INTRODUCTION

The Milky Way is Warrambool ... There is one old man up there who was once a great rainmaker, and when you see that he has turned round as the position of the Milky Way is altered, you may expect rain; he never moves except to make it ... (Parker, 1905: 95).

By drawing upon the available literature, museum and library archives, artworks, ethnographic fieldwork and archaeological studies, we are now gaining a better understanding of the true extent and wealth of Aboriginal and Torres Strait Islander astronomical knowledge (e.g. Norris, 2016). What is becoming clearer is just how much this astronomical knowledge is integrated into every aspect of daily life, particularly its prominent role in ceremony. Although several early Australian ethnographers recorded such ceremonies in detail, the fact that they lacked any formal qualifications or training in astronomy makes it likely that many subtle clues relating to astronomical content and connections to the sky-world were missed. One such case is explored in detail here.

Among the extensive list of publications by Robert Hamilton (R.H.) Mathews (1841–1918), is a detailed record of a Wiradjuri male initiation ceremony, or Burbung, which was held at Bulgeraga Creek, New South Wales (NSW) (Mathews, 1896b; 1897a). The Wiradjuri (var: Wirad-yuri) people of central NSW, Australia, represent the largest Aboriginal language group in the State, and second largest in Australia (Figure 1). Having cultural and linguistic similarities to their neighbours, such as the Kamilaroi (var: Gamilaroi/Gamilaraay) and Ngemba (var: Ngiyampaa) (Fuler et al., 2014a; 2014b), astronomical knowledge is deeply embedded within Wiradjuri culture (Ham-
However, as is the case throughout Aboriginal Australia, invasion, colonisation and forced displacement caused a significant fragmentation of Wiradjuri traditional knowledge (e.g. see MacDonald, 1998; Read, 1983; 1984), hampering efforts to recover and determine the full extent of this knowledge.

In his observations, Mathews describes the physical layout of the Burbung initiation grounds, and outlines the proceedings of the ceremony. Of particular note was his detailed description of a Dreaming associated with the ceremony involving the important ancestral creator Baiami, and his pursuit of an emu. As both figures are represented in the Wiradjuri skyworld as constellations, we explore the possibility that this Dreaming narrative of a seemingly terrestrial event is in fact a reflection of events occurring in the skyworld. We analyse this story, along with evidence from rock art depictions of Baiami from the Sydney Basin, to determine the orientation of Baiami in Orion that best fits the narrative. His chasing of the emu in the narrative also appears to describe the movements of both constellations around the South Celestial Pole (SCP), similar to the later Greek story of Orion chasing Scorpius across the sky.

2 ROBERT HAMILTON MATHews: A BIOGRAPHICAL SKETCH

The Australian-born Government surveyor and anthropologist R.H. Mathews (Figure 2) observ-
ed and recorded the culture of many south-eastern Aboriginal language groups, including the Wiradjuri. Being self-taught in the field and lacking any formal qualifications, he was often derided privately and publicly by his British-born university-educated peers, Walter Baldwin Spencer (1860–1929) and Alfred William Howitt (1830–1908), who saw Mathews as something of a ‘colonial upstart’ (Thomas, 2012: 343–345).

Other contemporaries from outside Australia, such as folklorists Edwin Sydney Hartland (1848–1927) and Andrew Lang (1844–1912), although caught up in their own personal disputes, were more supportive and appreciative of Mathews’ work, often comparing and exchanging field notes and ideas via frequent correspondences (Thomas, 2012: 270; 280–281).

Mathews’ extensive and detailed accounts of Aboriginal daily life and culture are indicative of the level of rapport he had developed with his Aboriginal peers, often being allowed to witness and record secret-sacred ceremonies normally off-limits to non-initiates. His ethnographic records have more recently been used in support of several Aboriginal native title claims (Thomas, 2012:196). Mathews’ interest in anthropology was initiated by first encountering the creation ancestor Baiami painted in a rock shelter at Milbrodale, in the Hunter Valley, NSW (Mathews, 1893; Thomas, 2012: Chapters 1 and 6). Mathews was to encounter this figure time and again during his years among south-eastern Aboriginal peoples, as Baiami is strongly associated with the land and skylapse of many of the neighbouring language groups, including Muruwari, Ngenba, Wallawa, Wongaibon, Euahlayi, and Kamilaroi (Berndt and Berndt, 1977: Eliade, 1966; 1967a; 1967b; Hartland, 1896; Lang, 1899; Mathews, 1994; Parker, 1905; Tindale, 1983).

Another equally important ancestral figure associated with the Burbung and the Burbung, and encountered by Mathews during his research, was the malevolent shapeshifter Daramulun.

3. THE BURBUNG AND THE MILKY WAY

Baiami (var: Byamee, Baiame, Byama, or Baiamal) and Daramulun (var: Dharamulun or Dhurramulpan) are two powerful ancestral creator beings, each playing an important role in the Burbung ceremony where boys are ‘made’ into men. According to Hartland (1898), Baiami made the Earth, water, sky, animals, and people. He made the rain come down and grass to grow, and welcomed good people to his ‘home’ in the Milky Way (a place of peace and plenty) upon their passing.

Daramulun is a gigantic and powerful being whose voice resembles the rumble of distant thunder. Some accounts suggest that Daramulun and Baiami are one and the same (e.g. see Berndt, 1974: 28; Eliade, 1966:112), whereas others suggest Daramulun was the son of Baiami (e.g. see Howitt, 1904: 502). Mathews (1896b) and Hartland (1898) simply state that he was “… one of Baiami’s people.”

According to Wiradjuri lore (Mathews, 1896b), at a certain age young boys are handed over to Daramulun to be instructed in the law and customs of the community. When they returned to camp, the boys were missing a tooth. This was a sign that they were initiated by Daramulun, who told Baiami that he had killed the boys, cut them up, burnt them to ashes, then moulded the ashes into human form, and restored the boys to life, albeit with one tooth missing (Hartland, 1898; Mathews, 1896b). However, it was apparent that not all of the boys had returned from this ordeal. When questioned by Baiami, the surviving boys reluctantly admitted that Daramulun had not killed and reassembled them, but had extracted their teeth using his own lower incisors. During this process, he sometimes bit off the boy’s entire face and then devoured him (Mathews, 1896b). In his anger on hearing this, Baiami destroyed Daramulun, but put his voice into every tree in the forest. Thus, a bullroarer (Mudthega) fashioned from any tree will have the voice of Daramulun, and hence plays an important role in the Burbung ceremony (Hartland, 1898; Mathews, 1896b; 1897b). Baiami decided not to tell the women and uninitiated about Daramulun’s indiscretions, but rather continued to make them believe that boys were still being put to death and restored to life by Daramulun. By doing so, and showing men how to perform tooth evulsion and how the laws were to be passed on, he instituted the first Burbung ceremony, which has been followed by Wiradjuri men ever since (Hartland, 1898; Mathews, 1896b).

Most Burbung grounds consist of a larger circle of stones or moulded earth connected by an avenue to a smaller circle some distance away (Fuller et al., 2013; Hamacher et al., 2012). The larger circle is the open, public gathering site and the smaller circle is a restricted secret/sacred space (Figure 3, right). Working closely with elders, Fuller et al. (2013) showed a link between the orientation of Burbung sites with the Emu in the Sky and Sky Burbung in the Milky Way, and the calendrical timing of the Burbung ceremony. The Emu in the Sky, or Celestial Emu, is a ‘dark’ constellation in the Milky Way made up of the dust lanes running from the Coal Sack Nebula (the head of the Emu) to the galactic bulge in Scorpius-Sagittarius (the body of the Emu), and Ophiuchus-Scutum (the feet of the Emu) (Fuller et al., 2013; Norris and Norris, 2009). This motif is widespread throughout Australia (Cairns and Harney, 2004; Fuller et al., 2014a; 2014b; Norris and Hamacher, 2009:13; Stanbridge, 1861: 302; Wellard, 1983:51). Its significance to the Burbung ceremony, where sen-
ior male elders ‘make’ men from boys, may be reflected in the fact that it is the male emu that broods and hatches the emu chicks and rears the young (Coddington and Cockburn, 1995; Love, 1987).

These accounts describe the Burbung ceremony predominantly taking place after sunset in August, when the band of the Milky Way is perpendicular to the horizon. Hence, the ‘Sky Burbung’ contained within the body of The Celestial Emu is visually and spiritually ‘connected’ to the terrestrial Burbung (Fuller et al., 2014b; see Figure 3, left). This allows Daramulun, who is of the emu totem, to descend to Earth and take part in the ceremony (Fuller et al., 2014b). The earthen figure of an emu adjacent to imprints of emu tracks morphing into human footprints, as witnessed by Mathews (1896b: 229) during a Burbung ceremony, may be symbolic of Daramulun’s descent to Earth as an emu and his transformation into human form. Interestingly, Howitt (1904: 588) states that the newly initiated were not allowed to go to sleep at night until the Milky Way was again horizontal in the sky. Howitt does not offer a reason for this.

One possible interpretation is that once the connection between Milky Way and ground was ‘severed’, Daramulun was no longer able to come down from the sky to walk the Earth, and therefore unable to pose a threat to the boys.

In both the Wiradjuri and Kamilaroi languages, the name of the terrestrial emu is Dinawan. Elders explain that the name of the Celestial Emu (Kamilaroi: Gawargay/Gawarghoo, Wiradjuri: Gugurmin) differs from its terrestrial counterpart, and its role changes as the orientation of the Milky Way changes over the year. Each orientation is linked to a different aspect of an overall narrative cycle linked to the emu’s behaviour and the ceremonial calendar (Fuller et al., 2014b: 175–177).

4 BAIA MI AND THE E MU CH AS E

Burbung ceremonial grounds are often decorated with intricate motifs carved into surrounding trees (Etheridge, 1918; Mathews, 1896a; 1896b), accompanied by ground-based anthropomorphic, animal, or abstract figures made of mound ed soil (Mathews 1896a; 1896b; 1901; Figure 4).
Of the tree carvings (dendroglyphs), Mathews (1896a; 1896b) and Etheridge (1918) each offer a description of the manner of their construction. These designs include motifs that appear to depict the Sun and Moon, suggesting a connection to the skyworld.

One of the earthen figures is of special interest to our analysis. According to Mathews (1896b: 300), an earthen figure of a man measuring 6.60 m long by 1.68 m across the body, and 0.53 m in height is positioned opposite a large fire (‘Baiami’s Fire’). The figure, attributed to Baiami, was lying face-down with his arms spread out. Close to him were representations of two giant handprints, made by puddling and working the clay soil to shape. These were said to be the handprints of Baiami when he tripped and fell. A similar mounded figure was observed and photographed by Kerry in 1898 (Figure 5) during another Burbung ceremony, and thus contemporaneous with Mathews’ observations.

According to the narrative recorded by Mathews (18996b), Baiami was hiding in a tree surrounded by bushes beside a waterhole, waiting for an emu to drink. When one did approach, Baiami speared it, but it ran some distance before it fell. On running after the emu, Baiami tripped over a log and fell hands-first to the ground, as...
depicted in the earthen figure and handprints. At the same Burbung ceremony, near the earthen figure of the emu described previously, was a Belar tree (not identified by Mathews, but probably a Bellaway or River She-oak: Casuarina cunninghamiana) to which was tied a bunch of bushes. This was said to be ‘Baiami’s hiding place’ (Mathews, 1896b: 300). Another Belar tree about 3.20 m from Baiami’s head was surmounted by ‘a mock Eaglehawk’s nest’ (the Eaglehawk is an alternative name for the Wedge-tailed Eagle: Aquila audax), with the bole of the tree carved with representations of the Sun and crescent Moon (ibid.).

5 AN ASTRONOMICAL CONNECTION?

This narrative might seem unusual at first, describing and depicting Baiami—an important ancestral ‘All-Father’ creator—in a rather compromising and undignified manner. However, an explanation may come from relating the story to the night sky. According to Eliade (1996: 41), Baiami “… dwells in the sky, beside a great stream of water.” In Wiradjuri Lore, as with several other Aboriginal cultures from southeastern Australia, the Milky Way represents a great celestial river, going by the generic word Bilabang, ‘river’, from which we get the word Billabong meaning a series of waterholes (Dixon et al., 1992). More specifically the name of the nearest terrestrial river is also used for the Milky Way, such as Calare (var: Galare), the Wiradjuri name for the Lachlan River, which flows through central Wiradjuri country, Warrambool, the Wiradjuri, Kamilaroi and Euahlayi name for the Macquarie River, which flows through northern Wiradjuri and southern Kamilaroi country, or Marrambidgeri, the Murrumbidgee River, which flows through southern Wiradjuri country.

If Baiami “… dwells in the sky, beside a stream of water”, where among the band of the Milky Way is he positioned? A clue may be found in how he is portrayed in tree carvings and earth mounds witnessed at Burbung ceremonies (Mathews, 1896a; 1896b; 1901; see Figures 4 and 5), and in rock art (e.g. see Mathews, 1895; 1897c; McCarthy, 1983; see Figure 6). These consistently depict Baiami standing with legs splayed and arms outstretched, which is very similar to the pose seen in the stars making up the Greek constellation Orion. This hypothesis has been confirmed on numerous occasions by several anonymous Wiradjuri custodians.3 However, there are differing accounts as to how Baiami is positioned in relation to these stars. Due to the fairly symmetrical nature of this constellation (Figure 7) it is possible for Baiami to
Figure 8: Further strengthening the inverted orientation of Baiami in Orion is the fact that the ecliptic (tan line lower left) passes close by his outstretched hands, allowing for the occasional close passage of the crescent Moon, much as depicted in the Sydney Basin rock art (see Figure 6). Several Dreamings associate Baiami with boomerangs and crescent Moons, both being interchangeable motifs (image from Stellarium with the Moon scaled (X5) for better visualisation).

be oriented in either of two ways: head downwards (‘upside-down’) as is seen in the ‘classical’ depiction of Orion when viewed from the Southern Hemisphere, or head upwards (‘right-side-up’), which would still fit the pattern of the stars equally well. Here, we discuss the evidence for an ‘upside-down’ orientation based on Mathews’ account, and supported by other evidence outlined below. Evidence for the alternative ‘right-side-up’ orientation will be the subject of a future follow-up paper.

In Ngalea and Kokatha traditions from the Great Victoria Desert surrounding Ooldea, South Australia, Orion is identified with Nyeeruna (Bates, 1921; 1933), an ancestral being having many characteristics in common with Baiami, including an association with male initiations (Berndt and Berndt, 1943, 1945; Leaman and Hamacher, 2014). Bates’ account of Nyeeruna clearly places him in Orion such that his right shoulder, which holds his club that directs ‘sparks’ (possibly referencing the Orionid meteor shower, as its radiant is located in this part of the sky) is indicated by the variable red-giant star Betelgeuse (Leaman and Hamacher, 2014; Hamacher, 2018).

Are there any clues suggesting that Baiami is also oriented the same way? Rock art depictions of Baiami usually show him holding a boomerang in one of his outstretched hands (McCarthy, 1983; see Figure 6). Boomerangs and the crescent Moon are often interchangeable motifs, and both are associated with Baiami. One Dreaming in particular describes how, in order to settle a dispute between four ancestral animals, Baiami brought the first returning boomerang to Earth, which he threw towards the western horizon to become the first crescent Moon ever seen (Ellis, 2006: 114–117). It is worth noting that the plane of the ecliptic, along which the Sun, Moon and planets move in the sky, passes close to the head and outstretched arms of Orion. Occasionally the crescent Moon will also be seen to pass close by (Figure 8). Is this Baiame holding his boomerang? If so, then this suggests that the orient-
tation of Baiami in Orion is head-downwards, just as the Greek constellation of Orion is viewed from a Southern Hemisphere perspective (Figure 9).

This orientation fits very well with the overall narrative. Firstly, Baiami’s chasing of the emu is a perfect allegory of the nightly (and/or yearly) movement of Orion and the Celestial Emu around the South Celestial Pole (SCP) (Figure 10). A similar story is told of Orion chasing Scorpius in Greek mythology. Secondly, Baiami’s tripping and hands-first stumble to Earth describes the orientation of Orion as it sets in the western sky, with his hands (extending from his shoulders—the stars Betelgeuse and Bellatrix) being the first part of his body to touch the horizon (Figure 11). Lastly, in this orientation his right shoulder, being marked by Betelgeuse, fits well with another Dreaming narrative in which this hand is capable of yielding immense power—just what is needed to hurl a boomerang at great distances.

Other elements of the narrative are also represented in the skyworld as Wiradjuri constellations. For instance, the log that causes Baiami to trip could be from Yarran-Doo, the Yarran Tree (either a River Red Gum, Eucalyptus camaldulensis, or Spearwood Tree, Acacia homalophylla), represented by the constellation Crux (Southern Cross) (McKeown, 1938: 18), which pivots around the SCP in the form of an ‘Axis Mundi’. The mock Eagle’s Nest constructed for the Burbung maybe a representation of the constellation Maliyan Wollai, the nest of the Wedge-tailed Eagle, made up of the stars in Corona Borealis (Ridley, 1875: 141–142). Maliyan the Wedge-tailed Eagle can itself be seen in Altair and the stars of Aquila (Ridley, 1875: 142; see Figure 10, bottom). The Wawi (Rainbow Serpent) also features in the ground and tree drawings of the Burbung (Figure 4), and it too has a celestial counterpart in the dark bands of the Milky Way, stretching from Crux to Orion (anonymous Wiradjuri custodian, pers. comm.).

6 DISCUSSION AND SUMMARY

The sky is home for many ancestral creator beings that came down to make the world, the animals, and the people during a period referred to as the ‘Dreaming’ or ‘Creation Time’ (Clarke, 2007/2008). Unlike a modern Western worldview, Aboriginal peoples do not separate the realms of Earth, Sea, and Sky, but rather see them as aspects of a unified ‘Cosmoscape’ (Clarke, 1997). In this scheme, the skyworld is every bit as real as its counterpart on Earth, complete with rivers and forests inhabited with fish, birds, animals, and ancestral beings (Clarke, 1997; 2007/2008; 2014; 2015a; 2015b); just as these ancestral beings can come down to walk the land, it is possible for one to journey into the skyworld and interact with them (Clarke, 1997; 2007/2008; Eliade, 1967b:161–163; Howitt, 1904: 406–408). In Wiradjuri, this place is called Wantangangura “… beyond the clouds in the sky.” (Berndt 1974: 28) or Murriyang “… skyworld, where Baiami lives.” (Grant and Rudder, 2010: 228).

Because little distinction was made between the land and skyworld, traditions that describe terrestrial events can just as easily describe events in the skyworld, and vice-versa (Clarke,
Figure 10: The ‘Baiami and Emu Chase’ Dreaming narrative related back to the sky showing how it may likely be describing the annual movements of Baiami (as Orion) and the Celestial Emu (Gugurmin) around the SCP, with Baiami firstly chasing the Emu (top), then stumbling hands first to earth (middle). A full sky depiction of the Wiradjuri night sky (bottom) shows other constellations that also appear to feature in this Dreaming narrative, including the Yarran-Doo, the Yarran Tree (Southern Cross), from which the roots or fallen branch may have been the reason for Baiami’s tripping during the chase, and Maliyan Wollai, the Eagle’s Nest (Corona Borealis). The Wawi (Rainbow Serpent) also appears in tree and earth mound figures in some Burbung grounds (images taken from Stellarium using the Wiradjuri constellations add-in for Stellarium developed by T. Leaman, and using the artworks of Scott ‘Sauce’ Towney).

Here, we critically analyse elements of a Wiradjuri Burbung recorded by Mathews and suggest that the ‘Baiami and Emu Chase’ narrative accompanying the male initiation ceremony in fact describes events taking place in the Murriyang. More specifically, we suggest it describes the daily and/or annual movements of two Wiradjuri constellations: Baiami (represented by the stars of Orion) and Gugurmin the Celestial Emu (the
dark bands in the Milky Way from Crux to Scorpius) as they move around the SCP (Figure 10). This is similar to the story of Orion’s eternal pursuit of a scorpion (represented by the zodiac constellation Scorpius) from Greek mythology. This narrative—supported by evidence from depictions of Baiami in rock art from the Sydney Basin—also indicates that his orientation in the stars of Orion appears to be the same as the Greek depiction of Orion itself, being upside-down as seen from a Southern Hemisphere perspective (Figure 9). This orientation is consistent with how Nyeeruna, a creator ancestor sharing similar attributes to Baiami, is also oriented in Orion (Bates, 1921; 1933; Leaman and Hamacher, 2014).

Further supporting this skyworld interpretation are the parallels that can be drawn between elements of the Wiradjuri Burbung described by Mathews (1896b) and the male initiation ceremony (Minari and Baba Inma) from Aboriginal traditions centred on Ooldea (Berndt and Berndt, 1943: 46; 1945; Leaman and Hamacher, 2014: 189). Both centre on a cultural ancestor represented by the stars in Orion, and both incorporate representations of the skyworld, either (a) through re-enactment of Dreamings associated with cultural ancestors represented by constellations, as is the case with the Minari and Baba Inma, or (b) through representations of constellations in ground and tree drawings, and Dreaming narrative, as is the case with the Burbung. Such re-enactments through song, dance and ceremony are an effective way of memorising and transmitting cultural knowledge across the generations (Kelly, 2016). The ‘Baiami and Emu Chase’ narrative is consistent with this mode of knowledge transmission.

This paper highlights the value of revisiting the ethnohistorical records to uncover knowledge of astronomical phenomena overlooked by previous researchers. It is hoped that further research of the archives will recover more examples that will assist communities in building a more complete corpus of knowledge for future generations.

7 NOTES

1. Aboriginal male initiation ceremonies are more widely known throughout Australia as Bora, which is a word borrowed from the neighbouring Kamilaroi language (Dixon et al., 1992: 150; Etheridge, 1918: 59). Here, as we are focussing on a Wiradjuri Dreaming and associated initiation ceremonies, we have adopted the Wiradjuri word Burbung when describing these ceremonies.
2. Early ethnohistorical researchers have adopted several spelling variations for these creation ancestors in an attempt to record the regional dialect differences in pronunciation, both within Wiradjuri country and across neighbouring language groups (Thomas, 2015: 236). For clarity, we have standardised on Baiami and Daramulun in this paper. We have also adopted the spelling conventions listed in the Wiradjuri/English dictionary by Grant and Rudder (2010) for many of the Wiradjuri words used in this paper.

3. There is some debate as to whether Aboriginal people saw groups of stars as constellations, as in the modern western tradition (borrowing mostly from Greek mythology), or only a single significant star to represent important ancestors in their entirety. There is evidence, however, to suggest both viewpoints are equally valid depending on context of the Dreaming being told. In Wiradjuri sky-lore, the small curve of stars making up the constellation of Corona Australis is seen as the Gugubarra, the Kookaburra. Similarly, the curve of stars making up Corona Borealis is Maliyan Wollai, the Eagles Nest. Guggaa the goanna is represented by the star Antares, but the overall shape of the goanna is marked by the other stars in Scorpius, and its changing orientation in the sky forms part of an important seasonal resource calendar (Leaman, 2019).

Similarly, while the whole of Orion may be seen as Baiami (this paper), individual stars in Orion can also represent separate ancestral beings e.g. the belt stars are the three brothers (Gibirgang) who lost after and chase the Seven Sisters or the Pleiades, Malandyang (alt: Dindima) (Grant and Rudder, 2010; Hamacher, 2014; Howitt, 1904), once again mirroring the Greek myth of Orion.

4. One Wiradjuri word for ‘boomerang’ is bargan, and the word for ‘crescent Moon’ is barganbargan, literally translating as ‘big boomerang’. In Wiradjuri, as for other Aboriginal languages, repeat words emphasise number or size. Another example is with the NSW town named Wagga Wagga. Wagga (or Wagan) is the Wiradjuri word for Crow. Wagga Wagga can literally mean ‘Place of Many Crows’ (it may also mean ‘... barsb on a spear like crow’s beaks ...’ or ‘... to dance in a frenzied manner.’) (Grant and Rudder, 2010; Gunther, 1838).

5. The brightness variability of Betelgeuse was recognised by the Aboriginal people of the Great Victoria Desert, and was incorporated into a Dreaming narrative describing Nyee-runna’s waxing and waning lust for the seven Mingari Sisters, represented by the stars of the Pleiades (Hamacher, 2018; Leaman and Hamacher, 2014; Schaefer, 2018). It is possible the Wiradjuri may also have observed variability in Betelgeuse, but no tangible evidence has yet surfaced.

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9 REFERENCES

39–58.
Lang, A., 1899. Australian gods, a reply. Folklore, 10(1), 1–57.


Ridley, W., 1875. *Kamilaroi, and Other Australian Languages*. Sydney, Thomas Richards.


Stanbridge, W., 1861. Some particulars of the general characteristics, astronomy, and mythology of the tribes in the central part of Victoria, Southern Australia. *Transactions of the Ethnological Society of London*, 1, 286–304.

