

The Night Sky of the Boorong

**Partial Reconstruction of a Disappeared Culture in
North-West Victoria**

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**A thesis submitted in fulfilment of the requirements for the degree
of Master of Arts in the Australian Centre, Faculty of Arts,
University of Melbourne**

December, 1966

I, Geoffrey Charles John Morieson, declare that this thesis comprises only my original work, except where due acknowledgement has been made in the text to all other materials used. This thesis does not exceed 30,000 words in length, exclusive of bibliographies, footnotes and appendices.

20 December 1996

ABSTRACT

This study aims to provide an insight into the culture of a disappeared Aboriginal clan by making deductions from a slight but possibly accurate record made at the time. William Stanbridge wrote down forty items of the night sky from conversations with men of the Boorong clan in country around Lake Tyrell in north-west Victoria. This investigation stems from the succinct clues provided by Stanbridge and uses linguistic, geographic, astronomical, anthropological and biological sources to build an intellectual framework from which an appreciation of Boorong life and culture might be constructed. It is argued that the sky for the Boorong was a giant blackboard filled with potent images which represented a range of ecological knowledge and moral suasion. Thus the night sky became a mnemonic device supporting an oral culture in which the family played a key function. Aboriginal ingenuity, imagination and wealth of knowledge from traditional times is acknowledged as is the positive contribution these findings make to the growing Aboriginal cultural renaissance in Victoria.

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INTRODUCTION

One hundred and forty years ago, a Boorong family at Lake Tyrell told William Stanbridge something of their stories relating to the night sky. (Stanbridge 1861: 301) Some forty stars, constellations and other celestial phenomena were named and located. He wrote them down and related this information to the Philosophical Institute in Melbourne in 1857. In his paper he wrote down the Aboriginal term and gave its European equivalent. What I am going to do is look closely at these celestial phenomena, attempting to satisfactorily identify them and to ascertain the way the Boorong people may have seen them.

I believe the way they saw them relates directly to the way they lived in the mallee environment of north-west Victoria. Becoming familiar with this country then will help me find out what is in the sky. The basis for understanding the connection between earth and sky is derived from Mowaljarlai's expression;

"Everything under creation is represented in the soil and in the stars. Everything has two witnesses, one on earth and one in the sky ... Everything is represented in the ground and in the sky."

(Mowaljarlai and Malnic, 1993:5)

Thus my basic investigatory method in unravelling the disparate names of the celestial beings of the Boorong is to focus on the details of their environment that are paralleled in the sky. The clues come from both sources, and it has been a fascinating exercise trying to make sense out of the four Stanbridge pages which have remained unanalysed for near a century and a half.

A special feature of north-west Victoria is the sky, blue and often cloudless during the day, and a spectacular star-filled vista at night. The Boorong, who spent most of their life in the open air, were very much acquainted with the night sky, and William Stanbridge wrote that they;

"pride themselves upon knowing more of Astronomy than any other tribe."

(Stanbridge, 1857: 137)

Stanbridge's address to the learned society was a verbatim account derived from "the Boorong Tribe, who claim and inhabit the Mallee country in the neighbourhood of Lake Tyrell ..." (Stanbridge, 1857: 137). Stanbridge held the pastoral licence for Tyrell Downs from September, 1847 till January, 1873.

Lake Tyrell is the second biggest freshwater lake in Victoria, but is seldom filled. In between times, the lake is encrusted with salt which absorbs moisture from the atmosphere. When filled with water the lake is a haven and breeding ground for all sorts of water birds and aquatic life and would have been an excellent food source for the Boorong people. The name Tyrell comes from the local word for "sky" and it is not hard to imagine why. On an occasion when the lake has been replenished, to be there on a cloudless night when the water is still,

every star in the firmament can be seen reflected. Standing on a point of land jutting out into the lake, it is easy to form the impression that one is in space, with the stars all around, above and below. "Tyrrille" had both meanings; "sky" and "space".

Creating a meaningful understanding of these sky-earth connections has been the main thrust of this investigation, and in so doing, I have moved the topic from the realm of popular sky "myths" (as reported by Mountford, Isaacs, Patston et al) to that of ecological knowledge and survival.

I analyse each of the sky creatures under the headings of linguistics, astronomy, geography, ecology and culture, as well as indicating what I have observed visually. I have chosen to offer this in an abbreviated and regularised format to allow easy comparison and quick reading. The volume of information presented suggests to me that to write in the discursive mode would make it too long and convoluted. In a separate section, I answer the two questions; what is the breadth of knowledge revealed in the celestial sphere? and, how is this knowledge acquired? The first question gives rise to chapters on family matters, morality and the seasons, and the second question gives rise to a chapter on learning.

This research fits neatly into an Australia-wide movement for cultural revival in Aboriginal communities, where massive dispossession has occurred, firstly in land and the security that stems from it and secondly, in the rich cultural heritage of many thousands of years that developed in association with the land. Lake Tyrell is situated near the boundary between the Wemba Wemba and Wergaia peoples, both of whose descendants are working actively to reclaim aspects of their past heritage. The cultural officers attached to the Aboriginal Community Cooperatives at Swan Hill and Horsham have been regularly informed about the progress of this research study and have given it enthusiastic support. This kind of investigation can stimulate a range of consequences at the community level, and I have devoted a chapter to the implications of this research.

This raises the issue of methodology. This exercise requires knowledge beyond the scope of any one discipline, and I have had to search within astronomy, linguistics, anthropology and zoology to find the answers to the clues left by Stanbridge. I feel the need to justify the deductive and multidisciplinary methods that I've used. I therefore devote a section on Methodology as another chapter.

David Mowaljarli has provided the inspiration and the insight from the Aboriginal perspective. A Ngarinyin elder from the Kimberley, Mowaljarli has been a member of the Australian Institute of Aboriginal and Torres Strait Islander Studies and the Aboriginal Arts Board of the Australia Council. His book Yorro Yorro, the culmination of a six year project with Jutta Malnic, a Sydney photographer, is part of a continuing self-imposed commitment by Mowaljarli to document all he knows for the sake of his grand-children and the next generation.

Whilst Mowaljarli provides the fundamental insight it is Rosslyn Haynes who provides the sociological analysis. An associate professor in the School of English at the University of New South Wales, Haynes is co-author of Explorers of the Southern Sky, a history of astronomy in Australia published by Cambridge University Press this year. She contributed the

chapter on Aboriginal astronomy. Whilst her first academic discipline was biochemistry she later became a convert to literature and her attraction to Aboriginal astronomy is as an interdiscipline. She is the one who first proposed seasonal linkages appropriate to the constellations, that these links provide information fundamental to the livelihood and well-being of the people and that the stars thereby provide a mind map of knowledge to be passed on through the generations. (Haynes, 1992).

That this fragment of the night-sky lore of the Boorong still exists, however, is due to William Stanbridge. No formal biography has been written but a number of facts about his life have been collected from documentary sources by Geoff Palmer of Glenlyon, amateur historian and member of the Daylesford and District Historical Society. Stanbridge was twenty years of age when he arrived at Port Phillip from Warwickshire in November 1841. The colony was six years old. He teamed up with Lauchlan McKinnon and moved on to the Broken River in north-east Victoria soon into the new year to learn about managing outback sheep stations there and in other remote parts like Swan Hill, Mount Gambier and Lake Tyrell. He purchased pastoral leases near Daylesford and Lake Tyrell in the late forties and early fifties and Lake Boga in the early sixties, moving his sheep between north-west and central Victoria depending on the climate and shearing needs.

Stanbridge seems to have been an observant and tolerant man for his time. His 1862 account to the London Ethnological Institute is a plainly written, sensitive description of Aboriginal peoples and lifestyle. It stands in pleasant contrast to the inimical accounts by Peter Beveridge who wrote about neighbouring Aboriginal people on the Murray east of Lake Tyrell. The earlier address by Stanbridge to the Philosophical Institute in Melbourne on which this thesis is based, is included in the piece he sent to London, but a little revised.

William Stanbridge grew rich from gold found on his Daylesford holdings, during the eighteen-fifties. Royalties from the Spring Creek diggings and the various mining companies, one-sixth of the gross amount mined on his land, was his portion. (Gilbert, 1994: 33). He got to know Edward Stone Parker who, as an Assistant Protector of Aborigines, set up a station at nearby Mount Franklin to provide sanctuary for the remnants of the families and clans. Stanbridge let Parker agist his sheep on the Stanbridge run after Parker was burned out in the 1856 bushfires. It appears that Stanbridge had contact with the Aboriginal people on the Protectorate Station because he wrote;

"The Aborigines in the neighbourhood of Mount Franklin have names and Mythological Associations for a few of the stars, which names and associations are the same in use with the Boorong's ..."

(Stanbridge, 1857: 138)

Stanbridge seems to have been a decent, generous, sensitive man who used his position in society more for the public good than for personal aggrandisement or personal profit. We can infer from his writings that his attitude to Aboriginal people was relatively positive and somewhat respectful, as he hoped others would feel;

"The astonishment that I felt, as I sat by a little campfire, with a few boughs for shelter, on a large plain, listening for the first

time to aboriginals, speaking of Yurree, Wanjel, Larnan-kurrk, Kulkun-bulla, as they pointed to these beautiful stars."
(Stanbridge, 1861: 304)

From a deductive point of view, the critical piece of information is his use of the European term in identifying each Aboriginal constellation. It has been a straightforward operation then to find that part of the sky, locate the star(s) mentioned, and then imagine the creature concerned. It has to be said that this imagining method is highly idiosyncratic. Each person viewing an object has their own perception of the object, even more so when the object itself has to be created in one's own imagination. Cultural background is also a mediating factor. This method works well if I'm familiar with the creature, for example, the ring-tail possum. However, if I have no personal experience of the creature in its natural habitat then I have to resort to photographic representation in books and magazines, written descriptions and filmed sequences so as to establish familiarity. Thus I contemplated the Magellanic Clouds for two years before I finally realised a connection.

The Stanbridge account is important in other ways as well. His succinct description of what the constellation means in Aboriginal terms often provides the clue as to why the particular creature features in the first place; for example, the coincidence between the appearance of Neilloan in the sky and the activities of the mallee fowl on the ground. His other attribute, it seems, was to have a keen ear and to write down the word in English letters and sounds, as he heard the word. Sometimes this gives rise to alternate spellings, as in "tot" or "tourt" for "star", or ambiguity such as whether to indicate the plosive sound as "p" or "b", but overall it has been easy to place the Boorong language firmly within the Wergaia range as reported by Mathews and Hercus, noting that Mathews published his vocabulary fifty years after Stanbridge gave his address and Hercus hers over a century later. (Mathews: 1904; Hercus: 1969). Only four of the forty Boorong sky phenomena cannot be precisely accounted for linguistically, and of the rest, thirty-four have substantive Wergaia associations and two are from Wemba Wemba.

The linking of Wergaia and Wemba Wemba is clearly possible, given the geographic location of the Boorong. The Wemba Wemba people are immediate neighbours to the south-east and its where Lake Boga is situated, eventually to be the mission destination of many Wergaia people.

Whilst the Stanbridge article is the only known linguistic legacy of the Boorong, there is sufficient documentary evidence stemming from other clans of the Wergaia, to build up strong lifestyle and cultural links. Clark says the Wergaia were also called "Maligundidj" meaning "people belonging to the mali (mallee)" or "people of the mallee scrubs" (Clark, 1990: 336). Its an ecological description which also suggests the possibility of linguistic homogeneity of the four dialectal groups of the Wergaia. Clark mentions the Boorong as one of the twenty identified clans, but adds little more to the store of knowledge on the Boorong. The Wergaia were divided into two moieties, "gamaty" or black cockatoo (red-tailed) and "gurogity" or white crestless cockatoo (the little corella). The moiety of the Boorong was not recorded. (Clark, 1990: 354).

Whilst we don't know specifically what happened to these people, we can make an educated guess. Many would have died in the early years of contact and the survivors would have had to adapt, and in so doing, ultimately lose their language and much of their culture. Homicide was well known and is documented either side of Boorong country, at Pine Plains (Hopetoun) in 1848 which is to the south-west of Lake Tyrell, and at Piangil near the Murray to the north-east of Lake Tyrell, where the Beveridge killing in 1846 set off a series of poisonings, hangings and predatory patrolling by the Border Police. (Bride, 1969: 356; Cannon, 1990: 226-230).

Others died from European diseases. The Huon family in the 1840's sent a petition to the authorities asking for medical attention for people suffering from venereal disease (Canon, 1990: 220). In 1853 Hugh Jamieson at Mildura remarked that the decrease in numbers of people had been very marked and that the rate of increase was minimal. (Bride, 1969: 381).

Thus deliberate homicide, English justice and introduced diseases were major factors in population decline. Denial was also instrumental in there not being a complete picture of what happened. In areas of Victoria not covered by Protectorate Stations, the Crown Lands Commissioners prepared annual reports of "native life", the information being gathered as they rode from station to station, supervising the activities of the squatters. (Cannon, 1990: 250-1). In the Murray District, Commissioner HWH Smythe reported for the year 1850 "that not a single outrage of blacks attacking whites or vice versa had occurred during the whole year". Cannon says that Smythe seems to regard the killings by the Native Police during that year as none of his business. Similarly, no murders of any kind were reported by the Commissioner for the Wimmera District. He did state however, that the 1200 natives were healthy and where runs had been established, were employed by the settlers. (Cannon, 1990: 250-1).

James Clow at Pine Plains found the blacks very useful placing all the flocks in their charge whilst his shepherds were employed in shearing the sheep. (Bride, 1969: 356). William Splatt observed that "the native population of the Lower Murray have, on the whole, proved much more useful to the settlers than those of any other district with which I am acquainted." (Bride, 1969: 388).

Given the fact that Aborigines were without rights of any kind, the main option, apart from dying, was to submit, however unwillingly, to English hegemony and thereby face the potential loss of culture as well as kin. This is the prime reason I've been unable to follow up any oral history, and it is the major reason for such strong and enthusiastic support from colleagues in the Aboriginal community; principally Doug Nicholls from Swan Hill and Alan Burns from Horsham. They are at the forefront of a grassroots determination to hold on to heritage and to enhance their cultural stock by encouraging historians, archaeologists and others to find out what they can and get it back to the communities. It is a kind of scattergun technique with shot going off in all directions, but some of the pellets find their mark.

I call it "restitution history" or "restitution archaeology" where the primary intent is to satisfy the local community need, a secondary intent is to generate interest for the general community or the mainstream, and the third priority is the satisfaction of the scientific community. Restitution is used in the sense of giving back what is able to be given back, using

language that is acceptable to the local community and not using abstruse scientific terminology.

Because there are many people in the mainstream who value Aboriginal traditions, who want to know more about them, and who also actively support positive race relations, this audience should be satisfied along with the first. The reason I place science last in this hierarchy of priorities is because science has often been used as an excuse for cultural theft of artefacts, human remains or Aboriginal knowledge. Collecting material "in the interests of science" is an oft-used rationalisation for many despicable acts against Aboriginal people since the invasion. Many people have gained academic status through investigating and writing on Aboriginal topics, without giving back or reporting back to the Aboriginal community. Some others have gained financially from publishing, from trading in artefacts and from tourism. I believe the first responsibility in a study like this is to the people from which the information was derived, and if those people no longer exist, then to their inheritors.

Finally, there are people other than those mentioned, to whom I am obliged for making this study so fruitful. Hugh Taylor showed me how Aboriginal people's eyesight is more acute than mainstream society, Geoff Dudley helped me with computer print-outs of the sky and gave me constant moral support, Magi Rai's creative strength led to co-authorship of a story for young readers based on the star-lore revealed in this study, Robert Mate Mate from Worabinda provided a rare intellectual insight into the whole process and Trevor Pearce from Museums Australia Inc. has given much useful feedback and encouragement.

ABORIGINAL ASTRONOMY, ANTHROPOLOGY?

ASTRONOMY

Where does the Night Sky of the Boorong fit in to the contemplation of the universe? In European terms the answer is located in the general field of astronomy and within that field, the history of astronomy, more specifically, archaeoastronomy. Astronomy is "the science which treats of the constitution, relative positions and motions of the heavenly bodies, including the earth. (OED) The Boorong night sky fits this definition because their named constellations are locatable, they occupy related positions in the sky and they have a rationale for their existence or composition. Historically, however, the term "astrology" might have been as or more appropriate. Astrology is practical astronomy, the application of astronomy especially to the prediction of events natural and moral. (OED) Because the Boorong used the night sky in a practical fashion as an indication of seasonality the use of "astrology" would have been appropriate.

However there's a problem with each of these terms. "Astronomy" in the popular mind has come to mean the stars and other celestial phenomena as revealed through telescopes along with the subsequent mind-numbing storehouse of physical data that's been created by professional and amateur star-gazers. "Astrology" has replaced "astromancy" which was the term used to denote divination by the stars. Thus while neither term is wholly appropriate in its current popular usage, because my preference is for the Boorong use to be appreciated by the mainstream then I use the phrase "Aboriginal astronomy".

In the scholarly literature this thesis fits into archaeoastronomy, the study of ancient astronomy. This area of study is relatively recent and evolves from the nineteenth century interest in ancient European monuments and the discovery that many structures line up with solar or other celestial phenomena. However, when similar studies were carried out in the Americas by scholars trained in the social sciences rather than the physical sciences an interesting divergence occurred. A leading scholar in the field, Anthony F. Aveni, contrasts Old World archaeoastronomy and New World Archaeoastronomy in a study of the research papers published at the Oxford Archaeoastronomy Conference of 1981. (Aveni, 1989: 1-12). Those regarding the astronomical orientations of standing stones in the British Isles and Central Europe constituted one set and those dealing with research in the New World constituted the other set. The first mentioned was mathematically based, the second was based on historical and ethnographic evidence.

Aveni says that much effort by Old World researchers has gone into the evolutionary question of defining the level of absolute intelligence attained by ancient people; "For preliterate, low-technology civilizations, the definition of the level of astronomical intelligence is likened to a step on a pyramid." (Aveni, 1989:3). Aveni refutes these assumptions and notes that the separation of Ptolemaic astronomy from peasant astronomy in ancient Greece has helped to create an isolationist way of thinking and classifying. (Aveni, 1989:9) This has led to the technologically based contemporary Western interest in astronomy with its emphasis on measurement as the preferred form of verification and its concomitant reliance on the written rather than the spoken.

Aveni believes that all the studies of ancient astronomy should ultimately be concerned with people and how they behave. (Aveni, 1989:10) His definition of archaeoastronomy is "the study of the practice and use of astronomy among the ancient cultures of the world based on all forms of evidence, written and unwritten."

(Aveni, 1989:9)

The breadth and depth of this kind of inquiry requires, he says, even more attention and focus than the traditional disciplines. It spans the social sciences and the physical sciences in a way that reflects the life-view of the ancient mind, but while ethnocentrism and disciplinary biases prevail, he says, we run the risk of failing to solve the problems that confront us. (Aveni, 1989:1).

The contrast between the two styles may be represented as quantification versus amplification. The focus in the Old World is on the celestial connections. Data derived from the site itself; the physical geography, the man-made structure and the celestial connections is sufficient. The main thrust appears to be to unlock the site and reveal the secret. Precision is the name of the game. The focus in the New World is far less precise and interpretation depends on a wider range of variables and this data may be associated with the site, not found on the site itself; ethnographic, historical, ecological as well as the man-made structures, the geography and the celestial sphere.

In the Old World, argument proceeds from the physical sites to assumptions about humans associated with these sites. In the New World, human behaviour is far more likely to be observable and known, or at least documented, and the problem is to unravel the particular behaviour which is related to the particular celestial phenomenon. Aveni says that in the New World there seems to be developing an anthropology of astronomy. (Aveni, 1989:7) He sees the problem of Old World archaeoastronomy as a tendency to place one's own cultural traits at the centre of the universe of inquiry and then using them as a value base for comparison. (ibid) Its easy for such researchers to believe that mathematical calculation equates with intelligence and therefore that the more complex the site the greater the intelligence. These trained in the social sciences are aware of the perils of this kind of thinking, but moreover, of its limitations.

In trying to get to understand the night sky of the Boorong I asked the question, why did they use the sky in this way? This is normal practice in western inquiry. This is why "what is the universe?" seems such a normal question and why finding out is such a normal response. Its only when we examine another culture do we realise that these questions are culturally based. Even to ask a question may be regarded as not normal behaviour. In Aboriginal society, the universe is a given. The likely response to accepting the universe is to live in it in the best way. The contrast may be encapsulated as follows:

Aboriginal Australia

A: This is the universe: Therefore let us live in it in the best possible way. Key outcome - harmony.

cf.

Mainstream Australia

B: What is the universe? Therefore let us keep finding out more and more. Key outcome - experiment.

The first approach provides a moral response. The second provides an empirical response.

Thus one problem for me in this thesis is that I am trying to explain a phenomenon from A in the language of B. I make the attempt, nonetheless.

However, when I conclude that in scholarship terms the Boorong night sky fits better into the notions of New World archaeoastronomy as suggested by Anthony Aveni, I would also argue that it has a life of its own on the grounds that it is not ancient, there is a fair chance of obtaining critical comment from knowledgeable people who share a similar extant culture, and finally that this interpretation has a good chance of being re-discovered by descendants or relatives of the Boorong.. Therefore I think the appellation most appropriate is that of "Aboriginal astronomy".

Anthropology

In this thesis I have avoided taking up any anthropological issues because there is no way of verifying the primary material. I rely principally on Robert Mathews and whilst his accounts and analysis appear genuine there is no means of testing the data either through oral history or by checking contemporary sources. There is no detailed oral history covering all the ground referred to and the contemporary sources are far too meagre. Why then do I depend on Mathews?

Praised by Elkin, chastised by Barwick but acceptable to Hercus, Mathews remains the only commentator to write in convincing detail and with a clear statement of what he perceives to be kinship categories and the moiety system. Elkin wrote his biography of the surveyor-ethnographer in successive issues of *Oceania* in 1975. I draw on that biography.

Born in 1841 at Narellan, New South Wales, Robert Hamilton Mathews grew up with Aboriginal children and got to know the older people as well. He was tutored at home, learned pastoral activities on his father's farm and in his late teens went to work on stations in Queensland. He returned home at twenty-one to work again on the family farm until his father died when Mathews was aged twenty-five. He then began training as a surveyor. He set up a practice in Tamworth in 1870, surveyed runs as far as Walgett, and began his collections; Aboriginal weapons, words and phrases. (Elkin 1975: 129).

As a surveyor from 1867 to 1895 his profession gave him many anthropological opportunities. Everywhere and always he studied Aboriginal customs and folklore of tribes within reach of his work in New South Wales and Queensland, (ibid 131). Elkin considers his surveying and draftsmanship skills were a great asset in his ethnographic work and instances his excellent series of maps, details copies of cave paintings, rock engravings and ceremonial objects and his plans and sketches of initiation grounds (ibid 133). Mathews attributed to his professional training his ability "to identify with precision the different stars and stellar groups

which figure prominently in Aboriginal folklore." (ibid, 134). Elkin declares him to be an experienced fieldworker and an inveterate and tireless traveller. (ibid).

Some of his information was obtained through correspondence (see Otchocut) but he usually visited as well, to check on the information. (ibid, 135). Mathews set himself the task in the 1890's of describing what he could "before it was too late"; initiation grounds, plotting and copying rock art, recording an outline grammar and specimen vocabulary and studying social organisation. Elkin calls it a "salvage" responsibility. (ibid, 40). And whilst Elkin believes that Mathews made many important and timely contributions to the ethnography of the Australian Aborigines both through his own extensive fieldwork in eastern Australia and with the help of carefully and individually guided correspondents in most regions of the continent. "In addition he made", says Elkin, "signal contributions to the theoretical exposition and interpretation of the Aborigines social organisation, in some respect years ahead of his time." (ibid, 126). From 1894 to 1912 he contributed over 170 articles in learned journals in Australia, England, Europe and America.

Nonetheless Diane Barwick is less than happy with Mathew's work. She says that "his sometimes ignorant and sometimes deliberate distortion has so muddied the ethnographic record that a detailed review of his research is needed." She continues, "Mathews' insistence in every publication from 1898 onward that all his Victorian information was collected first hand 'in the camps of the natives' is proven false by his own diaries, correspondence and notebooks. (Barwick 1984:102)

Barwick is critical also but less scathing in her remarks about Alfred Howitt's work. Howitt's main study was of the Kurnai and whilst he makes some references to the people of north-west Victoria in his **The Native Tribes of South-East Australia** this information appears anecdotal, is largely unstructured, and there is at least one incorrect citation. He attributes Pupperimbul to the Jarjarun rather than the Boorong yet cites Stanbridge as his authority in the footnote. (Howitt 1996: 148, 369, 437, 433-5, 485).

There are other contributors to the vocabularies and text material for the Wergaia which were solicited by Robert Brough Smyth for his **The Aborigines of Victoria**; Rev. A. Hartmann and Rev. F. Spieseke from Lake Hindmarsh and Rev. F. Hagenover from Lake Wellington (Brough Smyth 1878.1:) Mathews criticised them "harshly" but is supported in his opinion more recently by Luise Hercus. Hercus finds Mathews sufficiently reliable and the reader will note considerable congruence in their vocabulary listings. (Hercus, 1969: 63).

This thesis seeks to add information and insight to complement what is known and not to become too dependent on any one report while there is a risk that the information is false or misleading. Were the anthropological record better supported then there may be grounds for theoretical discussion and comment from an anthropological perspective. The singularity of authorship and the paucity of supporting data militates against such discussion. Because the main focus is on the celestial phenomena, the creatures and the people represented in the sky, and the functional inferences drawn, it should be realised that anthropological material is an adjunct rather than a key element. The story could be told without Mathews or any other ethnographic information. It would fall short of being a satisfactory story, but I say this to emphasise the primary purpose of this research which is to try to see the sky the way the Boorong family did, the ones who befriended William Stanbridge.

METHODOLOGY

I'd been doing some research on Aboriginal stone arrangements and had noted that these arrangements sometimes appeared connected with the sun's relationship with the earth. I wondered whether there was more to learn, so I started to delve into Aboriginal stories of the stars. I came across the paper by William Stanbridge which noted the Boorong terms for stars and which gave the equivalent European terms. I started to look at the night sky, and realized I knew nothing about the stars. I borrowed *Collins Guide to the Stars and Planets* and started familiarising myself with astronomical terms and the technical lexicon of the sky. Armed with a Planisphere and a primary school star kit, I commenced my search.

I started with an obvious one, Neilloan. This one represented the mallee fowl. What could I make of it? I picked out Vega, the fifth brightest star, but everything else was obscured by local street lights and the ambient light from the city of Melbourne. A colleague advised me about the advantages of viewing from remote locations, so I arranged to visit Lake Tyrell so I could also experience the country where the people had lived. Doug Nicholls, the Aboriginal Cultural Officer at Swan Hill acted as host. The stars were spectacular that night. I picked out a few obvious stars and was amazed when shown the giant emu in the sky. It was a stretched out black patch in the Milky Way, very much resembling the shape of the emu. Could this be the Tchingal of the Boorong? Stanbridge spoke of "the dark space between the forelegs of Centaurus and Crux" which was known in the astronomy texts as the Coal Sack, a pretty apt name for an uneventful part of the sky. A giant emu was far more exciting than a sack of coal! From this experience I learnt two things. One was the value of the moonless night. I watched the moon rise later that night and saw its light gradually wipe out all but the brightest stars and reduce the emu image to a dull nondescript grey. The second thing I learnt was to keep my mind clear of the European terminology which would cut across, or interfere, with the Boorong images. I wanted to reconstruct. My reading had informed me that Aboriginal people were cognisant of all kinds of celestial phenomena and to therefore concentrate on the stars alone might not be helpful.

I therefore turned my ignorance of European astronomy into an advantage. When I sought out Lyra therefore, I did not look for a lyre, but for a mallee fowl. I actually did two things at once. I found Vega and its associated stars and recorded what I saw in my field work-book. My search was aided by binoculars which allowed me to take in stars I couldn't see with the naked eye. This allowed me to approximate the visual acuity of the Boorong people who would have seen everything down to magnitude six and probably further (Taylor, 1981:62). And the reason I decided to view the stars in person and not simply compose images from astronomical reference books or computer-aided charts of the sky, was because they do not represent the sky as seen with the naked eye and because I wanted to emulate the originators of the system, and therefore I had to do it in the field.

The major task was to identify each of the celestial beings, as I believe the Boorong people may have seen them. These observations form half of the study. The concomitant task is to say what place these beings had in the lives of the people. I try in the other half of this

thesis, to provide some insights into the lifestyle and beliefs of the people, through their use of the stars.

In investigating each Boorong constellation I've started with the Stanbridge clue, that is, the European equivalent he gave for each of the Boorong names. I have found all but two of them. As mentioned, I began with Lyra because its identity was clearly stated as mallee fowl or lowan. I didn't know what it looked like so I make a study of it visually and biologically. Because my knowledge of Australian fauna is suburban superficial, I resorted to the written text and sought out photos and illustrations as well. I thus learned what a mallee fowl looked like and to my amazement I found I could superimpose a mallee fowl outline over the Neilloan constellation, such that the mallee fowl appeared in the sky. Was this a one-off, or was it a break-through? Was it possible that this might be a guiding indicator to finding others?

I decided to look for Bunya, "the star in the head of Crux". I looked through the glasses and saw it straight away. Two beady eyes (or tips of ears) above the top star in the cross, a hump of stars descending to the right, and directly below the top star, well down, a curve of stars looking like the tail of the ringtail possum, as you see it at night time, pausing on its way across the street on the power line. Without the field glasses I noted only the top star of the cross. I have since confirmed however, that others can see these smaller stars with the naked eye, which confirms to me the possibility that the stars I'm seeing are in fact those which constitute the Bunya of the Boorong.

I next applied the guiding indicator of shape to Otchocut, the giant fish. I did as for Lyra and read up on Australia's largest fish of the inland waterways, made my sketch of the stars in Otchocut, superimposed an outline of the Murray Cod and found a convincing fit. I subsequently discovered that Otchocut provided another guiding indicator, that of color. Some of the coloration of this river fish coincided with that of its celestial counterpart. The guiding indicators of shape and color proved to be useful in identifying several more of these celestial beings.

There were however, some names that were problematical. Most of the Boorong names were fitting into one of the major linguistic groups of north-west Victoria, the Wergaia. Neilloan and Bunya could be accounted for, but not with Otchocut. Subsequent Boorong constellations and stars I found in the sky which included War, Warepil, Gnowee, Mityan, Purra, Larnankurrk, Kulkenbulla, Gellarlec and Yerredetkurrk are clearly identified with the Djadjala linguistic form of Wergaia as recorded by Mathews and Hercus. However, there were some I could be less sure of. Did Wanjel for instance mean "fire" or "long-necked tortoise"? When I observed Pollux however, I was in no doubt. The associated stars confirm the shape of the long-necked tortoise and once again I was indebted to the illustrated books of Australian wildlife for young readers, for one of the photos I studied was the exact replica of what is in the sky. (It's not chance. The picture turns out to be a shot of a fairly typical attitude of the long-necked tortoise.)

Similarly, I wasn't sure if Djuit was the grass parrot or the red-rumped parrot. Astronomical information suggested the latter. Djuit is centred on Antares which is a red supergiant with a blue companion star. This coloration matches the red-rumped parrot,

Psephotus haematonotus, rather than the grass parrot and I am therefore more inclined to regard Djuit as the red-rumped parrot. Several other celestial beings whose colors coincide with their earthly connections include Berm Berm Gle, Gnowee, Gellarlec, Marpeankurrk, Mindi, Totyargil, Wanjel, Yerredetkurrk, Yurree and Otchocut, as mentioned previously. Thus color joins shape as being a guiding indicator to identification of celestial beings of the Boorong.

Sometimes I've had to make a calculated guess when there is limited linguistic information available, especially with compound words like Marpeankurrk, Collenbitchick and Tortchinboiongerra. What I did was to reduce each word to its constituent parts and re-assemble them as combinations of words using language and cultural resources, and attempted to obtain congruence with the Stanbridge explanation. In these cases I've used a combination of indicators and clues in making a final determination; astronomical, ecological, linguistic and cultural.

One of the ecological clues relates to the seasons. Stanbridge quite specifically gave seasonal clues to the appearance and disappearance of Marpeankurrk and the disappearance of Neilloan. "When she [Marpeankurrk] is in the north in the evening" is the appearance clue and "when she sets with the sun", is the clue to her disappearance. Similarly the mallee fowl eggs are said to be coming into season, as Neilloan sets with the sun. That is, as the Spring moves onward to Summer and the days get longer, and Neilloan is no longer seen in the evening sky, so coincidentally, it is the time when the mallee fowl hen, on average, begins to lay the first of her eggs. With Marpeankurrk, the connection is with the development of termite larvae and pupae. Both mallee fowl eggs and the developing termites are regarded as good tucker and were both sought as a food source. Both were harvested at set times of the year. The appearance and disappearance of stars are an annual event, and certain stars or constellations therefore coincide with certain seasons. I have subsequently made connections between most of the Boorong celestial beings and seasonal phenomena on the ground, and have developed this seasonal notion into an essay included in this thesis.

It struck me that this method of ordering the universe could be highly entertaining and instructive. It was highly regulated and repetitive and if it were used as the basis for storytelling and imparting information it could be a very efficient and appropriate way to pass on knowledge in an oral culture. I have developed this notion into a separate section also. (See Learning).

Now when I start to reconstruct people's motives I'm treading on dangerous ground. It's bad enough that I've appropriated what was originally Aboriginal knowledge and attempted a descriptive reconstruction. I've gone this far because I believe I'm making a contribution that is worthwhile. Doug Nicholls' Aunty, Lola Cameron Bonney, spoke about the stars before she died, and what she said may have been the last vestige of an ancient oral tradition that we've set out to try to rediscover. Some of this tradition is what was written down half-way through last century by William Stanbridge. If any descendants of the Boorong read this thesis, I hope they recognise the respect and admiration I have for their ancestors. I am writing this at a time when Aboriginal concern over appropriation by non-Aborigines of Aboriginal culture and history is at a critical stage. I subscribe to this concern and recognise the sensitivity of this kind of research.

I also subscribe to Aboriginal cultural renaissance and hope this study adds to and does not detract from this revival of culture.

The living people to whom I am chiefly responsible are those communities who share the legacy of the Boorong. Of the Boorong terms that form the basis of this study, 34 are Wergaia derived or have a close association with this language. Two are from Wemba Wemba, and four others are not precisely connected. The Stanbridge piece is the only known linguistic legacy of the Boorong and dates from half-way through last century.

It is usual in a thesis of this kind to provide a social and demographic background and then to state, analyse or describe whatever feature(s) the investigator had in mind to study. In this case however, I'm doing the opposite, because the Boorong left no other known legacy, so I'm involved in reconstructing from those four pages, rather than deconstructing.

This is why I am grateful to David Mowaljarlai. In saying that whatever is on the ground is also in the sky (or vice versa), I have a guiding principle that assists enormously in the process of reconstruction. We know from other well-described parts of Aboriginal Australia that life on earth made holistic, ecological sense. If what is on earth is reflected in the sky, then the celestial panoply should also make sense. This investigation has involved that dynamic, the movement from the sky to the ground and the ground to the sky, building on successive clues until a reasonable picture has been constructed.

Overall, the two major features of the methodology used are deduction and inter-discipline. The original clues are succinct, esoteric statements which need to be examined word for word or syllable by syllable to be able to extract the fuller meaning, otherwise they only offer the superficial interest of the astronomical Zodiac, a quaint legacy from a largely unknown past.

Applying some rigour to the analysis of the Boorong celestial panoply creates a much more imaginative and intellectually stimulating insight into a people and how they lived. The scenario thus moves from a passing interest in the quaint and exotic, to an intrinsically fascinating immersion in a culture able to be revived in the imagination just as the creatures may be perceived in the sky.

The other essential ingredient in the dissection and deduction is the need to move fluidly between knowledge disciplines. It requires a return to the age of the generalist, the time which was beginning to disappear when William Stanbridge wrote his notes. The Darwinian age heralded the age of the specialist, an approach which dominates our scholarship today and which incidentally creates grave difficulties in finding an academic home for this study. To successfully develop the story of the Boorong means delving into linguistics, anthropology, astronomy, biology and geography, and weaving the connections into a holistic life tapestry. Trying to tell the story within any one discipline would limit its effectiveness.

To sum up, the method used in this investigation required me to personally view the stars, imagine the outlines, note their seasonality, confirm their linguistic origins, understand the biological connotations and surmise their place in the Boorong culture.

MORALITY

That stars provide the trigger to the telling of the story is my central focus. But what is the story and what meaning is it meant to convey? In their collection of myths from Central and Northern Australia, the Berndts found that there was always a reference to the land or to a specific stretch of country where the events took place (R & C Berndt, 1989:5). They also find that the myths are much focussed on conflict situations between characters who act out the stories and thus provide an explanation as to how certain social and natural phenomena came about (R & C Berndt, 1989:4). In my view, there are two strong threads running through the Boorong use of the night sky, one being ecological, and the other, moral. The story of That-tyu-kul, Bandyal, Yerretgurk and Kulnapittyick, as told by R.H. Mathews (Mathews, 1904:283-6) is the story which I believe is represented by stars of those names that were collected by William Stanbridge. The sequence which follows represents a two part ecological and moral thread to the Boorong night sky.

Mathews recites the story thus:

A great warrior of ancient times, named That-tyu-kul, was camped at Swan Hill on the Murray River. One day his two sons were out playing about the camp, getting wattle-gum on the bank of the river. They saw a monstrous cod fish, Ban'-dyal, in a big waterhole, and ran home and told their father. He got his canoe and hastened to the spot, armed with all his spears. Upon sighting the fish he heaved a spear which stuck into its back between the shoulders, but it swan to the end of the waterhole and commenced forming a channel by tearing up the ground, and in this manner allowing the water to flow after it and bear it away from its enemy.

Bandyal did this so rapidly that Thattyukul was not able to keep pace with him. He kept travelling on towards the south-west, leaving a sinuous line of water behind him. At dusk he camped and excavated a long, deep lagoon, where he rested for the night. Thattyukul paddled his canoe along the watercourse, and upon overtaking the cod fish he hurled another spear at him, which stuck deeply into the median line of his back, as before, but somewhat lower down. This caused the great fish to start forward again, digging out a channel wide enough to allow his immense body to swim along. When night came he camped as previously and made a large lagoon to rest in.

Here Thattyukul again overtook him and threw another spear, which penetrated the spine in the rear of the two former weapons. Thattyukul continued the pursuit for several days with similar experiences until they reached the neighbourhood of where the Murray Bridge has since been erected. By this time Thattyukul

ART. XVI.—*On the Astronomy and Mythology of the Aborigines of Victoria.* By WM. EDWARD STANBRIDGE ESQ., of Wombat.

Philosophical

[Read before the Institute, 30th September, 1857.]

I beg to lay before your honorable Institute the accompanying paper on the Astronomy and Mythology of the Aborigines, and in doing so I am sensitive of its imperfectness, but as it is now six years since I made any additions to it, and as my occupation does not lead me to that part of the country where I should be able to make further additions, I have presumed to present it to your society, hoping that it may be a means of assisting others to gather further traces of the people that are so fast passing away.

This statement of the Astronomy and Mythology of the Aborigines is, as nearly as language will allow, word for word as they have repeatedly during some years stated it to me. It is in the language of, and has been gleaned from, the Booroung Tribe, who claim and inhabit the Mallee country in the neighbourhood of Lake Tyrill, and who pride themselves upon knowing more of Astronomy than any other tribe.

The Aborigines in the neighbourhood of Mount Franklin have

names and Mythological Associations for a few of the stars, which names and associations are the same as those in use with the Booroung's, who say that the earth is flat and was in darkness before the Sun was made by Pupperrimbul, (the little bird with the red patch above the tail), when it became light. He was one of the race that then inhabited the earth, and who are called Nurrumbunguttias or old spirits. They possessed fire and were of the same characteristics as the present race, but were translated in various forms to the heavens, before the present race came into existence.

The Nurrumbunguttias still possess spiritual influences upon the earth; whether of darkness, of the storm, or of craters, all the evil spirits are of them. They have also spiritual representatives in some creatures, as, for instance, if a pupperrimbul were to be killed, there would be a fearful fall of rain.

All the stars, as well as all appearances in tyrille (space) are supposed to have emanated from the Nurrumbunguttias.

Gnowee (Sun), an Emu's egg prepared and cast into (tyrille) space by Pupperrimbul before which the earth was in darkness. Some say the Emu's egg was prepared by Berm-berm-gle and carried into space (tyrille) by Penmen, (a small bird which they do not willingly destroy).

Chargee Gnowee (Venus), sister of the sun and wife of Ginabongbearp.

Ginabongbearp (Foot of Day), (Jupiter) a chief of the Nurrumbunguttias, and husband of Chargee Gnowee.

Mityan (Moon), who falls in love with one of Unurgunite's wives, and while trying to induce her to run away with him, is discovered by Unurgunite, when a fight takes place; Mityan is beaten, and runs away, and has been wandering ever since.

Marpeankurrk (Arcturus), mother of Djuit and Weetkurrk. The discoverer of the Bittur, and the teacher of the Aborigines when and where to find it. When it is coming into season with them it is going out of season with her. The Bittur is the larvae of the wood ant, which is found in large communities, and of which the Aborigines are very fond. They subsist almost entirely upon it during part of the months of August and September. When she is in the north at evening, the Bittur are coming in season, when she sets with the sun the Bittur are gone and (Cotchi) summer begins.

Djuit (Antares), son of Marpeankurrk. The stars on either side are his two wives.

Neilloan (Lyra), (a Loan flying), the mother of Totyarguil and discoverer of the Loan eggs, which knowledge she imparted

to the Aborigines. When the Loan eggs are coming into season on earth, they are going out of season with her. When she sits with the sun the Loan eggs are in season.

Totyarguil (Aquila), the son of Neilloan, and who, while bathing was killed by the Bunyips, his remains were afterwards rescued by his uncle Collenbitchick. The stars on either side are his two wives.

Karik Karik (the two stars in the end of the tail of Scorpio), a male and a female Falcon.

Berm-berm-gle (two large stars in the fore-legs of Centaurus). Two brothers who were noted for their courage and destructiveness, and who spear and kill Tchingal. The eastern stars of Crux are the points of the spears that have passed through him, the one at the foot through his neck, and that in the arm through his rump.

Tchingal (Emu), (the dark space between the fore-legs of Centaurus and Crux), who pursues Bunya until he takes refuge in a tree, and who is afterwards killed by Berm-berm-gle.

Bunya (Opposum), (star in the head of Crux), who is pursued by Tchingal, and who, in his fright lays his spears at the foot of a tree and runs up it for safety. For such cowardice he became an opossum.

Tourtchinboionggerra (Cornua Berenices), a flock of small birds drinking rain water, which has lodged in a hollow in the fork of a tree. (Each star had a separate name, but, through the intercourse of the aborigines with the white people, the names are forgotten.)

Kourt-chin (Magellan Clouds).—The larger cloud a male, and the lesser cloud a female Native Companion.

Warring (Galaxy).—The smoke of the fires of the Nurrumbunguttias. Another account is, that only a part of the Galaxy is the smoke of the fires of the Nurrumbunguttias, and that the other part is two Mindii, enormous snakes which made the Murray (Millee).

Kulkunbulla (the Stars in the Belt and Scabbard of Orion).—A number of young men dancing. (A coroborree.)

Larnankurrk (Pleiades), a group of young women playing to Kulkunbulla.

Gellarlec (Rose, or Eos Cockatoo (Aldebaran), an old man chanting, and beating time to Kulkunbulla and Larnankurrk.

Warepil (Male Eagle) (Sirius), a chief of the Nurrumbunguttias, and brother to war.

Collowgullouric Warepil (Female Eagle) (Rigel), wife of Warepil.

Won (Corona), a boomerang thrown by Totyarguil.

Weetkurrk (Star in Bootes, west of Arcturus), daughter of Marpeankurrk.

War (Male Crow) (Canopus), the brother of Warepil, and the first to bring down fire from (tyrille) space, and give it to the aborigines, before which they were without fire.

Collowgullouric War (large red star in Rober Carol, marked 966) (Female Crow), wife of War. All the small stars around her are her children.

Yerrerdetkurrk (Achernar). — Nalwinkurrk, or mother of Totyarguil's wives. The Nalwinkurrk never allows her son-in-law to see her.

Otchocut (Dolphinus), Great Fish.

Collenbitchick (a species of Ant) (Double Star in the head of Capricornus), uncle to Totyarguil, and the rescuer of his remains from the Bunyips. The double star is his fingers feeling for the bank of the river.

Yurree (Castor), Wanjel (Pollux), two young men that pursue Purra and kill him at the commencement of the great heat, and Coonartoorung (Mirage) is the smoke of the fire by which they roast him. When their smoke is gone Weeit (Autumn) begins.

Purra (Kangaroo) (Capella), who is pursued and killed by Yurree and Wanjel.

Unurgunite (a small star marked 5th Mag 22, between two larger ones in the body of Canis Major). He fights Mityan and makes him run away for having tried to induce one of Unurgunite's wives to run away with him. The stars on either side of Unurgunite are his two wives; that farthest from him is the object of Mityan's affections.

Porkelongtoute (Shooting Star), which portends evil to those that have lost a front tooth, to avert which they stir the fire and cast about firebrands.

Tourte (Star).

Weeit (Autumn), the first season of the year.

Myer (Winter), the second season.

Gnallew (Spring), the third season.

Cotchi (Summer), the fourth season.

had used up all his spears, and had, besides, broken a piece off the end of his paddle. At this spot, Bandyal the cod fish made a larger hole, and Thattyukul lost sight of him, being unable to propel his canoe fast enough with the broken paddle. He therefore abandoned the chase and landed on the bank, where he set his canoe up on its end and it became a bial-bial, or red-gum tree. He stuck his broken paddle into the ground and it was transformed into a pine-tree.

The water course dug out by the cod fish in this encounter became the present Murray River, and the spines now found projecting from the back of the cod fish represent the spears thrown by Thattyukul in his vain attempt to capture it. Ever since that time canoes have generally been made of the bark of gum trees, and pine wood is mostly used for making paddles.

Thattyukul then started back overland through the mallee scrubs and continued his course onward by way of the Grampian Hills until he reached his own country. He looked about and found his wife and children accompanied by his mother-in-law, Yerretgurk, on top of a mountain whose sides were so steep that he could not climb up to them, neither could they descend to him. He then called out to his wife and children to jump down, one by one, and he would catch them in his arms. First, his wife jumped, then his eldest son, and lastly the youngest boy, and all were landed safely. He next persuaded Yerretgurk, his mother-in-law, to jump too, but he pretended he could not catch her, and she fell heavily on the ground, and hurt her face very much, which made her feel revengeful.

In time Yerretgurk recovered from her injuries, but she kept the matter in her mind. One day she was prodding her yamstick into the ground in a swampy place, and the water spurted up. She shoved in her yamstick further and could feel something biting it.

Upon probing deeper she came to the conclusion that it was some large and vicious creature. Then she dug a large hole in the ground, which at once filled with water, in the bottom of which she could feel the mouth of some animal with her yamstick.

She now spread rotten sticks across the top of the hole and covered them over with leaves, grass and rubbish, to resemble a huge bandicoot's nest. Then she brooded over her past wrongs.

Yerretgurk next called Thattyukul's two boys, and asked them to go and tell their father she wanted him to come and kill a large bandicoot whose nest she had just discovered. She requested Thattyukul not to strike at the animal with his weapons, because

that would break the body to pieces, but to jump upon it with his feet. Being willing to make amends to his old mother-in-law for his bad behaviour in letting her fall from the rock, he came stealthily up to the heap of rubbish and gave one bound upon the centre of it. As expected, he went flop into the water, and the monster at the bottom caught hold of his feet, and drowned him.

Thattyukul's uncle, Kulnapittyik, went in quest of him, and having tracked him to the pond, put in his long arms and pulled the body out on the bank. He was a great conjurer and succeeded in bringing his nephew to life again. After a while they both went away to the sky, where Thattyukul became α Aquilae; his uncle was apotheosised as α Capricorni, and his mother-in-law, Yerretgurk, was transformed into α Eridani.

Stanbridge wrote down three of these names as he heard the Boorong tell him. Stanbridge's Totyarguil, is Mathew's That-tyu-kul, Stanbridge's Yerredetkurk is Yerretgurk and Collenbitchick is Kulnapittyick. Mathew's great cod Ban-dyal seems to have been known to the Boorong as Otchocut, which might be slang for "good tucker". Hercus mentions "bandjil" as meaning Murray Cod in Wemba Wemba, but has no listing for this fish in Wergaia language (Hercus 1969:78). The two nearest sounding fish words in the Dja Djala dialect of Wergaia are wanjagai and durbgud, which are the catfish and the silver perch (Hercus, 1969: 212,202). Stanbridge says Otchocut means "Great Fish" which in my estimation means the Murray Cod, the only "great fish" in Australia's inland waters. Otchocut may be derived from the Wemba Wemba "tyaka", to eat. (Hercus, 1992: 56) The prefix "o" might be an exclamation or an indicator of difference because the phoneme o was absent in Wergaia. (Hercus, 1969: 78).

Totyarguil is made up of two parts, "tot" and "yarguil". I suggest that the suffix "tot" is "dud" meaning star in Dja Djala Wegaia and "guguil" is a species of parrot (Hercus, 1969: 283,253). Hercus cites "yugwib" as the Green Parakeet or Little Lorikeet, but because this species is more likely to be found in tall open forests and woodland south and east of the Mallee, I believe yuguib is more likely to be the Purple Crowed Lorikeet which inhabits drier open forests, woodlands and typical mallee country. In the list of birds recorded by the Department of Conservation and Natural Resources in the largest parks and reserves of Victoria's north-west mallee country, the Purple Crowned Lorikeet features in five of the seven parks. The Little Lorikeet features in only one; the most southerly of the seven (Dept. of Cons. and Nat. Resources, 1993: 3). Another reason for opting for this species is when we examine the constellation itself. Stanbridge names Totyarguil as Altair or Alpha Aquilae. This star is a bright white star of magnitude 0.77. Stars nearby include Beta Aquilae which is yellow, Gamma is a yellow giant, Delta is white, 15 Aquilae is a yellow giant with a purplish companion and 57 Aquilae is a double of which one is bluish. In other words, the constellation itself reveals a combination of colours more reminiscent of the Purple Crowned Lorikeet (*glossopsitta porphyrocephala*) than the Little Lorikeet (*glossopsitta possilla*) whose dominant colours are green, yellow and red. Support for this derivation comes from an adjacent language to the north, the Madi Madi people, who use the term "dargu-wil" for rainbow and for a

constellation, unnamed. Notwithstanding Hercus' definition, I believe that Totyarguil is more likely to be the lorikeet with colours more like the rainbow, that is, the Purple Crowned Lorikeet, rather than the Little Lorikeet.

Totyarguil appears in the sky quite near to Otchocut, the great fish he has the adventure with. In their movement across the sky Totyarguil precedes Otchocut and is directly to the north at 9 p.m. in late August. This is the beginning of the breeding season for the Purple Crowned Lorikeet (Frith, 1982: 263). The season lasts until the end of December which is when Totyarguil goes out of the sky.

After his adventure with Otchocut, Mathews refers to Totyarguil's dealings with his mother-in-law, Yerredetkurrk. There's no difficulty identifying this character. She is the owllet nightjar, the smallest of the nocturnal birds most of whose bulk is made up of soft, grey plumage (Frith, 1982: 311). "Of all the Australian nocturnal birds, the Owllet-Nightjar is probably the most widespread and least often seen." (Ibid.) It roosts inside hollow trees during the day, and is most often heard calling during the first few hours after sunset. (Ibid.) Stanbridge denotes Yerredetkurrk as Achernar (Stanbridge, 1857: 140), which is described as a blue-white star with a magnitude of 0.5 (Collins: 142). Mathews writes of "yerretgurk being transformed into Alpha Eridani", the alternative name for Achernar (Mathews, 1904:286). The owllet nightjar breeds from September to December and when nesting, refuses to be flushed from its home and will sit tight rather than leave its eggs or young (Frith, 1982: 311).

It is interesting to note therefore that according to the documentary record this bird has a special place in the lives of women. Mathews says that in every part of Australia that he has visited, the nightjar figures largely in the beliefs and stories of the women. The owllet nightjar is thus a friend of all women (Mathews, 1904: 339). In Wergaia country the people knew her as "djeradedjgurg" (Hercus, 1969:253) and in Wemba Wemba as "yeradedj-gurg" (Ibid.) and "yerradedgourk" (Stone: 448). Yerredetkurrk is the mother of Totyarguil's wives (Stanbridge, 1857: 140). As such, she is his mother-in-law or "nalwinkurrk" (ibid.). Stone lists mother-in-law as "ghalling gourk" (Stone:438). As mother-in-law to Totyarguil she has a special relationship which must be observed in a certain specified way. Totyarguil's behaviour towards his mother-in-law is also prescribed and their reciprocal relationship is best described as an avoidance relationship. She should avoid seeing him or talking to him, and he should do likewise with her. Because she is the mother of his wives Yerredetkurrk is always a potential danger and must be avoided at all costs. So him with her. The reason is to avoid the possibility of incest. Because marriages are always arranged in Aboriginal society, and because there is usually only one specific skin group a man may marry into, it is most important that any casual sexual liaison does not occur with the mother of such a person, because any female child produced may be destined to become the wife of her father. To prevent any such occurrence, or even the remotest possibility of it occurring, everybody's skin groups are well-known, and the avoidance groupings well established. Specific behavioural norms were known by all and severe sanctions ensured proper behaviour, and this included no contact between these two people.

This social difference is reflected in the way in which the respective stars appear, gain prominence in the sky, and then fade from view. Yerredetkurrk reaches her highest point in the

sky at the time of the breeding season of the owlet nightjar, September to December. This is when Totyarguil leaves the sky. When Totyarguil re-enters the sky at dawn in late summer, so Yerredetkurrk is hidden in the treetops on the far southern horizon. When Totyarguil is most prominent at the highest point directly north at the end of August, Yerredetkurrk is starting to make herself seen but in comparison is maintaining a low profile.

This movement of opposites reflects the symbolic and actual relationship between Yerredetkurrk and Totyarguil, between mother-in-law and son-in-law. To Totyarguil, Yerredetkurrk as the mother of his wives, is the most dangerous of his relatives and is to be avoided at all costs. She reciprocates and avoids any contact with him. They are in geographically different parts of the sky; she in the south making her annual circumpolar progression, he in the north, rising and descending in opposition to her. Perhaps it's not as exact as I make out, for there are times when they are in sight of each other. This also reflects real life, because sometimes there are provisions made for a mother-in-law to carry on a limited conversation in the presence of her son-in-law in regard to some of the aspects of daily life (Mathews, 1904:305).

Thus the antipathy first demonstrated by Totyarguil for Yerredetkurrk when he let her fall heavily, and that shown towards Totyarguil by Yerredetkurrk when she prepared the trap for her son-in-law, may typify the relationship, more or less. What is important from an astronomical point of view is that the stars reflect the people of the stories in so many ways. The first example I gave was that of Totyarguil, whose colours coincide to a great degree with the colours of the stars in Aquila. The second coincidence is Yerredetkurrk whose colour is soft grey and whose star Achernar is a blue-white. A third coincidence relates to Collinbitchick. Stanbridge says the Boorong related the double star in the head of Capricornus as being Collenbitchick's fingers feeling for the bank of river (Stanbridge: 140). Investigation of Alpha Capricornus reveals it to be a multiple star. Firstly there are two unrelated stars of 4.2 and 3.6 magnitude designated Alpha¹ and Alpha², which can be seen with the naked eye. Closer examination reveals that each of these is a double; Alpha¹ having a ninth magnitude companion and Alpha² having an eleventh magnitude companion. The last-named itself is a double, composed of two close eleventh magnitude stars (Ridpath and Tirion: 98). It may well be that five fingers of the hand were known about, not just the two referred to by Stanbridge. Yet another coincidence relates to colour. The original two stars are yellow and orange respectively, which are similar to the amber or light brown colour of the termite.

For Collenbitchick is a "species of ant" (Stanbridge, 1857: 140) and the source of his name seems to suggest wood ant or termite. Mathews has "pidyik" meaning maggot (Mathews, 1904:102), Stone has a similar word, "beethick" for small flies (Stone:445) and Hercus cites "bidgig" as maggot (Hercus, 1969:199). Wood ants spend much of their life as larvae and it is in this form that they supplied much-needed protein sustenance to the Boorong, especially during the months of August and September (Stanbridge, 1857: 138). The prefix "collen" is not found in any of the Wergaia language sources, but Hercus records the verb "kalina" (to love) in her Wemba Wemba word list (Hercus, 1992:95). A boy's uncle had a special relationship with him from initiation onwards. Especially with the uncle who is the mothers' brother, and so it is quite possible to interpret Collenbitchick as the loving termite uncle the Creation Ancestor of the termite larvae. It is appropriate therefore for Totyarguil that his uncle

should rescue him from the bunyip hole and put him back together after the monster had torn him apart.

The association between ants and restoring a severed body has parallels in other Aboriginal belief stories, according to the Berndts (C & R Berndt, 1904:276-7). A story from northern Arnhem Land has the husband joining his torn wife's body together and placing it close to a nest of meat ants. They revived her. Popular legend also has it that the people used ants to stitch cuts together. The two sides of a wound are held together and an ant is encouraged to bite. At the instant the pincers are embedded either side of the wound, the body is snapped off and the wound remains closed up. Mathews concludes his story by saying that Totyarguil's uncle was "apotheosised as Alpha Capricornus" (Mathews 1904:286) which is the same star mentioned by Stanbridge "Double star in the head of Capricornus" (Stanbridge:140).

I mentioned at the outset of this chapter the connection between the story and the land itself, the specific stretch of country where the events took place. The case of Totyarguil pursuing Otchocut lays the basis for acknowledging the current course of the Murray River. The other aspect of this story, "the spines now found projecting from the back of the codfish represent the spears thrown by Thattykul in his vain attempt to capture it" (Mathews, 1904:284) reflects the ecological aspect. This provides an opportunity to discuss its living environment, its feeding habits, when it breeds and when it appears in and disappears from the sky. The cod is the largest freshwater fish in Australian inland waters and spawns in early spring (McDowell, 1980:143). The Great Fish in the sky, Otchocut, is located centrally in the northern sky in the early evening at this time of the year. By the time of the summer solstice, Otchocut is going down with the setting sun.

In between time, the snows have melted, the river level has risen, the water temperature has risen to 16°-21°C, the forests along the river are flooded and the elements are right for successful breeding of another generation of Murray cod (Ibid.). Spawning takes place on a hard, clean surface, such as a submerged branch or in a hollow log. Twenty to forty thousand eggs are deposited by one cod and hatching takes place a week or two later at temperatures of 20°-25° C. It's the rising water temperature that is the key factor, not just the temperature itself (Codwatch, No.2). The latest research shows a temperature of around 16°C for thirteen days, followed by another six to nine days of 20°C is required (Ibid.). The newly hatched larvae attain the form of young fish after another four weeks. The larval stage, as well as the hatchlings, are food for a wide range of predators.

Those that survive may develop into quite large fish. McDowell quotes one caught weighing a hundred and thirteen kilograms and measuring just under two metres in length (McDowell:143). The oldest Murray cod has been aged at forty-seven years. One fisherman's story that's been put to rest recently is that these cod prefer the deepest parts of the river. Monitoring has found that they are widespread through the Murray-Darling system and that proximity to wood debris in the water is a preferred location. Ninety-seven percent were within six metres of a snag, three percent within one metre (Codwatch No. 4). They inhabit anabranches and smaller channels, but generally do not move out of the channels and on to the flood plain. They use the submerged logs as shelter from water velocities (Ibid.). A keen fisherman earlier this century, J.C. Goudie, reported that "Cod are mostly caught in deep holes

amongst the snags" (Goudie:138). Such European interest in this fish followed on the Aboriginal interest. The noted Aboriginal pen and ink sketcher, Tommy McRae, favoured the Murray cod against any other fish in his repertoire of hunting scenes from the daily life of Victorian Aborigines (Sayers: 29,37,58,125).

Not only does the presence of Otchocut in the northern sky coincide with the spawning season, but there is also some but not total congruence of colour. Gamma Delphinus is a double consisting of golden and yellow-white stars of magnitudes 4.3 and 5.2 (Collins: 134). Beta Delphinus is a white star of magnitude 3.5 (Ibid.) The colour of this cod is yellowish at the sides, fading to white or off-white ventrally (McDowall: 143). Its back is olive green to yellow green, with grey-brown and pale green mottling (Ibid.). Alpha Delphinus is blue-white and has a magnitude of 3.8 (Collins: 134).

Thus the story is as much in the stars as it is on the lips of the informants of both Stanbridge in the mid-1850's and Mathews later that century. It's interesting that the connection between star and story was not made more of earlier on. Stanbridge may have been aware of the detail of the stories, but there is no evidence of his writing them down. Mathews certainly was aware of the Aboriginal interest in the stars and the stories associated with them; "Not infrequently," he says "there are families of stars - the parents and offspring, husbands and wives, and other relationships - all being pointed out and assigned their places in the narrative." (Mathews, 1904:278). This is precisely the end point of this chapter, to recapitulate the moral of the story about Yerredetkurrk and Totyarguil. Be good to the mother of your wives or suffer retribution, is one conclusion to be drawn. Another is: Be wary of placing too much trust one in the other. A third: One can always depend on one's uncle for support and succour. Such are the kinds of conclusions that I draw from the Totyarguil - Yerredetkurrk story. This story includes examples of good behaviour, of bad behaviour and the mother-in-law, son-in-law relationship. It's set in the sky, the characters are there in perpetuity, it's exciting, it's violent, it's about family and gender and it has a happy ending. It has an effective storyline and is virtuous in its morality. Therefore I find it both entertaining and instructive, a yarn for all ages and of educational merit.

FAMILY

Why did the Boorong choose these particular species to be the celestial Ancestor Heroes? The answer may have something to do with the basic unit of everyday social living, the family. Ordinarily, it is also the smallest social unit and comprises a man, his wife or wives, and their children. (R.M. & C.H. Berndt, 1981:43). The other part of the answer lies with The Dreaming which spells out a relationship between people and natural species in which people are regarded as part of nature and are bound by strong emotional ties to the species. (ibid, 294). These Ancestral Beings instituted a way of life which they introduced to human beings and because they are eternal, so are the patterns they've set. (ibid, 336). Not everything in the stories is presented as a model for people to imitate wholly, but whether it's a good example or a bad example, what is clear are the precepts which people are expected to take heed of. "They defined the broad roles to be played by men and women in such matters as sacred ritual, economic affairs, marriage, child-bearing, death." (ibid, 337). The stories, with their warnings or positive suggestions put forward by the Ancestral Beings, have a practical use in regard to a specific environment, and may result from the accumulated wisdom down through the generations. (ibid.) It would be interesting to look closely at the species involved in Boorong country and notwithstanding the lack of documentary evidence, to see what we can glean from knowing more about the species themselves, and see if they provide role models wholly or partially. The species under scrutiny include the owlet nightjar, the mallee fowl, the emu, the wedgetailed eagle and the crow, and the native cat. All but one clearly demonstrates one or more favourable traits relating to parenting and family life, the last-mentioned exhibiting quite objectionable traits.

The first example is the owlet nightjar, known as Yerredetkurrk who is the mother of Totyarguil's wives. (Stanbridge, 1857:140). Totyarguil is the male ancestor hero who was instrumental in forming a key feature of the landscape, the Murray River. This is Creation Time and it seems distinctly possible that since she is mentioned as the mother of this man's wives, that she may also be the creator of all women. It is Yerredetkurrk who has the avoidance relationship with Totyarguil, which all people must know about and strictly observe. But why is it that the owlet nightjar is invested with this most precious prestige?

Also known as the fairy or moth owl, it is the smallest of the Australian nightbirds, and it appears in a variety of forms across the continent, wherever there is open timber or forest (Fleay: 150). A skilled feeder, an examination of stomach contents reveals skill at gathering of insects on the ground as well as insects taken on the wing. (ibid.) It flies silently and erratically, rather like a butterfly (Frith, 1982: 311) but because this takes place mostly at night, it's been described as a "very smart flitting phantom". (Fleay, 1968:150). Its voice is heard soon after night fall, a variety of shrill churring notes, most common as a harsh 'yeer yeer yeer' (Frith, 1982: 311), and it's not difficult therefore to work out how it got its Boorong name. Its nest is made of green leaves in a tree hollow, and when the clutch of three or four eggs are laid, maintenance of fresh, green leaves under the eggs is a feature of incubation. (Fleay: 150). When nesting it will sit tight rather than leave its eggs or young, however much it's disturbed (Frith, 1982: 311). As to its appearance, most of its bulk is made up of soft, grey plumage and its 'beautiful, big, brown eyes and black, striped crown give it an engaging mammal-like appearance reminiscent of the sugar glider, one of the smaller possums." (ibid.)

It's easy to see the qualities of the owlet nightjar as being both feminine and mothering. Skill at food gathering, determined protection of the young, attractive appearance and maintenance of a clean home are behavioural characteristics that might give this bird a special place in the eyes of women. After Yerredetkurrk's revenge on Totyarguil and his rescue by Collenbitchick they "went away to the sky" where Yerredetkurrk was "transformed into α Eridani" or Achernar. (Mathews, 1904:286). Thus it is quite possible that the owlet nightjar was chosen because of the mothering qualities which characterise this bird's behaviour. This evaluation is supported by a comment from Mathews. He writes ...

"In every part of Australia which I have visited, the bat and the nightjar hold a peculiar place in the superstitions of the people and figure largely in their stories. The former is a friend to all the men and the latter of all the women. In some tribes the woodpecker (tree-creeper) is substituted for the small night-jar."

(Mathews, 1904:339)

He quotes the Reverend L.E. Threlkeld who included in a grammar and vocabulary published in 1834

"Tilmun, a small bird the size of a thrush is supposed by the women to be the first maker of women, or to be a woman transformed after death into that bird; it runs up trees like a woodpecker. These birds are held in veneration by the women only." (ibid.)

Another of the Boorong pantheon which at first sight has clear ecological significance, has, at second sight, a correlation with family life, in this case teamwork.

"Neilloan (Lyra), a (Loan flying), the mother of Totyarguil and discoverer of the Loan eggs, which knowledge she imparted to the Aborigines. When the Loan eggs are coming into season on earth, they are going out of season with her. When she sits with the sun the Loan eggs are in season." (Stanbridge, 1857:138).

Here, consideration will be given to the possibility that the Mallee fowl was as important a role model as it was a food resource. For example, the mallee fowl pair off for life, each of the male and female has strongly-defined gender roles, the focus of their activity is on the production of the next generation, they cooperate well together whilst each has their special part to play in their family life.

This is a brief description of the annual life cycle of the mallee fowl.

Firstly, they find it much easier to use last year's mound again, to renovate it, rather than to create a new one or to redevelop a site that hasn't been used for some years. (Frith, 1962: 77)

"To build the mound, the male first digs a hole in the ground three to four meters in diameter and a meter deep. In to the hole he sweeps a large quantity of dry leaves and twigs from a radius

up to twenty-five meters, forming a mound which may be level with or higher than the original surface."

(Frith, 1982: 136)

He then digs an egg chamber half a meter wide and half a meter deep in the centre. When rain has wet the vegetable material, sand is used for covering and a mound about one and a half meters high is created. The eggs are incubated by the heat generated from the fermentation of the decaying vegetable matter. Eggs are laid singly every few days depending on the weather and incubation time is about forty-nine days. When the female is ready to lay, the male uncovers the egg chamber. When laid, he replaces the cover. Throughout the laying period, it is his job to maintain the temperature at 33 degrees C. In spring, when fermentation peaks, this usually requires removing soil and releasing heat. Later at the height of the sun's heat, it may require increasing the height of the mound as an insulation device. When summer moves to autumn, the technique is to spread the sand to attract the heat and rebuild the mound before the cool of the evening. The chick hatches underground and has to struggle to the surface, maybe a meter above, and when it emerges it is on its own. (ibid:136-7).

Now there is an enormous amount of cooperation involved in the nest-building, egg-laying, food-gathering and in the defence of their mound. They are together until death. A parent and child observing the mallee fowl could note all kinds of details about the female role, the male role, the team-work, the specialisation, the mutual defence of territory, the daily search for food and the patience and tenacity required during the whole breeding period. Observation of Neilloan in the sky could reinforce what is observed on the ground.

While much of the activity of the mallee fowl is gender specific; foraging and egg-laying by the female, nest maintenance and defence by the male, there are several activities which occur together. Together they remove and replace material at the top of the mound to increase or reduce the temperature. And as the cavity deepens and a single kick won't get the sand over the rim, one bird will work half-way up so that as sand is kicked up from the bottom, the higher bird puts it over the edge. (Frith, 1962: 38).

They seem to converse together. The female's appearance at the mound is always greeted with a series of grunts from the male and as long as the female is nearby, he grunts continually as he works. When working or feeding together the birds make a low-pitched quavering note, audible only to those very close by. Frith says they do it to reassure one another and that it functions as conversation. (ibid: 72).

When egg production has finished, the female takes her place beside the male and shares equally in the duties of incubation. And when the year's egg hatching is complete, the pair leave the mound and go to browse elsewhere, sometimes in the company of other pairs. (ibid: 75). It has already been noted that they are together when the eggs are laid, but they also preen together, and after rain, when they've finished eating and drinking, they'll relax together in the shade near the mound. In my view much of the adult behaviour of the mallee fowl can be related to adult behaviour in human beings. For instance, much energy and time is spent in making the conditions right for child rearing, the gender specific activities are appropriate to

their respective biology, and the essence of their successful time together stems from mutuality and cooperation.

Part of their investment in the next generation includes the egg being mostly yolk, full of valued nutrients for the growing chick. The chick is fully developed when it emerges from the mound and from this point on receives no assistance from adult birds. After breaking the shell they may take several hours to burrow up from beneath one metre of sand. They use their wings, bill and feet to struggle towards the surface. They emerge with their wing feathers well developed and with strong legs. However the chick is so exhausted by the burrowing it "tumbles down" the edge of the mound and staggers to the shelter of the nearest bush. (ibid: 120). If the sand has become compacted the chick cannot get to the surface. The male's digging in the mound, necessary for temperature control, is also of practical importance for the successful emergence of the chick. (ibid: 119). It is thought that during their ascent to the surface that the chicks might retain their embryonic rate of breathing, given that there is minimal air within the mound. Thus, says Frith, they are not actually hatched until they reach the air. (ibid: 116). After resting, the chick develops quickly. Within an hour it can run firmly, within two hours very swiftly indeed, and whilst it cannot yet fly, it can flutter above the ground for ten or more metres at a time. In twenty-four hours it's capable of proper flight. (ibid: 120).

Frith's comments on the mallee fowl remind me of the rigours that boys and young men are put through before reaching adulthood. He says,

"From the time these birds are born, deep underground, they are faced with a life of toil under a scorching sun. This life of labor clearly shows in the bird's movements; every move they make is cautious, slow, and deliberate, as though it was carefully thought out beforehand to save wasting energy that must be conserved for more important things."

(ibid: 63)

Adulthood in Aboriginal society requires being able to fend for oneself and ultimately to join with another in family responsibilities. The way to adulthood is hard and not everybody makes it. However, the parallel stops here because in human societies like the Boorong, relationships between children and their parents continue into adulthood and into old age and are integral to the continuity of life, of kinship and of culture, in contrast to the experience of the mallee fowl. But bird behaviour which parallels human behaviour includes; pairing, marital loyalty, home building, mutual support in nurturing the unborn, successful reproduction as a major goal, togetherness, respect for individual feelings, defence of the family home, mutuality in copulation, and consistency and tenacity in maintaining the seasonal cycle. I would have no problems in highlighting these characteristics to interested young observers and developing these features into a behavioural modelling exercise. But, however satisfactory the model is for pairing behaviour, it has to be supplemented from elsewhere when the question of child development is raised. For this aspect in Boorong country, I would turn to the emu.

In contrast to the Mallee fowl, emus nurture their young for two years after the eggs have hatched. Like the Mallee fowl there is a good deal of cooperation between the parents, even though there is a clear distinction between the gender specific role that each plays. Because the emu is included in the Boorong celestial panoply and because of its earthly characteristics, I believe it has a place in considering the family. It is possible that the Boorong had respect for this species because of the unusually long and careful nurturing period bestowed upon its young. That it is the male emu that carries out the nurturing role, rather than the female, means that it has special relevance for Aboriginal men. Nonetheless, this special care by parent or parents is the principal point at issue.

Mathew's story of the ngin'-dyal (the Boorong's Tchingal) is the creation story of the emu. (Mathews, 1904:365-367). The Brambambult brothers having destroyed the ngindyal, with the help of wity-gurk, the lark, they

"then split each feather of the ngindyal down the middle, casting one half of the feathers on the right hand side and the other on the left, making two heaps. One of these heaps of feathers was converted into a cock and the other heap into a hen ... [and] all future emus should lay a number of eggs, instead of one only [as did the ngindyal]."

(Mathews, 1904:367).

The usual clutch is eight, nine or ten eggs, but maybe as many as sixteen, and the average weight is a kilogram. (Serventy & Whittell, 1976:65). The first egg is usually the smallest of the clutch, followed by a second, four to seven days later (Seng Tan, 1991). There may be a three to four day interval before the next two eggs, and then intervals of two days or one day for each successive egg. (ibid.) It's now that the male emu takes over control of the nest.

The hen takes little part in raising the family. The male leaves the nest only for a short period to go to water and to graze a little on the way to and from the drinking place (Eastman, 1969:25). Because the male scarcely eats during this time, he loses much weight, using up his stored fat which may constitute twenty percent of his bodyweight. (ibid:26). An Aboriginal informant of Eastman told him that emu eggs always hatch within a short time of each other, and the male bird waits until they are all hatched before he and the chicks leave the nest site. (ibid.) Once they hatch, the male bird becomes aggressive and protective. He defends the chicks by ruffling his neck feathers while sounding a quick, blowing grunt and opening his beak. (ibid:27). He'll chase everyone away including his own mate. If necessary he uses his feet in a downward kicking motion against an enemy. He squats down at intervals during the day to cover the very young so they can rest and at night or in rain he gives them complete warmth and protection. (ibid.) If the female emu is still attached to her mate she will camp the night with the male and the chicks. (ibid: 25). Whenever the birds go to drink or to feed, the female will always go first and establish that it is safe for the male and chicks who remain some distance away, to come and drink or eat.

Cooperation between the partners commences during their courtship which is four to five months before egg-laying. In this period, the pair spend most of their time foraging in an area several kilometres in diameter. (ibid: 23). However it's the female that courts the male,

rather than the other way round, and they are partners for the season, not for life. Thus the female puts on the courtship display and when she is in full breeding plumage she
 "strides around with a magnificent, majestic air, producing a deep-throated booming sound ... [and] ... while drumming she draws in her neck, puffs out her feathers, and parades around her mate." (ibid: 23).

Both birds gain weight during the courtship period to stand them in the good stead for the arduous tasks of egg-laying and incubation. If Winter seems an odd time of the year to nest, with egg-laying beginning at the end of April, it starts to make sense when the first chicks are seen in late July, when the late winter grasses provide tender shoots for the newly hatched. Born with a series of stripes running down their back, they lose these distinctive chick markings by late Spring. (Serventy & Whittell, 1976:67). The birds take at least two years to reach maturity and for all that time they remain under the protection and tutelage of the male parent.

It is this parent-nurturing role that William Love believes is so important for Aboriginal men to mimic in the bora ceremony. Aboriginal men had the power to do anything in their world except to bear children and feed them as infants. This limitation was mitigated, says Love, by the bora ceremony where young males are made into men. Initiation meant that a boy born from a woman could become a man, otherwise he would be destined to remain a child (Love, 1988:129). The male emu of myth and legend showed the men the procedure. Thus the Bora grounds studied by Love symbolically represent the recumbent emu. (ibid: 130). It may have been for these reasons then that the Boorong included the emu Ancestor Being, Tchingal, in their celestial pantheon.

The emu as role model for parenting takes over where the mallee fowl leaves off in the care and protection offered the young chicks, until they are old enough to fend for themselves. Successful parenting requires teamwork from the parental partners, at least while they remain partners, whilst individual strength and tenacity is required from each of them in their sole responsibilities of producing the eggs and of incubating them. Their mutual concern exhibited in the daily routine of foraging and the supportive responsibility in one covering for the other while going to drink is an example of this teamwork. Their individuality is expressed in acting out their respective parenting responsibilities, and moreover, in the fact that their parenting relationship lasts only one season. Emus do not pair for life. However, many other species do. The Mallee fowl has already been described. It is time to look at some other examples. There are two other significant pairs listed by Stanbridge, and a close examination of the behaviour of these species should provide additional insights into possible Boorong notions of family.

The two pairs are eagle and crow; Warepil and Collowgulloric Warepil (Sirius and Rigel), War and Collowgulloric War (Canopus & Eta Carinae).

"Warepil (Male Eagle) (Sirius), a chief of the Nurrumbunguttias and brother to War." (Stanbridge, 1857:139). "Collowgulloric Warepil (Female Eagle) (Rigel), wife of Warepil." (ibid.) These two are relatively close to each other in the night sky, Warepil scribing an arc overhead, way up in the night sky with Collowgulloric Warepil appearing a little further away to the north, nearer to Kulkunbulla, the young men dancing. Frith notes that wedge-tailed

eagles are sometimes seen alone, but usually in pairs, gliding or soaring over the countryside, or perched silently on dead or sparsely-foliaged trees. (Frith & Watts, 1984: 79). He also describes their display flights.

"One bird, presumably the male, performs an undulating display fairly high in the air, flying steeply upwards and plummeting down with closed wings, and then repeating the manoeuvre. In another display both birds fly close together, one above the other. Every now and again the lower bird turns over in the air and both birds touch, or almost touch claws." (ibid.)

Not only do they play together, but they hunt cooperatively (ibid.) and both sexes share in incubating the eggs and feeding the chicks. (Frith, 1982: 129). Similarly with the crow.

War the male crow, is the brother of Warepil and is represented by Canopus or Alpha Carinae in the southern sky (Stanbridge, 1857:140). Not far away is his wife, Collowgulloric War, identified by Stanbridge as a "large red star in Rober Carol, marked 966" which is believed to be Eta Carinae. (ibid.) As mature adult crows pair off they occupy a suitable piece of country in which they find most of their food and roost and breed. (Frith, 1982: 578). They pair for life and occupy their territory all the year round, reinforcing their boundaries each morning by patrolling, and making the countryside echo with their characteristic "wa" sounds. (ibid.) In contrast to the eagle there are no courtship displays and physical affection is limited to mutual preening. It is said they have "little need for elaborate displays, because they are constantly together." (ibid.) When the eggs hatch out, the youngsters will stay at first with their parents, but later will forage independently within the parents' territory. In January these young are attracted to passing flocks and family ties are broken. (ibid.)

Thus the notion of pairing for the purposes of having young, remaining monogamous and pairing off for life are substantial behavioural elements in the wedgetailed eagle and the Australian raven or crow. Their importance to the Boorong may be evident in the substantive positions each occupies in the night sky. Warepil is Sirius, the brightest of all, a brilliant white star of magnitude -1.46 (Ridpath and Tirion, 1994:94), War (Canopus), a yellow-white supergiant, is the second brightest with magnitude -0.72 (ibid: 100). Collowgulloric Warepil is Rigel, at magnitude 0.1, the brightest star in Orion. Collowgulloric War is Eta Carinae which fluctuates in brightness and was of a magnitude -1 in 1843 (ibid: 190,100) the decade in which Stanbridge first had contact with the Boorong "All the small stars around her are her children" is the concluding statement for Collowgulloric War. (Stanbridge, 1857:140). Other married creatures in the Boorong pantheon include Djuit (Antares) who has two wives (the stars on either side), Totyarguil (Aquila) who likewise has a wife on each side, and Unurgunite who again has two wives, but one is the object of Mityan's affections. (ibid: 138,139,140). Mityan is the Moon "who falls in love with one of Unurgunite's wives and while trying to induce her to run away with him, is discovered by Unurgunite, when a fight takes place; Mityan is beaten and runs away, and has been wandering ever since." (ibid: 138). This behaviour is the very opposite of the stable, lasting relationships just described, but is to be expected when we examine the earthly species that Mityan represents. Mityan is the native cat *Dasyurus Geoffroyi* (Stanbridge, 1861: 301), and was known as

"the most blood-thirsty of the marsupial animals inhabiting the Murray scrubs, solitary in its habits, strictly nocturnal, and the terror of the feathered tribe, particularly of the yellow-crested cockatoo. Afraid of nothing, it will, when hungry, attack any other animal, a mother will even eat her own progeny if she has nothing else to fall back upon." (Kreff, 1862:7).

The native cat or quoll has been described as an opportunistic hunter that usually kills by biting the back of the head or neck (Strahan, 1983:18). Both sexes become mature when about one year old and mating takes place from April to July which does coincide with Unurgunite's overhead position in the early night sky. Copulation occurs with the male grasping or licking the female's neck while she remains in a low crouch with eyes half closed and head lowered. (ibid.) It may last up to eight hours. Having copulated with one female, the male seeks out other females to copulate with. Concomitantly, a female refuses to copulate with a male she has already experienced. At birthing time, a short-lived pairing off occurs, where both parents defend the nest site, and although the male sometimes brings food to the female while the young are dependent, it has little contact with the offspring. (ibid.)

There is little to admire in the behaviour of the native cat, were it observed to occur in the human sphere, and it is understandable therefore that Unurgunite fends off Mityan's predatory actions. If Mityan has been "wandering ever since" (Stanbridge, 1857:138) in the Boorong celestial sphere then it looks like the lesson to be learnt is not to behave in this fashion.

Unurgunite's success in defending his wife is presumably to be admired. A husband's defence of his wife can now be added to the range of positive behaviours enumerated so far; those of mothering, home-building, birthing, nurturing and pairing. Given the importance of each of these behavioural elements in the successful maintenance of a thousand generations of people, it would seem that the lessons have been well learnt and are likely, in my view, to be a fundamental cause for placing these particular species in the celestial array of the Boorong.

SEASONS

In his account, Stanbridge mentions four seasons of the Boorong and gives their European equivalents; autumn, winter, spring and summer. He cites "Weeit" (Autumn) as "the first season of the year", and "Cotchi" (Summer) as the "fourth season" (Stanbridge, 1857:140).

Peter Beveridge gives four seasons for the Boorong's eastern neighbours, but his sequence begins with Spring (Beveridge, 1889:124). Is this a question of Europeans imposing their system on the locals, or were there in fact four seasons in north-west Victoria. Is there a connection between the stars and the seasons, i.e. do individual constellations line up with seasonal changes? Is there any correlation between the movement of the sky creatures and what is happening on the ground?

What is a season anyway? Mr. J.E. Prince in his address entitled "Phenology and Rural Biology", read before the Field Naturalists Club of Victoria in 1891, referred to the "periodic phenomena associated with plants and animals", such as the "germination of seeds, the leafing, blossoming, ripening of fruits and seeds, and the fall of the leaves of plants and trees; the migration, song and nesting of birds; the appearance of insects and their larvae; the habits and instincts of animals ... being dependent on seasonal and meteorological conditions, are largely correlated or dependent on each other, and to be properly understood, must be studied together." Prince used the term "phenological observations" and praised the leadership of Baron von Mueller on this topic in 1856. (Prince, 1891:120). He disagreed with there being four seasons. He suggested three; the season of growth, the season of maturation, and the season of rest or equilibrium (Prince, 1891:122). The object of his address was to enlist support from club members throughout Victoria, to help create a registry of seasonal phenomena, (a) to enable more accurate dates for making field excursions, e.g. to see wildflowers in first bloom, (b) to allow preventative measures to be taken in regard to insects and crops, and (c) to proclaim closed seasons for protection of native birds when breeding.

A century later the Timelines Australia Project aims to create appropriate seasonal calendars across Australia, region by region, to enable better planning of natural history holidays (important for ecotourism) and the better regulation by land and wildlife managers of the impact on wildlife populations and to help preserve biological diversity (Reid, 1995:15). This project is the brainchild of Gould League President, Alan Reid, who learned about different yearly timelines or calendars from first-hand experience in Northern Australia. He noted the variation between Aurukun, Cape York and Jabiru and quoted a six season annual cycle for Arnhem Land. (Reid, 1995:14). Reid also lamented the original calendars having been lost in Victoria because of the "almost complete dissolution of the southern Koori tribes". (Ibid.) He has been moved to try to resurrect an appropriate calendar for Melbourne and has suggested a six season draft for public discussion. These seasons include Pre-Spring, True Spring, Early Summer, Late Summer, Autumn and Winter. (Ibid.)

It is understandable that the Anglo-European recitation of the seasons should commence with summer because that is the season when the chronological year begins. It is also understandable that a non-chronological approach like Reid's or Beveridge's might begin with Spring, because as Prince noted, it's the season of apparent first growth. (Prince, 1891:122). Why then did the Boorong tell Stanbridge that Autumn is "the first season of the year"?

(Stanbridge, 1857:140). The answer may be found in the sky as well as on the ground. There is a school of thought that accepts a correlation between the four identifiable phases of the sun and seasonal change. These key phases are the two solstices and the two equinoxes. The longest day coincides with Summer, the shortest day with Winter and the halfway points coincide with each of the other two seasons. Aborigines throughout Australia used the cardinal points, north, south, east and west as standard direction indicators. In their case (as distinct from our learning) this terminology derived from a knowledge of the movement of the sun over the passage of a year and thus they were thoroughly acquainted with longest, shortest and halfway days.

They also noted the repetition of celestial phenomena, year after year, and as the Boorong did, related particular stars and constellations to events on the ground, for example; "Marpeankurk (Arcturus) ... the discoverer of the Bittur, and the teacher of the Aborigines when and where to find it ... during the months of August and September", "Neilloan (Lyra) ... when the Loan eggs are coming into season on earth, they are going out of season with her. When she sits with the sun, the Loan eggs are in season", and "Purra (Kangaroo) (Capella), who is pursued and killed ... at the commencement of the great heat" and when the cooking fire smoke has gone "Weeit (Autumn) begins". (Stanbridge, 1857:138-140).

Alexander Gurshtein says that ancient observers not only wanted to unite bright starry groups into constellations, but also to fix certain important areas of the sky as celestial markers. There are clues, he says, from semantic decoding of the most ancient names such as Libra, the Balance, which indicates equilibrium between the duration of day and night at the Autumn equinox. (Gurshtein, 1995:29). Gurshtein has examined the zodiac over the last eight thousand years and believes there have been at least three sets of names given to constellations which coincide with the solstices and equinoxes. Applying this principle to the Boorong information reveals some interesting correlations. For instance, at the March equinox the southern cross is upright and fully visible in the southern sky. This is the tree up which Bunya climbs to escape the clutches of Tchingal. Of all the Boorong sky creatures, it is this cluster (which also includes Berm-Berm-Gle) which is the most prominent in any part of the night sky. For both Tchingal and Bunya this time of the year has special significance, because it is now when they begin to breed. The ringtail possum has young beginning in April and its breeding season goes through to November. (Strahan, 1983:127). The emu lays eggs from April-May through to September. (Readers Digest:25). It would be understandable then if the Boorong made the correlation between the sky creatures and the accompanying season. Both creatures were important functional items to the Boorong, the possums supplying the skins to make the warm and waterproof cloaks, while the emu provided eggs for food. The meat of both creatures was used for food as well, but I believe it is the birthing aspect of these creatures that was the reason for the Boorong to refer to this being the "first season of the year".

In late June, at the time of the winter solstice, there are two heroes prominent, Djuit and Totyarguil. Djuit is directly overhead at midnight and Totyarguil is at its apex in the northern sky a couple of hours later. Djuit, the son of Marpeankurk who discovered the Bittur, doesn't figure in any recorded stories, at least under that name. Totyarguil, on the other hand, does appear as a great ancestral hero, who has a series of adventures that led to the creation of a number of features on the landscape including the mighty Murray River. His altercation with

his mother-in-law, Yerredetkurrk led ultimately to his near demise and eventual rescue by his uncle Collenbitchick. Totyarguil therefore serves as a focal point for knowing the country and learning proper behaviour. These relate directly to the two themes that run through the Boorong use of the night sky, that is, ecology and morality. Totyarguil's appearance in mid-winter, the season which comes after the first or birthing season, suggests the time for learning the requisite knowledge that permits progress through the ages of man, but especially the knowledge required to become a man.

Totyarguil's sparring partner, Yerredetkurrk, is nearly at her highest point in the celestial sphere at the September equinox. She is prominent at a time when others in the Boorong pantheon have dropped out of sight or occupy an incidental position in the night sky. As mother of Totyarguil's wives, she could be seen as symbolizing the status of proper marriage, of the relationship necessary to bear children and to continue a healthy family line. Thus the seasonal correlations that have been presented so far are, Autumn - birth or re-birth, Winter - the acquisition of knowledge, and Spring - marriage and family. That leaves only the element of old age (and death?) to complete the life cycle through the annual progression of the four seasons.

Thus it is of interest that Gellarlec is prominent in the north at the time of the December solstice. But so are a number of other celestial heroes, including Warepil, who is directly overhead. If the logic is followed however, attention has to be paid to the old songman who traditionally is a repository of knowledge and a man of wisdom.

Whilst the sequence of birth, knowledge acquisition, marriage and family, old age and wisdom does form a logical progression consistent with what is known about Aboriginal custom, it should be recognized as being a possible and not a definite answer to the question of why the Boorong regarded Autumn as the first season of the year. But, in addition, William Love gives an insight into the emu connection in his Aboriginal Ceremonies of South East Australia (Love, 1988:106-138). In writing about the Bora ceremony in coastal New South Wales, he says the emu best epitomised man making. "The male emu took over the nest when egg laying was complete, incubated the eggs, then raised and educated the young birds for their emu world." (Love, 1988:112). The shape of the Bora ground, the two earth circles or ovals connected by a pathway has been adapted from the Bora ground in the sky according to Love, and from his description, would fit that space occupied by Tchingal. The smaller oval is the Coal Sack at the foot of the Southern Cross. The larger oval is that huge black space nearer to Scorpius and the thin connecting line (Tchingal's neck) is the pathway. The two rings had to be "in a north/south alignment when it was time for the Jinibara Dora (Bora) ceremony." (Love, 1988:130).

Whilst it is not known if the Boorong had such a ceremony, it is apparent that the giant emu ancestor loomed large in creation narrative. Matthews tells the story of the Bram brothers (Stanbridge's Berm-Berm-Gle) and the Ngindyal. "The ngin'-dyal was a bird-like animal, having the shape and features of an emu, but of enormous proportions and was moreover, a great magician ... She used to kill and eat all the people she could catch. One day a crow came prying about and the ngin'-dyal ran after him in a furious manner." (Mathews, 1889:365). Later the crow told his story to the Brambambult brothers and showed them where she nested.

They hurled their spears at the ngin'-dyal who "considerably subdued by pain and loss of blood" was driven towards the Horsham Plain. Here Wity-gurk, the lark, delivered the final blow. (Mathews, 1889:366). "The Brambambults then split each feather of the ngin'-dyal down the middle, casting one half of the feathers on the right hand side, and the other half on the left, making two heaps. One of the heaps of feathers was converted into a cock and the other heap into a hen of the present race of emus, which are incomparably smaller than the ngin'-dyal. It was also arranged by the sorcery of the Brambambults that all future emus should lay a number of eggs, instead of one only. The splitting of the feathers above mentioned, is still easily observable in the feathers of all emus, which are double, or consist of two independent shafts." (Mathews, 1889:367).

This account of the creation of the race of emus is located within the Wergaia language region and was therefore known to the Boorong. It fits neatly with the notion of fecundity and birth and therefore also correlates with the notion of Autumn being the season of birth or re-birth.

An interesting conclusion in this study of the seasons is to note where the rest of the Boorong panoply fit in. It seems there are one or more of the creatures prominent in the sky for all of the twelve months. If an assumption is made that all of these creatures are of ecological importance and of dietary interest to the Boorong, and if we apply Prince's "phenological observations", then a rather novel ecological zodiac results. The periodic phenomena includes spawning of fish, laying of eggs by birds and reptiles, the development of ant or termite larvae and the birthing of animals. From a dietary perspective, it will be noted that all of these items constitute animal protein. Why there are no vegetable items in the Boorong pantheon may be because Stanbridge's chief informants were men (Stanbridge, 1861: 304). Men are the hunters, women are the gatherers. In other regions, seeds, plants and tubers found ready expression in story, star and symbol, but not with the Boorong, or at least, not according to the Stanbridge account.

The following Boorong ecological zodiac has been pieced together by correlating a month of the year with two other variables; firstly, a constellation which has visible significance in the sky, and secondly the earthly counterpart which is available as a food source. It is summarized as follows:

March - April: Bunya is upright at midnight. The Southern Cross is the tree up which the possum has climbed. Possums breed from April to November. (Strahan, 1983:127).

April-May: Tchingal has fully emerged by early evening, and is horizontal by midnight. This is the prone position adopted by the female in laying the eggs, and by the male in sitting on the eggs in incubation mode. Eggs are laid from April-May to September-October. (Frith, 1982: 25).

June: Tourtchinboiongerra is prominent in the northern sky at 9:00 pm. The Willie Wagtail lays eggs from June to February (Ibid: 393).

July: War is low down in the southern sky, at treetop level, where its earthly representation would have its home. The large crow lays eggs from July to September. (Ibid: 578).

- August: Karik Karik is directly overhead in the early evening. The Australian Kestrel lays eggs August to November. (Ibid: 135). Djuit is also directly overhead in the early evening. The red-rumped parrot lays eggs from August to December - January. (Ibid: 283). Totyarguil follows these two, but is located more in the northern sky. The purple-crowned lorikeet lays eggs from August to December. (Ibid: 263). Weetkurrk is evident early in the evening in the western sky, but has gone down by 10:00 o'clock. The groundlark lays eggs from August to January. (Ibid: 342).
- September: Marpeankurrk appears in the north-west in the early evening. She's left the sky by the end of September. The bittur (termite larvae) was available in August and September. (Stanbridge, 1857:138). Berm-berm-gle is at tree tops level or close to the horizon in the southern sky. The red-kneed dotterel lays eggs in a nest on the ground, from September to December. (Frith, 1982: 173).
- October: Neilloan leaves the sky in the west as the sun sets. The mallee fowl begins to lay eggs at this time and does so until the following April. (Ibid: 137). Kourtchin is at the highest point in the sky at midnight. The brolga lays eggs from October through to April. (Ibid: 162).
- November: Otchocut leaves the sky in the west as the sun sets. The Murray Cod spawns in the spring and as the floodwaters recede in the forests along the banks of the Murray River, the cod are caught in man-made weirs and traps and cooked in ovens on the high ground. (Cadwallader, 1983:103).
- December: Wanjel appears in the north-east in the early evening. The long-necked tortoise lays eggs in the bank of the river in early summer. (Cogger, 1983:103).
- January-February: Purra is now at its most prominent in the northern sky, but is still not far above the horizon, and thus gets lost from time to time in the atmospheric distortion close to the earth's surface. The red kangaroo will come into water places at the height of summer. (Pizzey, 1966:77). The Boorong told Stanbridge that Purra was killed at the "commencement of the great heat". (Stanbridge, 1857:140).

February -

March: Unurgunite is directly overhead. Young jacky lizards are "abundant by February" (Bustard, 1970: 101).

The above progression has been deduced from astronomical sources and standard ecological information. That the Boorong used the stars in such a way is evident from the way in which Marpeankurrk, Neilloan and Purra have been recorded by William Stanbridge. What I have done is simply to extend the notion to other months of the year, and to include as many of the Boorong pantheon as their earthly counterparts permitted. It does not fulfil all the criteria referred to by J.E. Prince in his wide-ranging definition of seasonal change, and it does not pretend to account for the total dietary input or all the seasonal events of the Boorong people, but it does provide an outline of an appropriate seasonal calendar for that region of north-west Victoria once occupied for so long by them.

SUGGESTED SEASONAL CALENDAR OF THE BOORONG

EUROPEAN MONTH	CELESTIAL BEING	LOCATION IN THE SKY	ACTIVITY OF TERRESTRIAL COUNTERPART
MARCH-APRIL	Bunya	Southern cross is upright at midnight at its highest point in the southern sky.	Ring -tailed possum breeds April to November (Strahan 1983:127)
APRIL-MAY	Tchingal	Fully emerged by early evening. Horizontal at midnight.	Emus lay eggs April-May to September-October (Frith 1982:25)
JUNE	Tourtchinboionggerra	Prominent in northern sky by nine in the evening.	Willie Wagtail lays eggs June to February (Frith 1982:393)
JULY	War	Stays low in the southern sky at treetops level. Nesting?	Crows lay eggs from July to September (Frith 1982:578)
AUGUST	Karik Karik Djuít Totyarguil Weet kurrk	Directly overhead early evening. Directly overhead early evening. Overhead at ten p.m. following these two. In western sky early. Gone by ten p.m.	Australian Kestrel lays eggs from August to November (Frith 1982:135) Red-Rumped parrot lays eggs from August to December-Jan. (Frith 1982:283) Purple-crowned lorikeet lays eggs from August to December (Frith 1982:263) Singing bushlark lays eggs from August to January (Frith 1982:342)
SEPTEMBER	Marpeankurrk Berm Berm Gle	In north-west in early evening but gone by the end of September. At lowest point of sky close to horizon.	Termite larvae found in August, September (Stanbridge 1857:138) Red-kneed dotterel lays eggs from September to December (Frith 1982:173)
OCTOBER	Neilloan Kourtchin	Leaves sky with the setting sun. Highest point of southern sky at midnight.	Mallee fowl lays eggs early in summer. (Cogger 1983:103) Brolga lays eggs from October to April (Frith 1982:162)
NOVEMBER	Otchocut	Leaves sky with the setting sun.	Murray cod spawns in spring after which gets caught in receding flood waters in forests alongside the Murray. (Cadwallader 1983:103)
DECEMBER	Wanjel	Appears in north-east early evening.	Long-necked tortoise lays eggs early in summer. (Cogger 1983:103)
JANUARY-FEBRUARY	Purra	At its most prominent in the northern sky but still close to the horizon.	Red kangaroo comes in to water at the height of summer. (Pizzey 1966:77) Killed at the "commencement of the great heat" (Stanbridge 1857:140)
FEBRUARY-MARCH	Unurgunite	Directly overhead in the evening.	Young jacky lizards are "abundant by February" (Bustard 1970:101)

LEARNING

One of the key questions in reference to an age-old culture like that of the Boorong is that of cultural transmission. We know what happened in the beginning. The initial landscape was transferred into its present shape through the labours of the great totemic ancestors of the group. (Strehlow, 1945: 25; Mowaljarlai and Malnic, 1993: 190-4). But how is it that Aboriginal groups perpetuated their beliefs and their beings for thousands of years in such a successful fashion? What are the characteristics of oral culture that lend themselves to cultural continuity?

For instance, during the many months they spend on the initiation ground, the young Aranda initiands are expected to learn many of the traditional chant verses relating to the ceremonies that they have been shown. By constant repetition of the verses their peculiar metrical form is impressed indelibly in their minds. (Strehlow, 1945: 110). Every plant and animal of any economic value whatever forms a separate totem. (ibid: 35). The totemic ancestors they sing about resemble the present day people in that they are engaged in the same occupations; the various modes of hunting, of athering seed and fruits and roots, and preparing food. (ibid: 33). Thus they learn as they sing, even in their humblest occupations they observe the old traditions. (ibid).

Maegraith observes that in relation to the Aranda and Luritja people, all the adult males are fully conversant with all that is known about the stars while no young man knows much about them until after his initiation is complete. The old men also instruct the initiated boys in the movements, colour and brightness of the stars. (Maegraith, 1932: 24).

It may be argued then that the star groupings known to the Boorong were conceived of as a series of celestial gestalts, created from earthly experience. Each gestalt is a coherent conceptual structure involving several experiences of the human senses; color, shape, depth, size and movement, all of which relate to aesthetic experience as well. Each gestalt is an observable location where certain dimensions of human experience are conceptualised. Morality, ecology and family are such examples. Thus the constellation or dark space becomes a metaphor for what lies below. Each is a matter of imaginative rationality and the series forms a coherent whole. It requires a combination of intellect and imagination and is an art form of reality. (Lakoff and Johnson, 1980: 235-6).

Our conceptual system is inherently metaphorical; the way we understand the world, think about things and the way we function in metaphorical terms makes sense of the world as we know it. It is as meaningful to see Warepil represented in the night sky as it is to proclaim the black dot a mile high in the sky in the middle of the day to be an eagle. The difference in the two sightings is a difference in metaphor, the daytime sighting being biological metaphor, the night-time sighting being totemic. But metaphor aside, the problem still exists; why have oral cultures flourished so long? And why is it so difficult for those of us immersed in a chirographic culture to understand and accept the answer?

As distinct from every day educational practice in mainstream culture today, people in primary oral cultures, those untouched by writing in any form, learn a great deal and possess and practice great wisdom, but they do not "study" to acquire this wisdom. (Ong, 1983:9). They learn by apprenticeship, discipleship, by listening, by repeating what is heard, by

mastering proverbs and ways of restating them, by assimilating other formulary materials, by participation in a kind of "corporate retrospection" but not through study in our sense. (ibid). Ong poses the question, if an oral culture has no texts then how does it get together organised material for recall? (ibid:33). His answer is, to think memorable thoughts. To retain and retrieve carefully articulated thought, thinking has to be done in mnemonic patterns shaped in such a way as to provide ready oral recurrence. Thought will come into being in "Rhythmic balanced patterns, in repetitions or antitheses, in alliterations and assonances, in epithetic and other formulary expressions, in standard thematic settings, ... in proverbs ... or in other mnemonic form. (ibid:34).

Linda Verlee Williams takes Ong's analysis a step further. In her Teaching for the Two Sided Mind she notes the importance of visual thinking, fantasy, use of evocative language, direct experience, multi-sensory learning and metaphor in effective learning. She says none of these require written language. (Williams, 1983: 30-4). Williams describes metaphor as the process of recognising a relationship between two seemingly unrelated things, "it provides the mechanism for establishing a connection between new concepts and previous experience." (ibid: 33). She regards it as an extremely efficient way to organise and remember information (ibid: 57), and that it is a holistic system, "it constantly focuses on the processes of recognising and understanding patterns and general principles which give meaning to specific facts." (ibid: 59). She finds several levels of sophistication; firstly the visual, secondly the sensory connections and finally the functional. Williams concludes her comments on the metaphorical mode by stating that "metaphorical thinking is fun, not just effective." (ibid: 80).

The fun element was noticed by Neville Green, a long-time West Australian educator, who lived and taught with Aboriginal people in the outback. He says in Desert School that one of his most exciting teaching experiences was the discovery that the Ngaanyatjarra children "were enthusiastic star-gazers and that the sky, stars and planets feature in the Dreaming stories, many of which emphasise Aboriginal values and describe the punishment of those who disregard tribal laws." (Green, 1983: 92). The stories described by Matthews and which I have attributed to the Boorong are creation stories which provided functional explanations of the landscape, attribute heroic characteristics to the main players, and provide through the narrative a value basis for living out one's life. These are the "formulary expressions, in standard thematic settings" that provide the mnemonic patterns mentioned by Ong. (Ong, 1983: 34). Ong gives several characteristics of orally-based thought and expression but notes that his list is not exclusive or conclusive. He says they have lots of "and's" in the telling (ibid: 37). They aggregate epithetic load, e.g. 'the brave soldier', 'the beautiful princess' which become standard formulas and have to be kept intact (ibid: 38). There is also a tendency for repetition of the "just-said" which helps keep speaker and audience on track and the narrators are often the old and the wise person who specialises in conserving the stories and narrating them (ibid: 39-41). Ong's next point is that oral cultures verbalise and conceptualise all their knowledge with close reference to the human lifeworld and in so doing, knowledge is situated within the context of struggle (ibid: 42). He says that enthusiastic description of physical violence often marks the oral narrative (ibid: 44), and that oral memory works effectively with "heavy" characters, persons whose deeds are monumental, memorable and commonly public (ibid: 70). Such is the depiction of the Brambambult brothers with the Ngindyal, Totyarguil's pursuit of the great cod and of his mother-in-law Yerredetkurk's revenge for Totyarguil's bad behaviour. Colourless personalities cannot survive oral mnemonics, says Ong. (ibid). Ong says that learning or knowing in an oral culture means achieving close, empathetic, communal identification with the

known (ibid: 46), the kind of identification that is alluded to in this thesis in the section on Family. An interesting contrast with chirographic cultures is the equilibrium or homeostatic state sought by oral cultures which let go memories that no longer have present relevance (ibid).

Ong contrasts this with print cultures which invent dictionaries that record past uses of words that are quite irrelevant to ordinary, present meanings (ibid.) Ong also believes that the meanings of words in oral cultures are controlled by real-life situations in which the word is used in the here-and-now (ibid: 47). However, he does distinguish oral art forms such as epic which retain words in archaic forms and senses (ibid.).

Ong's last-mentioned characteristic is the one that mainstream educators seem to focus upon. He said that oral cultures use concepts in situational, operational frames of reference that remain close to the living human life world (ibid: 49). A person from an oral culture may thus conceptualise roundness as the shape of the moon or of a saucer, whilst someone from a written culture will identify the same shape as a circle. One says the latter demonstrates training in school-room answers, which are not real-life responses. He says that geometrical figures and other features of institutional mainstream learning like abstract categorisation, formally logical reasoning processes, definitions and articulated self-analysis, are not derived simply from thought itself, but rather from text-formed thought (ibid: 550). Tests that distinguish these abilities closely resemble standard intelligence tests devised by literates. They are legitimate says Ong, but they come from a world the oral respondent does not share (ibid: 55).

This is the dilemma which faced Stephen Harris when he worked among the Yolgnu in the mid-70's on Millingimbi, an offshore island in the Arafura Sea, between Darwin and the Gove Peninsula (Harris, 1977: viii). His purpose was to find out why the well-intentioned and hard-working teaching staff were not achieving the same degree of success as in mainstream teaching-learning situations. He hoped that his conclusions would help teachers of Aborigines understand the ways in which Aboriginal cultural practices influence the learning of Aboriginal children (ibid: 3). Over the twenty months of his field observations Harris found a number of factors which characterise Yolgnu learning as distinct from mainstream teaching practice. The children learned by silent observation rather than by verbalisation and they learned by doing rather than by listening. He discovered that most learning occurs within a meaningful related context, that the verbally curious were discouraged and that information imparted will often be valued on the basis of how the giver of the information is valued rather than on the value of the information itself. He found that traditional learning is conservative, it promoted group solidarity rather than individual superiority, it tended to fuse emotional and intellectual domains, and there were no specialists in the traditional Aboriginal community whose trade is "teacher" (ibid: 115-16).

These conservative, reality-oriented, action-based, mutually supportive characteristics appear consistent with Ong's constellation of psychodynamic elements which he finds in primary oral cultures. And while Ong seeks to contrast the oral culture with the written culture, Harris contrasts learning styles in Yolgnu culture with those of European Australia. He found that the emphasis in Yolgnu was on silent observation, rather than verbal instruction (European), on imitation rather than problem-solving, on rote-learning rather than question and answer, on role-playing rather than passive participation and on carrying out real-life activities rather than repetitive exercises (ibid: 310-11). The contrast in styles is most marked and the outcomes which result from applying one culture's set of expectations to the other culture are consistent with the results noted by Harris.

Instead of seeing it as a negative quality, this cultural gap was exploited by Neville Green in his remote area teaching. Having noted that the Aboriginal parents used the night sky like a picture book to teach the lore of the Dreaming (Green, 1983: 92) he worked directly from the celestial metaphor to the inculcation of scientific observational principles through a study of the phases of the moon, "the basic principles of the scientific studies of observation, recording and prediction." (ibid: 94). Green believes an effective teacher tries "to understand the culture of the child, the religious basis of the community's beliefs, the richness of the music, oral literature and history of the people and the region." (ibid: 106). Instead of opposing the cultural discontinuity which a teacher from a literate culture may do, either intentionally or unconsciously, the teacher should try to understand the cultural setting of the child and work within it. Williams noted that children from culturally different settings to the mainstream were often referred to as "culturally deprived" (Williams, 1983:77). She quotes a project in Laurence, Massachusetts, where lower-class and minority children were tested along with their more affluent classmates and were found to have a cultural background "no less rich in material for metaphor" (ibid). Williams did her major study in the California School system which has large numbers of children of minority status and from poor families. Her observations in regard to the non-writing aspects of learning, as noted, fit neatly with Green's conclusions.

Ong says the problem for mainstream commentators is the freeing of the self from chirographic and typographic bias in the understanding of language (Ong, 1983: 77). Even the process of 'deconstruction' of literature remains a literary activity and stays firmly within the bounds of chirographic culture (ibid). A major problem lies in the nomenclature. Mainstream Australia often refers to traditional Aboriginal society as "non-literate" or "pre-literate". Because literacy is equated with learning it is easy to regard people who are non-literate as unlearned, even though this may be factually incorrect. The term "pre-literate" is even more damning because it suggests a developmental or evolutionary progression. This was a perfect rationalisation for the nineteenth century usurpers of Aboriginal property and there were a succession of scholarly theories on which to base such a rationalisation. The Great Chain of Being, followed by Charles Darwin's Theory of Evolution and Karl Marx's Stages of Economic Development all put the non-literate, hunter-gatherer at the bottom end of the human scale of achievement. Twentieth century social science has followed suit by the continued use of the term "pre-literate" for what should be depicted in a non-judgmental way as primary oral cultures, as distinct from primary chirographic cultures (Ong, 1983: 9). A common assumption of Darwinites, Marxists and many current social scientists is that because the totality of the written cultures of the world is more complex, more sophisticated and more modern than any single oral culture, then any single oral culture must also be a simple culture. This is not a correct assumption in my view, for knowing that botanists are amazed at the amount of ecological information known by bush Aborigines and that students of anthropology are bewildered by the complexity of their kinship systems, then it has to be accepted that while traditional Aboriginal culture is a primary oral culture, it is also extremely complex. Rather than make such wrong assumptions, people should ask the question, how is it possible in a primary oral culture like this to gain and keep such a complex body of knowledge? Ong, Harris and Green have supplied part of the answer in their analysis of learning methodology. Williams reminds us also of the use of the senses. She notes that in mainstream learning, auditory, visual and kinesthetic senses are dominant in the early years of school, but that later on the visual mode becomes the only dominant one. Reading books, watching moving pictures, gazing at a computer screen, writing and drawing symbols on bits of paper have made the visual sense the dominant communication and learning mode at secondary and tertiary level. The other two

modes are hived off as non-essential accessories although they are still important to the individual in a personal and informal way, e.g. through popular song (auditory) and in sport (kinesthetic).

In contrast, in Aboriginal learning all three sense are used to reinforce learning right through life. The one Dreaming Story will be sung (auditory), painted (visual) and danced (kinesthetic). Thus all senses are equally drawn upon. Each one reinforces the other. This is why it was not necessary to have a written culture to ensure survival of knowledge and successful living across the centuries. Old Syd Ross gives an example of song as an aid to memory in the documentary film 'Sons of Namitjira' by Curtis Levy. (Levy, 1976). Syd is asked by Wenten Rubuntja to tell the story of the Euro dreaming. He commences as requested and states the narrative in spoken prose form. After a few sentences he begins to recite the song. As he does so he relaxes into the mode of the customary chant-song and continues the story in the rhythmic, punctuated, formulaic way in which he'd learnt it. This is the method by which he remembers the story. This is the way in which he recounts the story. Its the same method that the bards and storytellers used in Europe in the days before the mass commitment to a written mode of communication. (Ong, 1983: 63).

In another film titled "The Land My Mother" there are a number of scenes which reflect Stephen Harris' analysis. Learning by silent observation is the young boy sitting watching intently as his father applies paint to the didgeridoo. Another scene depicts mother and daughter collecting mussels in a freshwater lagoon. Whilst her mother gives quiet instruction the daughter participates actively but without comment. Its a moment of age-stage reciprocity and learning by doing. Earlier on in this documentary film is a sequence where a group of young boys are seen painted and dressed up, going through the actions of a newly-learned dance sequence under the tutelage of two young men who dance with them. Yet another scene depicts a young adult sitting quietly being painted by an older man, who standing in special relationship to him, sings as he paints in preparation for a ceremony. Each of these examples relates to learning by observation, by imitation, by participation, through having a special relationship in a directly experiential way, related to need and having enjoyment while acquiring skills and knowledge. The auditory, visual and kinesthetic sense are all evident. All of them are examples of successful learning within an oral culture. All look perfectly normal, relevant and seem to be effective ways of transmitting the culture of one generation to the next. Furthermore, its probable that not one of these examples would be enhanced by the addition of written language.

The other important reminder from Williams is her reference to metaphor. David Mowaljarlai from the Kimberley region says that everything for him is written twice; once on the ground, the other in the sky. (Mowaljarlai and Malnic, 1993: 5). In Mowaljarlai's country there is this "relationship between two seemingly unrelated things", as Williams defines metaphor. (Williams, 1983: 33). The sky provides "a mechanism for establishing a connection between new concepts and previous experience" (ibid). Thus the knowledge built up from life experiences in Boorong country is acted out in stories by the ancestral beings whose representations are to be seen in the night sky. The sky is the metaphor for life on the ground. As children are introduced to the ancestral beings and the stories in the sky, so they are prepared for life on earth. And vice-versa. As they observe things on the ground, so they might expect to find them in the sky. Thus the sky becomes the metaphorical text book of the known world from which items of detail or broad general principles can be applied to everyday life, whether

freely available to children and strangers and spoken about publicly (as to William Stanbridge) or that which is gender specific, private and which lies in the secret-sacred domain.

Ong mentioned that oral cultural experience is organised mnemonically and indicated several ways in which this is assisted linguistically (Ong, 1983: 36). Had he the benefit of the Boorong experience, he could have added the night sky as a visual mnemonic, one that is always there, unchanging from year to year. It is a most attractive setting, it is peopled with the good and the bad, the loving and the homicidal, it plays a key role in visualisation and fantasy, and it provides a brilliant background to song and dance, the two other effective reinforcers of learning and the lore.

It's not coincidental that several of the celestial beings of the Boorong night sky relate directly to the song and dance elements. Larnankurk, the young women beating their rolled up possum skin cloaks provide the rhythm for Kulkunbulla, the young men dancing. Both groups play in time to Gellarlec, the old song man who is the repository of the law. These human representations are seen in the constellations and stars of the Pleiades, Orion and Taurus respectively, in close proximity in the northern sky. At the southern end of the sky are nature's supreme dancers, the male and female native companion (Brolga) in their representation as the Clouds of Magellan. Ong notes that in most religions the spoken word functions integrally in ceremonial and devotional life. (Ong, 1983: 74). He says that spoken words form human beings into close-knit groups whilst writing and print encourage isolation. (ibid.) Orality is consonant with conservative holism, situational thinking rather than abstract thinking, with a certain humanistic organisation of knowledge around the actions of human and anthropomorphic beings rather than round impersonal things. Thus most characteristics of orally based thought and expression relate to the unifying and centralising function of sound, and knowledge ultimately becomes a unifying phenomenon, that typifies a striving for harmony, rather than an analytic focussed fractioning force that typifies writing (ibid: 73, 72).

Ong also reminds the reader that written examination questions came into general use (in the west) only well after print had impinged upon the consciousness thousands of years after the invention of writing. (ibid: 56). Thus proponents of intelligence tests need to recognise that typical questions are constructed within this special kind of consciousness and are "deeply conditioned by literacy and print." (ibid.) Because literature is regarded as the well-spring of current creativity and science texts form the basis for knowledge about physical phenomena, mainstream chirographic culture often finds itself culture-bound when seeking to understand what lies outside. Thus the concept of learning without study would seem as unlikely a possibility as an Aboriginal society having a "taste for erudition and speculation and what sometimes looks like intellectual dandyism" (Levi-Strauss, 1966: 89). The characteristics of an oral culture as analysed here should provide sufficient insight to suggest that such a comment is plausible and possible.

There is no doubt that the Boorong people were able to pass on their cultural well-being through countless generations through a coherent network of gestalts which emerged directly from interaction with their environment and which were projected on to the night sky. How much the culture changed over time is not known, but what we can know is how the cultural transmission occurred. For the analyst freed from the biases of the chirographic culture, the successful transmission of information, beliefs and values through the generations appears to be a sound and masterful achievement, an alternative and attractive learning methodology, albeit a relatively unrecognised one in mainstream Australian society.

IMPLICATIONS FOR THE RESEARCH

Research on Aborigines or Aboriginal culture in Victoria takes place in a formidable social and political context. In contrast with the mainstream population of Victoria, the history of the European invasion is a living fact of life for Victorian Aborigines. Aboriginal land was taken away from their control, their communities were decimated by murder and introduced diseases, their languages were lost, kinship structures dislocated and for over one hundred years the remnant Aboriginal population became invisible to most people.

A small number of mainstream people were interested in Aboriginal material culture, some of whom grouped together as the Anthropological Society of Victoria and the Archaeological Society of Victoria. Their chief interest was in finding and identifying Aboriginal occupation sites and in material artefacts. These people, mostly men, would collect material objects like stone tools and weapons made of wood. Often these ended up as gifts or legacies to the Museum of Victoria, which during the nineteenth century had become a repository for diaries, photos and manufactured items which had been bought, stolen or traded with Aboriginal people. These items were mementos of white settlement and its aftermath, a time which coincided with European notions of evolution and a scientific interest in studying aboriginal races around the world.

The legacy of these times led in the 1960s towards a move by the State Government to protect Aboriginal relics and skeletal remains. There weren't many left, and the scientists and interested amateurs were worried that the souvenir hunters might soon complete the job and there'd be nothing left to look at or to collect for scientific study. Thus legislation was passed which protected this remnant material culture.

At the time it was the general belief that Aboriginal people had disappeared from Victoria. The remnant population was referred to as "half-caste" and all kinds of denigratory remarks provided a means by which these people were commented on and evaluated by the general public. Aboriginal living culture therefore was not included in the objectives of the legislation, but a quarter of the Archaeological Relics Committee which was to be formed under the new legislation, were to be Aboriginal people.

In those days arguments as to whose history reigns and whether there was any surviving Aboriginal culture took second place in Aboriginal communities to the essential life-saving strategies of finding a house to live in and obtaining sufficient food to live on.

When housing, health, income security and schooling became less of a problem however, attention turned to cultural matters. In the mid-80s the lines were set. No longer was culture to be the personal fiefdom of the scientific community and the few interested amateurs. Culture should belong to the Aboriginal people and be under their control. The chief instrument of government policy on Aboriginal culture, the Victorian Archaeological Survey, came under attack from a number of individuals and organisations in the Aboriginal community. The arguments led to a number of gestures being made in the form of changes to the Government's *modus operandi*. These changes however, have not diminished the argument or lessened the belief in the first principal of community control.

Thus today, those that chose to be involved in research relating to Aboriginal traditions have to recognize the history and the principles involved. There appear to be three options open for non-Aboriginal researchers. One is to stay within the documentary domain and have no contact with the people. The second is to maintain a science first attitude and to take the consequences. The third is to accept the principle of community first, and to operate in partnership with the Koori community.

I have chosen the third option, and therefore have had a strong interest in the implications of my research for the Aboriginal community and in particular, those communities who are related to the Boorong people from which my research data originally came. Thus the questions I am interested in addressing are these: What are the conclusions of this research? How can this information be applied? Who are the recipients or target groups? What can they do with this information?

I address these questions in summary in the following diagram.

Information ->

FORM	PURPOSE	AUDIENCE
Manual	Training Information Exchange Culturally focussed learning	Cultural Officers Other Koori c'ties Senior school students
Planisphere	Practical aid to finding the constellations	General
Story	Culturally focussed learning	Primary pupils
Star theatre	Entertainment	Families at home
Script	Planetarium Presentation	Visitors to M.V. Planetarium
Posters	Public art and information	Community visibility

The major use anticipated use anticipated here is for the Aboriginal community. There are implications also for mainstream Australia and internationally as well. I will deal with these areas later.

These outcomes have been partly determined for me from criticism, advice and comment from the two communities I work with in this project. Cultural Officer, Doug Nicholls, from Swan Hill has asked me to visit Lake Tyrell at night with trainee cultural officers and himself, for me to introduce the Boorong night sky directly to them. He has also raised the possibility of creating a local planetarium for instructional and entertainment purposes. He loves the idea of each Koori home having a star theatre and his colleague Bruce Baxter is reading a story fo young readers at Swan Hill Primary School. Thus the project is assisting in a cultural renaissance which is the chief focus for Doug Nicholls in his work as Cultural Officer

for the Swan Hill and District Aboriginal Co-operative. Doug was instrumental in reviving the Tanderrum Ceremony, performed last year for the first time in at least a hundred years. No-one remembers it in their lifetime and to re-create its form, reference had to be made to documentary descriptions and the limited oral history available. Doug's aims were twofold; first, to recreate the ceremony and restore it as a regular phenomenon, and second, to use it as a means of restoring strong relationships between Aboriginal communities across Victoria. These relationships, some of which traditionally were rock solid while others were non-existent, have been dislocated by the legacy of dispossession and dispersal and there is a determined effort by some Aboriginal leaders to seek ways to cement ties, rather than to continue old feuds. The two cultural officers I work with, Alan Burns at the Goolum Goolum Co-operative at Horsham, and Doug Nicholls from Swan Hill are both dedicated towards building the links and using cultural revival as part of the strategy. At the re-created Tanderrum Ceremony last year, Doug formally presented a message stick back to the original community from whence it had come. Somehow it had arrived at Swan Hill and came into the possession of the local Co-op. Since the precedence for the return of skeletal material from European-run organisations like the University of Melbourne had been successfully managed so Doug believed that the return of material amongst Aboriginal communities should also occur.

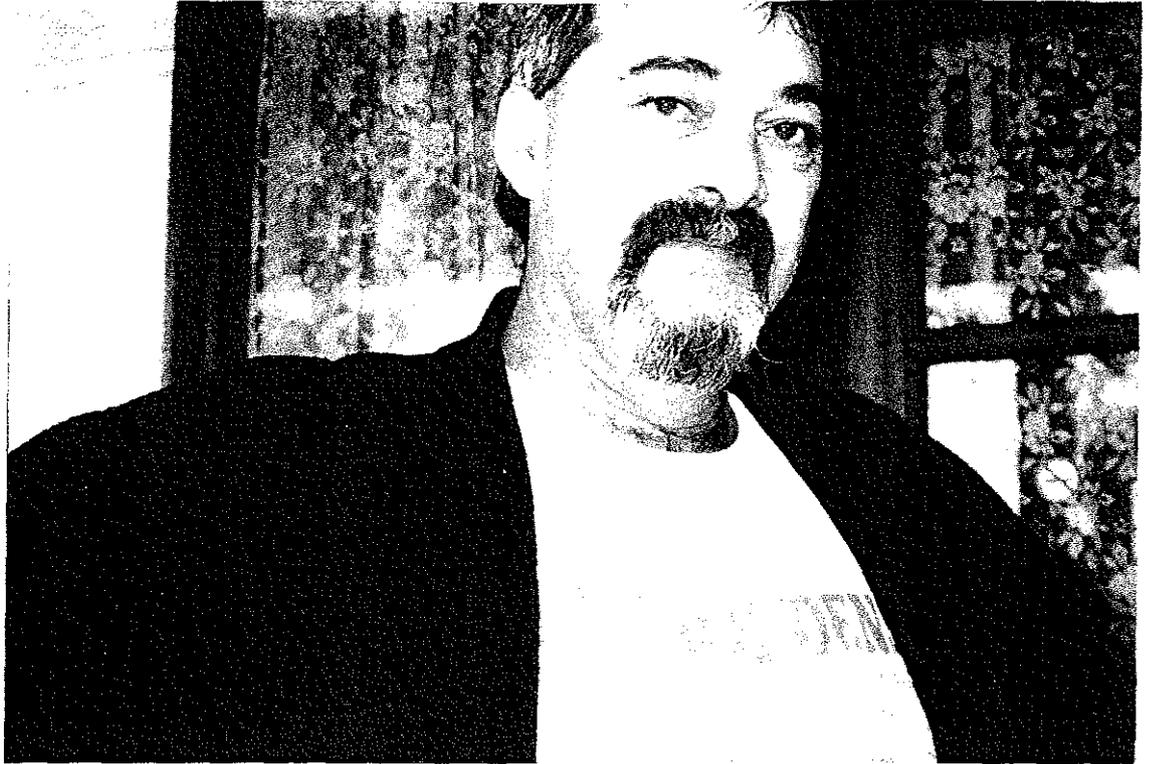
So in my case, in recognising the Aboriginal community as my first priority, I am acknowledging this principle. It happened last century that the Boorong imparted something of their sky knowledge to a squatter, one of the invaders who was enlightened or interested enough to record it and pass it on. Because his address was to a learned Society, it was printed and became part of the documentary record of the age. What I have done is to interpret what was written down, imagine what it represents, and put it down again in written and diagrammatic form. The Aboriginal community divulged the information in the first place. My role is to communicate it back to them. I don't believe that it has become the property of the dominant part of society, nor of the scientific community. Therefore, I write first for the Aboriginal community, secondly for the general community and my third priority is the scientific community.

Why might the general community be interested? One of my colleagues wants his children to learn indigenous stars and constellations. An amateur astronomer for some years, he has often thought about the lack of connectedness between the European-derived sky knowledge, and Australia's social and physical environment. I have sought his technical knowledge regularly, and he has responded most enthusiastically, because he sees the emergence of a culturally appropriate astronomy.

The comments I have had from elsewhere confirm this view. I believe that the kinds of items outlined above for the Aboriginal community will also have purpose in the wider community. There is a readership for a book of a general nature that describes all the Boorong phenomena and shows what they look like and how to find them. The director of the Planetarium at the Museum of Victoria, Zelko Karlovic, has asked for a script to be written about the Boorong night sky. The Museum shop wants a planisphere showing the Boorong night sky. A children's publisher wants a book for young readers, after the fashion of "The Lore of the Sky People". A curriculum developer from South Australia has requested data to include in a primary schools segment, for use in that state. I'm sure that if a star theatre with indigenous information was produced, that it would be as popular with mainstream families as it would be with Koori families.

I've also had some interest shown by people from the scientific community both here and abroad. There appears to be a good opportunity here to stimulate interest in Aboriginal intelligence, particularly that of Victorians. I believe there is a feeling in this state that remarkable Aboriginal contributions in art and other endeavours like an understanding of the environment, come from Aborigines in Northern Australia or in Central Australia, and that Victoria's Aboriginal population is regarded as a bunch of raggedy remnants who don't have such illustrious traditions. Therefore, awareness of material like the Boorong use of the night sky, might help to alter this perception.

It's probably less of a problem from an international perspective. There is a strong interest in archaeoastronomy and ethno astronomy in Europe and North America. There is potential to make a useful contribution from the Australian perspective and thus add to the knowledge base of the universalism of the adaptation of human kind.



Alan "Butch" Burns, cultural officer with the Goolum Goolum
Aboriginal Co-operative at Horsham.

Literature Review

To understand what Stanbridge was saying, I first had to learn which star was which, where they are located in the sky, at what time of the year they are to be seen and at what time of night they appear. I learned the difference between stars and constellations and also that the Aborigines used other celestial phenomena such as nebulae, dark space, meteor showers etc. as well as the stars and planets themselves.

Thus I sought out any and every astronomy text I could find, the simpler the better. Collins Guide to Stars and Planets became the most useful tool of all in providing an alphabetical guide to the constellations, with star map opposite the information page and appropriate information on each of the main features of the constellation. I had to learn some of the Greek alphabet to be able to follow the diagrams and gradually introduced myself to concepts of magnitude, size and distance. Then I became acquainted with double stars, clusters, nebulae and galaxies. I had to accept the confused history of the naming of the most prominent stars from Greek, Arabic, Babylonian sources and the alterations made to the constellations by Europeans in more recent times. I toiled with impossible technicalities like parallax, declination and right ascension but recognised that some terms like heliacal rising and precession might have important implications in my study.

The major problem with all of the standard literature is that it is written for the suburban industrial culture where people have access to mechanical viewing aids and where Measurement Rules. To view the stars as did the Aborigines I needed to use the naked eye and to see the stars in relation to our world unaided and untrammelled by the culture normal of western society. Thus Patrick Moore's Naked Eye Astronomy was a useful introduction in terms of developing methodical and effective viewing habits.

Another problem with standard texts is their superior attitude which stems from the science-first and foremost approach to knowledge. Any technique that is bigger and better or more recent or goes further into space or which reveals infinitesimally more information is assumed to be better than what has gone before. The greater the intellectual distance that modern astronomy can get from medieval astrology the better, it seems. The irony is that the modernists are trapped by the nomenclature of the past and persist with the mythic names and incomprehensible shapes.

The other key problem of the standard texts is that they take so much for granted. For instance, none of them have explanations as to why north is where it is and why east is where it is. There is no explanation as to why the moon reflects the sun's rays only partially, when both sun and moon are fully revealed in the day-time sky.

The ancients are given their due respect for their mathematical ability and their ability at making predictions as well as in measuring the size of the earth, distance from the sun and so on. It's interesting that it's these quantitative, measuring attributes that receive most current attention and that the concept of sky creatures and stories remain relatively uninvestigated.

E.C. Krupp has an intrinsic interest in the celestial pantheon but more because of the exotic tale to be told than the functional purpose of the original story. Krupp runs a monthly

segment in the U.S. journal Sky and Telescope called "Rambling through the Skies". Most of these contributions I find are written as interesting pieces of historical exotica rather than as analytical ethnoastronomical insight. They seem to provide some light mythic relief to the mainstream stories which are usually highly technical, full of measurement data and which seem to provide their own inherent satisfaction. None of the science appears to be applicable to daily life. Even the advent of a solar eclipse is relevant only in terms of potential danger to eyes.

However, since most of Krupp's stories relate to peoples and cultures who did not use the mechanical devices we use today, and because their story creation in the celestial sphere was often ecologically or seasonally related, many of them help to provide insights, albeit indirectly, into my investigation. Similarly Ruggles, Allen, Balfour, Wood, Michell and Krupp's two collected works are of value.

Patrick Moore's introductory texts are useful in comprehending what happens in our galaxy, David Malin's Colours of the Stars reflects his outstanding work as an expert in taking pictures of celestial phenomena, Bhatia and White have written a useful introduction to stars seen in the southern hemisphere and the contribution made by Australian astronomers. This country has great space to view the sky from, without the visual clutter of buildings and the interference of artificial light. It's only in recent years, it appears, that local publishing and an international reputation has led to star charts and diagrams being printed the right way up for the southern hemisphere observer. It took me a little while to realise that when using the Collins guide I had to reverse the page so that several of the constellations could be correctly seen.

As I worked out which constellation was which, I also had to imagine the creature within the grouping of stars. It was fortunate in a way that known constellations, for example, Lyra, looked nothing like a lyre, so all I had to do was imagine a mallee fowl. I didn't know what a mallee fowl looked like so I had to refer once again to appropriate books, articles and pictures. H.J. Frith's The Mallee Fowl was an excellent place to start. He writes about the annual cycle, the life cycle, the relationship between the male and female, and includes all the information I could possibly need to know about the mallee fowl. I was fortunate also that his prefatory photo of the mallee fowl is the image I saw first in the night sky, except in reverse. Thus with Frith in one hand and the Collins page open at Lyra, I began to see the series of coincidences which I explore in this thesis.

Thus began a voyage of exploration into a series of birds, animals and reptiles which were largely unknown to me. Strahan's, The Australian Museum Complete Book of Australian Fauna helped me to learn to distinguish a ring-tail possum from other varieties, and equipped with Simpson and Day's Field Guide to the Birds of Australia I started to make every trip to the Murray or to Hattah Lakes a learning exercise in recognition. This was complemented by the descriptive detail of the Reader's Digest Complete Book of Australian Birds.

I discovered that all birds have not had as much detailed study as the mallee fowl. Eastman's The Life of the Emu and the articles by Frapple and Hogan, and C. Lewis provide sufficient information on this bird but the brolga, curiously, given its romantic public persona, has scarcely been touched. McIntyre's article is the only one known to the Department of Conservation and Natural Resources. It seems that all their twenty-five years of work has gone into breeding in captivity rather than studying them in their natural habitat.

Sometimes I've had to go interstate. The tigercat species *Dasyurus geoffioii* is now extinct in the eastern states. In Western Australia it's called the chuditch, consequently material from the Western Australian Department of Conservation and Land Management (Serena, Soderquist and Harris) augments the WWF's Maxwell Chuditch newsletter. Fortunately, observers of nature like G. Krefft also had a learned society to hear their paper read and to publish it for posterity at the same period as when Stanbridge had his address published. Thus some documentary data on the native cat in North-West Victoria at the time of the Boorong still exists.

I've also intruded into unexpected territory like Bodenheimer's Insects as Human Food. I find there are a number of specialists in this area to complement the ethnographic detail on insects revealed in Morgan's life of William Buckley. Cogger and Worrell helped me learn about the long-necked tortoise and the jacky lizard, and two authoritative texts on Australian freshwater fish; McDowall, and Cadwallader and Back, provided sufficient information to identify the great fish in the sky as the Murray cod.

Photos, especially in colour, have been especially important in this research. Several times I've noted a coincidence in the colour of a star and a colour associated with a bird. Sometimes the attitude struck in the photo mimics the way the stars are perceived in the sky, which aids identification. If therefore my literature search had concentrated only on scientific journals, *sans couleur* and with minimal pictures, my research would have been less than complete.

The key to understanding which creatures are in the sky is revealed by a study of the language spoken by the Boorong people. Luise Hercus' work on languages in north-west Victoria provided sufficient clues for me to recognise that the Djadjala dialect of the Wergaia language is the one where nearly every term can be traced to. This is reinforced by the word lists provided in Mathews Beveridge and Stone and by smatterings of language included in Brough Smyth.

Some of the human relationships expressed in the sky find echoes in Mathews as do some place names or names of localities. Confirmation is found in Les Blake's Place Names of Victoria, the volume published by the Place Names Committee and the VicRoads Country Directory. However, Massola's book was less than useful because he does not name his sources.

A problem attached to reading early ethnographers is the inherent bias many of them have in relation to Aboriginal people. Peter Beveridge often demonstrates an antagonistic or contemptuous view and the reader never knows precisely which parts of his description are tainted and which are not. Mathews is very straightforward and very detailed in his anthropological accounts and seems to have taken a pride in getting to understand the culture on several levels. Curr is dismissive at times, Brough Smyth even more so but A.C. Stone seems quite sympathetic. Stanbridge plays it straight but very brief, Dawson is very sensitive and detailed but more fragmented.

In the matter of how traditional lore is learnt, the works of David Mowaljarlai, Ted Strehlow and Stephen Harris are outstanding and complement the anthropological work of the Berndts. Since no-one recorded the day to day life of the Boorong people, let alone their

kinship system and their ceremonial life, it has to be reconstructed or conceptualised as best it can be. Something can be gained from the archaeological work of Coutts, Henderson, May and Fullager and from the historical constructions of Allen and Massola. Very little local Aboriginal oral history is available, the last of it being passed on the Luise Hercus who recorded the vocabulary and some stories in her volume on language.

There is, however, plenty of material on the use of the sky and information relating to the stars. Jennifer Isaacs covers a range of groups across Australia in her chapter six *The Sun, Moon and Stars* in Australian Dreaming. Bill Neidjie, Nonie Sharp and David Mowarljarlai refer to current usage, but all of it in northern Australia. Mountford's work is a more symbolic appreciation, while Philip Clarke effectively recreates the connections between the sky and geographic localities in the Adelaide region. McPherson depends on Stanbridge for his basic data before going off on a linguistic tangent to nowhere whilst Maegraith provides useful star information to complement Strehlow's anthropology of Central Australia. The Patston contribution is next to useless because he has relied on anecdotal second-hand information rather than going to the original source. It's the work of Love and Haynes however that has the most direct bearing on this thesis. Love seeks specific sky-ground connections through ceremony while Haynes provides an enlightened functional analysis of why the sky is so important and how it acts as a gigantic *aide memoire* or textbook of knowledge.

It is these kinds of connections that I seek to establish in this work. I want to answer the question as to why such a culture as the Boorong could flourish and maintain itself so effectively through the thousands of years as an oral culture. The sky as metaphor provides the partial answer.

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APPENDIX

The celestial bodies named by the Boorong people and recorded by Stanbridge are arranged in alphabetical order for easier reference. Description and detail are standardised for each one to facilitate cross-referencing.

Each of the diagrams has been constructed from my field work note book in such a way as to represent the night sky, that is, white on black. The second diagram is my imagined representation of the creature concerned. Details as to where and when the sightings occurred are included in the first diagram.

BERM-BERM-GLE

Stanbridge reference

"Berm-berm-gle (two large stars in the fore-legs of Centaurus). Two brothers who were noted for their courage and destructiveness, and who spear and kill Tchingal. The eastern stars of Crux are the points of the spears that have passed through him, the one at the foot through his neck, and that in the arm through his rump." (Stanbridge, 1857:139).

Linguistic reference

"Berm-berm" is the red-kneed dotterel or sandpiper, *Erythrogonus cinctus*, in Djadjala Wergaia. (Hercus, 1969:199,254). The "gle" suffix possibly indicates the locative case e.g. "up there in sky just to the left of Crux." Hercus notes that the "al" suffix which was an alternative way of forming the locative had been forgotten by her informants. (ibid: 85). Berm-berm is another way of rendering Bram Bram, the brothers Bram who are the ancestor heroes recorded by Mathews. (Mathews, 1904: 364-376). He says they are sometimes called Barm-barm-bult, in which case, the suffix "bult" is an abbreviation of "bulaty" meaning two Brams, that is, the two brothers. (ibid: 365). Hercus refers to the two brothers Bram as "Brambimbul" and "Brambambull". (Hercus, 1969: 200, 99, 100; 97,99).

Astronomical reference

The two large stars in the forelegs of Centaurus are better known today as the Pointers, the two bright stars which indicate the position of the Southern Cross (Crux). The one further from the cross is Alpha Centauri, of magnitude -0.27 which is the third brightest star in the sky. A small telescope reveals that it consists of two individual yellow stars of magnitudes 0 and 1.4. (Ridpath and Tirion, 1988: 104). Also associated with Alpha Centauri is an eleventh magnitude red dwarf called Proxima Centauri lying two degrees away. Its a flare star, suddenly increasing its brightness by as much as one magnitude for several minutes. (ibid: 106). The pointers mid-evening are at their lowest point in the sky from October to December.

Visual reference

A simple human figure in the act of throwing a spear can be imagined with Alpha Centauri being the head of that figure. The spear is aimed at the Coal Sack to the bottom left of the cross. This dark patch is visible on nights when the sky is clear and the moon is not too bright. Its easy to imagine this humped black shape as a fallen emu, transfixed by the spears of the brothers Bram. On a clear but moonless night, the emu assumes its full ancestral form as Tchingal or the Ngindyal when the ancient giant creature stretches from the Coal Sack, now the creature's head, through the Milky Way to Scorpius. (See Tchingal).

Ecological reference

The red-kneed dotterel lives on the edges of swamps and is also known as the red-kneed plover. It is brown above, white below with a dark hood, nape and breast band. Its flanks are chestnut, its bill is pink and it has red knees. They are

extremely active birds and are "keenly alert to predators and intruders." (Frith, 1982: 173). They run with quick strides and frequently jab their bills into the soft mud at the edge of swamps. (ibid.) It breeds September to December.

Cultural reference

While the story of the Brambrambult brothers and the Ngindyal is a lesson in how to successfully hunt and kill the emu, it also serves as the origin of gender differences and egg-laying behaviour of the emu. Supplementary lessons in helping the weak and ignoring opportunistic behaviour can also be derived from the story, despite it being abridged and portions of the story being omitted. (Mathews, 1904: 364-7).

Another story recited by Mathews about the Brambrambult brothers concerns the Ngaut-ngaut who used to kill people and suck their blood. He had only one vulnerable spot, his tongue. The Brambrambult brothers devised a plan to kill him when he came to drink at the waterhole, by fashioning a sharp keen point and placing it point upward under the water and close to the bank. It's a story which teaches the precautions to take when drinking, it has ecological information about dead trees and preparing bone points and it is a triumph of right over wrong; the heroes win. (ibid: 367-8).

A third story, "Wirnbullain", is to do with family loyalties and how the Brambrambult brothers avenge the death of their mother's brother, a special kin relationship in most Aboriginal societies. They find that their seized wives wilfully spoil their hunting so are disposed of. (This may lay the foundation for preference for proper, arranged marriages.) There's ecological information about the flying squirrel, the tarantula, the meat ant and the frog. The other element is the Creation element and the story tells about the fashioning of the Wimmera River, Lake Hindmarsh, Lake Albacutya, Lake Wonga and Pine Plain.

A fourth story, Dyuni-dyunity appears to be another story about family loyalties. The evil ones who are the eaters of human flesh are ultimately destroyed. The Brambrambult brothers pointedly refuse the offer of this form of meat, they destroy the main perpetrator and spare his children who are their nephews (the children of their sister) but when the children exhibit the same traits, they also are killed. Again there is a locality reference "a day's journey north of Cow Plain" where the event is said to have taken place. (ibid: 370-373).

The final story quoted by Mathews relates firstly to interpersonal behaviour through membership of moieties, recognition of food restraints and penalties for rude behaviour; secondly to correct responses to the weather including hurricanes and wind directions, thirdly to ecological factors including species of birds and kinds of trees; all of which are placed within specific locations of Djadjala country. (ibid: 373-5).

Its interesting to note the characteristics of the red-kneed dotterel, mentioned above, especially as being extremely active and alert. Its flashing red knees are like the flash of red in the tail of the black cockatoo, totemic representative of the Gamaty moiety, one of whose members is Brambambullak (ibid: 289). Perhaps these qualities are shared by the Brambrambult brothers who as warriors were protectors of the weak (the crow),

successful hunters (sending spears alternately at Ngindyal), and covering a good deal of territory (from Jeparit south to Horsham, then north to Hopetoun).

Stanbridge notes that "a skilful spearman will strike his object with tolerable force and accuracy at a distance of fifty or eighty yards. (Stanbridge, 1861: 292).

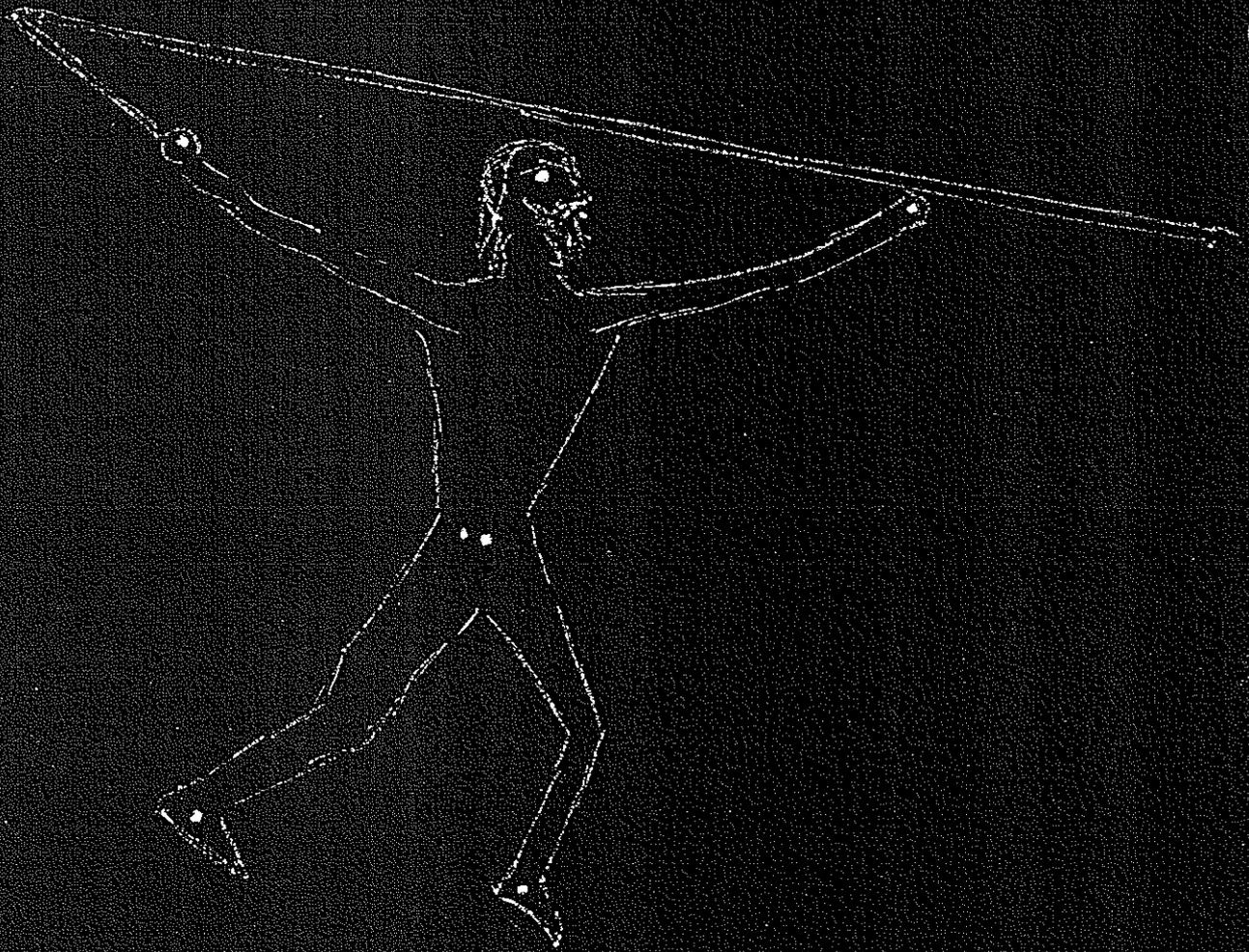
Geographic reference

Nil. The nearest sounding name is the township of Brim, north of Warracknabeal. Blake says Brim is derived from the Aboriginal word for spring or well. (Blake, 1977: 47).

Berm-berm-gle

Observed at Leon Mow Dark Site,
Heathcote, 10 P.M. 15 June, 1996.
Outermost pointer, α Centauri, due South.

Berm-berm-gle



BOOROUNG

Stanbridge reference

"It is the language of, and has been gleaned from, the Booroung Tribe, who claim and inhabit the Mallee country in the neighbourhood of Lake Tyrill, and who pride themselves upon knowing more of Astronomy than any other tribe." (Stanbridge, 1857: 137).

Linguistic reference

Hercus gives two meanings for "burunj", darkness or night, and green ant. (Hercus, 1969: 201,249,274). Mathews has "burun" for darkness or night and borun for green-headed ant. (Mathews 190 : 99,102). Stone quotes "boorung" as night and "borrung" as stinging ant and the small mallee (tree). (Stone, 1911: 451, 445, 444).

Astronomical reference

Nil.

Visual reference

Nil.

Ecological reference

To the naturalist Graham Pizzey, the Mallee is a country of immense charm and highly distinctive fauna. (Pizzey, 1966: 53). He remarks that the "several dozen stunted, rather untidily picturesque gums we now group together as mallees" are highly adapted to the desert country in north-west Victoria. (ibid). "To plumb the moisture from rains which fall sporadically and were accumulated deep in the sands, they developed long tap roots." He notes that the Aborigines knew these roots and "could often extract a long cool drink from them in apparently waterless country." Pizzey's special favourite is the mallee fowl whose performance in mound-manoeuvres and egg-laying capacity at the height of summer "approaches the realm of fantasy". (ibid). "From its vast bush," says Pizzey, "in which the very notes of the birds seem struck in a minor key, to the subtle color of it, when every tree seems tipped scarlet with new leaves, or top-heavy with creamy blossom and honeyeaters and parrots flash through the intense blue of the sky, it is all fascination." (ibid).

The other possible meaning of Booroung relates to the green ant or stinging ants. Bodenheimer quotes several examples of ant larvae and ants themselves being used as food. He also reports that the green tree-ant is crushed and mixed with water to form a pleasant acid drink. This drink was also used as a remedy for many ills such as stomach troubles, headaches, coughs and colds. (Bodenheimer, 1951: 114).

Cultural reference

The "Boorong" are one of twenty clans of the Wergaia identified by Clark (Clark, 1990: 353). Their moiety is possibly Gamaty, the red-tailed black cockatoo (Mathews, 1904:289). Nothing else is known except what is revealed in this thesis.

Geographic reference

The parish of Boorong is in the county of Karkarok and derives from the Aboriginal word for starry night sky. (Blake, 1997: 44). Boorongie, in the same region, is a rural locality eleven kilometres east of Ouyen and thirty kilometres north-west of Lake Tyrell. (VicRoads 1992: maps 11,12).

The most recent carbon date in the locality, associated with chert artefacts, emu eggshell and burnt clay is twenty-three thousand years. (Box Gully charcoal sample from Phillip G. Macumber, listed in Godfrey M. 1996: 34).

BUNYA

Stanbridge reference

"Bunya (opossum), (star in the head of Crux), who is pursued by Tchingal, and who, in his fright lays his spears at the foot of a tree and runs up it for safety. For such cowardice he became an opossum." (Stanbridge, 1857: 139).

Linguistic reference

Recorded as "bunya" by Mathews meaning "ringtail opossum" in Tyattyalla language, the Djadjala dialect of Wergaia also collected by Hercus. (Mathews, 1902: 100). Hercus does not list the ringtail possum in Djadjala but records it as "bana" for Wemba Wemba language. (Hercus, 1969: 276). The Wergaia language, of which Djadjala is one form, and Wemba Wemba are two of the East Kulin group of languages. (ibid: viii). The ringtail appears in Stone's list as "bunnah". (Stone 1911: 449).

Astronomical reference

The Southern Cross is the tree. Crux is the smallest constellation in the sky but one of the most celebrated and distinctive. It lies in a dense and brilliant part of the Milky Way which makes the dark nebula, the Coal Sack, even more striking against the starlit background. (Ridpath and Tirion, 1988: 128).

Visual reference

A possum-like figure can be seen at the top of the southern cross. The two eyes or ears stand out as a pair of individual stars just above Gamma Cru which is the nose, the body is a curve of stars to the right and down a bit, and the tail sweeps down beneath the body. Its the same picture observed from time to time in suburbs of Melbourne when the ringtail poised halfway along the powerline pauses a moment to look down at homo sapiens suburbiensis. Sometimes the tail hangs down directly below Gamma Cru. At other times it swings away to the left and incorporates Beta Cru in a much larger curve of the tail. Also see diagram.

Ecological reference

This possum is sometimes seen sitting with its tail coiled up, hence the name "ring-tail", but usually the tail hangs straight down when the possum is sitting and held out, slightly arched, when it is on the move. When hanging by the tail alone they can regain a foothold on the supporting branch by climbing their own tail. They are very sociable, often camping together in nests and family groups and travelling and feeding in company (Russell, 1980:46-7). The ringtail breeds from April to November, eats leaves and flowers, particularly those of the eucalyptus (Strahan, 1983: 127).

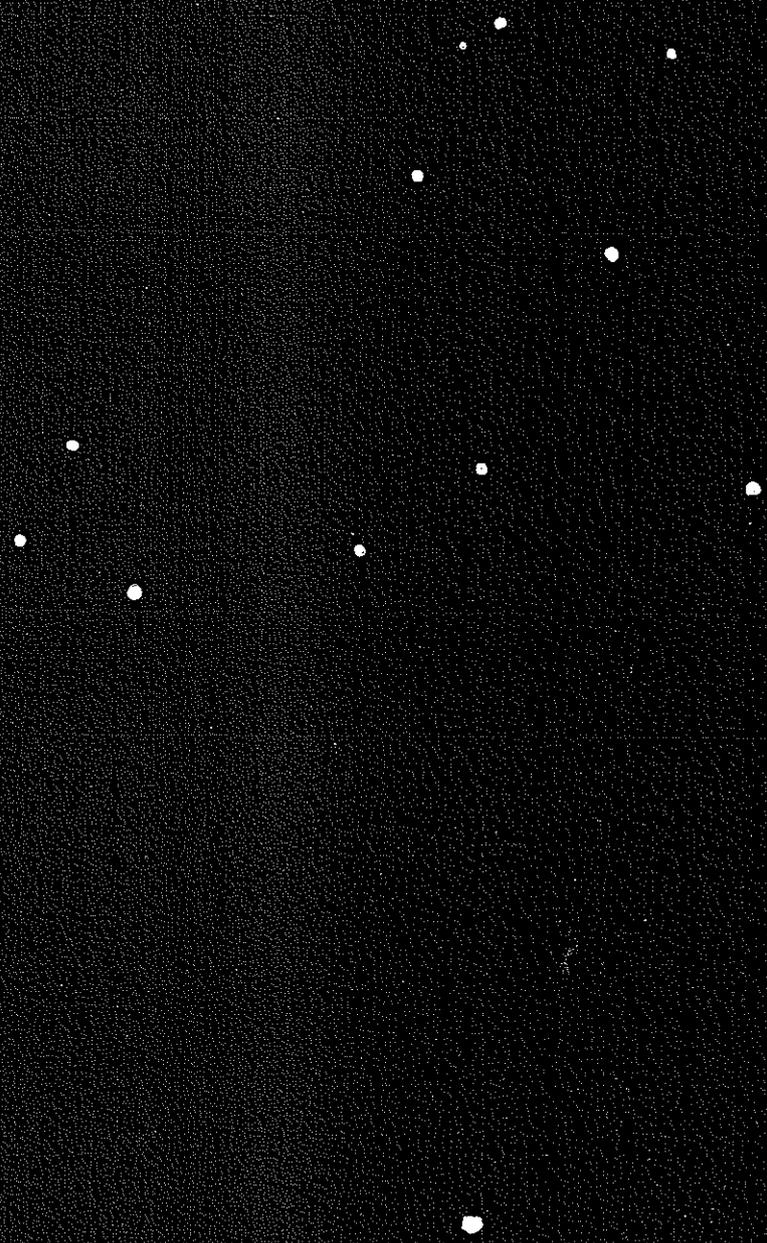
Cultural reference

Two special uses, food and warmth, are indicated throughout Victoria. Forty square cut skins, sewn together, provided a warm cloak for an adult and worn inside out as protection from rain. Whilst there is no special reference to Bunya in the stories recorded by Mathews, it appears there must have been, given the Stanbridge reference to cowardice. The ringtail possum belongs to the Dyalup clan of the Gurogity moiety, the same as for the grey emu. "Alpha Crucis" is of the Gamaty moiety. (Mathews, 1904:287, 289).

Geographic reference

Nothing is known.

Bunya



Observed at Kooyoora State Park
on 12 February, 1995 at
11:30 P.M. Looking South.

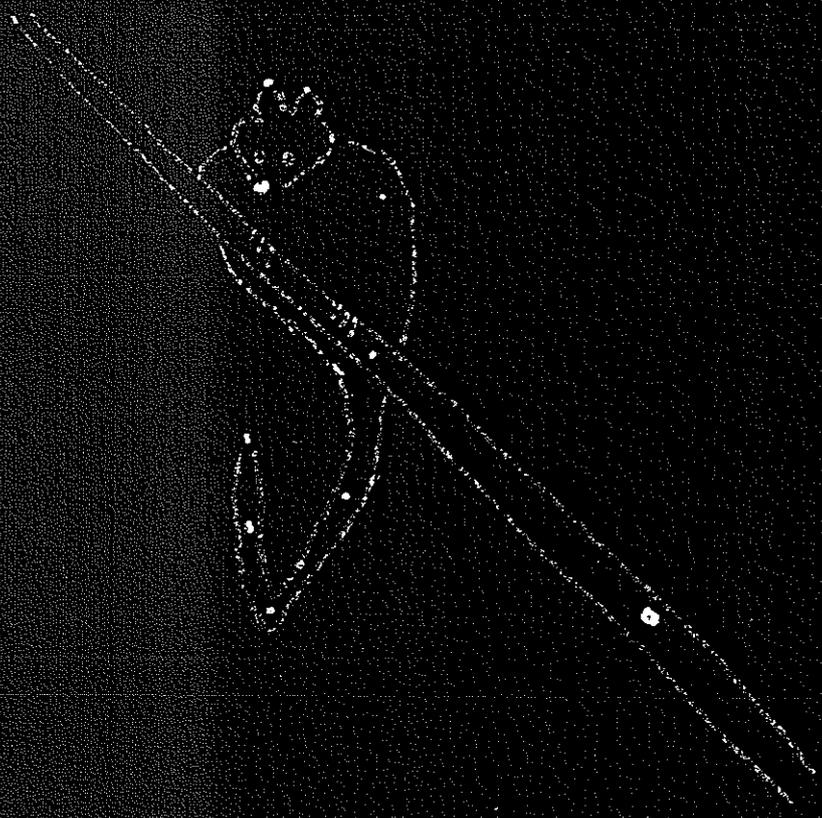
Bunya

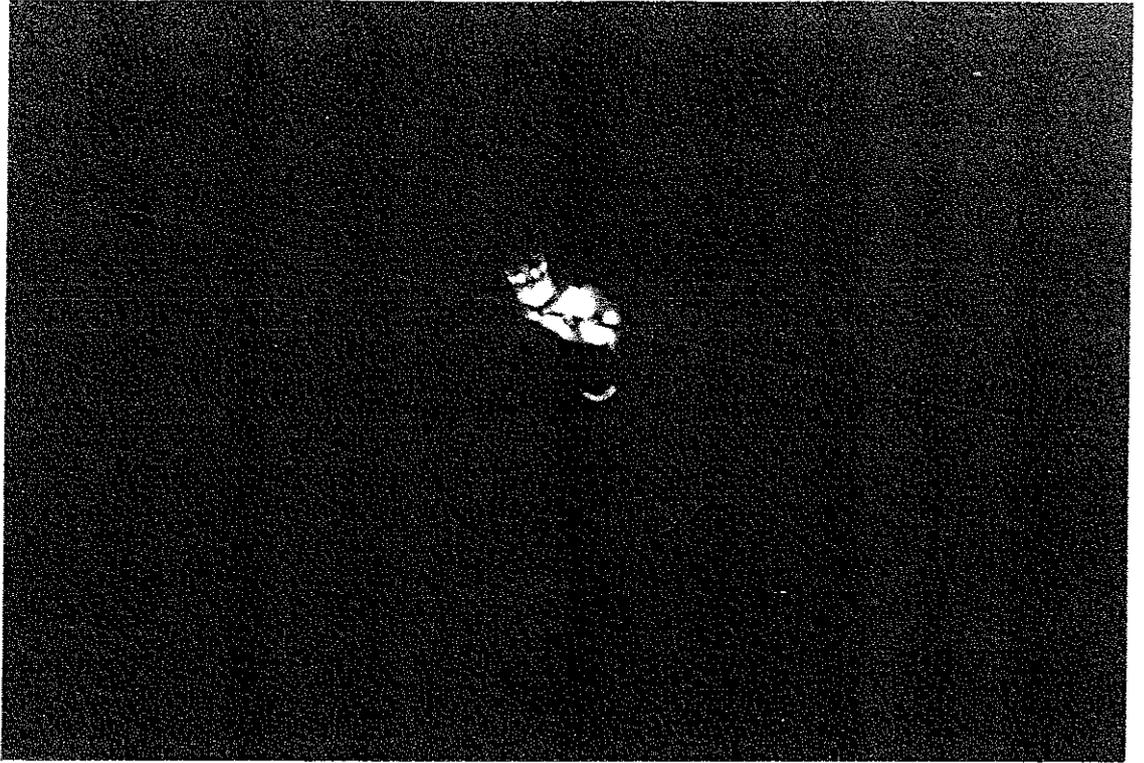


Bunya

Observed at Kooyoorra State Park
on 12 February, 1995 at
9:30 P.M. Looking South of
South-east.

Bunya





Ring-tail possum crossing the road via the overhead power line.



Ring-tail foraging in the front garden at 26 Chrystobel Crescent.

CHARGEЕ GNOWEE

Stanbridge reference

"Chargee Gnowee (Venus), sister of the sun and wife of Ginabongbearp" (Stanbridge, 1857: 138).

Linguistic reference

Hercus lists the similar sounding "djadjin", (your) elder sister and Stone reports "tchagee" as (older) sister. (Hercus 1969: 202, 280) (Stone 1911: 428). "Tyatyin" is the same word in Wemba Wemba. (Hercus 1992:58). "Gnowee" (the sun) is dealt with under that heading.

Astronomical reference

Venus appears as the brilliant evening or morning "star", the most prominent object in the twilight. This planet orbits the sun every 225 days which accounts for its irregular rotation as seen from Earth. (Ridpath and Tirion 1988: 336). It reaches a maximum magnitude of -4.4 nearly seven times brighter than the next most prominent planet, Jupiter (ibid, 337).

Visual reference

There is no particular constellation or image to report on. No diagram.

Ecological reference

No connections have been ascertained.

Cultural reference

Stone's account of "The Lake Boga Aboriginal Legend to Account for the Redcap Robin's Redbreast and the Mountains of the Moon" centres on the relationship between sister and younger brother. Her husband is greedy and selfish and resents any food being given to her brother who lives with them. One day he came back to camp to find the boy eating so he grabbed the boy by the legs and swung him around until he became sick, then "cruelly threw a lot of burning coals on his breast, upon which the boy turned into a 'Jallegourk gourek', or Red-capped Robin, with a beautiful red breast." (Stone 1911: 463). This behaviour outraged the sister so much she threw the coals in the face of her husband and told him to go up into the skies. He became the Moon, the mountains of which are the dark smudge left by the hot ashes. (ibid).

This story teaches us the obligation of family loyalty, specifically sibling loyalty, where the young victim is supported by his elder sister, his Chargee Gnowee. It may be assumed that a woman is absorbed by the clan into which she marries but in Western Victoria, according to Mathews, the totems are perpetuated through the women and thus the children "take their phratry, totem and other designations from their female parent." (Mathews 1904: 304) This means that a woman's brothers will always know where she is and will not forget the totemic claims. (ibid). Sibling loyalty is thus reinforced, or required, by custom.

The story of Dyuni-dyunity is the one where the Brambrambult brothers avenge their sister's death. Her husband is Dyuni-dyunity, the night owl (djine-djinedj, tawny frogmouth, Hercus 1969: 253) and on a visit the Brambrambult brothers find out their sister has been killed and eaten. They kill the husband but are careful to spare her two sons who are of their own totem. But when they discover the boys have the same murderous intentions as their father they kill them too. (Mathews 1904: 370-372). Mathews does not say why the boys were not killed along with their father. I assume it is because of the totemic significance maintained above and that is why they were carefully removed from the scene before vengeance was wrought. However, if they were continuing to be the eaters of human flesh, then they had to die, whatever their totem.

Whilst it is clear from Stone's story that the sister concerned was an older sister, it is not apparent in the Mathew's account. Nonetheless, I think the point has been established that a special relationship does exist, and that this accounts for the distinguishing "older" element in the definition of "Chargee."

Geographic reference

As for "Gnowee".

COLLENBITCHICK

Stanbridge reference

"Collenbitchick (a species of Ant) (Double Star in the head of Capricornus), uncle to Totyarguil, and the rescuer of his remains from the Bunyips. The double star is his fingers feeling for the bank of the river." (Stanbridge, 1857: 140).

Linguistic reference

The second part of this compound seems to be the word "bidjig" meaning maggot (Hercus, 1969: 199,272) or worm or grub while bab-bidjig is the mother of the maggot, that is fly (or blowfly). (ibid. 263,198). There is no word recorded by Hercus or Mathews from Wergaia sources that resembles "collen". The closest is "guli" meaning a mob or crowd of people. (ibid. 206). "Galina" meaning to love someone is a Wemba Wemba word recorded by Hercus which may fit. (ibid. 206). Mathews records "pidyik" for maggot (Mathews, 1902: 102) while Stone has "beethick" for small flies and "bar beethick" for large flies. (Stone, 1911: 445).

Astronomical reference

The double star in the head of Capricornus is probably Alpha Capricorni, the same multiple star referred to by Mathews when he writes that Thattyukul's uncle, Kulnapityk "was apotheosised as α Capricorni." (Mathews, 1904:286). This one is a multiple star composed of two unrelated yellow and orange stars of magnitude 4.2 and 3.6 respectively. (Ridpath and Tirion, 1988: 98). Further examination reveals that each of these stars is itself a double, that A¹ has a ninth magnitude companion visible in small telescopes and A² has an eleventh magnitude companion. This companion is itself composed of two close eleventh magnitude stars. (ibid).

Visual reference

Whilst the first double is visible to the naked eye and thereby represents two fingers, it is not known whether all five stars and thus five fingers were visible to the Boorong.

Ecological reference

At present the ant species is unknown.

Cultural reference

Collenbitchick is the one who rescues Totyarguil from his serious plight after the altercation with Yerredetkurrk (Mathews, 1904: 286). Collenbitchick retrieved Totyarguil's remains after the bunyip monster had ripped him apart. The story does not relate how but its likely as an ant he could use his pincers to stitch Totyarguil back together again. It is said the from time to time Aboriginal people in northern Australia use this technique to mend cuts. The two sides of the wound are held together and an ant is encouraged to bite. At the instant the pincers are embedded either side of the wound the body is snapped off and the wound remains closed up.

Elkin refers to a north-western Victorian association between a medicine-man's surgical act of cutting open then closing a wound without leaving a scar and the person rising up at the same time as a star falls from the sky with the man's heart. This person is henceforth connected with the sky world. (Elkin, 1977:75-6).

Collenbitchick is uncle to Totyarguil and therefore stands in a special protective relationship to him.

Geographical reference

Pigick is the name of a parish in the county of Weeah and also the name of a rural locality near Rainbow. Its derived from an Aboriginal word for fly. (Blake, 1977: 215).

Collenbitchick



Observed from Port Douglas beach at 10 p.m. on 15 July 1996 looking east.

CULLOWGULLOURIC WAR

Stanbridge reference

"Collowgullouric War (large red star in Rober Carol, marked 966) (Female Crow), wife of War. All the small stars around her are her children." (Stanbridge, 1857: 140).

Linguistic reference

"War", pronounced "wah", is the word for crow in Djadjala Wergaia. (Hercus, 1969:252; Mathews, 1902:100; 1904:289). "Collowgulloric" could be formed from words meaning "to go with" and "woman". The suffix "-louric" seems to be a version of "laiurg" or woman (Hercus, 1969: 207). Stone quotes a phrase "mayu yarnuk goolekai" meaning "go with them" of which "goolekai" may be a version of "collowgu".

Astronomical reference

Rober Carol is an abbreviation of Robur Carolinum or Charles' Oak, a constellation of stars named by Halley in 1679 in commemoration of his patron King Charles II. After his defeat by Cromwell in the Battle of Worcester in 1651, Charles hid in an oak tree for twenty-four hours to escape detection. Halley appropriated some of the stars from the constellation of the ship Argo to construct his oak, much to the consternation of other astronomers. It paid off for Halley for he secured his master's degree from Oxford in 1678 by the King's express command. The good ship Argo eventually was restored only to be reduced again in 1930 to the ships parts; sails (Vela), keel (Carina) and stern (Puppis). (Allen, 1963: 349).

The large red star marked 966 was Alpha Roberas, later restored to Beta Argus and which today is known as Eta Carinae. In the past this star has fluctuated erratically in brightness and in 1843 reached a magnitude of -1, as bright to brighter than Canopus 0.72, the husband of Collowgulleric War, who shares the same constellation as Alpha Carinae. (Ridpath & Tirion, 1988: 100). Described as a brilliant patch in the Milky Way, the nebula surrounding Eta Carinae may be the small stars around Collowgulloric War mentioned in the Stanbridge description. However, there are three red giants nearby, R. Carinae, S. Carinae and a fifth magnitude red giant within the nebula NGC 2516 which covers one degree of sky, contains a bright cluster of a hundred stars and is visible to the naked eye. (ibid: 100). Its not known precisely which of these red stars was the one pointed out to Stanbridge.

Visual reference

Given the dilemma of which red star is the focus, there is no doubt about the possible visual representation of the crow in flight. See diagram.

Ecological reference

War is probably the larger crow *Corvus coronoides*, known in the bird books as the Australian raven. (Frith, 1982: 578). These birds do not breed until they are three years or older and until then they forage from place to place in flocks of thirty or more. They prefer open spaces where specific territories are jealously guarded all the year round by each breeding pair. Only when a space becomes vacant is there an opportunity for a younger pair to mate and take over the territory. Egg laying is from July to September. They pair off for life and rear their children until they are old enough to join the flock. (ibid).

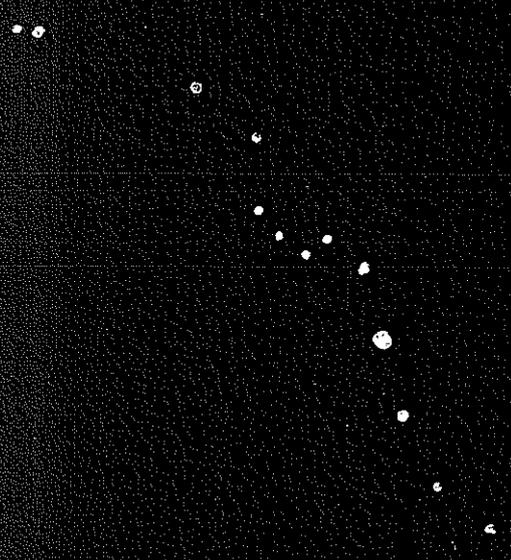
Cultural reference

In Wergaia country, the children of both sexes take the moiety name of their mother as well as clan membership, totem and myur, or what amounts to the same thing, from their mother's brother. Every individual in the community claims some animal, plant or inanimate object as their own special totem which is inherited from the mother. (Mathews, 1904: 291). The "myur" is the spirit land of the clan and each has its own fabled watering place. Wanguguliak, clan of the crow totem, "quench their thirst at Dyurnera". (ibid, 293).

Geographic reference

As for War.

Cullowgullouric War



Observed at Hattah-Kulkyne National Park on 7 April, 1996 at 8:30 P.M. In SSE above and to the right of Crux.

Cullowgullouric War



COLLOWGULLOURIC WAREPIL

Stanbridge reference

"Collowgullouric Warepil (Female Eagle) (Rigel), wife of Warepil." (Stanbridge, 1857: 139)

Linguistic reference

Hercus lists "werbil" for eaglehawk and Mathews spells it "wreppal". (Hercus, 19769: 212, 252; Mathews, 1902: 101). An explanation for "Cullowgullouric" is given under Cullowgullouric War, the female crow.

Astronomical reference

Rigel, Beta Ori, at magnitude 0.1 and a blue white, supergiant, is the brightest star in Orion. It has a seventh magnitude companion which is difficult to see because of the glare from the primary star. Orion and Canis Major (Sirius) are near neighbours in the celestial sphere. (Ridpath and Tirion, 1988: 190).

Visual reference

See diagram.

Ecological reference

Similar in size and plumage to the male, the female wedgetailed eagle shares the territorial exploration of their habitat at the hours of sunrise and sunset. For the rest of the day she may be seen soaring high above not too far from her partner, or at rest near the nest. (Frith, 1982: 129).

Cultural reference

For proper marriage Collowgullouric Warepil has to come from the opposite moiety to Warepil. Since her husband is of the Gamaty moiety she must therefore be Gurogity. Mathews includes the grey-headed eaglehawk in his Wurtwurt sub-group listing under the Gurogity category, and this one presumably is the female wedgetailed eagle. (Mathews, 1904: 288). The children of this union will be Gurogity because whether male or female, they "take the phratry name of their mother". (ibid: 291).

Geographic reference

The "myur" of the female eagle is Wartwurt and its direction is N 25° W but Mathews does not say where he is taking his bearings from. (Mathews, 1904: 287). A locality of similar sounding name is Wood Wood, nine miles north of Nyah, on the Murray River in Wadi Wadi country. Its about seventy kilometres east of the northern tip of Lake Tyrell. (VicRoads, 1992: map 13).

Cullowgullouric Warepil

Observed at Gunbower State Forest
on 10 March, 1996 at 9:00 P.M.
E.S.T. Looking North-west.

Cullowgullouric Warepil



DJUIT

Stanbridge reference

"Djuít (Antares), son of Marpeankurk. The stars on either side are his two wives." (Stanbridge, 1857: 138).

Linguistic reference

The "djidjed" named by Hercus as the grass parrot, *Psephotus haematonotus*, in the Djadjala dialect of the Wergaia. (Hercus, 1969: 203,253). However *Psephotus haematonotus* is the species name for the red-rumped parrot which is more in keeping with the colors associated with Antares.

Astronomical reference

Antares is Alpha Scorpi, a red supergiant which fluctuates between 0.9 and 1.1 magnitudes. It also has a sixth magnitude blue companion. (Ridpath & Tirion, 1988: 220). The red-rumped parrot has blue flight feathers which are very obvious when on the wing. (Frith, 1982: 283). Antares is virtually overhead in the August evening and disappears into the western sky by early December. The breeding seasons for the red-rumped parrot is from August to December. (ibid).

Visual reference

Antares is the chest of the parrot flying overhead. See diagram.

Ecological reference

Although red-rumped parrots form flocks, they stay in pairs within them, the males feeding the females as they incubate the eggs. The female sits on them so firmly, regardless of danger, that she can sometimes be lifted from her nest in the hollow. At non-breeding times when the birds roost in the trees during the heat of the day, the males may be seen moving up on their mates to start mutual preening. (ibid.)

Cultural reference

Nothing is known so far. The grass parrot is listed as being of the Dyallan or brown snake totem of the Gamaty moiety but other parrots; rosella, regent and shell (budgerigar) parrots belong to the Gurogity moiety. The red-rumped parrot is not listed. (Mathews, 1904:287-8).

Geographic reference

There is a parish named Joop in the county of Borung east of Lake Hindmarsh, south-east of Lake Tyrell, but Blake says the name is derived from the Aboriginal word "jarp" for mouth. (Blake, 1977: 134).

108a

Djuit

Observed at Leon Mow Dark Site,
Heathcote, on 15 June, 1996.
In the East.

Djuít



GELLARLEC

Stanbridge reference

"Gellarlec (Rose or Eos Cockatoo (Aldebaran), an old man chanting, and beating time to Kulkunbulla and Larnankurrk." (Stanbridge, 1857: 139).

Linguistic reference

Hercus gives "galalag" as the Major Mitchell cockatoo, also known as the pink cockatoo, *Cacatua leadbeateri*. (Hercus, 1969: 205,252).

Astronomical reference

Aldebaran or Alpha Tauri is a red giant of magnitude 0.9 (Ridpath & Tirion, 1988: 232). The color is consistent with the figure represented.

Visual reference

It took a long time to find Gellarlec. With other figures, the star named by Stanbridge is a central element in the symmetry of the outline, e.g. Berm berm gle, Djuit, Marpeankurrk, Totyarguil, Wanjel, War, Warepil, Yerredetkurrk, Yurree. But this is not the case with Gellarlec. It wasn't until I allowed Aldebaran to be Gellarlec's left elbow that I could satisfactorily create an image of a man using boomerangs as clap sticks. See diagram.

Ecological reference

The pink cockatoo has a distinctive voice, a "quavering, falsetto, two-note cry". Its face, neck and under pants are pink. Its habitat includes North-West Victoria. (Simpson and Day, 1933: 134).

Cultural reference

When writing about the meeting of clans for ceremonial purposes Stanbridge writes;

"On the first night strangers are invited to witness a display of skill in dancing by the tribes of the neighbourhood. A large fire being made, the spectators are arranged on one side of it, and on their left a group of females is seated to sing and drum upon opossum rugs to the time of the conductor, an old man, who chants and beats time with two hard pieces of wood ...; he walks to and fro between the drummers and dancers, at first doing so very slowly, but gradually increasing in speed until he attains the utmost quickness".

(Stanbridge, 1861: 296).

Mathews writes;

"When all the invited tribes have reached the common meeting ground, a series of special corroborees commences. The first of this series takes place on the evening of the day of arrival of the

last mob. At this dance, while the women are beating their folded skins as usual, an old man taps a couple of sticks together and stamps one foot on the ground [to commence the dance] ... different words are employed at each dance in prescribed order."
(Mathews, 1904: 309)

John Cotton wrote in 1844, when describing "the corroboree or native dance";

"A singer, one of the men, stands by the musicians beating time with two sticks which if well selected give out a sound something approaching to that of a triangle."

(Billis and Kenyon 1974(a):250-1).

A.C. Le Souef wrote, "one of the oldest men, generally a man of note, acts as leader [in the corroboree].

Thus Gellarlec is not just any old man who wants to drum up a song. Gellarlec is the song man, the one whose memory is sound, whose integrity is unquestioned and whose job it is to remember the words, the order in which the songs are sung and to be the master of ceremonies.

(Brough Smyth, 1878; 2: 294)

Geographic reference

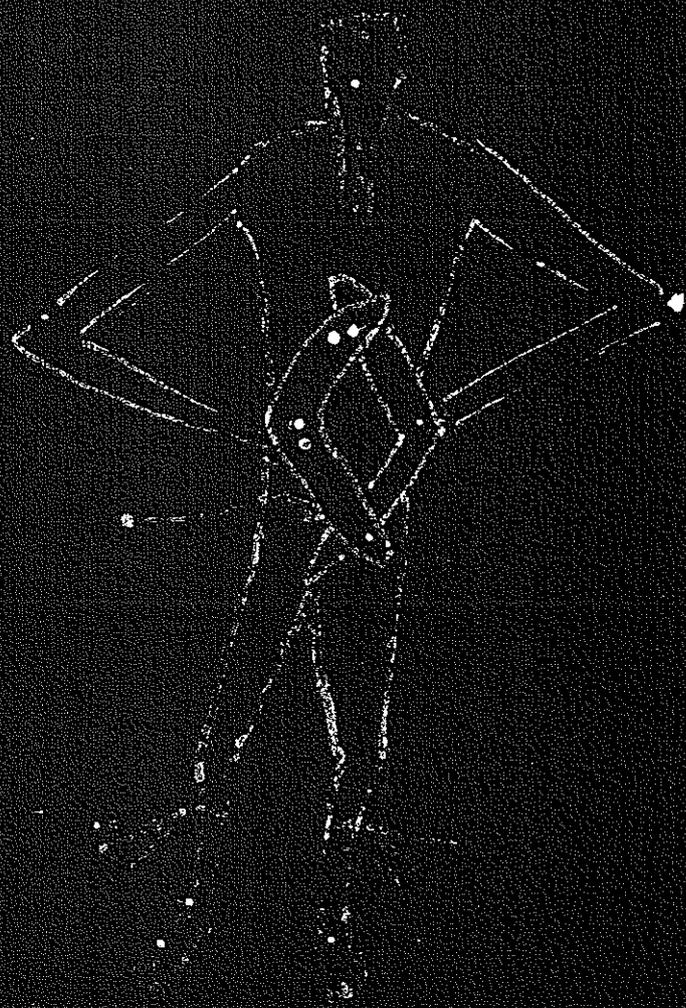
Kellalac is a parish and locality name for a farming district south of Warracknabeal, County of Borung. (Blake, 1977: 140).

Gellarlec



Observed at Gunbower State Forest
on 9 March, 1996 at 10:00 P.M.
E.S.T. Looking West of North-west.

Gellarlec



GINABONG BEARP

Stanbridge reference

"Ginabongbearp (Foot of Day), (Jupiter) a chief of the Nurrumbunguttias, and husband of Chargee Gnowee". (Stanbridge, 1857: 138).

Linguistic reference

Hercus offers "djine" for foot and "burb" for head. (Hercus, 1969: 203,264;201,267). Stone writes "generpkoonberp" as the morning star, literally, pulling up daylight. (Stone, 1911: 451). However, there are other possibilities including "djinab", the sulphur-crested white cockatoo and "booyen" as an expression of greeting or farewell, good-day or goodbye. (Hercus, 1969: 203, 252; Stone, 1911: 456).

Astronomical reference

The planet Jupiter at maximum magnitude -2.5 outshines every star except Sirius and takes 11.9 years to orbit the Sun. (Ridpath and Tirion, 1988: 351). It takes a similar path across the sky as does Venus.

Visual reference

Jupiter does not appear as part of any constellation. It is usually alone in the sky but its brightness is such that on a clear moonless night it can cast a faint shadow. No diagram.

Ecological reference

The raucous screech of the sulphur crested cockatoo is associated with sunrise. Their bright white plumage seen against a blue sky is another coincidence.

Cultural reference

His wife Chargee Gnowee is of the Gurogity moiety, sub-group totem of Nyauai the sun. (Mathews, 1904: 288). Ginabongbearp must therefore be a Gamaty man and their children will be Gurogity, following the mother's line. Out hunting, he carries weapons made from wood of each moiety. If he throws at a Gamaty animal he uses a Gurogity missile but Gurogity game are killed with Gamaty weapons.

Carrying or wearing white cockatoo feathers is a sign of peace when arriving at a stranger's camp. (Kreffft, 1865: 864). This custom is still in use today. (Nicholls: pers comm.)

Geographic reference

The parish of Ginap in the country of Karkaroc is named for the yellow-crested cockatoo. (Blake, 1977: 106).

GNOWEE

Stanbridge reference

"Gnowee (Sun), an Emu's egg prepared and cast into (tyrille) space by Pupperimbul before which the earth was in darkness. Some say the Emu's egg was prepared by Berm-berm-gle and carried into space (tyrille) by Penmen, (a small bird which they do not willingly destroy). (Stanbridge, 1857: 138).

Linguistic reference

This word has currency throughout the north-west of Victoria. Hercus lists "njai" as sun for the Djandjala Wergaia (Hercus, 1969: 210), Stone lists two meanings, "gnowee" is both "sun" and "day". (Stone, 1911: 451). He also gives "worwalling gnowie" for east, or where the sun rises and "porticulling gnowie" for west, or where the sun sets. (ibid.) Hercus records "nyawi" for sun in her Wemba Wemba dictionary and says that this was the given name of the great-uncle of the Day family, Bob Taylor. He was known as "nyawikal" or in the daylight. (Hercus, 1922: 41). Mathews refers to "njai" as the sun. (Mathews, 1904: 288).

Astronomical reference

The Sun is a star closest to the Earth.

Visual reference

The Sun is well known.

Ecological reference

The Sun provides warmth and light, necessary for the growth of plants and for the well-being of animals. Whilst this generative characteristic results in the Sun being recognised as female in Aboriginal society throughout most of Australia, there is no specific reference of this nature that I have found relating to Boorong country.

Cultural reference

Mathews says the people were bisected into two phratries, or moieties called Gurogity and Gamaty, each again being divided into clans. (Mathews, 1904: 286). Every clan had its own spirit - land called my-yur, a word signifying home or final resting-place "to which the shades of all its members depart after death". (ibid, 287). "Nyai" is the name of one of the clans and Mathews gives it direction as being E 10° N but does not say where he is standing when his Aboriginal informants told him the direction. Mathews lists the totems associated with each of the clans and the planet Venus is included in the group belonging to the sun. (ibid: 288). This is consistent with Stanbridge's naming of Venus as Chargee Gnowee, or Sister of the Sun.

Geographic reference

There are two localities listed by Blake under this name in north-west Victoria; Nowingi is a railway-siding south of Mildura adjacent to the western edge of the Hattah-Kulkyne National Park, and Nowie, a farming district nineteen kilometres west of Swan Hill. (Blake, 1977: 204). Nowingi was named for a local water hole and its possible that this might be the location of one of the "myurs" listed for the Gurogity moiety.

KARIK KARIK

Stanbridge reference

"Karik Karik (the two stars in the end of the tail of Scorpio), a male and a female Falcon." (Stanbridge, 1857: 139).

Linguistic reference

The related words in Djadjala Wergaia include "kurrik" for spear thrower (Mathews, 1902: 103), "galg-galg" for brown hawk (Hercus, 1969: 204, 253) and "karrak karrak" for kestrel (Stone, 1911: 448). The Wemba Wemba term for spear thrower is "karak" and for kestrel hawk (sic) it is "kerra-kerrak". (Hercus, 1992: 107,80). Given the hooked shape of the hawk (kestrel)'s beak and the shape at the spear-end of the spear thrower, its quite possible that the one word is derived from the other. Therefore Karik Karik is more likely to be the kestrel rather than a hawk or falcon.

Astronomical reference

Apart from Antares, the red supergiant, most of the stars in Scorpius are blue-white including Lambda Scorpii and Nu Scorpii which are the stars alluded to by Stanbridge. Epsilon Scorpii is an orange giant but a little far away from the spear thrower shape at the end of the tail. Lambda is magnitude 1.6 and Nu is a double with components of 4.0 and 6.3. (Ridpath and Tirion, 1988: 220).

Visual reference

The last four or five stars at the end of the scorpion's sting look like a straight stick with a hook at the end ready to take a spear. Alternately, with the addition of stars either side of Iota Scorpii a hovering hawk or kestrel can be discerned. See diagram.

Ecological reference

Given that the brown hawk is an inefficient hoverer and prefers to look for its prey while perched on the branch of a dead tree, it may not be the bird known to the Boorong as Karik Karik (Frith, 1982: 134). The hovering kestrel will hold its position for several minutes before flying to another place to hover again. (ibid: 135). Both falcon and kestrel hunt for small creatures, their habitat is similar and their distribution across Australia is the same. The brown falcon performs a display flight before the breeding season with wings held in a high V-shape. The kestrel glides and soars with wings outstretched so the pale underpants look white to the observer below. In this case, the celestial image seems more representative of the kestrel than the brown hawk.

Cultural reference

Three different kinds of hawks are mentioned by Mathews. Two belong to the Gurogity and one belongs to the Gamatya moiety. Nothing further is known.

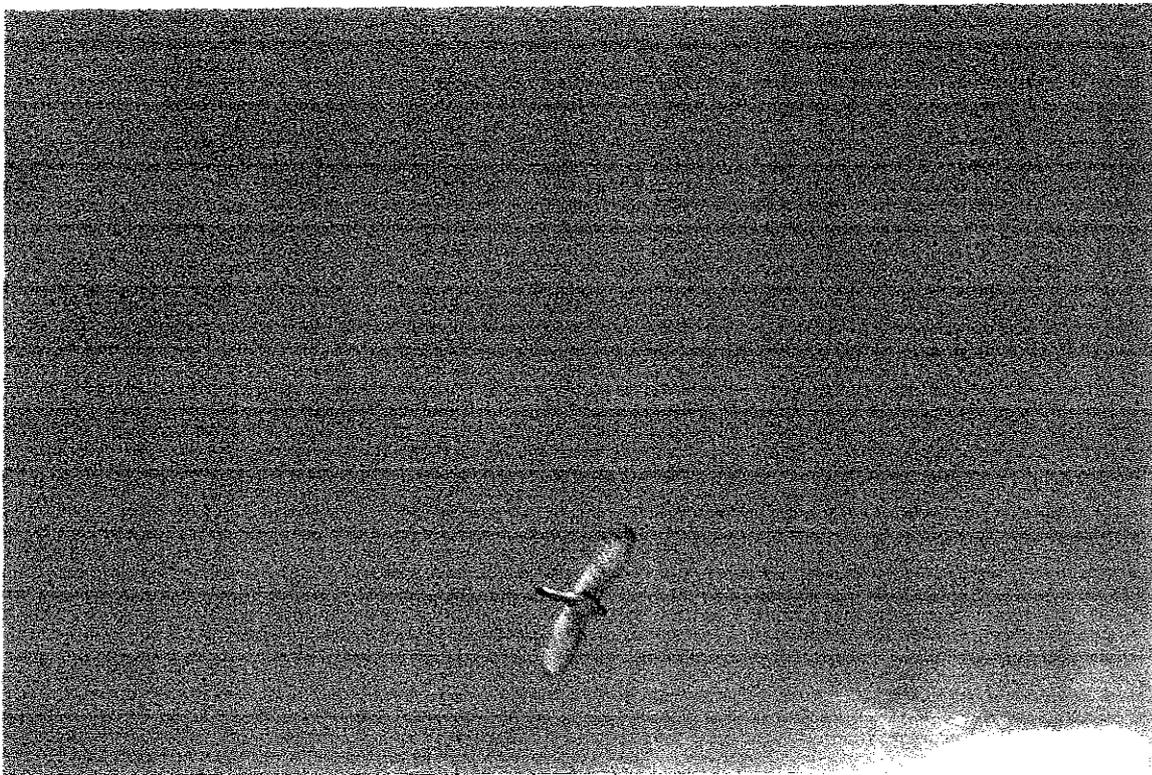
Geographic reference

Shire and county of Kara Kara centred on St. Arnaud is the closest sounding name but may be from an Aboriginal word for quartz. The parish of Karnak, a grazing district south of Goroce is derived from "karnick" which means throwing stick. (Blake, 1977: 139).

Karik Karik

Observed at Leon Mow Dark Site,
Heathcote, 11:00 P.M. 15th June,
1996. Situated directly overhead.





Karik Karik the Australian kestrel in flight

Photo: J. Morieson

KOURT-CHIN

Stanbridge reference

"Kourt-chin (Magellan Clouds) - The larger cloud a male, and the lesser cloud a female Native Companion." (Stanbridge, 1857: 139).

Linguistic reference

Hercus cites "godjun" for broлга (Hercus, 1969: 206,251) and Mathews writes it as "kutyun". (Mathews, 1902: 101).

Astronomical reference

The large Magellanic Cloud is a mini galaxy, a satellite of the Milky Way situated in the southern sky and rotating around the south celestial pole on the opposite side to the southern cross. The small Magellanic Cloud is another satellite galaxy, visible to the naked eye about 3.5° across. (Ridpath and Tirion, 1988: 136). The large Magellanic cloud contains about ten million stars, a tenth of the number in our galaxy, and the smaller one is one fifth of the size of the larger. (ibid: 278).

Visual reference / Ecological reference

I've not yet finally determined what the connection is. The cloud resembles the color and pitted shell of the broлга egg, (see photo), the size and the shape may also resemble the island nest made in the swamp. These birds breed from October to April at which time the Magellanic Clouds are at their most prominent position in the sky. Famous for their dancing, broлгas line up opposite each other, bowing and bobbing their heads as they advance and retire. (Frith, 1982: 162). These elaborate dances may be part of the courtship display but also occur outside of the breeding season and help to strengthen and maintain pair bonds. (ibid). As I have observed the Magellanic clouds and accompanying stars (first diagram) the male and female broлга appear to be dancing. The larger one is trumpeting. (See second diagram).

Cultural reference

Kourtchin shares the Dyallan (brown snake) subgroup off the Gamaty moiety along with Warepil and a number of other creatures that are not included in the Stanbridge list. (Mathews, 1904: 289). Beveridge tells the story of the native companion and the emu and how the sun was made but this is significant in Wemba Wemba country, not necessarily in Boorong country. (Beveridge, 1889: 140-155).

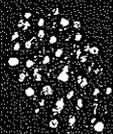
The native companion is listed by Mathews as a member of the Dyallan (whipsnake or brown snake) totem and therefore of the Gamaty moiety. (Mathews, 1904: 289; 1902: 102).

Geographic reference

Kooroocheang is the Aboriginal name of a spring for native companions, about eight kilometres west of Mount Franklin. (Blake, 1977: 145). This is in Dja Dja warring territory well to the south-east of neighbouring Wergaia country, but it is well to remember that Stanbridge said that the Aborigines of Mount Franklin shared some of the star stories of the Boorong. (Stanbridge, 1857: 137-8).

Kourtchin

119a



Observed at Lake Hattah at
10 p.m. on 5 November 1996
in the southern sky.

Kourtchin



KULKUNBULLA

Stanbridge reference

"Kulkunbulla (the Stars in the Belt and Scabbard of Orion). - A number of young men dancing. (A coroborree.)" (Stanbridge, 1857: 139).

Linguistic reference

Hercus cites "gulgun" as youth or young man (Hercus, 1969: 206) and says the suffix - "bula" can be added to a noun to form the dual, eg. gulgun (young men), gulgunbula (two young man). (ibid. 82). Mathews lists "kulgun" as small boy (Mathews, 1902: 97) and "kulkuna lahrnuk", means a boy's camp. (ibid: 78). Stone includes "koolkurn" in his word list meaning a boy aged from eight to fourteen years. (Stone, 1911: 438).

Astronomical reference

Each of the stars in the belt of Orion, Zeta Epsilon and Delta Ori have another star beside them clearly visible to the naked eye. Each of the stars in scabbard also has its pair although less clearly so. Accompanying the central star of the scabbard is a gigantic nebula of gas and dust which covers an area of one degree by one degree and is "indisputably the finest diffuse nebula in the sky", clearly visible to the naked eye as a hazy cloud. (Ridpath and Tirion; 1988: 192).

Visual reference

Whilst some of the other stars and constellations appear to have a figurative connection with its named earthly counterpart, this one may be more symbolic. Its possible that each of the pairs of stars represent pairs of footprints on the dance ground and that the nebula represents the cloud of dust arising from the dance ground.

Ecological reference

There may be a substantive connection between the notion of the fit, lithe, strong young man and the reference to the kind of tree that grows in the mallee, slender, dark and of great strength.

Cultural reference

Stanbridge writes;

"The dancers are attired with a girdle, a bunch of opossum-skin thongs being suspended before and behind, and are painted according to taste, with a paste of calcined talc, some in wavy lines, others in spots, to mark every bone, and to appear like an animated skeleton is a favorite mode. Usually they have a boomerang in each hand, which they clash in excellent time, in certain parts of the chant ..."

(Stanbridge, 1861: 296).

"As the performers become excited, the vigour of the dance increases, and, with loud shouts, they advance in a body towards their leader ... until the fire is reached. The dancing now ceases, and the men ... stamp with their right feet until a cloud of dust arises ... and then they retreat to commence again." (Brough Smyth 1878; 2: 294).

Hercus says there are connections between Orion stories from Western Victoria and Madi Madi country, down river to Yaralde country, across to southern Central Australia and up to Central Australia and the Western Desert. (Hercus, 1969: 149).

Geographical reference

A related work or another version may be "kulkyne". In 1847 it was a locality name north of Crawford's station by the Murray River, is now a parish in the country of Karcaroc, and derives from the Aboriginal word for wood. (Blake, 1977: 146). It is also in use as Hattah-Kulkyne National Park. One of Mathews' informants told him that the "Tyrell blacks" used to meet with the river tribes at Kulkyne. (Mathews: correspondence).

LARNANKURRK

Stanbridge reference

"Larnankurk (Pleiades), a group of young women playing to Kulkunbulla."
(Stanbridge, 1857: 139).

Linguistic reference

Mathews has two spellings, "lannangurk" and "lanangurk" (Mathews, 1902: 97,77). The word is not found in Hercus but each of its constituent parts are; "lar" meaning camp, "an" is an ablative suffix expressing direction from a place, and "gurk" means blood (and as such is synonymous for woman). (Hercus, 1969: 256,85,207). Mathews says that the addition of "gurk" to a clan name indicates the feminine equivalent. (Mathews, 1904: 288). "Lar" is a Wemba Wemba word for stone as well as meaning camp. (Hercus, 1969: 186).

Astronomical reference

The Pleiades is the brightest and most famous star cluster in the sky, according to Ridpath and Tirion. It is also known as the Seven Sisters because approximately seven stars are visible to the naked eye, covering about one degree of sky and with magnitudes ranging from 2.9 to 5.8. (Ridpath and Tirion, 1988: 234).

Visual reference

See diagram.

Ecological reference

Note the connection between "stone" and "camping place" as noted below in Geographic reference.

Cultural reference

Kreffft reported on the people of the lower Murray and Darling rivers to the north of Boorong country

"When the moon rose ... the dance commenced ... the women and young girls formed a sort of orchestra, beating opossum rugs, and singing ..." (Kreffft, 1865: 367).

Beveridge described the use of the opossum skin drum. It "is formed by merely folding a cloak tightly up into a bunch. It is beaten by the open palm, and when struck emits short, dull thuds" which reminded him of beating a wool sack. (Beveridge, 1889: 131-2).

Brough Smyth recorded a description made by the protector A.C. Le Souef;

"The women seat themselves in a body, with their opossum skins tightly rolled up before them, on which they beat with their right hands, keeping perfect time, at the same time chanting one of their corroboree songs."

(Brough Smyth, 1878; 2:294).

John Cotton from Doogallook near Yea (well to the south-east of Boorong country) wrote to his brother William in England in 1844

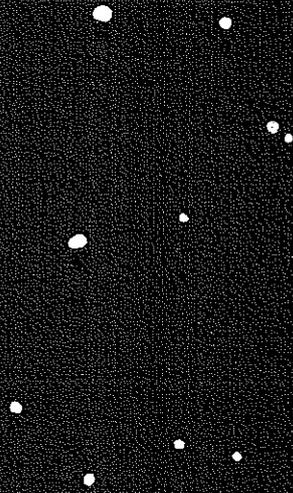
"The lubras or women and children are seated in a dense circle and beat second time with their right hands on their folded opossum skins, which sounds something like a muffled drum, for they all strike together with great precision."

(Billis and Kenyon, 1974(6): 250).

Geographic reference

Lah is on the Henty Highway fifteen kilometres north of Warracknabeal. (VicRoads, 1992, Map 27). Blake says Lah is from the Aboriginal word for stone. (Blake, 1977: 150). This is consistent with Wemba Wemba usage and probably derives from grinding stones being habitually left at camping sites, thus "stone" becomes synonymous with "camping place".

Larnankurk



Observed at Gunbower State Forest
on 10 March, 1996 at 9:30 P.M.
E.S.T. Looking West of North-west.

Larnankurrk



MARPEANKURRK

Stanbridge reference

"Marpeankurk (Arcturus), mother of Djuit and Weetkurk. The discoverer of the Bittur, and the teacher of the Aborigines when and where to find it. When it is coming into season with them it is going out of season with her. The Bittur is the larvae of the wood ant, which is found in large communities, and of which the Aborigines are very fond. The subsist almost entirely upon it during part of the months of August and September. When she is in the north at evening, the Bittur are coming in season, when she sets with the sun the Bittur are gone and (Cotchi) summer begins." (Stanbridge, 1857: 138). Later, he wrote "The bittur is the pupa of the wood ant ..." (Stanbridge, 1861: 301).

Linguistic reference

Its possible that Marpeankurk is derived from "mara" meaning meat ant, "binj-binj" the tree-creeper and "gurg" being the female suffix. (Hercus, 1969: 208,249; 200,254,291). Hercus says the tree creeper is probably the black-capped sitella, *Neositta pileata* (ibid: 200) but this bird is not known in south-east Australia. Its more likely to be the brown tree creeper, *Climacterus picumnus* (Frith, 1982: 456). "prittar" (Hercus, 1992: 50) or "prittour" (Casey, 1916: 1,2) meaning ant or white ant is the closest we get to Bittur.

Astronomical reference

Arcturus or Alpha Boötis of magnitude -0.04 is the fourth brightest star in the sky. A red giant, its orange-red color is noticeable to the naked eye but is more striking with an optical aid. (Ridpath and Tirion, 1988: 84). Associated with this constellation is the year's most abundant meteor shower, the Quadrantids which radiate from the northern part of Boötes and reach a peak of about one hundred meteors per hour on January 3-4 each year. (ibid). Another shower but of much lower frequency occurs in late June and early July. (Kronk, 1988: 88). On June 15, 1996, whilst observing Marpeankurk at the Leon Mow Dark Sky site at Heathcote, my colleague noted meteors emanating from that part of the sky.

Visual reference

Arcturus appears as the head of the ant or termite in the sky, the antennae being those of the termite or the pincers of the ant. See diagram.

Ecological reference

The meat ant or mound ant, *Pridomyrmex defectus*, is the commonest and most widely distributed ant in Australia. (Froggatt ND: 95). They construct large mounds a couple of feet above the ground and two or three yards in diameter which is the soil excavated from the formation of their network of galleries beneath the soil. When the mound is situated in open grassland country, the bare tracks can be seen leading off from the west, worn smooth by countless feet. This ant is about one third of an inch in length and is of general grown purplish tint with the head light reddish brown. (ibid: 96).

The brown tree creeper is fond of ants and breeds from June onwards, the time "the Bittur are coming into season" and also when Arcturus is in the north at evening. (Frith, 1982: 456). A family party of treecreepers occupies a large territory in which they hunt for insects by pecking and probing into crevices and peeling bark. They also forage on the ground and explore fallen logs and branches. Their chief food is ants. The treecreeper is often seen in groups of three, all of whom help to feed the young in the nest. Its thought that the third bird is a member of the previous brood. (ibid.)

Termites feed on sound and decayed wood, grass, fungi and other materials of vegetable origin, such as dead leaves, bark, humus and the dung of herbivores. (Britton, 1979: 280). Most of the harvesting species build mound nests which serve as food stores. Other species live in a series of galleries and chambers excavated in moist or dry wood, surrounded by food. (ibid: 281). Colony founding is initiated by the release of a large number of alates [winged termites] from the parent colonies at a particular time of the year and even a particular time of the day (ibid: 279). They are weak fliers, thus the colonizing flight is short unless assisted by wind. Their wings are shed soon after alighting, reproduction begins and new sites are sought in soil or wood. (ibid.)

Cultural reference

Nutritional studies reveal that termites are among the richest foods, superior to other animal foods and an important source of protein. (Bodenheimer, 1951: 29). William Buckley mentions how they were prepared for eating by giving them a light roasting; "These creatures are prepared for eating, by placing them on slips of bark about three feet long and one foot wide, and so, burnt, or roasted." (Morgan, 1967: 56-7). Ants also play a very important role in the food of Australian Aborigines as pupae, as adults, or as a refreshing drink; from the celebrated honey ant to the red ant and the green ant. (Bodenheimer, 1951: 103, 113)

Geographic reference

Lake Bitterang is in the Hattah-Kulkyne National Park southwest of Nowingi and half-way to the Murray River. (VicRoads, 1992: map 6).

Marpeankurk



Observed at Leon Mow Dark Site,
Heathcote, on 15 June, 1996 at
8:00 P.M. Looking due North.

Marpeankurrk

126b





Meat ant track, Hattah-Kulkyne
National Park.



After driving through a cloud of alates (winged termites) near Kooyoora State Park, Central Victoria, February 1996

Photos: J. Morieson

MINDI

Stanbridge reference

"... a part of the Galaxy is the smoke of the fires of the Nurrumbunguttias and that other part is two Mindii, enormous snakes which made the Murray (Millee)." (Stanbridge, 1857: 139).

"The existing Mindii are about eighteen feet long." (Stanbridge quoted in Brough-Smyth 1878; 1:434).

Linguistic reference

"Mindai" is the maned snake in Djadjala Wergaia. It is a huge hairy snake which is believed to have been sighted in the Wimmera District and near the Murray even early this century, 'before all the Mallee was rolled', says Hercus quoting one of her informants. (Hercus 1996: 209). Mathews mentions the "mirndai snake" in one of the totemic groupings of the Gurogity moiety. (Mathews 1904: 288).

Astronomical reference

Most of the stars in our Galaxy lie in a disk about 2,000 light years thick. Seen from Earth, this disk of stars appears as a faint, hazy band crossing the sky on clear, dark nights. We call this band of stars the Milky Way and the term Milky Way is often used as a term for our entire Galaxy. (Ridpath and Tirion, 1988: 278).

Visual reference

It has not yet been determined if it is the hazy white lines across the sky that represent the Mindi or whether it is the long dark patches that lie within.

Ecological reference

Robinson wrote in his journal on 3 April, 1843; "Lamont the Policeman killed a large snake at the foot of the mount [Mount Hope] which I had skinned and was upwards of six feet and two inches. I think a male, see skin, probably Mindy of the N [atives]. (Clark, 1988: 72).

Cultural reference

Brough-Smyth compared the Mindi to the bunyip. "What the Myndie was to the blacks of the North-Western district, so was the Bun-yip to those dwelling on the coast near the swamps of the Western District. Both were terrible, and both have their types in existing creatures. The python (*Morelia variegata*) may be said to represent the fabulous Myndie, and Koor-man (the seal) the Bun-yip." (Brough-Smyth, 1878; 1:437).
The mirndai snake is one of Wartwurt clan (heat of the sun at noon) and thus of the Gurogity moiety. (Mathews, 1904: 288)

Geographic reference

Minmindie is a small farming hamlet ten kilometres north of Boort and about forty kilometres north-east of Mount Buckrabunyule, the home of the Mindi according to the Dja Dja Warung people, who are the south-eastern neighbours of the Wergaia (VicRoads, 1992: 29; Brough-Smyth; 2:445)

MITYAN

Stanbridge reference

"Mityan (Moon), who falls in love with one of Unurgunite's wives, and while trying to induce her to run away with him, is discovered by Unurgunite, when a fight takes place; Mityan is beaten, and runs away, and has been wandering ever since." (Stanbridge, 1857: 138).

Linguistic reference

"Midjiin" is moon in Djadjala Wergaia, spelt "mityen" by Mathews, and as "mitthean" by Stone. (Hercus, 1969: 209,278; Mathews 1902: 99; Stone, 1911: 451).

Astronomical reference

The various phases of the moon are noted.

Visual reference

These phases vary from the slimmest crescent, through quarter to half moon to gibbous and full moon.

Ecological reference

The 1861 version includes the species name for Mityan, "Native Cat (*Dasyurus Geoffroyii*)". (Stanbridge, 1861: 301). (Brough-Smyth, 1878;1:433). This description was omitted from the Philosophical Institute printed version of his address. This species of native cat is an efficient medium-sized predator with a white-spotted brown coat and promiscuous mating habits. (Strahan, 1983: 22). No enduring pairing bond is established between mates and both males and females prefer to copulate with individuals they have not previously, or at least recently, copulated with. (Serena et al, 1991: 28). First copulation for a female in aestrus may take less than an hour. Copulations otherwise last from three to seven hours. (ibid: 29).

Kreffft describes *Dasyurus Geoffroyi* as "the most blood thirsty of the Marsupial animals inhabiting the Murray scrubs, solitary in its habits, strictly nocturnal, and the terror of the feathered tribe, particularly of the yellow-crested cockatoo. Afraid of nothing, it will, when hungry, attack any other animal; a mother will eat even her own progeny, if she has nothing else to fall back upon." (Kreffft, 1862-5: 7).

Cultural reference

Unurgunite might well be worried on behalf of his wife who is the subject of Mityan's attentions. Its possible that the various phases of the moon are represented by the shape of the white spots on the coat of the native cat.

Stone relates the story of the origin of the mountains of the moon. A husband who was a very greedy and selfish man cruelly mistreated his wife's younger brother who was living with them. The wife was so angry she threw hot coals over the face of her husband and told him to go up into the skies where he became the moon "Mitthean" the mountains of which are the dark smudge left by the hot ashes. (Stone, 1911: 462-3).

Both native cat and moon are listed for the Gurogity moiety, the former a member of the Burt Murnya (or yam) clan, the latter a member of the Nyauai (or sun) clan. (Mathews, 1904: 287-8).

Geographic reference

Meatian is a railway siding and farming locality thirty-five kilometres south-east of Lake Tyrell. (VicRoads, 1992: map 19).

NEILLOAN

Stanbridge reference

"Neilloan (Lyra), (a Loan flying), the mother of Totyarguil and discoverer of the Loan eggs, which knowledge she imparted to the Aborigines. When the Loan eggs are coming into season on earth, they are going out of season with her. When she sits with the sun the Loan eggs are in season." (Stanbridge, 1857: 138-9).

Linguistic reference

Hercus lists "lauan" for mallee fowl or lowan in her Djadjala Wergaia list but makes no reference to the prefix. (Hercus, 1969: 207, 253). Stone says "neil gnoonye" is the doctor's charm bag or poison bag. (Stone, 1911: 467). It may be that "neil-" is used here as a prefix to connote magic or special status. Both Stone and Mathews have "lowan" as the mallee hen. (ibid: 448; Mathews, 1902: 100).

Astronomical reference

Lyra appears in the northern sky in April in north-west Victoria. It disappears in late September. Meteor showers are associated with Lyra in April, June and July. (Kronk, 1988: 50-55, 99-103, 131-133). The April Lyrids are the more abundant, up to twelve per hour being visible and the June Lyrids, about eight per hour, peak on June 16 each year. (Ridpath and Tirion, 1988: 174). Alpha Lyrae or Vega is a brilliant, blue-white star, the fifth brightest star in the sky, of magnitude 0.03. M57, the Ring Nebula, is a famous planetary nebula between Beta and Gamma Lyrae. Small telescopes show it as an elliptical disc and larger telescopes are required to see the central hole (ibid: 176).

Visual reference

Its easy to superimpose an outline of the side view of the mallee fowl over the constellation Lyra and see congruence. A line of stars follows the exact dorsal line from head to tail and Vega represents the thigh or kicking foot of this powerful mound builder. The bird appears upright when looking from a prone position with the head to the east. See diagram. Meteor showers may represent sand and sticks flying through the air as the mound is being prepared. The Ring Nebula might be thought to represent an unlaidd egg lying in the body of the bird, and with a visual magnitude of 8.8 might have been observed by the Boorong. (McRobert, 1992: 41).

Ecological reference

Mallee fowl mate for life, the male maintaining the nesting mound and the female producing the eggs, as many as thirty during the laying season from September to April. (Frith, 1982: 136-7).

"The nests of the loan abound with eggs, at the same time as the pityecol, or native peach, and the fruit of the sandalwood are ripe; the fruit of the last named tree, and the bark of its young roots, are roasted before being eaten."

(Stanbridge, 1861: 294)

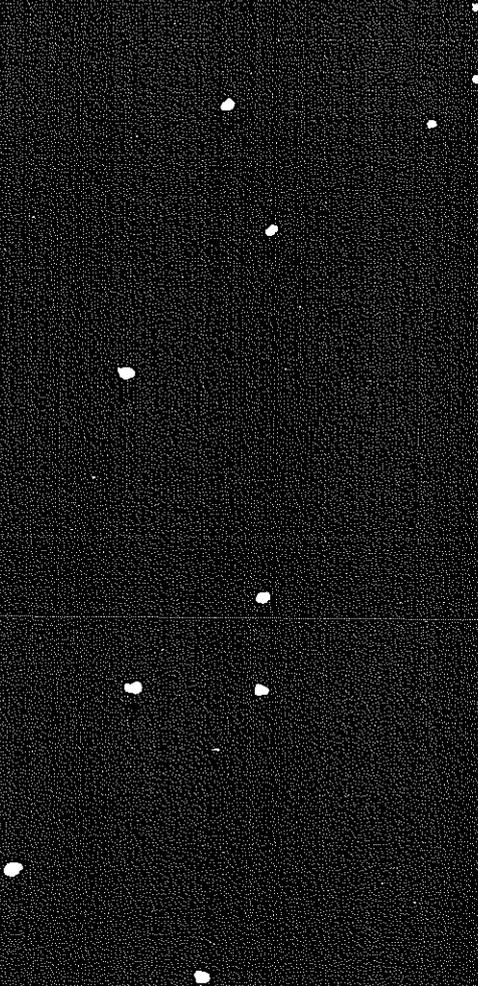
Cultural reference

The mallee hen is listed as a member of the Burt Murnya clan of the Gurogity moiety. (Mathews, 1904: 287). Whilst there is no more in the literature from a cultural perspective, a great deal has been hypothesised. See chapter on Family.

Geographic reference

The parish of Lowan is in the County of Lowan. The Shire of Lowan was created on 31 December, 1875. (Blake, 1977: 162).

Neilloan



Observed at Hattah-Kulkyne National Park
on 19 September, 1994 at 9:00 P.M.
Looking North-west.



NURRUMBUNGUTTIAS

Stanbridge reference

"... the Sun ... was one of the race that then inhabited the earth, and who are called Nurrumbunguttias or old spirits. They possessed fire and were of the same characteristics as the present race, but were translated in various forms to the heavens, before the present race came into existence.

"The Nurrumbunguttias still possess spiritual influences upon the earth; whether of darkness, of the storm, or of craters, all the evil spirits are of them. They have also spiritual representatives in some creatures, as, for instance, if a pupperimbul were to be killed, there would be a fearful fall of rain.

"all the stars, as well as all appearances in tyrille (space) are supposed to have emanated from the Nurrumbunguttias." (Stanbridge, 1857: 138).

Linguistic reference

Mathews has "ngurrambut" for old man and Hercus has "njarambin" while "gudji" is a species of kangaroo, probably the black-faced mallee kangaroo. (Mathews, 1902: 97; Hercus, 1969: 210 and 206).

Astronomical reference

The Milky Way is the "smoke of the fires of the Nurrumbunguttias" or only part of it is this smoke. (Stanbridge, 1857: 139).

Visual reference

The Milky Way is best seen on cloudless nights with no moon. It stretches around or across the sky, depending on the time of year. It is not known which part represents the smoke of the Nurrumbunguttias.

Ecological reference

Formally known as the Western Grey, the black-faced or mallee kangaroo is distinguished by a finely haired muzzle and an apron of light grey fur extending from the tip of the nose and under each cheek down the chest. It stands in contrast to the brown fur. Males have a strong characteristic odour. (Strahan, 1983: 248).

Cultural reference

The Nurrumbunguttias appear to be the Greater Beings who live in the sky and who have been endowed with special powers.

Geographic reference

Lake Nurrumbeet is ten kilometres south-east of Donald. (Place Names Committee, 1983: 140).

OTCHOCUT

Stanbridge reference

"Otchocut (Dolphinus), Great Fish". (Stanbridge, 1857: 140).

Linguistic reference

The only two fish words in the Hercus list that sound remotely like Otchocut are "wanjagai" and "durbjurd". The first means catfish and the second means silver perch. (Hercus, 1969: 212, 202). Murray Cod are the biggest fresh water fish and its quite likely that the reference to "Great Fish" does indeed mean the Murray Cod. It may be also that these fish were not indigenous to Boorong territory and they ate them only when visiting their eastern neighbours whose country incorporated long stretches of the big river. In this case, the Wemba Wemba verb "tyaka", to eat, may provide the connection, the prefix "o-" simply being an exclamatory sound, presumably of delight. Thus "otchocut" might mean "good tucker". The Wemba Wemba word for Murray Cod is "pandyil" (Hercus, 1992: 88) similar to Mathews' monstrous cod fish called "Bandyal". (Mathews, 1904: 283). Significantly it is not included in Mathews' Tyattyalla word list. (Mathews, 1902: 97-106).

Astronomical reference

"Dolphinus" presumably means Delphinus, the northern hemisphere constellation which can be seen from Lake Tyrell from April to December. Alpha Delphini, magnitude 3.8 is a blue-white star; Beta Delphini, magnitude 3.5 is a white star and Gamma Delphini is a double consisting of golden and yellow-white stars of magnitudes 4.3 and 5.2 respectively. (Ridpath and Tirion, 1988: 134). It's located centrally in the northern sky at the time of the Spring equinox.

Visual reference

As the diagram reveals, the arrangement of stars in this constellation are easily viewed as cod-like. The yellow and white colors also correlate with the colors of the cod.

Ecological reference

The Murray Cod is the largest fresh-water fish in Australian waters and spawns in early Spring. At this time Otchocut is at its most prominent position in the sky, in the early evening.

"In season, these fish [the Murray Cod] are very rich, and afford the chief sustenance of the natives, who spear them from their canoes, at the prow of which they have a brilliant fire of pine, which attracts the fish at night, and entices them to their destruction."

EPS Sturt, Commissioner for Crown Lands for the Murray District in 1837, writing in 1853 in (Bride, 1969: 367).

Cultural reference

In his pursuit of the great fish, Totyarguil caused Bandyal to create Mille, the mighty Murray river. (Mathews, 1904: 283-5).

"The Tyrell and Hindmarsh blacks used to come on the Murray to meet the river tribes and usually met at Kulkynne station about 20 miles down the river from Euston..."

Senior Constable George E. Loomes, Euston Police Station,
in a letter to R.H. Mathews dated 5 August, 1898.

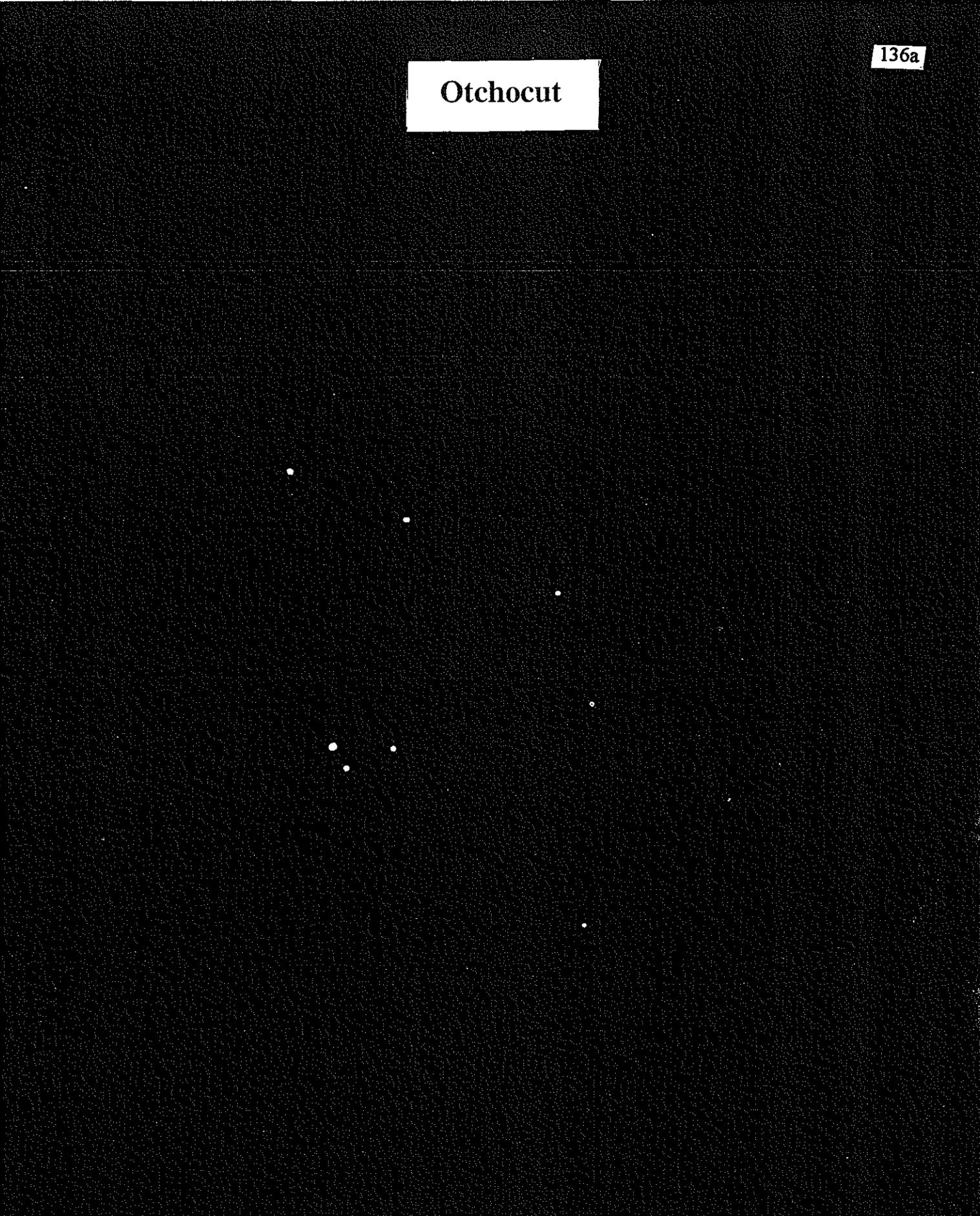
(R.H. Mathews, correspondence).

This is Dadi Dadi country and these were the immediate northern neighbours of the Boorong. Such meetings may well have included gifts, trading items and negotiations over marriage partners. If so, then the moieties would be compatible. An abundance of Murray Cod may well have been an attraction for the Boorong visitors.

Geographic reference

Nothing known.

Otchocut



Observed at Hattah-Kulkyne National Park
on 3 September, 1995 at 7:30 P.M.
Looking North-west.

Otchocut



Murray cod (otchocut) caught on the Murray at Kulkynne in 1958



PUPPERIMBUL

Stanbridge reference

"Pupperimbul, (the little bird with the red patch above the tail) ..."

"Gnowee (Sun), an Emu's egg prepared and cast into (tyrille) space by Pupperimbul before which the earth was in darkness." (Stanbridge, 1857: 138).

"They [Nurrumbung-uttlas] exercise all spiritual influences, whether for good or evil, upon the earth, where they are represented in a material form amongst other creatures by the Pupperimbul (Estrela-Temporalis), to kill one of which would be avenged by a deluge of rain." (Stanbridge quoted in Brough-Smyth, 1878; 1:432).

Linguistic and geographic reference

This word does not appear in Mathews, Hercus or Stone. The only known reference is from Blake's Place Names of Victoria where he quotes "Korkuperrimal" as a parish in the County of Bourke and a creek in the Pentland hills which is a tributary of the Werribee River. Both names are located a fair distance from Boorong country but nonetheless lie within the Kulin family of languages. "Kor" is from the Aboriginal word for sea and the rest is from pupperimbul, the diamond firetail finch. (Blake, 1977: 145).

Astronomical reference

None.

Visual reference

None

Ecological reference

There are two birds which fit the description, the diamond firetail and the sky hyacola, also known as the red-rumped ground wren. The wren is recorded in all seven parks and reserves in north-west Victoria managed by the Department of Conservation and National Resources. The finch is found in five of the seven. Each bird has the distinguishing red patch above the tail, the wren's being described as a "rich chestnut", the finch's rump and upper tail-coverts as "crimson". (Frith, 1982: 430,529). The accompanying distribution map for each bird clearly indicates the north-west as being included in the habitat.

A distinguishing feature of the shy hyacola is its spring song which is said to be "persistent and often begins at dawn. It can best be heard in mallee country..." (ibid: 430). A distinguishing feature of the diamond firetail is for the male to carry a long grass stem to the top-most branches of a dead tree to begin his courtship ritual. (ibid: 529).

N.B. The reference in parentheses (Estrela-Temporalis) is confusing. Estrela may be a typographical error and should perhaps be printed "estrella" which means star in Spanish. The red-browed firetail is known today as *Emblema temporalis* (ibid: 528) or *Neochmia temporalis*. (Simpson and Day, 1993: 252).

Cultural reference

Is it the shy hyacola singing up the sun that gave rise to Pupperimbul or is it the carrying routine of the diamond firetail?

Geographic reference

See above.

PURRA

Stanbridge reference

"Purra (Kangaroo) (Capella), who is pursued and killed by Yurree and Wanjel."
(Stanbridge, 1857: 140).

Linguistic reference

According to Hercus, the closest Djadjala term is "bara" for red kangaroo. (Hercus, 1969: 269). Mathews cites only one kangaroo, unspecified, in his 1902 glossary. (Mathews, 1902: 100). In Wemba Wemba the red kangaroo is "parra" (Hercus, 1992: 46,93) and Stone cites "burra" for the same creature. (Stone, 1911: 449).

Astronomical reference

Capella or Alpha Aurigae of magnitude 0.08 is actually a spectroscopic binary, consisting of two yellow stars orbiting every 104 days, although they do not eclipse. (Ridpath and Tirion, 1988: 82). Purra appears in the north-east just before dawn in mid to late August and disappears in the early evening in late February, along with her pursuers. Purra is very close to the horizon for most of this period.

Visual reference

The earth's atmosphere effects the clarity of celestial objects close to the horizon which is the reason why sighting Purra is difficult, but it is rather similar to sighting a plains kangaroo at a great distance in the summer heat through a mirage. No diagram.

"even under perfect conditions a star will appear about three magnitudes fainter just above the horizon than at the zenith, and in practice horizon haze will usually increase this difference considerably."

(Ridpath 1989:62)

Ecological reference

One of the longest living marsupials, the red kangaroo (*Macropus rufus*) lives over most of the central part of Australia in the lesser rainfall zone. It prefers the open plains habitat but is seldom found in regions totally devoid of shade from scattered trees. Color varies from red to blue-grey, the female often having the bluish hue. (Strahan, 1983: 255-6).

Cultural reference

All kangaroos are members of the Pattyangal (pelican) totem which is a clan of the Gamaty moiety. Their skins were used as water containers and their meat used for food. (Mathews, 1904: 289).

Geographic reference

There is a contrary reference to Pura Pura, a rural locality south-west of Skipton. Massola and Blake say the term originates from the name for the blowhole on Mount Hamilton but while Massola says it means home of the kangaroo Blake says its an Aboriginal term meaning blowhole. (Massola, 1968: 42; Blake, 1977: 221).

A more likely possibility and closer to Lake Tyrell is the railway siding called Pira on the Swan Hill-Piangil line near Nowie North. Blake says its from the Aboriginal word for "club". (Blake, 1977: 216).



Purra and young Purra

Photo: J. Morieson

TCHINGAL

Stanbridge reference

"Tchingal (Emu), (the dark space between the fore-legs of Centaurus and Crux), who pursues Bunya until he takes refuge in a tree, and who is afterwards killed by Berm-berm-gle". (Stanbridge, 1857:139).

Linguistic reference

Tchingal may have two derivations, one from the celestial emu Creation Being called Ngindyal and the other from a Djadjala expression for a tall thin person "djuerun-galg" literally "long-bones". (Hercus, 1969:285,204) The equivalent in Wemba Wemba is "tyurung-wil" meaning emu, but literally "the long one" which Hercus says is an instance of the use of a nickname presumably replacing the older word for emu. (Hercus, 1992: 61).

Astronomical reference

The dark space alluded to is known as the Coal-Sack, a famous dark nebula covering nearly seven degrees by five degrees of sky and visible from the Mediterranean in ancient times and thus known to astronomers there at that time. (Ridpath and Tirion, 1988: 128).

Visual references

Two versions of Tchingal appear in that part of the sky. As the Coal-Sack alone, the humped figure represents the dead emu at the foot of the tree. If the Coal-Sack represents the head only of the emu, then rest of the body can be traced through the pointers (Alpha and Beta Centauri) being the long neck down to the wider dark space just short of Scorpius, being the body. This shape is more clearly seen on a clear night with no moon when it stands in dramatic contrast with the white light of the Milky Way.

Also see diagram.

The darker emu is of the Muiwillak (black snake) totem, which is a clan of the Gamaty moiety. The grey emu is of the opposite moiety, Gurogity, and is a member of the Dyalup clan. (Mathews, 1904: 287-8).

Ecological reference

Emus form pairs for breeding then disband. The male incubates the eggs and rears the young, looking after them for up to eighteen months. Egg laying begins in April-May and continues till September-October. From five to twenty eggs constitute a clutch.

Their general plumage is brown to grey-brown whilst the females develop nuptial plumage during the breeding season. Their body colour darkens and thick black feathering covers the neck and head. They appear much darker than the male. (Frith, 1982: 25).

Cultural reference

Mathews writes of the dispute between the crow and the Ngyindyal which was eventually resolved through the intercession of the brothers Brambrambult who Stanbridge recorded as Berm-berm-gle. The brothers are represented by Alpha and Beta Centauri and the crow is Alpha Argus or Canopus, known also as Alpha Carinae and

whose position in the sky is "at a respectful distance from his ancient pursuer" (Mathews, 1904: 367).

The darker emu is of the Muiwillak (black snake) totem which is a clan of the Gamaty moiety. The grey emu is of the opposite moiety, Gurogity, and is a member of the Dyalup clan. (Mathews, 1904: 287-8).

Geographical reference

Nothing known.

TOTYARGUIL

Stanbridge reference

"Totyarguil (Aquila), the son of Neilloan, and who, while bathing was killed by the Bunyips, his remains were afterwards rescued by his uncle Collenbitchick. The stars on either side are his two wives." (Stanbridge, 1857: 139).

Linguistic reference

The name Totyarguil is made up of two parts "tot" and yarguil". "Tot" is probably a shortened version of "tourte" meaning star. (ibid: 140). Hercus gives "dud" for star in Djadjala and "turt" in Wemba Wemba. (Hercus, 1969: 202. Hercus, 1992: 56,107). Mathews cites "turt" in Tyattyalla. (Mathews, 1902: 99). "Yugwib" in Djadjala means green parakeet or little lorikeet according to Hercus. (Hercus, 1969: 214,253). Not too far away from the Boorong, the Madi Madi people used the term "dargu-wil" both for rainbow and for the name of a constellation (unstated). (ibid: 220). This language was spoken originally between the Murray and the Balranald district of New South Wales and as far north as the Lachlan. Hercus says it represents the north-west extremity of the Kulim languages. (ibid: 101).

Astronomical reference

Aquila includes a variety of colors in its constellation. Alpha Aquilae, Altari, is a bright white star of magnitude 0.77; Beta Aquilae is a yellow star, Gamma is a yellow giant, Delta is white, 15 Aquilae is a yellow giant with a purplish comparison easily visible in small telescopes and 57 Aquilae is a double of which one is bluish. (Ridpath and Tirion, 1988: 76).

Visual reference

See diagram.

Ecological reference

The combination of star colors coincides more with the purple-crowned lorikeet, *Glossopsitta porphyrocephala* (crown purple; forehead, lores and ear-patch yellow orange; throat, breast, abdomen pale blue-green) than the little lorikeet, *Glossopsitta pusilla* whose dominant colors are green, yellow and red (Simpson & Day, 1993: 136).

Its more likely therefore that Totyarguil represents the lorikeet with the colors of the rainbow, the purple crowned lorikeet rather than the little lorikeet. A description of the habitat bears this out.

The purple crowned lorikeet inhabits the drier open forests, woodlands and mallee country whereas the little lorikeet is more likely to be found in tall open forests and woodlands south and east of the Mallee. (ibid; Frith, 1982: 263-4). In the bird list issued by the Department of Conservation and Natural Resources for the largest parks and reserves of

Victoria's north-west, the purple-crowned lorikeet features in five of the seven parks. The little lorikeet features in only one, the most southerly of the seven. (Natural Resources, 1993: 1). Totyarguil is in the sky directly to the north at nine p.m. in late August. This is the beginning of the breeding season for the purple crowned lorikeet.

The season lasts till the end of December which is when Totyarguil goes out of the sky. (Frith, 1982: 26).

Cultural reference

Totyarguil and Otchocut (Bandyal) are close to each other in the sky, which is appropriate given their proximity in the adventures described by Mathews. (Mathews, 1904: 283-5). Won, a boomerang thrown by Totyarguil, maybe Corona Australis which is about halfway from Totyarguil to the south celestial pole (Stanbridge, 1857: 140). His mother, Neilloan, appears directly in the north some two weeks earlier than Totyarguil, but is much closer to the northern horizon and consequently she disappears earlier. (ibid: 138).

Geographic reference

No earthly locality established.

Tchingal

142a



Observed at Lake Bolac on 12 February,
1995 at 3:30 P.M. In South-West sky.

Totyarguil

Observed at Hattah-Kulkyne National Park
on 3 September, 1995 at 7:30 P.M.
Looking North of North-east.

Totyarguil

145b



TOURTCHIN BOIONGGERRA

Stanbridge reference

"Tourtchinboionggerra (Cornua Berenices), a flock of small birds drinking rain water, which had lodged in a hollow in the fork of a tree. (Each star had a name, but through the intercourse of the Aborigines with the white people, the names are forgotten.) (Stanbridge, 1857: 139).

Linguistic reference

"Tourt" is star (ibid: 140), "-chin-" is djin the needlewood, *Hakea leucoptera* (Hercus, 1969: 203), "boion" is probably baren river (ibid: 199) and "gerra" is a shortening of djire-djiredj the Djadjala word for willie wagtail. (ibid: 203). Thus "the star of the tree with water and birds drinking" is how Tourtchinboionggerra may be interpreted.

Astronomical reference

Come Berenices (not "cornua", probably a typographical error) translates as Berenice's Hair. This constellation represents the flowing locks of Queen Berenice of Egypt who cut off her hair in gratitude to the gods for the safe return from battle of her husband Ptolemy Euergetes. (Ridpath and Tirion, 1988: 118). In the northern hemisphere the cascading locks are seen as a reversed V shape. In the southern hemisphere we see the 'V' shape as it is, more like the fork of a tree.

Visual reference

See diagram.

Ecological reference

Hakea leucoptera is an evergreen shrub that grows to a height of four metres with a spread of two metres. The stem is erect and slender. It prefers an open, sunny position and is drought and frost resistant. (Bodkin, 1986: 530). It grows throughout the non-riverine woodlands of the central and northern Mallee. (LandCare Notes N.D. : 7). If this tree grows well away from water courses and rivers then it could well provide a watering service to a flock of itinerant birds as well as the occasional feed of insects. Water-filled tree holes may contain a relatively complex community of insects and mites whose life cycle requires small reservoirs for breeding purposes. (Mathews and Kitching, 1984: 148-9).

Cultural reference

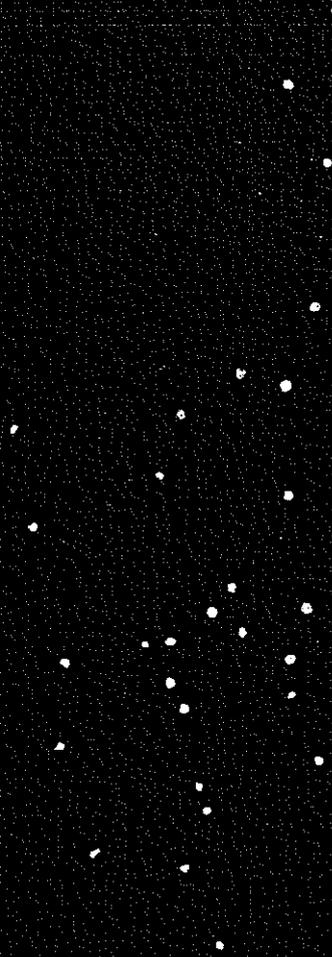
During one of their adventures the Brambrambult brothers "discovered a tree, in the fork of which was a recess 'dyattyar' containing some water, of which they had a good drink." (Mathews, 1904: 373). Mathews explains that if a forked tree is split slightly open by a windstorm when the tree is growing the wood around it decays and rots forming a cavity in time in the bole of the tree. During rain, water runs down the branches into the hollow until it fills. Such water remains for a long time being replenished by every shower. Locals can readily distinguish this tree owing to the discoloration of the bark caused by the overflow of water. (ibid.).

Mathews also describes the dance of the willy wagtail which is one of many dramatic performances carried out in camping places in the bush as part of the initiation process for boys." (ibid: 334).

Geographic reference

Duchembegarra is a rural district near Natimuk and also the name of a lake in the same locality. Its in the south-west part of Wergaia country. Blake says its possibly derived from the Aboriginal word dulkan (grey gum tree) and bungarra (sky). Neither of these are included in the Hercus word list. (Blake, 1977: 86).

Tourtchinboiongerra



Observed at Leon Mow Dark Site,
Heathcote, 15 June, 1996 at 8:00 P.M.
Looking North-north-west.

Tourtchinboiongera



Djin tree or needlewood, *Hakea leucoptera*
growing at Wemen near the Hattah-Kulkyne
National Park.



Photo: J. Morieson

TYRILLE

Stanbridge reference

"space (tyrille) ... tyrille (space) ..." (Stanbridge, 1857: 138).

Linguistic reference

Hercus writes it as "direl" or sky (Hercus, 1969: 202, 281) for Djadjala and as "tiril" or sky, heaven or up above for Wemba Wemba. (Hercus, 1992: 55). Explorer Edward John Eyre named Lake Tyrell after the Aboriginal word "derell"; above, sky or space. (Blake, 1977: 154).

Astronomical reference

See ecological reference below.

Visual reference

See photos.

Ecological reference

Goudie wrote about crossing Lake Tyrell earlier this century when it was dry and he saw it as a "glittering white salt pan, devoid of water, stretching away to the north as far as one could see. The day was very hot, and a quivering mirage hung over the 'lake' distorting the stunted clumps of Mallee and Paperbark trees, so that they assumed weird, fantastic, and apparently moving shapes; and it required little effort, he says, to imagine the shades of departed black fellows holding corroboree on the shores of this desert lake.

Some years ago, during the wet seasons, lake Tyrell was a magnificent sheet of water, some fifty miles in circumference. (Goudie, 1921: 137). The reflective effect of the lake has been tested and has been found to work extremely well. Thus on a still, clear moonless night with an inch of water covering the lake, it acts like a gigantic mirror with all the stars above reflected below. In a canoe in the centre of the lake would be like being suspended in space with the stars above and below and all around.

Cultural reference

Whilst the lake would appear to be central to the notion of the sky-earth connection, no documentary or oral evidence to this end has yet been located.

Geographic reference

Lake Tyrell north of Sea Lake, Tyrell Creek, Tyrell Downs and the parish of Tyrell, all nearby, are derived from the same Boorong source. (Blake, 1977: 154,262).

Stanbridge notes that the Boorong Tribe pride themselves on knowing more of astronomy than any other tribe. (Stanbridge, 1857: 137). Such knowledge of the sky is expressed by David Mowaljarli, "Everything under creation is represented in the soil and in the stars. Everything has two witnesses, one on earth and one in the sky. This tells you where you came from and where you belong - to your mother's land, your father's or grandfather's land or whichever place." (Mowaljarli and Malnic, 1993: 5).

UNURGUNITE

Stanbridge reference

"Unurgunite (a small star marked 5th Mag 22, between two larger ones in the body of Canis Major). He fights Mityan and makes him run away for having tried to induce one of Unurgunite's wives to run away with him. The stars on either side of Unurgunite are his two wives; that farthest from him is the object of Mityam's affections." (Stanbridge, 1857: 140).

Linguistic reference

"Nyurgen-nyurgen-djine" is a lizard, literally "bitten-bitten-foot", of species uncertain but was considered dangerous, injecting poison into people's feet. (Hercus, 1969: 211).

Astronomical reference

Stars in each constellation are given a letter of the Greek alphabet corresponding to the descending order of magnitude. The star of highest magnitude is designated Alpha, the next highest Beta, and so on. Unurgunite's reference star is Canis Major Sigma, meaning the eighteenth brightest star in that constellation. The computer charts came in handy for locating this star.

Visual reference

I saw the curve of Unurgunite's tail long before I located the small star "5th Mag 22". Now that I've identified a possible outline there is no problem in locating this figure. Also, see diagram.

Ecological reference

Unurgunite is most likely the Jacky Lizard, *Amphibolorus muricatus*, which has a yellow interior to the mouth and a yellow tongue. They sometimes bite but their jaws don't inflict much damage on a human hand. The tail is very long, the back feet are quite elongated and they are excellent climbers. They often wave one front limb in the air, at medium speed and in circular motion. No-one knows why (Bustard, 1970: 101-2). It eludes capture by running swiftly on its hind limbs to the nearest tree but if cornered it turns to face its pursuer with mouth agape. (Dewey, 1970: 78-9). The wide-open mouth has earned it the name of "Bloodsucker". Isaac Batey, writing in the *Victorian Naturalist* in 1907 refers to the "so-called Bloodsucker white, *Amphibolorus muricatus*" in his district. (Batey, 1907: 74).

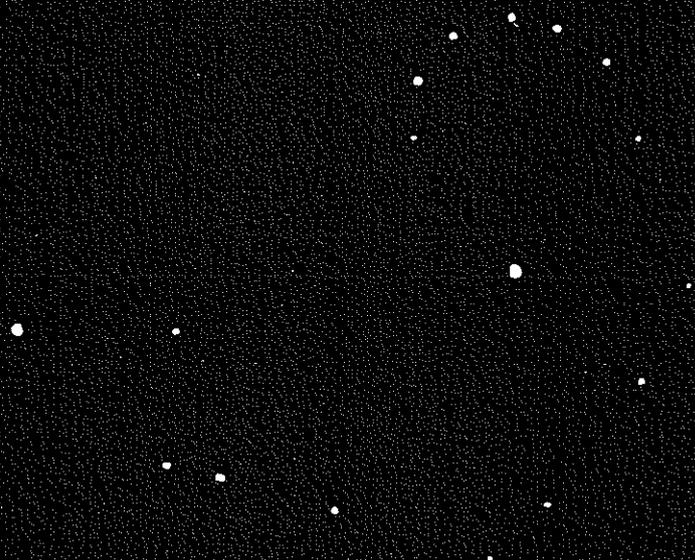
Cultural reference

Mathews mentions mallee lizard or "yurkun" as a subtotem of the Dyalup clan of the Gurogity moiety. (Mathews, 1904: 287).

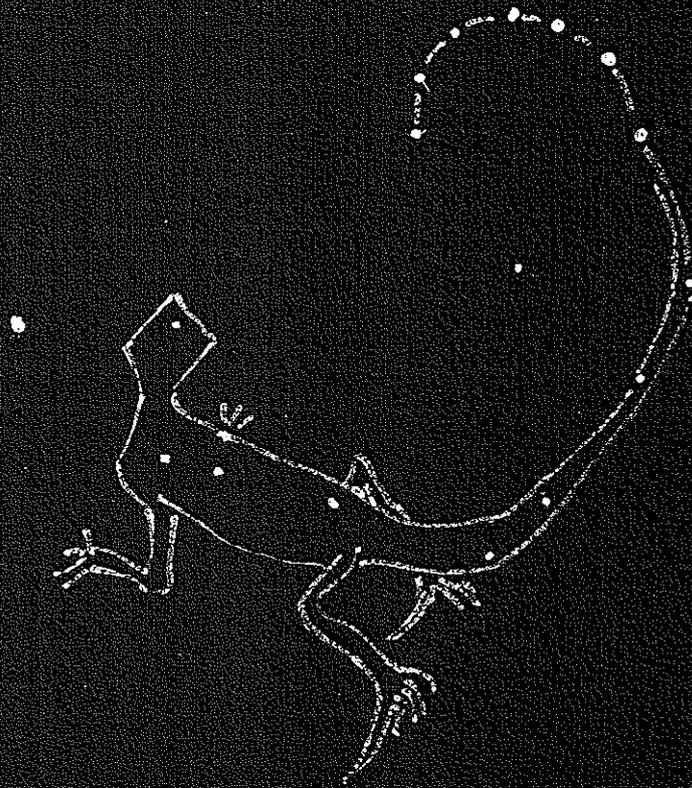
Geographic reference

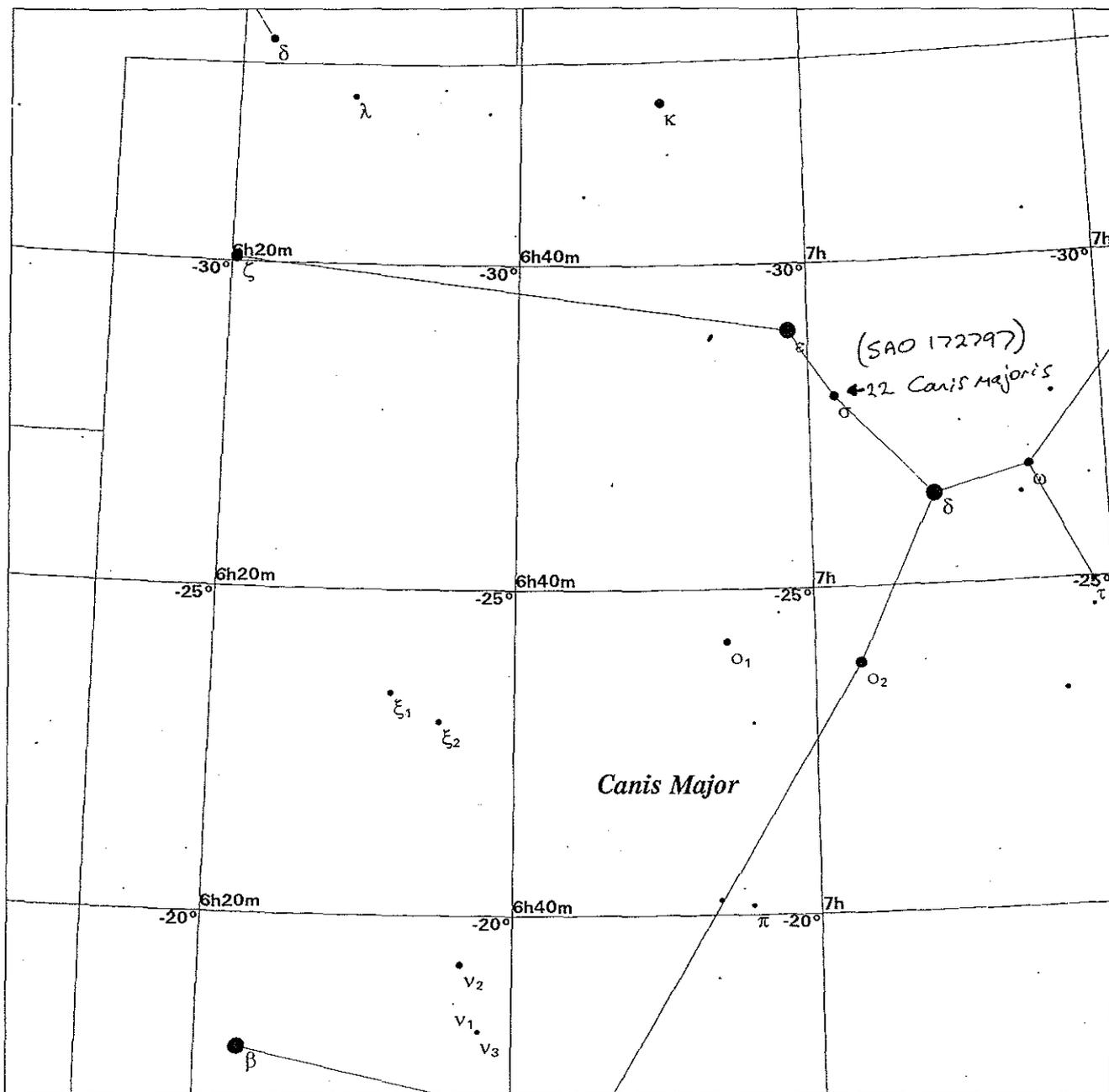
Nothing is known.

Unurgunite



Observed at Hattah-Kulkyne National Park
on 7 April, 1996 at 9:00 P.M.
Just West of overhead.





22 Canis majoris
 RA: 7hr 1m 43.16sec } J2000
 DEC: -27° 56' 5.5sec } coords
 Mag: 3.7

STARS	SOLAR SYSTEM		NOTES
● <2 - 4.5	☿ Mercury	♅ Uranus	⊕ Globular Cluster
● 2.5 - 5	♀ Venus	♆ Neptune	○ Open Cluster
● 3 - 5.5	♂ Mars	♇ Pluto	⊕ Planetary Nebula
● 3.5 - >6	♃ Jupiter	☄ Comet	□ Diffuse Nebula
● 4	♄ Saturn	♁ Asteroid	○ Other Object

Local Time: 13:59:33 12-Mar-1996 UTC: 02:59:32 12-Mar-1996 Sidereal Time: 23:59:36
 Location: 37° 49' 52" S 144° RA: 6h43m10s Dec: -25° 38' Field: 16.7° Julian Day: 2450154.6247

WANJEL

Stanbridge reference

"Yurree (Castor), Wanjel (Pollux), two young men that pursue Purra and kill him at the commencement of the great heat, and Coonartoorung (Mirage) is the smoke of the fire by which they roast him." (Stanbridge, 1857: 140).

Linguistic reference

The closest linguistic reference is the Wemba Wemba word "Waranyel" meaning large long-necked turtle. (Hercus, 1992: 63), 111). For the long necked or stinking turtle she cites "turmi-mum" in Wemba Wemba and "djib" in Djadjala Wergaia. (ibid: 56, 111); Hercus, 1969: 203). Mathews cites "widdyruk" for stinking turtle in his moiety list but does not include it in his vocabulary. (Mathews, 1904: 287; Mathews, 1902: 97-106). Wanjel, therefore, is still to be determined linguistically.

Astronomical reference

Beta Gemini, Pollux, the brightest star in the constellation of Gemini is an orange giant with a magnitude of 1.1.

Visual reference

The image resembles the common long-necked tortoise, *Chelodina longicollis*; see diagram.

Ecological reference

This tortoise has a long snake-like neck and when very young its undershell (the plastron) is marked with reddish-orange patches. If roughly handled they exude a clinging foul-smelling liquid. At the onset of winter they bury themselves under bushes or logs or in the mud at the bottom of creeks or billabongs. The female lays eight to twenty-four eggs and juveniles appear from January to March. (Cann, 1978: 49).

Tortoises are good eating and taken generally when the water in the creeks and billabongs is low, at the height of summer. (Kreffft, 1865: 369).

Cultural reference

The "stinking turtle" is listed in the Dyalup sub-group of the Gurogity moiety. The non-stinking variety is in the opposite moiety. (Mathews, 1904: 287).

Geographic reference

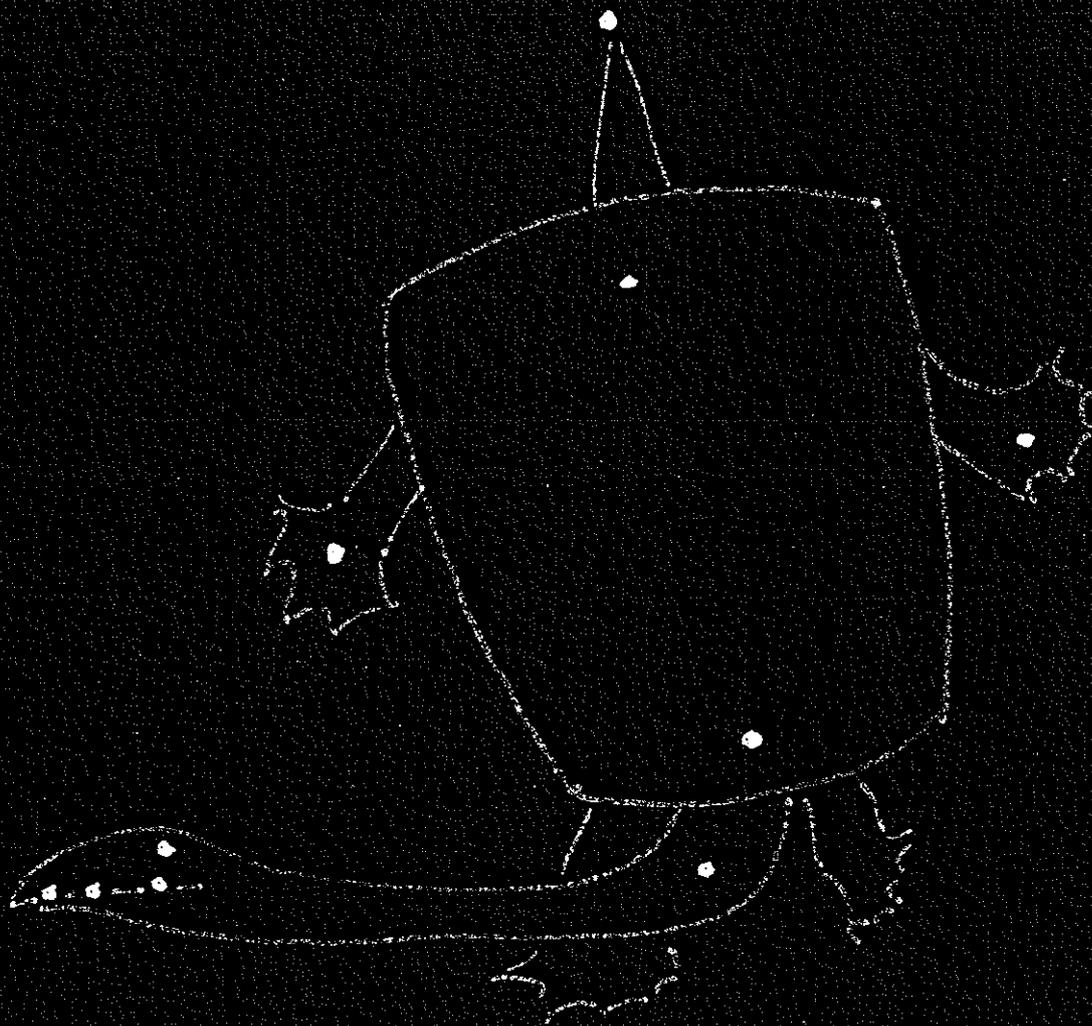
None.

Wanjel

153a



Observed at Hattah-Kulkyne National Park
on 16 April, 1995 at 8:00 P.M.
Looking North.



WAR

Stanbridge reference

"War (Male Crow) (Canopus), the brother of Warepil, and the first to bring down fire from (tyrille) space, and give it to the aborigines, before which they were without fire." (Stanbridge, 1857: 140).

Linguistic reference

"Wa" is crow in Djadjala. (Hercus, 1969: 252; Mathews, 1902: 100; Mathews, 1904: 289). Thus the pronunciation of War can be assumed to be "wah" rather than "wore".

Astronomical reference

Alpha Carinae or Canopus, the second brightest star in the sky, of magnitude -0.72 is a yellow-white supergiant directly in line between his brother Warepil and the south celestial pole. (Ridpath and Tirion, 1988: 100).

Visual reference

War is in the sky the whole year round but is at treetops level from July to September. See diagram.

Ecological reference

July to September is egg-laying time for the crow. (Frith, 1982: 578).

Cultural reference

It is the crow who told the Brambrambult brothers about the Ngindyal and where to find him. By seeking out the hero figures who ultimately succeed in having the man-eater destroyed the crow is demonstrating friendship and support for mankind. The crow also helped the brothers Bram to carry their weapons and to make positive identification of the Ngindyal. The relative positions of Tchingal and War in the night sky are a constant reminder that Tchingal pursues War and War always maintains his distance. (Mathews, 1904: 365-7). The connection between crow and people is supported in Mathew's moiety listings where crow totem "Wangaguliak" includes man. Of that totem heading "wa" is crow and "guli" is men. (ibid: 289).

Geographic reference

Waichie, the railway siding for Tyrell Downs station and the alternative name for William Stanbridge's sheep station, is derived from the word for crow, as is Wargan, a parish in the county of Millewa. (Blake, 1977: 270, 273). Wagant, a farming locality just north of Lake Tyrell, is also connected with War. (See photo)

155a

War

Observed at Hattah-Kulkyne National Park
on 3 September, 1995 at 9:30 P.M.
Looking South south-east.

War





Poignant memorial, but how many know the derivation of the name?

Photo: J. Morieson

WAREPIL

Stanbridge reference

"Warepil (Male Eagle) (Sirius), a chief of the Nurrumbunguttias, and brother to War." (Stanbridge, 1857: 139).

Linguistic reference

"Werbil" is eaglehawk in Hercus and "wreppal" is listed as eaglehawk by Mathews. (Hercus, 1969: 212,252; Mathews, 1902: 101). That its been dubbed eaglehawk is not a problem linguistically because the "wedge-tailed eagle, although one of the largest in the world, is commonly called 'Eaglehawk' by Australians" comments Mrs. V.H. Miller in the Victorian Naturalist in 1928. (Miller, 1928: 48). "Eaglehawk" is listed as an alternative to wedge-tailed eagle in the Readers Digest Complete Book of Australian Birds. (Frith, 1982: 129).

Astronomical reference

Sirius is a brilliant white star of magnitude -1.46, the brightest star in the entire sky. (Ridpath and Tirion, 1988: 94).

Visual reference

Its path is directly overhead from east to west in the late summer. See diagram.

Ecological reference

After their early morning quartering at tree-top level they may spend part of the day circling and gliding at heights of up to two thousand meters. The eagle seen overhead like a pinprick in the sky in the middle of a February day is still there at nightfall, only now it is Warepil, slowly making its way from east to west across the sky.

Cultural reference

Warepil is of the same moiety as his brother War although according to Mathews they are not the same sub-group. (Mathews, 1904: 289). War's totem is "Wanguguliak" or totem of the crow's men and Warepil is Dyallan or Whipsnake totem. However, Mathews, notes that the totem groupings are not closed and in some instances they merge with each other and share the same "miyur" or ancestral home. (ibid, 291). Such is the case with Wanguguliak and Dyallan who both "quench their thirst at Dyurnera," (ibid: 293) thus War and Warepil share the same ancestral home. "The spirits of the dead congregate in the myurs of their respective clans during their disembodied state, and from there they emerge and are born again in human shape when a favourable opportunity presents itself." (ibid). Mimicking the movements of the wedgetailed eagle is one of the elements of the Dolgarrity initiation ceremony described by Mathews. (ibid: 333).

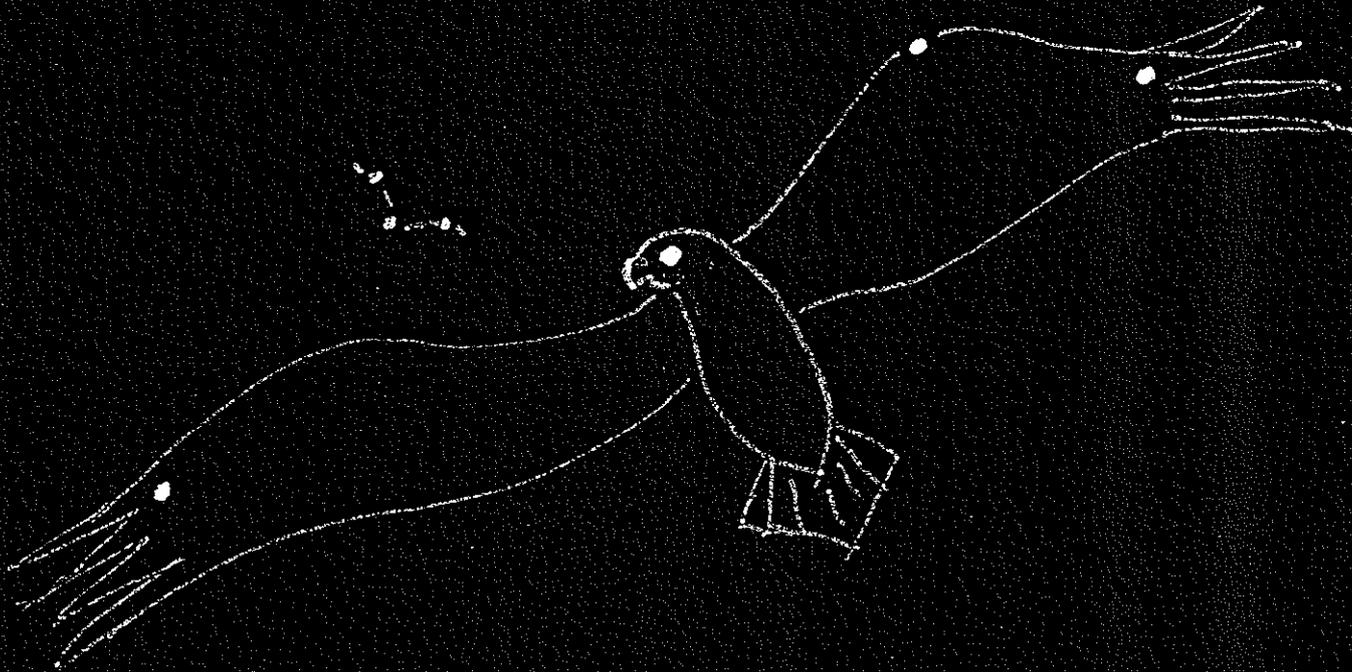
Geographic reference

Wirribiral is a parish in the county of Karkaroc named after the eagle. (Blake, 1997: 281).

Warepil

Observed at Hattah-Kulkyne National Park
on 16 April, 1995 at 8:00 P.M. Slightly
West of directly overhead.

Warepil



WARRING

Stanbridge reference

"Warring (Galaxy) - The snake of the fires of the Nurrumbunguttias. Another account is, that only a part of the Galaxy is the smoke of the fires of the Nurrumbunguttias, and that the other part is two Mindii, enormous snakes which made the Murray (Millee). (Stanbridge, 1857: 139).

Linguistic reference

"Warring" does not appear in any of the word lists.

Astronomical reference

Our sun and all the stars visible in the night sky are members of a vast aggregation of stars known as the Galaxy, a capital G distinguishes this one from any other galaxy. (Ridpath and Tirion, 1988: 278). It is spiral in shape, it is about 10,000 light years in diameter and contains at least 100,000 million stars. Most of these stars lie in a disc about 2,000 light years thick which, from Earth, appears as a faint hazy band crossing the sky on clear, dark nights. This band of stars is called the Milky Way and this term is often used as a name for the entire Galaxy. The plane of the Milky Way is tilted at 62° with respect to the Earth's celestial equator. (ibid).

Visual reference

It is assumed that the white hazy part of the Milky Way corresponds with the smoke of the fires of the Nurrumbunguttias. Its not yet been determined if the two Mindii are formed from the serpentine white haze or the long dark patches that lie within the haze.

Ecological reference

In flat desert country peopled by the Boorong, smoke can be seen from many kilometres away and Aboriginal people could read much intelligence from distant smoke whether for cooking, for hunting or for deliberate communication.

Cultural reference

David Mowaljarli makes a contemporary reference when he speaks of the relationship between the land and the sky. "As you sleep beside the campfire at night you may think you're stiff and turn over; in reality, you are following the Milky Way as it turns around the earth. Everything is represented in the ground and in the sky ... all is one, and we're in it. As you see the Milky Way, it ties up the land like a belt, right across." (Mowaljarli and Malnic, 1993: 5).

Geographic reference

Whilst it is not in the region under consideration, the rural district north-east of Nagambie known as Warring, once a railway siding, is named for a section of the Goulburn river and formerly spelt "Waaring". (Blake, 1977: 270).

WEETKURRK

Stanbridge reference

"Weetkurk (Star in Bootes, west of Arcturus), daughter of Marpeankurk." (Stanbridge, 1857: 140).

Linguistic reference

"Witguk" or "Wity-gurk" is the lark according to Mathews. (Mathews, 1902: 101; Mathews, 1904: 366). Hercus does not include this bird in her vocabulary for the Djadjala Wergaia.

Astronomical reference

Weetkurk's mother Marpeankurk is Arcturus or Alpha Boötis. Both travel an east-west circuit from April to early September using the nine p.m. marker. Their appearance coincides with Weetkurk's brother Djuit (Antares) a little more to the south.

Visual reference

Not yet ascertained.

Ecological reference

The singing bushlark sings aloft at considerable heights. Its a varied, tinkling song but includes the mimicry of other species. Generally a brown, buff or rufous color, its coloring is believed to adapt according to the local soil. It breeds from September to January which is when its song is chiefly heard. (Frith, 1982: 336).

Cultural reference

Wity-gurk, the lark appears in the first of the stories of the brothers Bram quoted by Mathews, but this bird does not appear in his moiety lists. After the Ngindyal had been considerably subdued by loss of blood the Brambrambult brothers drove her towards "what is now called Horsham Plain" (Mathews, 1904: 366). When the lark saw them coming he came out, carrying a bough in front of him to hide himself from observation.

When he was within range he cast a spear which struck the Ngindyal in the chest and killed her. As Mathews puts it, "the Brambrambults were somewhat annoyed with the lark for depriving them of the honour of slaying the Ngindyal; but as a common enemy had fallen, they did not quarrel about it." (ibid: 367). This brief reference teaches how to successfully hunt the emu, the essentials of team-work and restraints on personal pride when working toward the common goal.

Another lark story related by Mathews explains the origin of Morton Plain, a locality just south of Birchip. (ibid: 282-3).

Geographic reference

Nil.

WON

Stanbridge reference

"Won (Corona), a boomerang thrown by Totyarguil." (Stanbridge, 1857: 140).

Linguistic reference

Mathews cites boomerang as "gattimgattim" in his Tyattyalla word list, Stone has "wan" and Hercuys lists "wan" for Wemba Wemba. Her entry for Djadjala Wergaia is "gadim-gadim". (Mathews, 1902: 103; Stone, 1911: 441; Hercus, 1992: 62,82; 1969: 204,255).

Astronomical reference

The question is, to which Corona does Stanbridge refer, Corona Borealis in the northern hemisphere or Corona Australis in the southern hemisphere? Each has equal billing in astronomy reference books, so it is by a process of elimination that a final assumption is made. Manipulation of the planisphere reveals that Corona Borealis leaves the northern sky before Aquila (Totyarguil) is at its most prominent. In contrast, Corona Australis being roughly in line with and at a mid-point from the south celestial pole from Totyarguil means that Corona Australis is always in the sky when Aquila is in the sky.

Visual reference

Both Coronas are curves of stars that can easily be seen to represent a boomerang.

Ecological reference

To be determined when the typical shape and timber is known.

Cultural reference

Stanbridge comments;

"That curious weapon, the boomerang, varies much in size; on the Darling it is about three feet long, whereas on the Murray, and to the south of that river, it is not more than twenty inches in length. When used in hunting, it is, like the waddie, thrown directly at the object."

(Stanbridge, 1861: 292)

According to Mathews, a hunter carries weapons made from the wood of each moiety. Spears, boomerangs, clubs, spear-levers and shields may belong to either moiety, according to the kind of tree from which they have been cut. This matter is also sometimes determined through the owner of the weapon in question. If he throws at a Gamaty animal, he uses a Gurogity missile, but Gurogity game are killed with Gamaty weapons. (Mathews, 1904: 294-5). Since there is no information as to where the boomerang is headed or from what wood the instrument is made, then not much else can be concluded from the Stanbridge excerpt. However, a general purpose use is described by EPS Sturt, Commissioner for Crown Lands for the Murray District in 1853. He says

"It is curious to observe the skill shown by the natives in their pursuit of game. They catch vast numbers of ducks in an ingenious manner. The lagoons run for some length, narrowing at the end, where the trees close in; two or three blacks plant themselves near this narrow pass, having extended a large net from tree to tree; the others then proceed to the top of the lagoon driving the ducks before

them. As they fly by the ambushade, they throw their boomerangs whizzing over the heads of the birds, which, dreading that their enemy, the hawk, is swooping at them, make a dash under the trees, strike the net, and fall as if shot, when the natives dash in after them ... I have seen a hundred caught by such means."

(Bride, 1969: 371. EPS Sturt, Commissioner for Crown Lands for the Murray District, 1853).

Geographic reference

None in the defined area.

YERREDETKURRK

Stanbridge reference

"Yerredetkurk (Archnar) - Nalwinkurk, as mother of Totyarguil's wives. The nalwinkurk never allows her son-in-law to see her." (Stanbridge, 1857: 40).

Linguistic reference

Hercus records "djeradedjurg" as owlet-nightjar. (Hercus, 1969: 203,253). Whilst its not included in Mathews bird list (Mathews, 1902:100-1) a firm reference is made to "Yerretgurk" as the mother-in-law of Thattyukul (Totyarguil) who, at the end of the story was transformed into Alpha Eridani or Achernar. (Mathews, 1904: 285-6).

Hercus also includes "njalin-gurg" as mother-in-law. (Hercus, 1969: 210). Stone includes both "yerradedgourk" for owlet nightjar and "gnalling gourrk" for mother-in-law. (Stone, 1911: 448,438).

Astronomical reference

Archnar is a blue-white star of magnitude 0.5, the brightest star in the rather faint constellation of Eridanus. (Ridpath and Tirion, 1988: 142). It is always in the southern sky circling the south celestial pole.

Visual reference

A bird in flight with wings outspread carrying its prey in its claws underneath is what might be imagined; see diagram.

Ecological reference

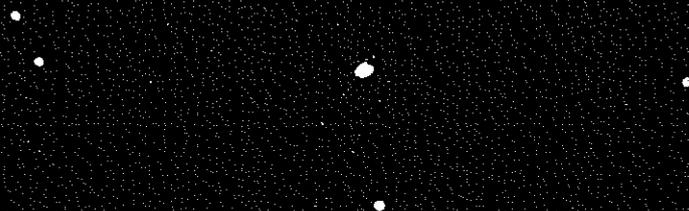
Of all the Australian nocturnal birds, the owlet-nightjar is the most widespread but one of the least often seen. (Frith, 1982: 311). It roosts inside hollow trees during the day, its quite small and most of its bulk is made up of soft grey plumage. (ibid). When resting it refuses to be flushed from its nest and will sit tight rather than leave its eggs or young. (ibid). It breeds from September to December.

Cultural reference

Social distance and tension are evidence in the relationship between Yerredetkurk and Totyarguil in the story as narrated by Mathews. (Mathews, 1904:285-6). Mother-in-law, son-in-law avoidance is typical across a large part of Aboriginal Australia and it is reflected in the actual movement of the representative stars, Archernar and Altair. They are in geographically distant parts of the sky and move in opposition to each other, relatively speaking, which reflects the symbolic and actual relationship between the two Creation Heroes. The owlet nightjar has a special place in the lives of women in the south-east part of Australia. (ibid: 339).

Geographic reference

Nil.

Yerredetkurrk

Observed at Gunbower State Forest
on 9 March, 1996 at 9:30 P.M. E.S.T.
Almost directly West of the South
celestial pole.

Yerredetkurrk



YURREE

Stanbridge reference

"Yurree (Castor), Wanjel (Pollux), two young men that pursue Purra and kill him at the commencement of the great heat, and Coonartoorung (Mirage) is the smoke off the fire by which they roast him. When their smoke is gone Weeit (Autumn) begins." (Stanbridge, 1857: 140).

Linguistic reference

Yurree appears to be an abbreviation of "yurin-yurin-njani" the stormbird or fantail cuckoo, *Cuculus flabelliformis*. (Hercus, 1969: 214). Not listed by Mathews.

Astronomical reference

Alpha Geminarum, Castor, is an astounding multiple star consisting of six separate components. To the naked eye it appears as a blue-white star of magnitude 1.6, but a small telescope reveals a ninth magnitude red dwarf companion. (Ridpath and Tirion, 1988: 146).

Castor is first sighted mid to late August just before dawn and disappears in the early evening in late February. Its at its most prominent high point in the northern sky at midnight in mid-January.

Visual reference

See diagram.

Ecological reference

Like other cuckoos, the fan-tailed cuckoo lays its eggs in the nests of other birds, usually in the dome-shaped nest of the thornbill. It breeds August to December. Throat and breast are a dull rufous color and its tail is a dark shiny blue. (Frith, 1982: 296).

Cultural reference

No documentary or oral reference to either Yurree or the fantail cuckoo have been found.

Geographic reference

Nothing is apparent at this stage.

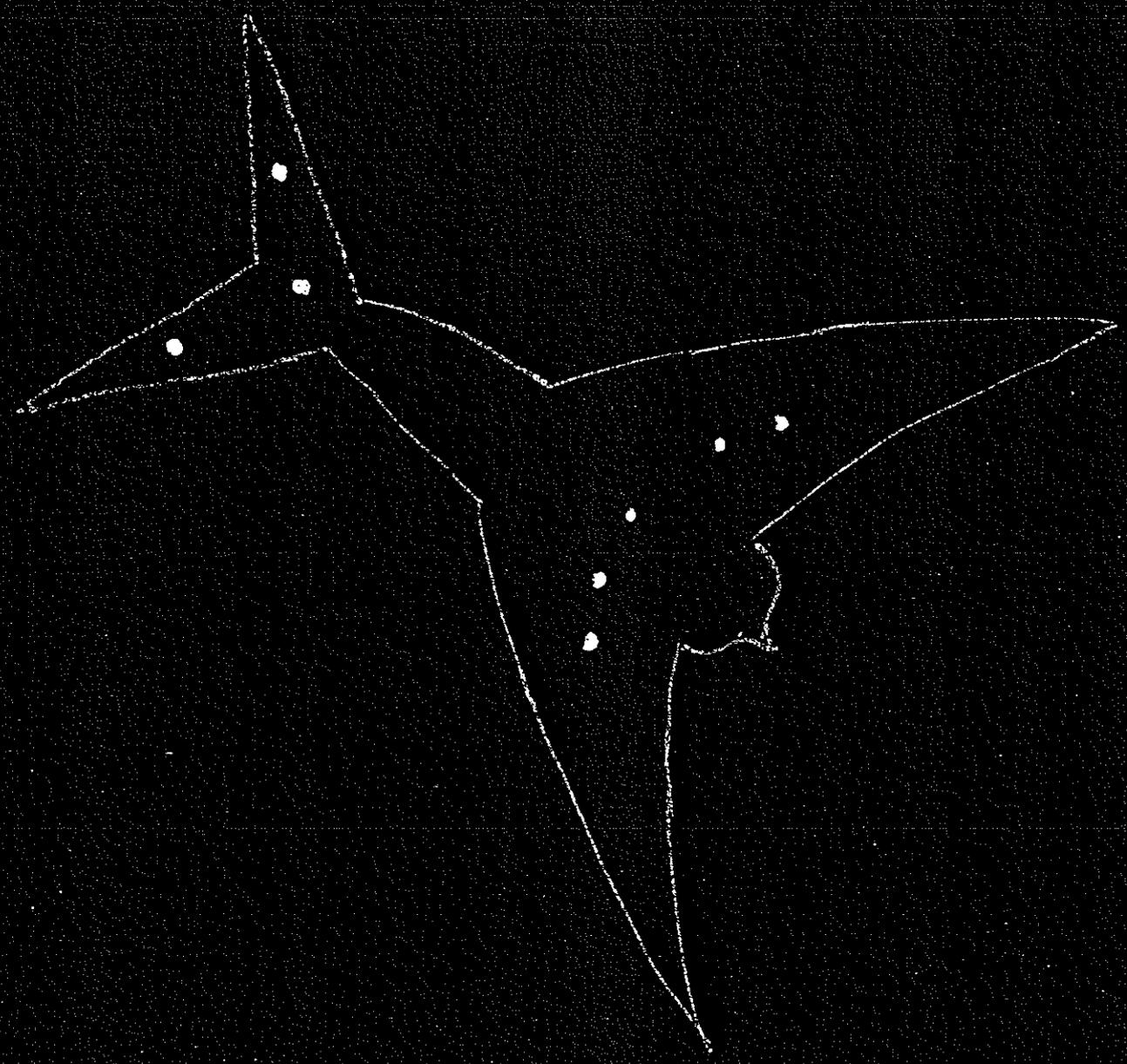
Yurree

167a

Observed at Hattah-Kulkyne National Park
on 16 April, 1995 at 8:00 P.M.
Looking North.

Yurree

167b



POSTSCRIPT

This drawing is a copy of an original drawing on soot-blackened bark from the interior of an Aboriginal dwelling at Lake Tyrell. It was collected by William Stanbridge and is now in the Koorie exhibition at the Museum of Victoria. A sharpened stick or bone point may have been used to create the series of typical scenes. The snake in the sky, left middle, may be a representation of the Mindie. Lower foreground is a dance ground with men dancing, women beating time and one bearded man appears to be leading the dance. In the centre a man is poling his punt while aiming at a fish with his spear. Top left is a man stalking emus while opposite two hunters wait patiently, one smoking a pipe, the other holding a rifle, each indicating therefore that the drawing was done after European contact. Their traditional weapons and a dilly bag lie on the ground behind them. The placement of the wattle and daub hut near where the creek enters the lake at the bottom of the picture is where the original Stanbridge cottage is believed to have been constructed at Lake Tyrell.

