

THE CASE STUDY OF THE BOORONG

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Abstract

They were here as recently as 150 years ago. They spoke about the main players in their celestial domain and pointed them out in the night sky. Today they are gone and the reconstruction of their cosmology has required the breadth of the nineteenth century natural philosopher, drawing on zoology, botany, and linguistics, ethnography, geography and anthropology, as well as patient, long-term naked eye observation. It has been an exciting and stimulating task to gradually unfold these stories of the Australian Aboriginal clan who were regarded by neighbouring clans as the best astronomers in the region.

Key Words: Australia, Aboriginal, Boorong, ethnoastronomy.

Introduction

I got to the stars via stone arrangements constructed by Australian Aboriginal people in my home state. One of these stone arrangements has a line of symmetry running due east and west, and on investigating, I discovered a possible means by which these stones had been placed to create this line.

There are strong cultural reasons why a ceremonial site should be constructed on an east-west alignment. East symbolises rebirth and is an important focus of initiation rituals for boys entering manhood. West symbolises death and is a part of funerary rites.

This arrangement is known as Wurdi Youang, the local clan was the Worin Buloke, but these people had all been killed or died within twelve years of the British arriving. So, there are no descendants to tell us the story of this place.

We note that three large rocks at the western end mimic the height of hills on the horizon and that small stones outside the perimeter line up with the setting sun at the solstices and the equinox (*centre right*).

And from the diagram (*right*), we see the little stones outside the perimeter of the very large stones line up with



Fig. 1. Wurdi Youang, Victoria, Australia.



Fig. 2. Western end, Wurdi Youang.

the setting sun at the solstices and at the equinox. This investigation took two years of regular observations before I was able to establish this possibility.

Having worked out how this ceremonial place may have been constructed, I then wished to know if there might be a connection with the stars, as well as the sun.

Background

I came across a paper by William Stanbridge who addressed the Philosophical Institute in Melbourne in 1857, one hundred and fifty years ago.

Stanbridge was the first Englishman to take up residence in the country of the Boorong, which is in what we now call northwest Victoria. Often cloudless during the day, this dry country is a spectacular star-filled vista at night. Stanbridge wrote that the Boorong “pride themselves upon knowing more of Astronomy than any other tribe” (Stanbridge 1857, p.137).

The nearby lake they called “direl” because even though most often dry, it is salt encrusted, absorbs moisture from the atmosphere, and in its few centimetres covering of water, provides a mirror image of the night sky. “direl” in the local language means “night sky” or “space”.

In his notes, Stanbridge wrote down the name of the forty stars or constellations given to him by the Boorong, added the European equivalent, and wrote a cryptic clue for each celestial name. The first one I looked for was ‘Neilloan’.

“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 in to 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, p.138-39).

We can call this extract the ethnological reference.

The Research

The first thing I had to do was learn about the lowan, also called the malleefowl. I found the authoritative text and commenced to read the ornithological account. At the same time I looked for Neilloan in the night sky. I found her by looking for Lyra, or by first

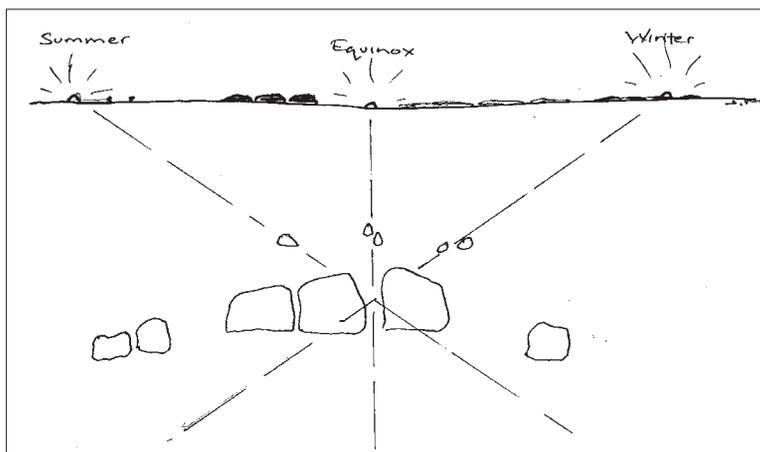


Fig. 3. Possible solstice & equinox markers.

finding Vega, courtesy of the European sourced astronomical manual.

I started as an astronomical novice, but I turned this into an advantage. Instead of looking for a musical instrument I looked for a malleefowl. And I noticed that the positioning of the stars seemed to resemble the outline of the bird in profile. I was astounded. But I was also dismayed because I could see only Vega unassisted. I had to use binoculars to see the other stars and I knew that these were not available to the thousand generations of the Boorong. However I learned from an eye specialist that Aborigines had significantly better eyesight than the mainstream population and can see these stars unassisted. Thus knowledge of human physiology was important.

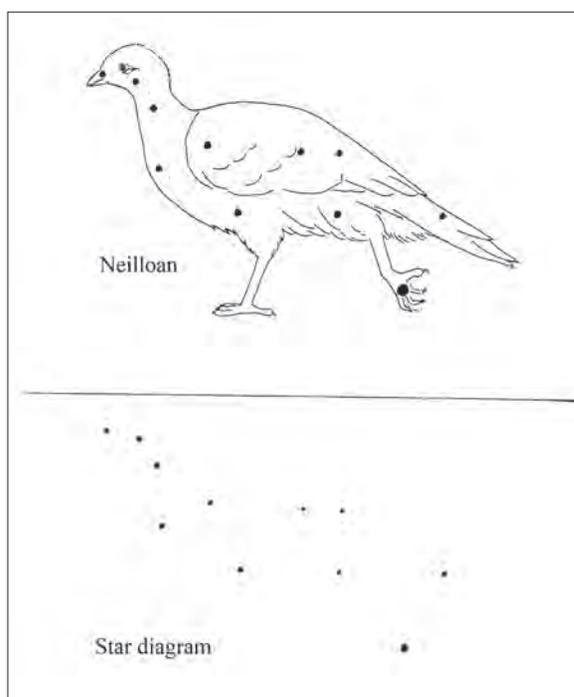


Fig. 4. Boorong constellation of the malleefowl.

And as I read more about the malleefowl I became quite excited. There seemed to be a series of coincidences between the life of the malleefowl on earth and with Neilloan in the night sky. The first is that the appearance of Neilloan in the Southern Hemisphere sky, from March to October, coincides with two significant occurrences on Earth. March is when the malleefowl begins to refurbish its laying mound for the next season's egg production. This continues off and on until October when the egg-laying season begins, as long as the weather has been propitious. This is when Neilloan leaves the sky. As Stanbridge puts it, "*When she sits with the sun the Loan eggs are in season*".

Malleefowl do not sit on their eggs to incubate them. They use the warmth of the laying mound instead and have adopted all kinds of strategies to keep the temperature of the egg chamber at a constant 23°C. Early in the season, the organic matter, when wet, will rot and ferment and this process supplies sufficient heat to incubate the eggs. As summer arrives and the ground heats up, the malleefowl will remove material to allow the sun's rays to penetrate and will close the mound to retain the heat as the temperature drops.

The female lays eggs every few days, uses massive amounts of energy to do so and therefore spends most of her time feeding. The male tends the mound, keeping the temperature constant and keeping predators at bay.

Another coincidence relates to the Lyrid meteor showers in April, June and July. The Boorong people could have seen these as the stones and grains of sand kicked into the air by the malleefowl as adjustments being made to the mound. The kicking foot of Neilloan is the major star in the constellation, being Vega, the fifth brightest star in the sky. These are things I have learnt from astronomy and zoology that help build a case for a malleefowl constellation as described by the Boorong.

Broadening the Case Study

Linguistics too helps us build a case for this bird having special qualities as well. Whilst "Loan" is a widely used alternative mainstream name for the malleefowl, the "Neil" prefix is not used. In one local Aboriginal language, "Neil" means a magical or special status. For instance, "Neilgroonye" is the Doctor's charm bag or poison bag. Neilloan has not been placed in the night sky for ecological reasons alone and her special status probably means that she was a Creator Being for the Boorong.

On earth, "lowan" is also used as a place name. In northwest Victoria, the parish of Lowan is also in

the County of Lowan. A Shire of Lowan was created in 1875, possibly coinciding with the demise of the Boorong clan. The use of this name for localities provides a geographic insight, which may also hint at an anthropological connection.

In Australia many place names are derived from Aboriginal language usage and because Australian Aborigines have a very close relationship with the land certain places are endowed with special properties of species maintenance. One instance is a stone arrangement elsewhere in Victoria that is in the shape of an active malleefowl mound and we believe it was a place where increase ceremonies were performed to honour this bird and ensure the maintenance of it as a species and food source. Thus the place name "lowan" may not just have meant the presence of the lowan bird or malleefowl, but also a place where it was honoured and respected.

This strong relationship with the land meant the Boorong could have trust in its ability to provide sustenance. This is reflected in Stanbridge's comment that Neilloan is the "discoverer of the Loan eggs which knowledge she imparted to the Aborigines".

Identification with the Malleefowl

Malleefowl eggs are large, highly nutritious and very tasty. When the Boorong observed the disappearance of Neilloan from the sky they would know that the laying season had begun and they might head off for malleefowl country for a change of diet and an easily obtained egg supply. And while they were there, another aspect would unfold. The Aboriginal parent and child would observe much about the daily life of the malleefowl pair that was applicable to their own behaviour.

Much of the activity at the mound is gender-specific: foraging and egg-laying by the female, nest maintenance and temperature monitoring by the male. Other activities require teamwork. Together they remove and replace organic material at the top of the mound to increase or reduce the temperature inside the egg chamber. When digging out the egg chamber, as the cavity deepens and a single kick won't get the sand and debris over the rim of the mound, one bird will work halfway up the side of the egg chamber so that as sand is kicked up from the bottom by one bird, the higher bird puts it over the rim. They also seem to converse together. The appearance of the female at the mound is always greeted with a series of deep-toned utterances from the male and as long as the female is nearby he continues to make these sounds. The female responds in kind.

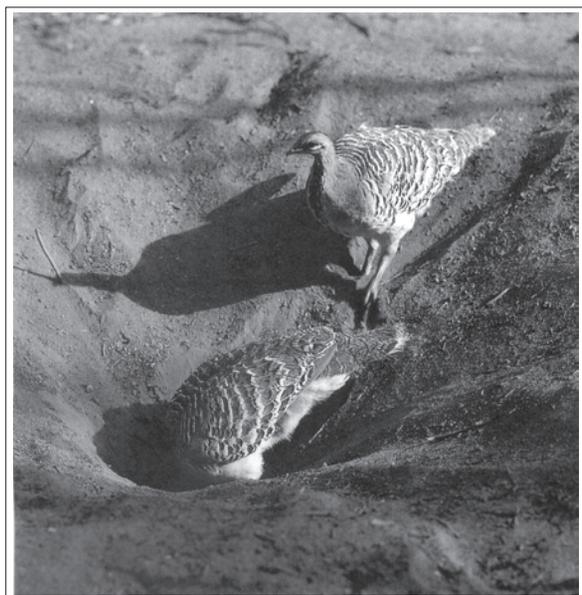


Fig. 5. Example of teamwork.

Thus the malleefowl provides an excellent role model for human behaviour in that they mate for life, demonstrate specialised gender responsibilities, demonstrate teamwork and cooperation, mutually defend their territory, cooperate in the daily search for food and possess the patience and tenacity required during a successful breeding period.

Observation of Neilloan in her passage across the sky during the non-gathering period would remind and reinforce the knowledge gained from patient observation. So these might be termed anthropomorphic and sociological insights.

Socio-Legal Aspects of Boorong Astronomy

We can make a further anthropological comment when we learn about other celestial beings that were described by Stanbridge. We discover, for instance, that Neilloan's son is 'Totyarguil', a purple crowned lorikeet located in our northern sky based on Aquila. We find from our ethnographic source that he is the creator of the mighty Murray River and a Dreamtime hero of epic proportions. Totyarguil inherits his mother's moiety but has a different "skin" name, so will have to marry someone from a preferred clan within the other moiety.

We discover from Stanbridge that the mother of Totyarguil's wives is also in the sky, but in the south, based in Achernar. Her name is Yerredetkurrk and her earthly counterpart is the fairy owl or owl nightjar. When we note the movement of Totyarguil in and out

of our northern sky we observe an interesting inverse correspondence with Yerredetkurrk. As she ascends the southern sky, Totyarguil descends and disappears. As she descends to the treetops, it is Totyarguil's turn to reappear and become ascendant. This relationship mimics a strongly held law that is evident in all traditional Australian Aboriginal communities being that of mother-in-law/son-in-law avoidance. Transgression may be punishable by death for its observance is absolutely of paramount importance for maintenance of genetic hygiene in small population pools.

Archaeological investigation at Lake Tyrrell, [the Anglicised version of "direl"], lead us to accept an occupation date of 30 to 40 thousand years. This means that there may have been over a thousand generations of people continuously using this country. Small wonder then that a giant text-book of the land was created in the sky to provide instruction in the law, morality, role models, seasonal food gathering and a multitude of other teachings and knowledge that are reflected in the rest of the Boorong celestial panoply.

Conclusion

Thus in my exploration of the four pages of cryptic clues bequeathed firstly to William Stanbridge by the Boorong and from Stanbridge to us, I have sought explanation through western astronomy, ornithology and zoology, linguistics, anthropology and sociology, archaeology and geography, ethnology and ethnography, and human physiology. It has been, and continues to be, a very exciting and stimulating journey and I am very proud to be able to bring this insight into the intelligence and intellectual powers of a vanquished people who did not require literacy to transfer their knowledge from generation to generation, but instead used the stars and their superlative imagination to do so.

References

[The format of this list reflects the multi-discipline research methodology]

- Anthropology and Archaeology**
 BERNDT, R. M. and BERNDT, C. H., 1981. *The World of the First Australians*. Sydney: Lansdowne Press.
 MOWALJARLI, D. and MALNIC, J., 1993. *Yorro Yorro*. Broome: Magabala Books.
 STREHLOW, T. G., 1945. *Aranda Traditions*. Melbourne: Melbourne University Press.
 RICHARDS, T., PAVLIDES, C., WALSHE, K., and WEBBER, H.J.R., 2007. Box Gully: New Evidence for Aboriginal occupation of Australia south of the Murray River prior to the last glacial maximum. *Archaeology in Oceania*, 42, 1-11.

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VII. ARCHAEOLOGY, FOLKLORE AND THE RECOVERY OF PAST ASTRONOMIES

Astronomy (Aboriginal)

- HAYNES, R. D., 1992. Aboriginal Astronomy. *Australian Journal of Astronomy*, 4 (3), 127-140.
- MORIESON, J., 2006. From Archo to Ethno – An Indigenous Australian Astronomy: The Story of Action Research into Boorong Astronomy since 1995. In: T. BOSTWICK and B. BATES, eds. *Viewing the Sky Through Past and Present Cultures. Oxford VII Selected Papers*, Pueblo Grande Museum Anthropological Papers, 15, 139-148. Can also be viewed on www.bdas.50webs.com
- MORIESON, J., 2003. *The Astronomy of the Boorong*. Paper delivered to World Archaeological Congress (WAC5), Archaeoastronomy of the Old World and Oceania. Washington D.C.
- MORIESON, J., 2003. *Solar Based Lithic Design*. Paper delivered to World Archaeological Congress (WAC5), Archaeoastronomy of the Old World and Oceania. Washington D.C.

Astronomy (Western) and History of Astronomy

- KRONK, G. W., 1988. *Meteor Showers: A Descriptive Catalogue*. Hillside, NJ: Enslow Pub Inc.
- RIDPATH, I. and TIRION, W., 1988. *Collins Guide to Stars and Planets*. London: Collins.
- ALLEN, R.H., 1963. *Star Names, Their Lore and Meaning*. New York: Dover.

Ethnology/Ethnography

- MATTHEWS, R. H., 1904. Ethnological Notes on the Aboriginal Tribes of New South Wales and Victoria. *Royal Society of NSW*, 1, 203-381.
- STANBRIDGE, W. E., 1857. On the astronomy and Mythology of the Aborigines of Victoria. *Proceedings of the Philosophical Institute*. Melbourne.

Geography

- BLAKE, L., 1977. *Place Names of Victoria*. Adelaide: Rigby Limited.
- CLARK, I. D., 1990. Aboriginal Languages and Clans. *Geography*, 37. Melbourne: Monash University, 1800 – 1900.

Human Physiology

- TAYLOR, H. R., 1981. Racial Variations in Vision. *American Journal of Epidemiology*, 113(1), 62-80.

Linguistics

- BROUGH SMYTH, R., 1898. *The Aborigines of Victoria*. Vols 1, 2. John Curry O'Neill.
- HERCUS, L., 1969. *The Language of Victoria: A Late Survey*. Canberra: Australian National University.
- STONE, A. C., 1911. The Aborigines of Lake Boga, Victoria. *Royal Society of Victoria*, 23(2), 433-469.

Ornithology

- BERULDSSEN, G., 1980. *A Field Guide to Nest and Eggs of Australian Birds*. Adelaide: Rigby.
- FRITH, H. J., 1962. *The Malleefowl*. Melbourne: Angus and Robertson.

Sociology

- HARRIS, S., 1977. *Millngimbi Aboriginal Learning Contexts*. PhD dissertation, New Mexico University.
- ONG, W. J., 1982. *Orality and Literacy: The Technologizing of the Word*. London: Methuen.

Zoology

- PIZZEY, G., 1966. *Animals and Birds in Australia*. Melbourne: Cassell Australia.
- STRAHAN, R., ed., 1983. *The Australian Museum Complete Book of Australian Mammals*. Melbourne: Angus and Robertson.

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BŪRUNGŪ SOCIALINIAI TYRIMAI

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Santrauka

Būrungai (Boorong) – Australijos aborigenų gentis – gyvenusi dar prieš 150 metų. Šiandien būrungų nebėra, ir jų kosmologijai rekonstruoti būtinas XIX a. gamtos filosofo akiratis, įskaitant zoologiją, botaniką, lingvistiką, etnografiją, geografiją bei antropologiją, ir kantrus ilgalaikis stebėjimas. Tai jaudinantis ir įkvepiantis uždavinys: pamažu atskleisti šios Australijos aborigenų genties, kurios žmonės kaimyninės gentys apibūdino kaip geriausias regiono astronomus, pasakojimus. Didžiausia Australijos tyrinėtojo atsakomybė – siekti sugrąžinti šias, geriausiai atveju interpretacines, žinias būrungų palikuonims. Būrungai, kaip ir kiti Australijos aborigenai, įsibrovus europiečiams, patyrė didžiulius socialinius sukrėtimus, ligas ir išmirė. Jų palikuonys tikrai egzistuoja ir kartu su australais stebisi bei gėrėsi iš naujo atrandama šios genties astronomija.

Vertė Jurgita Žukauskaitė