tanami Road, Beadell tended to name his highways after his family. The Anne Beadell Highway, named after Beadell’s wife, runs 1400 kilometres west across the Great Victoria Desert from Coober Pedy to Laverton, passing through Emu and the atomic bomb sites of Totem 1 and 2. Beadell, who also did the initial surveys to establish the Woomera Rocket Range and Village, chose these bombsites and the later atomic test site of Maralinga.

At Neal Junction the Anne Beadell Highway crosses the Connie Sue Highway. Running north to Warburton and south to the rail and the Eyre Highway it is named after Beadell’s daughter Connie Sue, who as a baby travelled with her parents from Warburton to Neale Junction. Beadell’s sons Jackie and Gary are remembered in Jackie Junction on the Gunbarrel Highway, Gary Highway, Gary Junction and Gary Junction Road.

On *Australia’s Great Desert Tracks NW Sheet* (2001) there are captions for most of the Beadell tracks that are shown. In the caption for the Connie Sue Highway, the journey of the baby and her parents is mentioned and the date Aug-Sept 1962 is given.

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217 The inclusion of the Gary Junction Highway in *The Reader’s Digest Complete Atlas of Australia* (1968) has been discussed above.
221 Oldzac, 2001a: 1.
222 Great Desert Track NW Sheet (2001) caption.
223 The Anne Beadell Highway does not appear on this map, it is just out of the area shown, and the Tanami Road does not have a caption.
for the construction of the northern ‘section’ by the Gunbarrel Road construction party.

There are three captions for the Gunbarrel Highway. The caption for the Giles to Warburton section includes the information that Len Beadell ‘nearly died of thirst during his March 1958 reconnaissance for the Giles to Jackie Junction section’. Len Beadell’s difficult achievements and his family enter the map through these captions and the names of the highways. The tourist map goes further by using any possible Beadell memorabilia as relics existing on the ground in order to tie the story of Len Beadell to the cartographic representation.

The Talawana Track, another of Beadell’s roads, crosses the stock route at about Well 23 and continues on to meet the Gary Highway at Windy Corner where there is a Len Beadell marker, as there is at Gary Junction and at other points on his highways. Along the Old Gunbarrel Highway, ‘Len Beadell blazed tree’ is shown twice and ‘Len Beadell plaque on desert oak’ is there as well.

The caption for Gary Junction Road mentions that the road was built ‘in Aug-Sept 1960 and Oct.-Nov. 1960’ and in addition: ‘Work was interrupted when the grader broke down and had to be towed to Giles by the bulldozer.’ Further down this road a red dot shows the whereabouts of ‘Len Beadell’s Burnt Out Truck’. The caption underneath states that: ‘The GRCP ration truck caught fire during the long haul back to Giles after the grader broke down (Nov. 1960).’

The effort and the difficulty (and perhaps the humour) that went into the building of these tracks through the desert is alluded to in the relics and the captions on the map. Yet on the ground, the relevance of a burnt out truck to the surrounding area might

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224 One caption refers specifically to the ‘abandoned section’ and gives regulations for travelling it. ‘… you must contact the Ngaanyatjarra Council first to obtain a permit and transit conditions. There must be between two and five vehicles in your convoy and the convoy must have effective communication equipment’.


227 Markers pertaining to Beadell and mentioned here can be seen on Fig 37.
not be immediately obvious.\textsuperscript{228} At Warburton it is possible to see Len Beadell’s grader,\textsuperscript{229} but this is not shown on the map.

The edges of the Gunbarrel highway from the Len Beadell ‘marker’ at Everard Junction through to Jackie Junction are littered with Len Beadell memorabilia. First there is a ‘Len Beadell Monument’ then Mt. Beadell\textsuperscript{230} just before Camp Beadell. The caption below Mount Beadell reads:

A replica of Len Beadell’s theodolite and a memorial to Len are atop Mount Beadell.

Further down the Highway are Len Beadell’s Tree and Plaque. Beadell died in 1995 and the four-wheel-drive fraternity who held him in such high esteem planned a memorial. His ashes were placed at the sight of the original survey peg to mark the range at Mount Beadell on the Gunbarrel Highway. A year later a memorial was unveiled at this spot and 163 four-wheel drivers in 71 vehicles from every state in Australia turned up to celebrate the occasion. His ashes were later moved to Woomera Cemetery and another memorial and plaque built there.\textsuperscript{231}

4-27 Chorography – the creation of a narrative on the land

\textit{Australia’s Great Desert Tracks NW Sheet} (2001) creates a narrative on the land with its chorography. Len Beadell’s story of hardship and achievement has eclipsed that of Canning on this map. It has also added a number of key features to the wells. Not only is it possible to drive the Canning Stock Route and relive the hardship of Canning’s experience but that of Beadell’s as well.

Canning was early 20\textsuperscript{th} century, Beadell was 50 or so years later, and yet they appear side by side on the map with their lines of movement interwoven. In this way the key features left by both men, and subsequently mapped, incorporate European time into the landscape. Not only this, it creates a journey through a landscape peppered with relics - the necessary chorography within all that cosmography.

\textsuperscript{228} It is possible that a plaque or marker may give the necessary details of why the truck was there. It is shown here on Fig 37. This is not the only burnt out vehicle to be used as a landmark on this map, near Well 13 a ‘burnt out ‘Burnt out Land Rover’ is shown and this can be seen on Fig 38.
\textsuperscript{229} Austour, 2003: 1.
\textsuperscript{230} Mt. Beadell is shown on Map 71 of \textit{The Reader's Digest Complete Atlas of Australia} (1968) although none of the other Beadell monuments mentioned here are.
\textsuperscript{231} Rigby, 2001: 2.
The map ‘constructs a mythic geography, a landscape full of ‘points of interest’ by captioning the relics. If these were not shown on the map in this way they would represent nothing but bits of junk in the desert, old wells, a burnt out truck, a few remnant key features from surveyors and various other bits and pieces. European chorographical features in this desert are few and far between.

The map is indeed the territory because it implies chorographical features that can be known to Europeans in one of the last expanses of unknown cosmographical space left on the planet today, and this is part of the attraction. This thin line on the map implies chorography even though there is only scant evidence on the ground, of any such thing. Yet the closest thing to lived and known European space for hundreds of miles is this line of wells and Len Beadell’s tracks. These ‘features’ suggest that at some time in the last century or so, there has been some kind of European knowing of this place. But without the map the connection would be so fragile it would vanish into the earth.

The relics shown on the map make little sense without the map. What is the connection between Beadell’s burnt out truck and Minjoo Well 35? How does the Connie Sue Highway relate to the Canning Stock Route? On the ground the relationships would not be obvious. Because of the sparsity of European features and the need for the map to show things that may not normally be shown, the bizarre relationships between objects depicted on chorographical maps become more apparent. A logic is possible.

Len Beadell was honoured in his lifetime. In 1958 he was awarded the British Empire Medal for building the Gunbarrel Highway through 1600 kilometres of desert. In 1988 he was awarded the Order of Australia in the Queen’s Birthday Honours List. In 1987 astronomers of the Mount Palomar Observatory in California named a newly discovered asteroid after him because without his network of ‘highways’, it would not have been possible to study meteorite craters such as the Wolfe Creek meteorite.

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233 Harley, 1992: 240. Harley compares the emblems on the road map of North Carolina (deconstructed by Wood and Fels) to Borges’ Chinese Encyclopedia (used by Foucault) and suggests that the collection of objects appears to be bizarre until the code is cracked.
crater, which is considered the second largest of its kind in the world.\textsuperscript{235} This crater lies just off the Tanami Road, a Beadell creation that joins the Canning Stock Route at Billiluna and goes through to Halls Creek.

The chorographical features on this map and discussed this far were made on the ground mostly with extraordinary human effort and then were put on the map so that there might be something that could be considered European marks on the land.

Wolfe\textsuperscript{236} Creek meteorite crater was created by a large chunk of debris falling to the earth from outer space. It is an extraordinary natural feature and it is large, being 850 metres wide,\textsuperscript{237} yet it appeared on a map before it was found on the ground.

…during preparations for making the Billiluna “4 mile” photomap in 1951. The leader of the photomapping section, William Trevena, in examining the then first and quite recent aerial photography, picked up what is now known as the Wolf [sic] Creek meteorite crater… The crater is about 100km south of Halls Creek and is 840metres from lip to lip.\textsuperscript{238}

4-28 The time of the departure of the ‘last nomad’

The specialist map alludes to a new relationship between Aboriginal inhabitants of the desert and Europeans, who generally only visit it. The Aboriginal people of the desert showed Canning and the explorers who went before him where the water was located, often being forced to do so, but without their knowledge the stock route would not have been possible. Now the stock route and the Beadell ‘highways’ that have become attached to it clearly run through Aboriginal land,\textsuperscript{239} and ironically at times it was the indigenous communities who set the rules as to how these tracks would be used.

From Wiluna to Carnegie (formerly Carnegie homestead) the Gunbarrel Highway appears on the map as being ‘okay to travel on’.\textsuperscript{240} From Carnegie it begins to disintegrate. Soon after Len Beadell’s tree and plaque near Mount Samuel, a permit is required and after Jackie Junction the highway is considered abandoned. To travel it,

\textsuperscript{235} Australia’s Great Desert Tracks N W Sheet (2001) caption.
\textsuperscript{237} Australia’s Great Desert Tracks N W Sheet (2001) caption.
\textsuperscript{238} Lines, 1992: 274.
\textsuperscript{239} Obviously this was always Aboriginal land. The difference now is European law finally recognises that and has given some Aboriginal people at least, European Native Title ownership of Aboriginal Land.
\textsuperscript{240} Australia’s Great Desert Tracks N W Sheet (2001) caption.
a permit and conditions are required from the Ngaanyatjarra Council. ‘Convoys must be between two and five vehicles and must have effective communication equipment’.  

*Australia’s Great Desert Tracks NW Sheet (2001)* suggests an evolution of a European perception of Aboriginal people and their relationship to the land. Canning and explorers before him were prepared to forcibly elicit knowledge of the whereabouts of water in the desert from the Aboriginal people they found there. Perhaps they justified this as being in the ‘national good’, as the stock route would not have been possible without this information.

When Canning was travelling through the desert building his stock route, there were many Aboriginal people living a nomadic life in the desert. He reported that the ‘natives’ were numerous. By the 1960s when Surveyor Johnson and National Mapping were in the area most of the desert Aborigines had been relocated to Balgo Mission near Billiluna.

There are many native wells all through the Canning Basin, but with the now almost complete absence of aboriginals to point them out or use them these days, they are likely to be found only by accident.

The official reason for this ‘relocation’ was that the ‘Blue Streak’ rocket project originating in Woomera had a possible trajectory that covered most of the central desert area. There were concerns that rocket debris might cause death or injury to anyone living in the desert.

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242 There is no suggestion here that this is intentional on the part of the mapmaker, nor does it show anything other than a ‘European perception’.
243 Carnegie, 1898: pp 270-271. David Carnegie details a method he used to find water in the desert. An Aboriginal man was kept roped or chained and given no water for up to thirty hours. When released he ran to the nearest water known to him. The explorers followed and this is how water was found.
244 Canning, 1936: 63.
245 Ford, 1979b: 498. Ford says that during the Mount Teitkins to Well 35 survey ‘small family units of Pintubi aboriginals were occasionally encountered…’
246 Johnson, 1964:172. Johnson says that by the time of his trip, in the 1960s ‘there were few Aborigines to be met’ in the area, ‘almost all of the previous wanderers being at the Balgo Mission near Billiluna’.
248 Williams, 2000: (no page numbers given).
Missions such as ‘Warburton Mission’ (Map 68), ‘Balgo Hill Mission’ (Map 78) and ‘Jiggalong Mission’ (Map 76) are shown in *The Reader’s Digest Complete Atlas of Australia* (1968). On *Australia’s Great Desert Tracks NW Sheet* (2001) not only has any reference to ‘mission’ disappeared, but the map shows that without the Aboriginal communities along the route there would be no European comforts to be had.

Between Wiluna and Halls Creek, the only mechanic, telephone, medical assistance or petrol (apart from that ordered in advance and left at Well 23) are available at the Aboriginal communities of Kunawarritji249 (turnoff between Wells 32 and 33), Balgo (Wirrimanu) and Billiluna (Mindibungu)250. Now that the stock route has been re-invented as ‘one of the most remote and isolated four-wheel-drive tracks in the world’,251 it is the Aboriginal communities that provide the ‘benefits of European civilisation’ to the latest wave of European adventurers.

It may appear that it is Aboriginal people of the area who now have fixed abodes, their communities, while the four-wheel-drive fraternity are the nomads. Yet the four-wheel-drive fraternity are only nomadic while they are in this place and generally return to their settled lives once their journey is over. The Aboriginal people who live in the communities still maintain a nomadic way of life, fulfilling nomadic ‘practices’ and retaining nomadic ‘knowledges’.252 This is not a question of race but emanates from the land itself and it may be the desire to experience this way of life that is precisely what draws the four-wheel-drive fraternity to this place, the desert.

> It is the country, therefore, which slowly produced the nomadism of the Aboriginal peoples who had lived there for so long. It was not they who suddenly decided to choose among a variety of “social systems” and found nomadism to be the most suitable.253

Before the European infrastructure of the communities existed, Aboriginal people of the desert were totally dependant on their knowledge of where the waterholes were and nomadic journeys, of necessity, were determined by the whereabouts of water. Now, in an echo of this, the nomadism of the four-wheel-drive fraternity along the

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249 Fig 39 shows the services available at Kunawarritji in the legend and accompanying caption.
Canning Stock Route is a journey between wells. In both cases ‘the trace is more significant than the point’. ‘The water-hole is both destination and place-to-be-left’.

A caption on Australia’s Great Desert Tracks NW Sheet (2001) marks the spot (Ngarinarri Claypan)

The last of Australia’s nomadic Aborigines - an old couple named Warri and Yatungka - left their traditional lands and way of life at this spot in 1977. They were driven to Wiluna where they lived for almost two years.

Nearby the Warri and Yatunga Hills are shown on the 2001 map. The inclusion of 1977 is an acknowledgement that Aboriginal people have been incorporated into European time as well as having their own. To give a time and place of departure for the ‘last’ nomads, means that the nomads had a place and a time.

As far as Europeans were concerned time started when the Europeans arrived. Aborigines were seen by Europeans to exist outside of time; they had always been there. However, on the four-wheel-drive map they are depicted as being dynamic both in time and space. That is, dates of a movement are shown, thereby implying an ability to move, to have agency rather than just being part of the landscape.

The notion of changelessness ascribed to the desert was easily transferred to its inhabitants. Aboriginal culture was declared to be a ‘stone age’ one, an ethnic fossil, clear indication that such people could not adapt to change and were thus inevitably headed for imminent extinction.

Recently this concept has changed and Aboriginal people, especially of the desert, are recognised as being ‘the world’s oldest surviving culture’. This has given Australians ‘a claim to the antiquity and historical respectability’ that it has desired since settlement. This ancient indigenous culture coupled with the ‘silence, immensity, and ancientness’ of the desert is now ‘eminently marketable.”

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Aboriginal culture and sacred sites have become an important selling point for the route, especially in the supporting material. Durba Springs, which is north of the ruined Well 16, has become known as an oasis on the Canning Stock Route and is often used as a place to stop for a while on the arduous journey, as is the nearby Killagurra Gorge and Springs which is a ‘registered sacred site’. Both areas are valued for their abundant water, rock formations and Aboriginal rock paintings. Marked on the map near Killagurra Gorge is ‘Aboriginal rock paintings’. ‘Aboriginal tool site’ is marked near Well 27.

In an area known as Dunda Jinda, which is sacred to the local Aboriginal community, lies Well 30, fed by an underground water supply that was described by Canning as ‘unique water’. It is possible to visit this large pool of clear water in nearby Mujingerra Cave, which is at the end of a tunnel six metres below ground and is marked on the map.

‘Rock art’ is marked twice between Wells 37 and 38. A track leads from Well 16 to Calvert Range and carries the following caption:

The Calvert Range hosts hundreds of aboriginal art and etching sites accessed by numerous tracks leading off the main loop track which circumnavigates the base of the Range.

Perhaps because Aboriginal sacred sites represent to Europeans a place and a knowledge that is outside their own time and consist of a strong relationship to the land that is so much older than their own, there is perhaps a desire to establish a metaphysical connection to these sites. Chorography is lived space even if Europeans did not live there. Aboriginal sites imply an ancient human involvement with a place, a chorographical knowing that Europeans on this land may well long for.

There are two kinds of past and time here, Aboriginal and European. By including Aboriginal sites on the map they are, in a sense, incorporated into European chorography. They imply known and lived space, a place Europeans can come to

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261 Austour, 2003: 3.
know, perhaps as relics of another culture. Without the map it is unlikely they could be found by Europeans.

4-29 The Ngurrara Map

In 1996 the Ngurrara people put in a claim to the National Native Title Tribunal under the Native Title Act for native title to approximately 77,814.575 square kilometres of the Great Sandy Desert and Kimberley Region. As an aid to their claim, an enormous map was created by members of the desert community, many of whom are seen as major contemporary Aboriginal artists. Representing ‘four major language groups of the area’ the artists produced the map ‘not for aesthetic or economic purposes but as cultural evidence of their traditional ownership of the land in question’.

The artists then depicted their own traditional territories in relation to this line using designs that incorporate both physical and spiritual sites on their land. Those actually painting were advised by others whose knowledge of the land was more detailed – usually elders whose physical sight prohibited them from painting but whose insight into the land was second to

263 National Native Title Tribunal, 1996: Claimant Application Summary for the Ngurrara claim.
264 Cosgrove, 1999:16. and Note 19. ‘The same cartographic documents which in the eyes of colonists have so often secured the legality of their appropriation of aboriginal lands today act alongside quite distinct mappings such as rock markings and memory lines to secure land claims in a post-colonial era’. (Note 19) ‘The continuing settlement of aboriginal land claims since the Mabo judgement overturned the legal assumption of Australia as terra nullius, declared at the time of British colonial appropriation, depends on acceptance of a wide range of ‘cartographic’ documents, ranging from conventional Western cadastral and property maps to rock markings and oral mappings attested by group memory through storytelling’. Poffenberger, 1998: 54. Along similar lines, Poffenberger in his article ‘Map or be Mapped’ cites University of California geographer Bernard Nietschmann: ‘More indigenous territory has been claimed by maps than by guns, and more indigenous territory can be reclaimed and defended by maps than by guns.’ Poffenberger also discusses projects where indigenous mapping systems and knowledge of the land are combined with the European mapping system. The resulting maps use the ‘symbols, scales and priorities of indigenous people and the orthodoxy of cartographic maps’ and can be used in court or in negotiations with those who wish to develop the land or its resources. European maps often depict indigenous land as uninhabited or with ambiguous borders. However when the indigenous borders are placed on a European map they become real and speculative or courts of law have to abide by them. There can be problems with this approach because indigenous people often don’t put secret information on their maps, for obvious reasons. There can also be a distortion of key features to hide secret information. Boundaries that had been fluid can become fixed when put on a map. Poffenberger raises this point in the article mentioned above and Sutton 1995 discusses a European map which was specifically funded by mining companies to fix boundaries around certain Aboriginal language groups in order to reduce the complexity of land claims and consequently the number of Aboriginal people the mining companies had to negotiate with.
265 For example Jimmy Pike and Pijaju Peter Skipper.
267 The Canning Stock Route
none. The resulting canvas incorporates many different techniques and styles of painting, from the dot and circle style of the Wangkajungka artists to the more Western style of the landscapes by Walmajarri artists from Fitzroy Crossing.268

The map was painted on the ground in the desert and measured ten metres high and eight metres long.269 Seventy artists participated in the work, which involved a ‘painting campaign’ that lasted two weeks, and during this time, evening ceremonies were performed by the headlights of the group’s four-wheel-drives.270 The purpose of the map was to:

…demonstrate the Ngurrara clan’s unbroken association with the permanent waterholes jila – where countless generations of their families were born and raised before enforced exile in the 1940s and 1950s into the tribal lands of other language groups.

…Jimmy Pike paints a great red dividing line [during the television programme being reviewed] down the belly of the empty canvas to represent the Canning Stock Route, a linked series of waterholes recognised by whites and Aborigines alike. To the east and west of this line lie the 75,000 square kilometres of vacant Crown land in Western Australia under discussion.271

The map worked on a number of levels. It helped overcome language problems faced by claimants during the hearing. ‘If Kartiya (white people) can’t believe our words, they can look at our painting, it all says the same thing.’272 Claimants could stand on the canvas (map) as they gave their evidence273 to the tribunal. Perhaps through the map, it was thought the country depicted and the Ngurrara relationship to their land could be more easily described.

The Ngurrara Map is very different from European maps of the same area. Instead of large areas of flat pale pink or ochre with red or brown flicks to represent sand dunes, this map is alive with colour and complexity because many different

269 Dick, 2003: (no page numbers given) Two maps were made, the first was painted by about 20 artists and measured five metres by eight metres. Officially titled Ngurrara Canvas I, the map is known by Skipper as ‘little shorty one’. This map was not considered good enough by the artists to be used as evidence for the claim. It is reproduced here as Fig 41. The second map, Ngurrara Canvas II or ‘the old fella’ was used in the claim and is the map discussed here. It is reproduced as Fig 42.
270 James, 1998: 17.
kinds of country are shown. It seems to portray a very different place from that represented by European cartography. And yet there is a shared ‘relic’ because running through this map is the same strong chorographic feature that has been a prominent part of this chapter, the Canning Stock Route. The route has become a key feature on European maps and on this Aboriginal map\(^\text{274}\); it now exists as a landmark common to both cultures.

The Aboriginal stories about the Canning Stock Route, would probably be quite different from the European one. The Ngurrara map certainly paints another picture, and one that is quite particular to the ‘Native Title’ process; such a map would not have been made before this time. Although the information contained within it is traditional, the concept is not and is an example of the dynamism of Aboriginal culture today. The map represents one of the ways in which Aboriginal artists ‘are evolving new representations of the desert as the source of their spiritual identity’, and as a focus of their ‘political aspirations’.\(^\text{275}\)

This chapter has examined aspects of a European colonial culture slowly making the spatial connections necessary to form a coherent whole as a nation rather than a series of isolated colonies on the same landmass. National Mapping’s geodesic survey of the whole country, rather than individual states, becomes a metaphor for a change in thinking as it went from colonial space to a national space. The Ngurrara map takes this one step further, perhaps not so much an acknowledgement of a history that was shared, because of the extraordinary imbalance of power,\(^\text{276}\) but more of a memory crossing between cultures and depicted as a line on a map, the Canning Stock Route.

\(^{274}\)The Canning Stock Route is dominant on Ngurrara Canvas I as a strong brown line linking a series of dark circles. It is more subtly portrayed on Ngurrara Canvas II yet it seems to form a strong division between different kinds of country. Dick, 2003, says the following about the second map: ‘People absent from the first effort gathered to paint their country, the geography was corrected and a snake Dreaming story was amended to show both its snakes.’ The earlier single snake and the later entwined snake can be seen on the maps, almost touching the top of the Canning Stock Route and giving a point of orientation between the maps.


\(^{276}\)By this I mean that judging from the first hand accounts of both Canning and Carnegie, the Aboriginal people of the desert were physically forced to show the surveyor and the explorer where water could be found. Because of this I don’t think it can be said that the Canning Stock Route represented a ‘shared history’, things are shared when there is some equality. But both cultures, Aboriginal and European have strong memories associated with the route and this is shown by the fact that it is included on maps of both cultures.
Chorography is not a static process but a dynamic one. By depicting changes in the way ‘relics’ can be re-invented, or how land is used or envisioned from one time to the next, chorography incorporates time into the landscape. And because relics are human things, chorography re-enforces that ancient relationship between humanity and the earth, and also the heavens, which together have provided time and cartographic positions upon the earth for millennia.
CONCLUSION:

Ultimately, the play between cosmography and chorography has allowed for the evolution of a European Australian\(^1\) space. Because Australia was a colonial country the dance began with two visions, one originating in Europe and another here, until the view from the ground became paramount. Yet the dance continues to this day, as these two kinds of mapping continue in their attempt to depict the place Australians inhabit: a chorographical vision of the local and the known always juxtaposed with a cosmographical view of the world at large.

Although cosmographical maps are no longer made and haven’t been since the world was fully conceptualised, some of these ancient maps still powerfully resonate in ways that influence current Australian space. This is especially so with regard to the cosmographical maps that incorporated the imaginary lands of the Antipodes and Terra Australis Incognita. Both continue to carry mythic possibilities for present day Australians. These maps form foundational building blocks by drawing upon an ancient connection to a European past and they continue to partially define Australia’s spatial relationship to Europe, the opposite foot or the unknown southern land. These cosmographical maps of imaginary lands were readily incorporated into imperial projects from the time of the Pope’s line until the voyage of Captain Cook down the east coast of New Holland, which culminated in the chorographical map of Botany Bay.

Chorographical maps have defined how space is evaluated, thereby aiding the ‘very machinery of imperialism’. These maps created ‘homely landscapes’ out of ‘alien’ territories and attempted to establish ‘ordered grids of occupation’. Cosmographical maps drew ‘distant lands into the maps of empire’, taking them from ‘the envisioned to the embodied’. These mapping processes helped create ‘the most painfully uneven geographies of advantage and disadvantage’.\(^2\)

As far as Australia is concerned both chorographical and cosmographical maps are implicated in the taking of Aboriginal land by mapping it into European ownership.

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\(^1\) It is acknowledged that non-indigenous Australians today come from every part of the world not just Europe, but the term ‘European Australian’ is used to maintain consistency with the rest of the thesis.

\(^2\) Jacobs, 1996: 158.
Every European map of any part of Australia still implies that this land is known, mapped and owned by Europeans, even though the land was clearly in Aboriginal hands before European arrival. This reality creates an ongoing problem for European Australians who see the land as theirs, but now have no choice: Mabo means that non-Indigenous Australians must acknowledge that it was in Aboriginal ownership before Europeans arrived.

In this moment of decolonisation, what is ‘ours’ is also potentially, or even always already, ‘theirs’: the one is becoming the other, the familiar is becoming strange.3

‘Formal postcolonial status’ may be ‘a product of imperial cores conceding power over colonised territories’4, but as far as Australia is concerned the ‘imperial core’ (Britain) may have conceded power but there remains a dominant colonial legacy in the law. This is especially so with regard to the ownership of property and the cadastre is fundamental in this. ‘For the indigenous peoples of Australia, the ‘post’ of postcolonialism is still a long way off’. ‘Postcolonial implies a liberation frequently beyond the limits of existing power relations’5 and is perhaps just a realisation by a small minority that it is time to move on these issues even though most of the population attempts to ignore them.

It is indeed hard to imagine a moment that is beyond imperialism. In this sense the postcolonial is not so much about being beyond colonialism as about attending to the social and political processes that struggle against and work to unsettle the architecture of domination established through imperialism.6

A very substantial part of this ‘architecture of domination’ is the law itself. While the current legal structure and the cadastre remain in place how can a meaningful movement away from colonialism take place?

Land laws that originally came from England give security of tenure for Europeans, but not peace of mind. For many Australians, whether they are indigenous or not ‘the story of ‘settlement’ is inadequate and lacks legitimacy’. The problem of ‘settlement’

3 Jacobs, 1998: 23. In particular, Jacobs is referring to the ‘uncanny’ in Australia today.
having taken place without any attempt, then or now, to find a settlement with the original owners in the form of ‘a treaty or consent’ means that ‘the Australian nation-state has a legitimacy problem that remains unresolved’. The situation has become an integral part of what it means to be a European Australian living in Australia today and every cartographic map bears testimony to this tension.

This study has shown that memories of the way past generations, as well as current inhabitants, have related to the land on which they live, are contained in chorographical maps. Today, these connections from past relationships are vital because they serve as another set of building blocks for the future, giving a deeper, older, European relationship to the land itself. Chorographical maps are even more important in a colonial land where memories that the colonising culture can relate to are very recent. These European memories of place, shown on the map can also be fragile, attempts at habitation in a new land sometimes fail and all that is left of a once thriving community are the names on a map. In many parts of Australia this kind of local memory was often only recorded on chorographical maps and this was especially so in more marginal, sparsely settled areas.

With only a little more than two hundred years of European involvement with Australia it is arguable that any possible connection between people and place becomes vital. The idea of home and habitation is dependant on something recognisable, if not on the land then at least on a map because once it falls from the map those fragile European memories have few places to go. Memories survive and are passed on by a number of routes, stories or photographs for example, maps are another means in which memories are embedded or triggered. Yet in a sense maps are privileged as a conduit for memory in the connection between human and land. Every time a place ceases to be inhabited for whatever reason, if it remains on the map as at least a location then it remains as a spatial pivot around which memories can revolve with a degree of permanency because once a name has been put on a map

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7 Treaty page 5
8 In particular chapter two is devoted to this examination.
9 On the topographical map series (discussed in chapter two) the word ‘location’ is sometimes printed next to a placename and this means there is no evidence left of the place upon the earth except, perhaps, some signage.
it usually stays there\textsuperscript{10} and in this sense it can be more permanent than towns or individual buildings.

Chorographical maps can also be dynamic and resurrect memories that may have become disassociated from the land. *Great Desert Tracks N W Sheet* (2001) does just this when it re-instates the explorer’s tracks onto the landscape by including them on the map. Whether it is the holding of memories of past inhabitants or the resurrection of past European actions on the landscape, chorographical maps continue to reinforce a European Australian relationship with the land itself.

Emerging from this study is a sense that maps have assisted in the creation of a mythology that is peculiarly Australian. This is not ‘classical’ mythology as discussed in the early parts of chapter one\textsuperscript{11} nor does it concern the archetypal figures that appeared on the cartouches of some of the maps discussed in chapter three.\textsuperscript{12} Rather, the mythology is a home-grown one involving surveyors, bushwalkers and interesting characters who have become associated with particular places and often this association has been greatly aided by stories of their exploits alluded to in chorographical maps. This has been evocatively illustrated by the legends that now exist around Canning, Beadell and Dunphy.

In addition, chorographical maps have assisted in the creation of a mythic landscape that is purely Australian and this greatly contributes to a sense of familiarity with a place and more than that, a sense of awe. This has been done primarily with names for key features for example ‘Mt Cloudmaker’, the ‘Black Dog’ route and the ‘Gunbarrel Highway’, and with the inclusion of particular key features such as the wells of the Canning Stock Route and Surveyor General’s Corner.

The placenames on chorographical maps also chart the evolution that has occurred in the relationship between people and place. This becomes obvious when the names on the *Map of the Wild Dog Mountains* and *Australia’s Great Desert Tracks N W Sheet*

\textsuperscript{10} Name changes do occur but the Geographical Names Board has to advertise proposed changes in local papers and if there are objections these have to be considered.

\textsuperscript{11} For example the Odyssey and Chaos in chapter one.

\textsuperscript{12} For example the Coronelli globe, Fig 12, shows the top of one of the gores, the classical figures that appear on the cartouche in the centre of the globe, are at the bottom of each gore.
(2001) are compared to *The Map of the Nineteen Counties*. The first two show an evolving sense of a European Australian identity whereas the third map used placenames that were almost entirely British in origin.

The totality of the present European Australian relationship to the place called Australia, as shown in the maps discussed in this study, encompasses more than the dance between cosmography and chorography. It also includes the four key ideas discussed in the chapters: imagination, memory, power and the evolution of the relationship between people and place. Although these foci have been kept separate in order to better illuminate them, they are all inextricably entwined in the maps of Australia. Yet this not all that is shown. Embedded even more deeply in the maps surveyed in the research are two ancient and fundamental relationships.

The first is between the earth and the cosmos and the second is between the earth and humanity. The first has been discussed here as cosmography and the second has been alluded to in the discussion on chorography. Ultimately a third relationship emerges that relates humanity to the cosmos itself.

The ancient and primal relationship between the earth and the cosmos is still an integral part of any map because to accurately position a place on the earth requires relating it to a point beyond the earth, in the cosmos. Ptolemy knew this, as did Aristotle.\(^\text{13}\) Cook was able to make a map so that the place he ‘discovered’ could be easily found again because of the astronomical calculations performed on the ship and related to the Nautical Almanac.\(^\text{14}\) Mitchell set out the borders of the Nineteen Counties by ‘chaining’\(^\text{15}\) measurements from the Parramatta observatory because this gave him a reasonably accurate reading of longitude.\(^\text{16}\)

The 129\(^{\text{th}}\) meridian and the 141\(^{\text{st}}\) meridian were set and reset by surveyors and astronomers taking astronomical readings along the way. The surveyors of National Mapping did the same in order to position their ‘bush tripods’, circles and witness

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\(^{13}\) Theories by both Aristotle and Ptolemy concerning this have been mentioned in chapter one.

\(^{14}\) This process is described in chapter one.

\(^{15}\) A chain is an antiquated surveyors tool used for measurement. It was literally a ‘chain’ 22 yards in length and laid along the ground as a tape measure would be, but being heavier it was more likely to stay in place.

\(^{16}\) The longitude of the observatory was set by taking readings from ‘clock stars’.
posts, although they had the benefit of much more accurate technology to determine their readings. Even greater accuracy was achieved by using the GPS (geographical positioning system) coordinates for places shown throughout Great Desert Tracks N W Sheet (2001), these positions being taken from satellites orbiting the earth.

The relationship between the earth and humanity is fundamental and is intrinsically bound up in chorographical maps, where it is shown in placenames and key features. There is a sense that if something of importance happened to a person, then the map should be marked in the form of a name to commemorate the spot on the earth where the occurrence took place. Many instances of this have been discussed in this study: for example, Lake Tobin, where Canning’s assistant died, or Warri and Yatunga Hills, from which the ‘last nomads’ departed. 17 Often these spots were marked on the ground with a cairn or a sign, but like other memories mentioned here, 18, at times these marks only exist as names on the map. Consequently chorographical maps can contain more detail about the relationship between the earth and those that inhabit it than the land itself.

Many maps from different times and with varying levels of technological achievement have been discussed in this thesis. They range from the vision of Cosmas Indicopleustes to a map giving GPS readings. All are extraordinary but partial documents. Whether these maps attempt to depict the whole world or a line of disused wells in a desert, they cannot accurately show the place they attempt to depict. Maps and the reality they represent are quite separate entities. It cannot be otherwise because of scale and the very complexity of the earth. At the same time maps are the best form of documentation in existence with the capacity to represent space, whether it is the whole world or a single valley.

Although the main function of maps, whether they are cosmographical or chorographical, is the depiction of space, it just might be that the other information maps contain, as discussed in this study, is just as important: imagination and myth, the memories of past inhabitants, the power relations in land ownership and the

17 Both these stories are discussed in chapter four.
18 In particular I am referring to memories of former inhabitants of the Burragerang Valley as discussed in chapter two.
evolution of people and place. And lying even more deeply beneath the surface of all the maps mentioned in this thesis are those two ancient and primary relationships, that between the earth and the cosmos and between humanity, the earth and ultimately, the cosmos. The mapping of Australia was and is an evocation of all these relationships.
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