

CHAPTER 6 BEADS & EARLY AUSTRALIAN LITERATURE

6.1 Introduction

In this chapter I will provide accounts of Australian Aboriginal beads as described by European writers. I have ordered these accounts according to Australian States. States are a useful organising unit in this case because of the history of settlement pattern (e.g. the First Fleet settled in New South Wales, followed by other States). Also, the State Museums had a strong influence on methods and timing of collections (Jones 1996). Locations mentioned in this chapter will be plotted on maps at the start of the relevant sections. At the end of each section, I will nominate the forms of beaded objects recorded within the section. At the end of the chapter, I will summarise the number of bead forms within drainage divisions, and table the functions described in the chapter with the functions listed by Vanhaeren (2005).

The information in this chapter (see Section 7.2.2 for sources) will be important for the overall work as it provides an inventory of object forms that were being used by Australian Aborigines at the time of early European contact and settlement. This will allow me to construct a catalogue of bead forms and select elements that will emphasise the variability of the objects in my museum samples. In my final chapter, I will discuss the results from my spatial analysis of beads held in museums with ethnographic descriptions in this chapter where relevant. In addition, I will record the function of particular forms of beads where possible. This chapter, in addition to the archaeological information from Chapter 4 and the following analysis Chapters 8-10 and Appendices 14-16, will provide evidence for the variation, distribution and function of Aboriginal beads across Australia.

6.2 Ethnohistoric accounts of Aboriginal ornaments

The nature of European settlement and collection practices has left a scattered record. For example, New South Wales was the first area settled but there is less information about

ornaments from early years of settlement than from later years, when there was concern that the Aborigines were dying out. Few authors have given reliable and informative accounts of the Aboriginal use of ornaments. Also, early records often gave accounts of what Aborigines were wearing when encountered but did not describe ornaments that may have been worn in ceremonial contexts. For example, Plomley (1983: 178) found that there were no consistent early records of the ornament types worn in Tasmania and that nowhere in the literature was there mention of particular ornaments being worn on special occasions. However, some writers (e.g. Walter Roth in Queensland) gave insightful information about the Aboriginal use of ornaments.

From ethnohistoric accounts, while Aboriginal nakedness was an Australia-wide practice, there appears to have been a difference in the scale of decoration, including the wearing of beads. For example, referring to Aboriginal initiation ceremonies in Central Australia, Basedow wrote:

It does not matter where the locality, the initiates are at this stage invariably decorated... The most elaborate schemes of personal decoration that I saw were in the western coastal areas of the Northern Territory and in the Northern Kimberleys of Western Australia. (Basedow 1935: 99,100).

If this is so, will the same scale of variation occur in beaded ornaments as for other forms of decoration and will this be as true for northern areas as in other regions of Australia?

Charles Mountford (1976) also believed there were differences in the scale of use of personal decoration across Australia. From his extensive studies of Aboriginal culture and material culture, Mountford, like Basedow, found that people in the north-west had more personal decoration than those in other areas. Mountford's opinion differed from Basedow's in that he argued the height of decoration was at Melville and Bathurst Islands, off the tip of north-western Northern Territory, where 'everybody, even the smallest children, is decorated for ritual'. As an example of the different use of decoration, he pointed out that Spencer and Gillen (1899) showed that the Arrernte people in Central Australia were decorated for ceremonies yet Mountford had found that people in the desert to the west of the Arrernte were not:

When in 1935 the writer saw the circumcision and subincision ceremonies of the Ngatadjaru tribe to the west, there appeared to be an almost complete lack of decoration on the bodies of the performers. (Mountford 1976: 65).

Mountford thought the differences between the groups was due to the isolation of the Aborigines in the west. The environment could be considered a factor here, as the Ngatadjaru people lived in the Desert Region, whereas the Arrernte live in a more diverse ecological region with areas of high elevation that drained via numerous waterways to Lake Eyre and the trunk trading routes.

I will provide a selection of ethnographic writings starting with the eastern States – first New South Wales followed by Tasmania, Victoria and Queensland. Then I will provide accounts referring to the western areas, including Northern Territory, Western Australia and finishing with a combination of Central Australia and South Australia. This is not necessarily in chronological order of settlement. Illustrations will be provided where possible, showing both the ornaments and the wearing of ornaments.

6.2.1 New South Wales ethnohistoric accounts

Figure 6.1 shows the locations within the State of New South Wales that are mentioned in this section.



Figure 6.1. Locations mentioned in text (NSW)

New South Wales was the first area in Australia settled by Europeans and, in 1789, an English observer at Port Jackson referred to Aboriginal ornamentation:

The inhabitants of New South Wales have very few ornaments, except tho(s)e which are impre(ss)ed upon the (s)kin it(s)elf, or laid on in the manner of paint...they (s)omethimes hang in their hair the teeth of dogs, and other animals, the claws of lob(s)ters, and (s)everal (s)mall bones, which they fa(s)ten there by means of gum; but (s)uch ornaments have never been (s)een upon the women. (Philip 1789: 137) (*my corrections within parantheses – changed 'f' to 's'*)

Later, Baudin did not provide much in the way of description of Aborigines culture and material culture in Port Jackson. However, drawings were made of material culture (Figure 6.2), thought to have been done by Lesueur while Baudin was visiting Port Jackson in 1802 (Bonnemains et al. 1988: 89). By that time, Europeans had already been settled in the area for over twenty years and there would have been a disruption to Aboriginal culture and material culture.

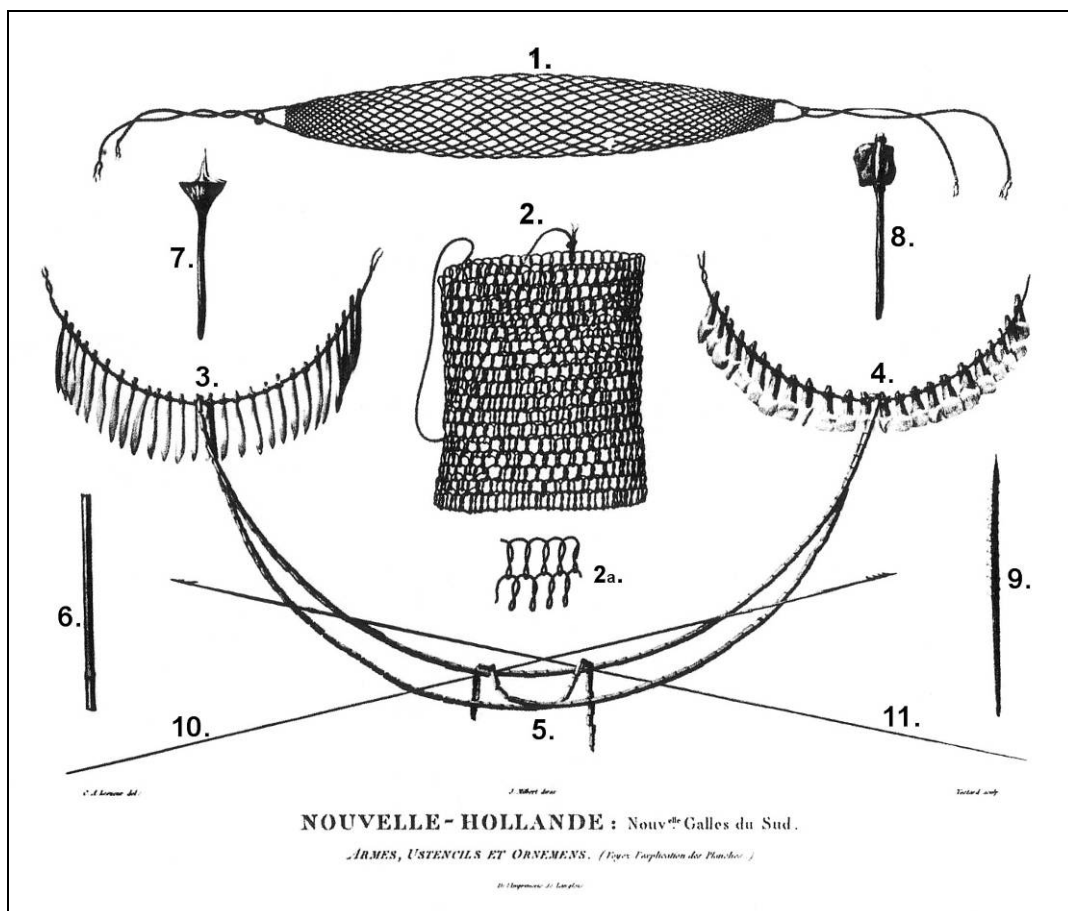


Figure 6.2. Material culture from Port Jackson, drawn by Lesueur (Bonnemains et al. 1988: 89)

The drawings in Figure 6.2 depict beaded ornaments including a grass stem (bugle) necklace (Item 5) and two kangaroo necklaces (Items 3 and 4). Although not clear, item 3 appears to consist of a series of incisors and item 4 a series of molars. Both Items 3 and 4 appear to have the string tied around the base of each tooth and not cemented to the string. Whether this technique was actually being used or whether it is an artist's impression is not known.

Mathews (1905: 65) observed that young initiates at the Lachlan River in southern NSW wore, among other ornaments, a 'necklace, made of pieces of reed cut into short lengths of say, half an inch, and an opossum fur string passed through the hollow of each'. The grass reed was placed over the initiates head by his future wife after his cicatrices have healed during initiation rituals. Grass or cane reed necklaces were worn in other areas of New South Wales. For example, there is a reference to these objects in the north-west of New South Wales in Curr (1886: 36, 158).

McBryde cited Flick (1934), Bundock (1898) and Curr (1886 (II): 464, 471; (III): 36, 64, 90, 122, 156; (IV): 352) as her sources for use of shell pendants and series along the coast and the Hunter Valley:

Ornaments included shell pendants, necklaces of cane cut into lengths and strung like beads, dogs' teeth, and of coloured beans, all worn by the men, not the women. (McBryde 1974: 12)

No specifics are given about the species and form of these objects other than there were series of teeth, reeds and beans and pendants of shell. However, McBryde did mention that Mary Bundock and Flick had written of men only wearing reed necklaces and *Nautilus* sp. pendants in the Richmond River Valley. The *Nautilus* sp. pendants were large, oval shaped and traded from the coast and highly valued (McBryde 1974: 195). McBryde (1974, Plate 47) reproduced a posed photograph, taken by J.W. Lindt in the 1870s, showing of a man from the Clarence River District wearing a small shell pendant. It is impossible to identify the species.

Edge-Partington included illustrations of Aboriginal ornaments in *An album of weapons, tools, ornaments, articles of dress etc., of the natives of the Pacific Islands* between 1890 and 1898. I will refer to that publication throughout this chapter. Figure 6.3 shows an ornament manufactured with kangaroo incisors that have been set in gum.

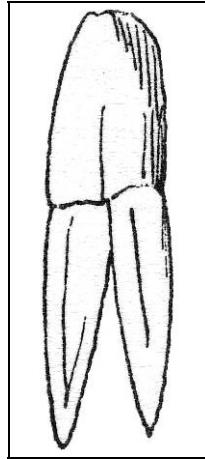


Figure 6.3. Kangaroo incisors set in gum, from Edge-Partington (1898: 140, Fig. 4)

Whether this object was suspended or attached to the hair is not explained, but Edge-Partington (1898: 140) lists the location for this object as the Darling River, which extends throughout western New South Wales.

Unidentified bone necklaces of some type were worn in the north-west of New South Wales (Curr 1886: 178) and around the Burke River ‘pieces of the leg-bones of birds’ were worn as earrings (Curr 1886: 346).

6.2.1.1 Summary of New South Wales Aboriginal beads

From the above, Aborigines in NSW were using at a minimum the following beads. I have allocated the drainage basins in parentheses for each type:

- grass or cane bugle series throughout (Murray/Darling, Southeast Coast and possibly Bulloo);
- bean series (Southeast Coast);
- kangaroo teeth series on the coast (Southeast Coast) and pendants in the west (Murray/Darling and Bulloo);
- series and pendants of bone in the north-west (Murray/Darling and Bulloo);
- large oval *Nautilus* sp. pendants in the Richmond River District (Southeast Coast); and
- shell pendants on the north coast and perhaps in the north-west (Southeast Coast, Murray/Darling and Bulloo).

I will discuss the function of objects in the final chapter after I have nominated categories for particular styles of objects.

6.2.2 Tasmanian ethnohistoric accounts

Figure 6.4 shows the locations within the State of Tasmania that are mentioned in this section.



Figure 6.4. Locations mentioned in text (Tasmania)

Tasmania was settled after New South Wales in 1803 but there were early encounters with Aborigines and European sailors prior to settlement. Tasmanian Aborigines did not display a great number of beaded ornament styles but there is mention by early sailors of how Aborigines were decorated and how they were willing to trade ornaments for other ornaments.

Labillardière reported ornaments worn by Tasmanians during their expeditions between 1791-1793 ‘one of them had the generosity to give me some small whelks, perforated near the middle and strung on a cord...he wore it around his neck’ (Labillardière 1800: 27). Also, Labillardière (1800: 296) mentioned that shell ornaments were seen worn on the head of a man.

Notes in Baudin’s Journal in 1802 record sighting of an Aboriginal man ‘wearing a necklace of fairly well-polished shells’ which he gave to one of the Europeans (Baudin 1974: 302). It appears that the Tasmanian Aborigines had an attraction for shiny objects. At Maria Island off Tasmania, Baudin complained about the demands of the Aborigines:

I had stripped myself for them of nearly every button on my coat which, being of copper gilt, had seemed especially valuable to them because of their glitter. (Plomley 1983: 65)

Others (Bonnemains et al.1988) argued that colonial impact on Tasmanian Aboriginal culture was dramatic and by the time Baudin wrote a description of the material culture:

...in terms of the number of artefact types and design of each element, was probably the simplest ever recorded for any ethnographically described group of people. (Bonnemains et al.1988: 46)

Even prior to that:

By the time of the Baudin expedition almost all the Aborigines had some contact with visiting ships – a woman on Bruny Island had a necklace with an English penny and a metal button on it. (Bonnemains et al. 1988: 57)

The necklace was thought to have been a possible relic from Bligh's trip in 1792 (Plomley 1983: 179).

Other early Europeans were presented with shiny shells. Bonwick (1870: 285) was given a necklace made of polished shells by a Tasmanian Aboriginal woman. The woman told Bonwick he should give it to his daughter who should wear it on her 'back hair' in the custom of the Aborigines.

Plomley described the ornaments of the Tasmanian Aborigines:

A variety of necklaces and other ornaments have been described by the marine explorers as being worn by the Tasmanians. The records indicate that there was no consistency in the type of ornaments worn or the occasions on which an ornament was worn: many ornaments have been described and they seem to have been worn according to whim. (Plomley 1983: 178)

Of the small shell necklaces worn by the Tasmanians, Plomley warned:

It must also be pointed out that the type of shell necklace now found in museums differs...from those recorded by the explorers...it is suggested that they are the artificial productions of natives who no longer followed the traditional way of life. (Plomley 1983: 178-179)

Plomley does not report on beaded ornaments other than those manufactured from shell. From his survey of Aboriginal material culture held in European collections, Plomley noted there were only four types of necklets of Tasmanian origin. These were made from kangaroo sinew, plant fibre, fur and shells (Plomley 1962: 12).

Walter Roth's brother, Henry Ling Roth (1899) gave a description of ornaments worn by Tasmanian Aborigines. He refers to Leigh in *Missionary Notices of the Methodist Conference* (1822, Vol. iii). Leigh wrote 'the young men fasten to their woolly locks the teeth of kangaroo' (in Roth 1899: 131-132). The technique for fastening the teeth has not been described. He also mentioned the manufacture of necklaces made with pearly, blue shell. Roth quotes J. Backhouse (1843: 84) *Narrative of a Visit to the Australian Colonies* (London), who noted that the shells in the necklaces were perforated with the eye-teeth; strung on kangaroo sinew; exposed to an acid formed in smoke of brushwood and covered with grass; then rubbed until the external coat was removed. Figure 6.5 shows Truganani, often mistakenly called the last Tasmanian, wearing one of these necklaces.

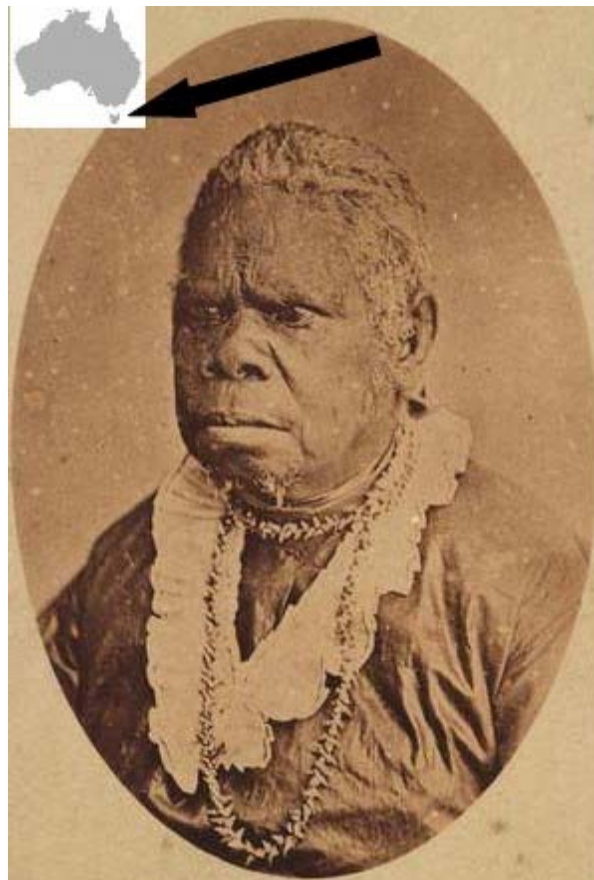


Figure 6.5. Tasmanian Truganani wearing necklace in 1888. Photo courtesy of National Library of Australia

Other authors wrote about the ornaments of the Tasmanian Aborigines. For example, Bonwick wrote:

The men would stick a few kangaroo teeth or cockatoo feathers in their hair. The bones of relations were worn round the neck, less perhaps as ornaments than as charms... Wooreddie, the Bruni chieftain, and husband of the interesting Truganina, had a necklace of three rows of small univalve shells round his neck. Upon his breast hung the jawbone of a deceased friend, wrapped up in the fibres of a sort of flag... Some of the women had a girdle made of filaments of bark, to which they attached the bones of deceased friends. (Bonwick 1870: 27)

Bonwick has summed up almost the whole repertoire of Tasmanian ornaments in one paragraph. One exception is a series of pierced wombat claws sighted at Sandy Cape by Robinson in 1830 (Plomley 1966: 167). In 1839, George Augustus Robinson was given a necklace made from a series of pierced wombat claws in Victoria. There is some controversy about the fate of that necklace. Figure 6.6 shows a necklace manufactured from wombat claws and held in the Tasmanian Museum and Art Gallery.



Figure 6.6. Necklace made from wombat claws held in Tasmanian Museum (photo J. McAdam, 2007)

It is possible this necklace may be the object from Victoria or one that Robinson saw at Sandy Cape in Tasmania (Akerman in prep; Clark 1988: 81).

6.2.2.1 Summary of Tasmanian beads

Other than shell series ornaments, the only other forms of beads mentioned are kangaroo teeth and bone ornaments for the hair, human bones as neck or chest pendants and possibly series of pierced wombat claws.

6.2.3 Victorian and Lower Murray ethnohistoric accounts

Figure 6.7 shows the locations within the State of Victoria that are mentioned in this section.

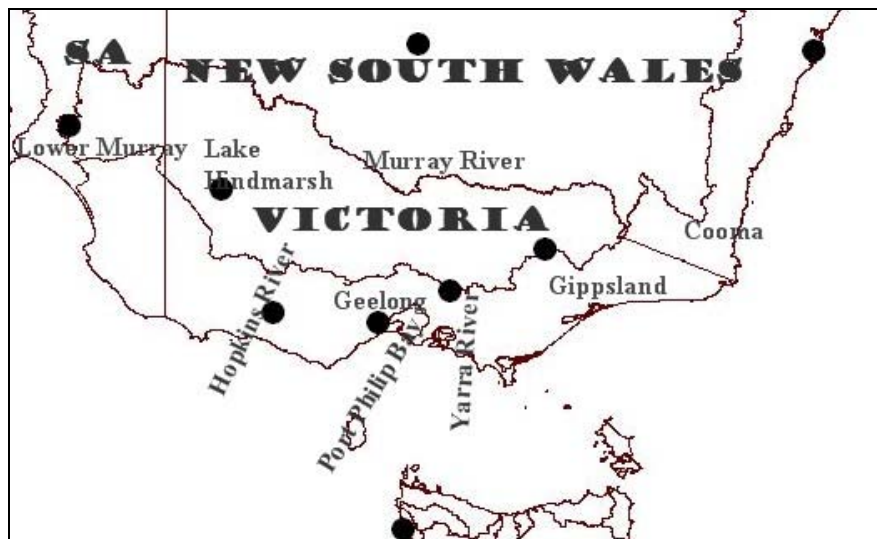


Figure 6.7. Locations mentioned in text (Victoria)

William Buckley, an English convict, escaped in Victoria in 1803 and subsequently lived with Aborigines for over thirty years. Buckley remarked that when men were preparing for battle, men and women painted themselves and wore ornaments and ‘they were in every other way quite naked’ (Morgan 1980: 54). He pointed out the importance of ornaments:

They are very fond of ornaments – the women especially – and in their manufacture, are very ingenious... Those who have the most ornaments are considered the most fashionable and attractive. (Morgan 1980: 78)

Buckley did not give a full description of the ornaments worn by the Aboriginal people but he did mention that shells and teeth were worn:

Their neck ornaments are made more like silk velvet guards. Upon these are strung a great number of pieces of shells, and of the teeth of the kangaroo, adding too, the feathers of the swan and emu. (Morgan 1980: 78)

Buckley, like other early Europeans, did not go into much detail about the ornaments.

The Ulster Museum in the United Kingdom has ornaments collected by John Lewis von Stieglitz, an Irish settler in Port Phillip, Victoria. Amongst the ornaments collected were ‘eleven necklaces of grass beads’ (Glover 2007: 15). Following is a passage written by him in the British Museum handbook, 1925:

“The Southern natives (Victoria) are the most clothed...necklaces of kangaroo teeth are found or of fur-string or sections of reed...Although both sexes wore ornament as a general rule, men had much more decoration than women. Women wore necklaces of sections of reed strung on fibre and very occasionally shells were used. Men from Victoria wore necklaces of kangaroo teeth which were very splendid. Each tooth was pierced at the root and a piece of skin threaded through the hole which was tied round the neck. The skin was stained with red ochre and up to 88 teeth could be used in one necklaces”. (Glover 2007: 15)

I point out here that all accounts may not be completely accurate. For example, from the above, I should expect to find necklaces with pierced kangaroo teeth in my sample. While noting the use of ornaments made with teeth, others have not mentioned that the teeth were suspended by piercing at the time of European contact. However, pieced kangaroo teeth were recovered from Cooma, in the Great Dividing Range to the north of the Victorian/New South Wales border, and dated to 7,000 years old (Cohen 1993; Feary 1996).

Robert Brough Smythe, an English engineer, arrived in Melbourne in 1852. In 1860 he became involved with the Board for the Protection of Aborigines. Smythe and could see that Aboriginal culture was being threatened and this prompted him to record Aboriginal material culture. Although he relied on others for information in his publication *The Aborigines of Victoria*, Smyth claimed:

...coverings and ornaments used and worn by the Australian natives – male and female – are fully described in the notes prepared at my request...I believe I have gathered together all that is known of the dress and ornaments of this people.
(Smythe 1878 (1): 270)

Smythe (1878 (1): 270) wrote that both male and female Aborigines were not concerned with personal ornaments except for corroborees, fighting or when a warrior died and that ‘in ordinary life little attention was given to the ornamenting of the person’ (Smythe 1878 (1): 4). A similar observation was made by Buckley regarding when ornaments were worn. Smythe

provided a summary of the personal ornaments worn by Aborigines at the time. The list is not exhaustive for the whole of Australia but it is a useful indicator for the State of Victoria.

Smythe identified that personal ornaments were made for the forehead, arms, nose, waist, neck and loins. They were manufactured from a range of materials including branches of shrubs, reeds, vegetable twine, wood, grass, feathers, bones, teeth fur, skin, tails, ears and sinews (including kangaroo, native dog, possum, emu, koala and others). According to Smythe's description, the following beaded ornaments from Victoria should be found in my sample:

- On the Lower Murray:
 - Reed necklaces were worn by both men and women.
 - A closely woven forehead band with kangaroo teeth pendants attached with sinew was worn by both men and women (Smythe 1878 (1): 276, Fig. 25). See Figure 6.8 below. Dawson (1881: 81) mentions that 'chiefs' in corroborees in western Victoria 'in the hair are fastened several incisor teeth of the large kangaroo' but he does not say they were attached to headbands.

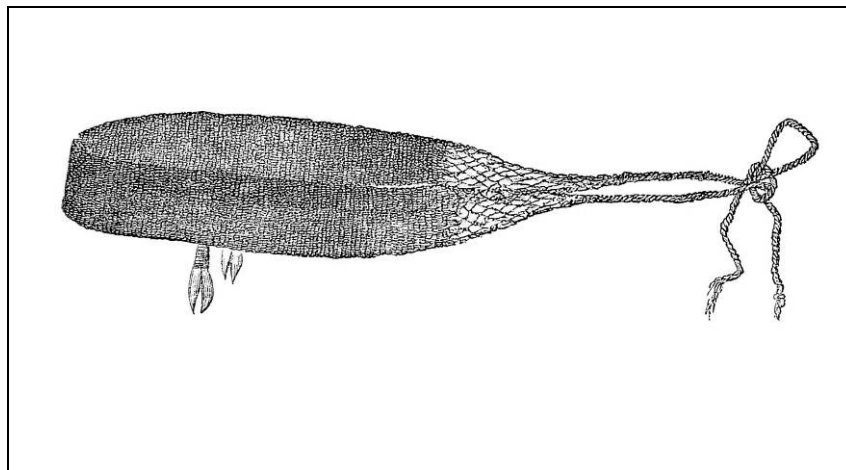


Figure 6.8. Kangaroo teeth pendants attached to band (adapted from Smythe 1878 (1): 276)

- The Yarra River tribe, Victoria, wore reed necklaces cut into short pieces and strung onto twine, hung around the neck in folds and 'falling in some cases quite down the chest' (Smythe 1878 (1): 271):
 - Worn at ceremonies men were well decorated including reed necklaces and armbands.

- The women wore few ornaments, includinga long reed necklaces around the neck (Smythe 1878 (1): 273).
- At Lake Hindmarsh, Victoria, Aborigines wore the reed necklace. The reed segments measured approximately 1.5 to 2.5 cms in length. This ornament was commonly worn by women in Australia (Smythe 1878 (1): 278).
- In the Gippsland district, it was reported that the Aborigines ‘strove to make their appearance agreeable’ (Smythe 1878 (1): 273, 274) by fashioning ornaments from whatever materials they could find, including:
 - Men, and sometimes women, wore a headband to which was attached an ornament made of kangaroo teeth, the teeth hung onto each temple (Smythe 1878 (1): 274).
 - Necklaces made of reed beads.
- In the western districts of Victoria:
 - a common necklace was fashioned by attaching kangaroo teeth to a dressed and red-ochred strip of kangaroo skin. Each tooth was attached with sinew (Smythe 1878 (1): 278. Fig. 27). See Figure 6.9. Figure 6.10 shows a woman from western Victoria wearing this particular style of ornament made with kangaroo teeth. The photo was taken in 1868.



Figure 6.9. Kangaroo teeth ornament (adapted from Smythe 1878 (1): 278)

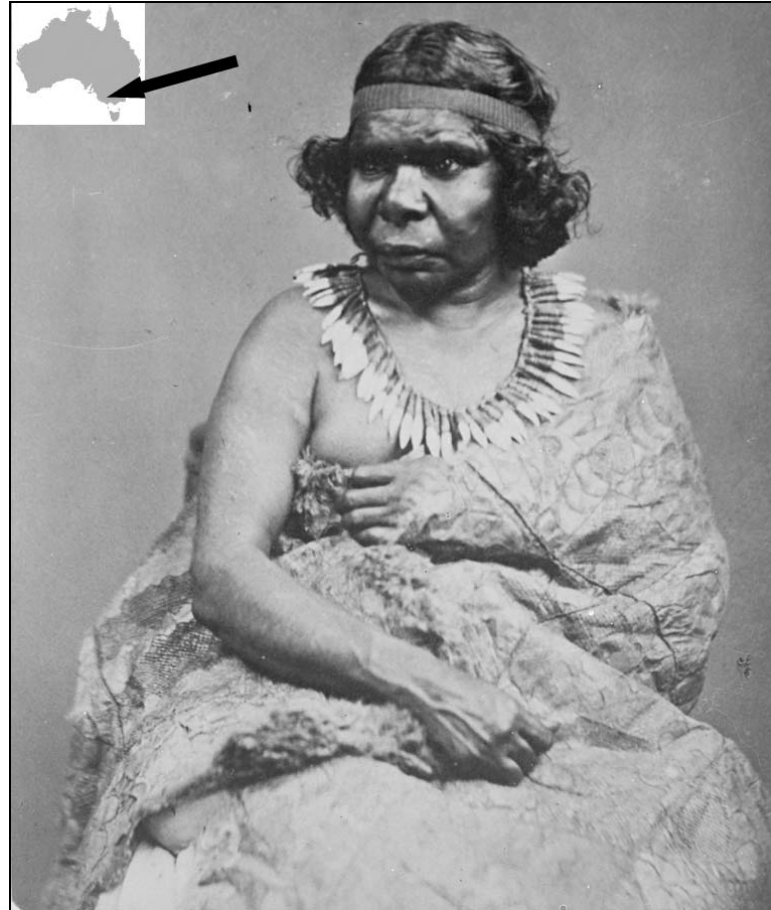


Figure 6.10. Woman wearing macropod teeth necklace. Permission from La Trobe Picture Collection, State Library of Victoria

This woman was from a family of high social status (according to notes accompanying the photograph). Dawson, an early European pioneer, mentions this same necklace form was worn by women in western Victoria and also worn by ‘chiefs’ at corroborees:

The usual necklace is formed of from eighty to one hundred kangaroo teeth, tied by their roots to a skin cord. This necklace hangs loosely round the neck, and displays the teeth diverging towards the shoulder and breast. (Dawson 1881: 81)

Smythe wrote in 1878 that this style of kangaroo teeth necklace ‘was very common many years ago; but the only examples I have seen have been obtained in the western districts of Victoria’ (Smythe 1878 (1): 278). What was obviously common prior to European settlement, had become rare over a short period of time. This could be a result of the disruption to Aboriginal culture and the subsequent change of the function of ornaments.

Smythe did not try to analyse the distribution of ornaments but he did give some detail that provide clues to what ornaments the Victorian Aborigines were wearing, who was wearing them and their function at the time.

Smythe described few shell ornaments and claimed that the Victorian Aborigines did not wear 'the gaily-coloured (my spelling correction) shells of the sea-shore for necklaces, as the Tasmanians did' (Smythe 1878 (1): 270). Buckley had observed shell necklaces worn in Victoria but whether they were the same species as those in Tasmania are not known.

Dawson (1881: 78) mentioned Aboriginal exchange of shells in the Geelong district 'marine shells from the mouth of the Hopkins River and freshwater mussel shells, are also articles of exchange'. However, Dawson does not mention the species of shell or if they were used for manufacturing ornaments. Dawson, described the manufacture of echidna spine necklaces in western Victoria: 'in making necklaces of the quills of the porcupine ant-eater, the holes at the roots of the quills are burned through with a wooden pin made red-hot in the fire' (Dawson 1881: 25). Dawson (1881: 81) also described the use of reed necklaces in western Victoria 'another kind of necklace is composed of short pieces of reeds strung in eight or ten rows on bark cords'.

A different form of reed necklace was observed by Worsnop:

On the Lower Murray I saw a necklace...on which were fastened downy feathers of the goose, shells, the mandible of a duck, the upper mandible of a black swan and tufts of human hair. (Worsnop 1897: 158)

Feathers, bones and integument of birds and animals appears to be commonly added to other materials in the manufacture of ornaments. Bones of deceased humans were also worn as pendants (Howitt 1904: 459, 460, 561, 562). In coastal south-eastern Victoria:

Sometimes the Kurnai cut off one hand of the corpse, or both hands...A string of twisted opossum fur was attached to it, so that it could be hung round the neck...It was carried by the parent, child, brother or sister. The belief of the Kurnai was that at the approach of an enemy, the hand would push or pinch the wearer. (Howitt 1904: 460)

An illustration of the human hand pendant is shown in Figure 6.11.



Figure 6.11. Human hand pendant, from Howitt (1904: 460)

Howitt also observed that, after their teeth were extracted during initiation, the teeth were gummed to fibre with grass tree resin and worn by the initiate as an ornament.

6.2.3.1 Summary of Victorian beads

Although not specific about the species and style of ornaments, I should find beaded ornaments in my sample from Victoria:

- shell series (SE Coast and Murray/Darling);
- reed bugles, may have composite material (SE Coast and Murray/Darling);
- kangaroo teeth series and pendants (SE Coast and Murray/Darling);
- animal, human and bird bones, feathers and integument worn as pendants or series (SE Coast, possibly Murray/Darling); and
- echidna spines in series (possibly SE Coast and Murray/Darling).

Along the eastern side of Australia, shells, reed bugles and kangaroo teeth are common raw materials used for manufacturing ornaments. However, the form of objects, teeth in particular, appear to differ from those in other States.

6.2.4 Queensland ethnohistoric accounts

Figure 6.12 shows the locations within the State of Queensland that are mentioned in this section.

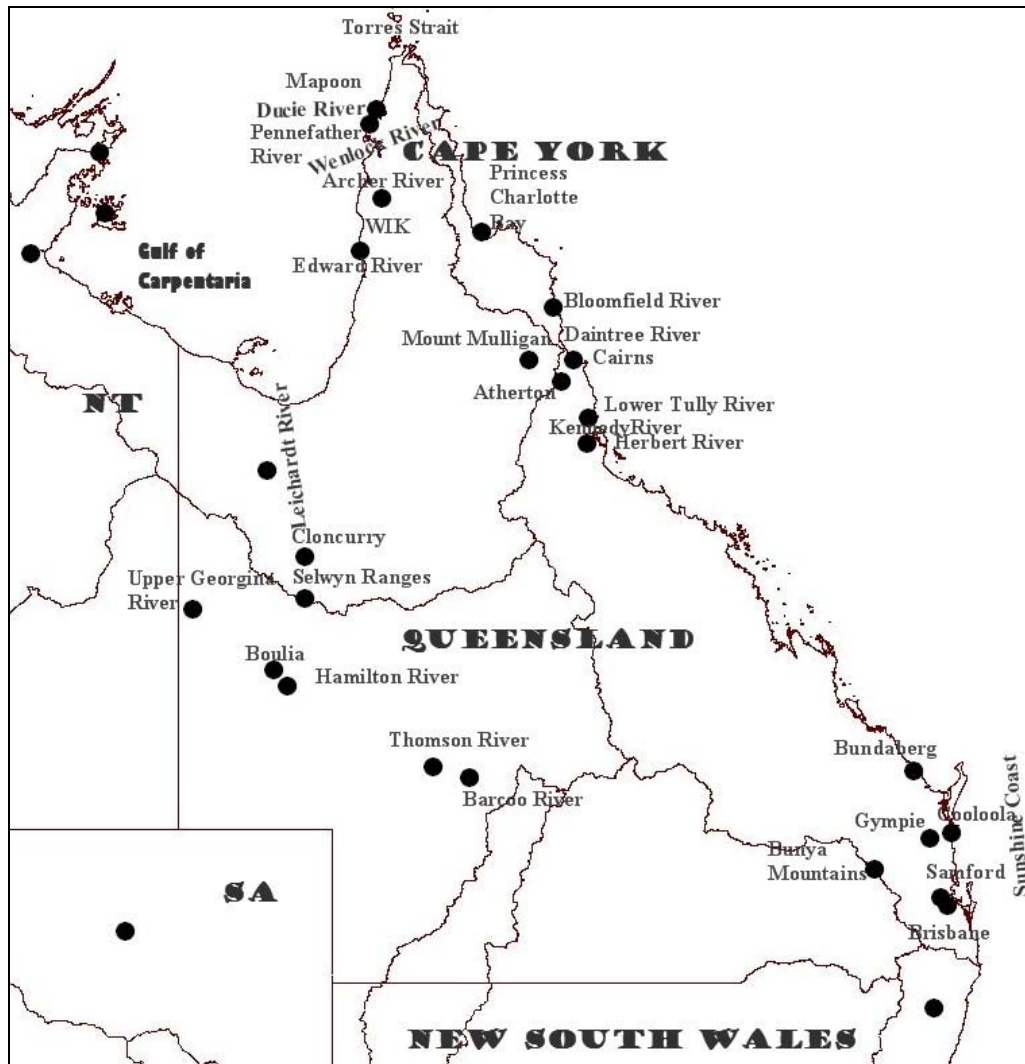


Figure 6.12. Locations mentioned in text (Queensland)

The most detailed information about beaded ornaments comes from Queensland, much of which was provided by Walter Roth, Donald Thomson, Hale and Tindale and Ursula McConnel.

6.2.4.1 Roth, W.E.

A summary of Roth's descriptions of beads from Queensland is provided below. Roth described the following types or forms of ornaments that are suitable for my study:

- Necklaces made from reed or grass bugles were manufactured throughout Queensland. Roth identified three major styles of reed (or bugle) necklaces. They could be worn as a sign that the wearers had accomplished their first initiation. The wearing and manufacture of the bugle forms could be restricted by gender according to the area. Figure 6.13 and

Figure 6.14 illustrate the three types of bugle ornaments defined by Roth (1987).

Measurement of 10.5 inches length and 2.5 inches depth of belly are given in Figure 6.13.

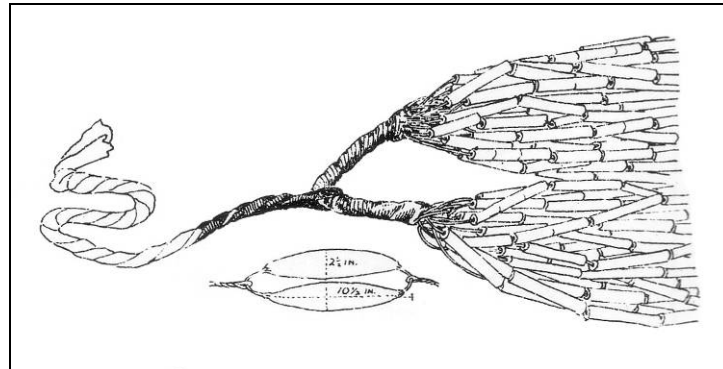


Figure 6.13. Reed necklace, Type 1, from Roth (1897, Plate XI, Figs. 264 & 265)

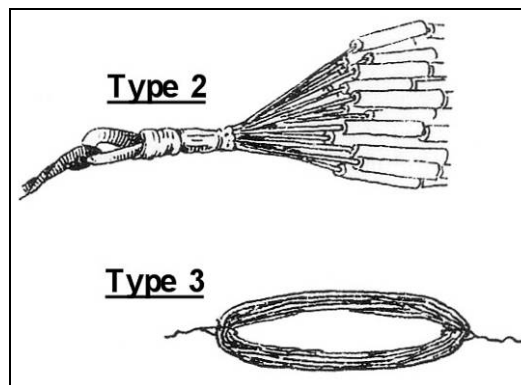


Figure 6.14. Reed necklaces, Types 2 and 3. From Roth (1897, Plate XI, Figs. 266 & 267)

- Series of shell segments were shaped (square, rectangular, square and oval) from *Nautilus* sp. and pearl shells to manufacture necklaces and head-bands (Roth 1910b (15), Sect. 15, 25). This form was worn on East and West Cape York and Islands off the east coast of Queensland. Distribution is affected by species and form. See Figure 6.15 for an example of overlapping, rectangular *Nautilus* sp. segments.

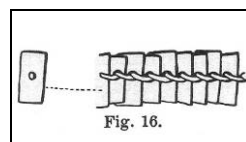


Figure 6.15. Series of rectangular shaped *Nautilus* sp. shell segments, from Roth (1910b (15), Fig. 16)

This form is shown below, worn by a man from Bloomfield River, East Cape York (Figure 6.16).

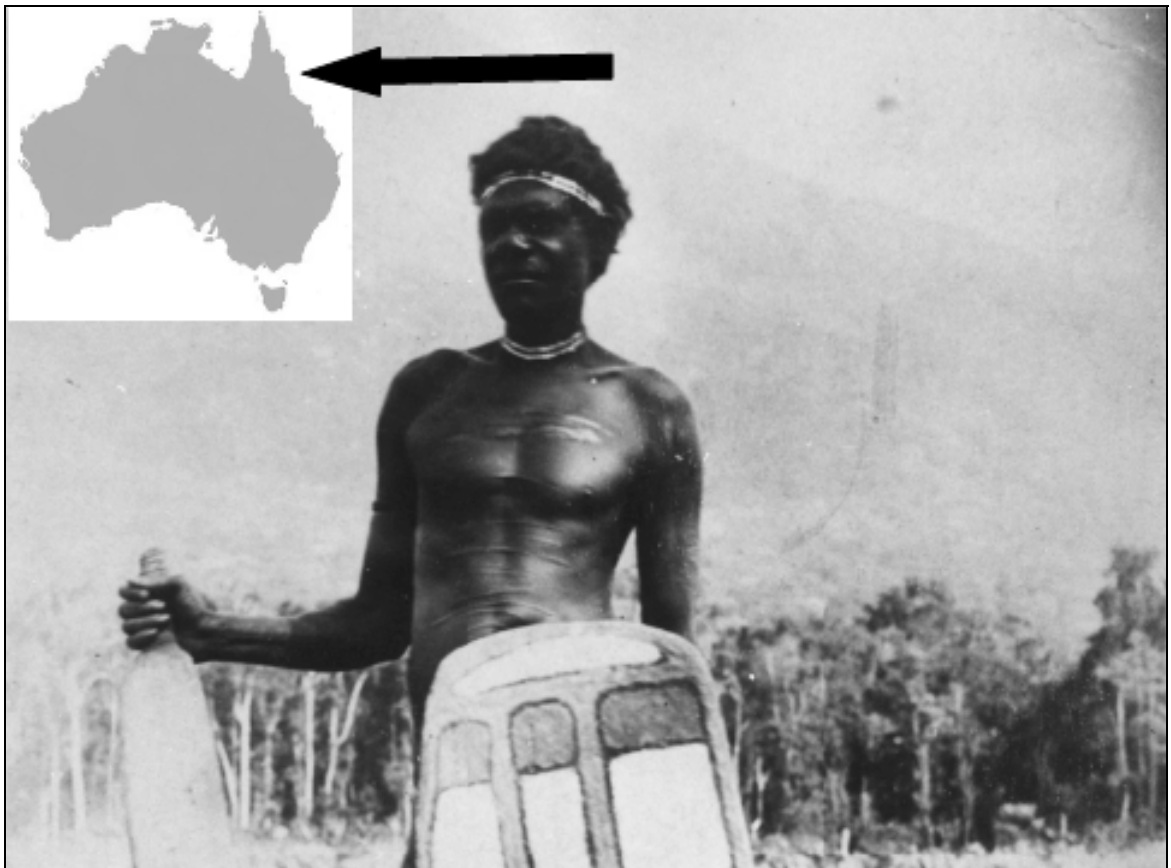


Figure 6.16. Young man from Bloomfield River, c. 1890. Photo, courtesy of State Library of Queensland

- Series of whole shells of *Oliva* sp. (Figure 6.17), *Solen* sp. and *Columbella* sp. and segments of *Dentalium* sp. were strung end to end to make necklaces, headbands, and could be worn over one shoulder and under the arm-pits (Roth 1910b (15), Sect. 25).

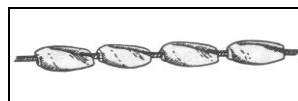


Figure 6.17. Series of *Oliva* sp. shells, from Roth (1910b (15), Fig. 18)

- Shell series ornaments were worn in Cape York Peninsula but could be restricted for use by gender and age. The function of the ornaments varied spatially. The distribution of shell series ornaments varied according to species and finished product (Roth 1910b (15), Sect. 25).

- Shell pendants were manufactured from baler shell, *Nautilus* sp. and pearl shell (Roth 1910b (15), Sect. 25). A *Nautilus* sp. variety is shown worn as a back ornament below in Figure 6.18.

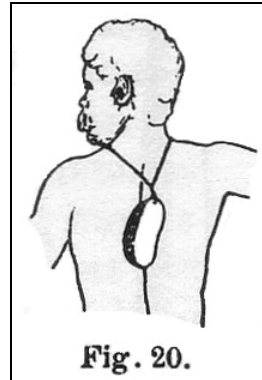


Figure 6.18. Shell pendant worn on back, from Roth (1910b (15), Fig. 20)

- Small triangular pieces of pearl shell were attached to human hair strings with cement and used for a charm or magic in the Leichardt-Selwyn, Upper Georgina and Boulia Districts. The objects were bartered in from the north (Roth 1903 (5), Sect. 90). See Figure 6.19.

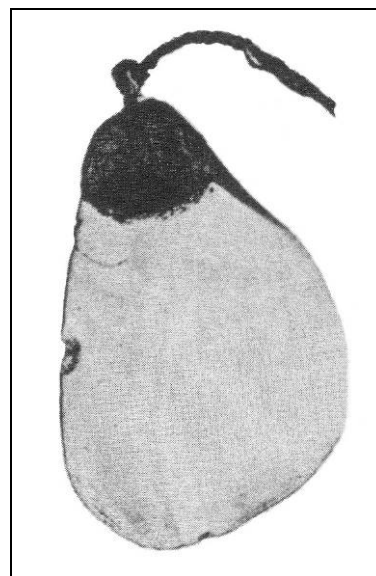


Figure 6.19. Shell charm or magic object from Roth (1903 (5), Fig. 20)

- Pearl shell phallocrypts (or penis covers) were traded into the north-western District of Queensland from the north (Roth 1910b (15), Sect. 38).
- At the Pennefather River, West Cape York, two types of pearl shell pendants were worn. The shorter and rounder pieces are worn only by a mother on the death of her child, by

females when dancing round a corpse (children sometimes using the half-broken ones), while the longer ornaments are worn by the men at corroborees and on other special occasions (Roth 1910b (15), Sect. 30.). Edge-Partington (1890-98: 131) lists a notched pearl shell from the Ducie River in West Cape York.

- Also at the Pennefather River, after starting their first menstruations, young girls wore pearl shell pendants, which show a girl had undergone a ceremony ‘to render her pleasing and acceptable to her husband’ (Roth 1903, (5), Sect. 90). Figure 6.20 shows a young girl who is dressed for the ceremony. This photograph is not of an actual event. Roth described the girl in the photograph was decorated by the mother to show the process to Roth.



Figure 6.20. Young girl dressed after ceremony at Pennefather River from Roth (1903 (5), Fig. 11)

- Baler shell pendants were traded from the Gulf to inland the North-western District of QLD (Roth 1897, Ch. VII, Sect. 182). A *Melo* sp. shell pendant example is shown in Figure 6.21.

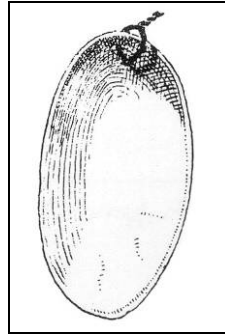


Figure 6.21. Baler shell pendant, from Roth (1897, Plate XIII, Fig. 271)

Edge-Partington (1890-98: 131) lists a baler shell pendant further to the south at the Kennedy River in north-eastern Queensland and Figure 6.22 shows a young man from the Sunshine Coast in south-eastern Queensland wearing what appears to be a baler shell pendant.

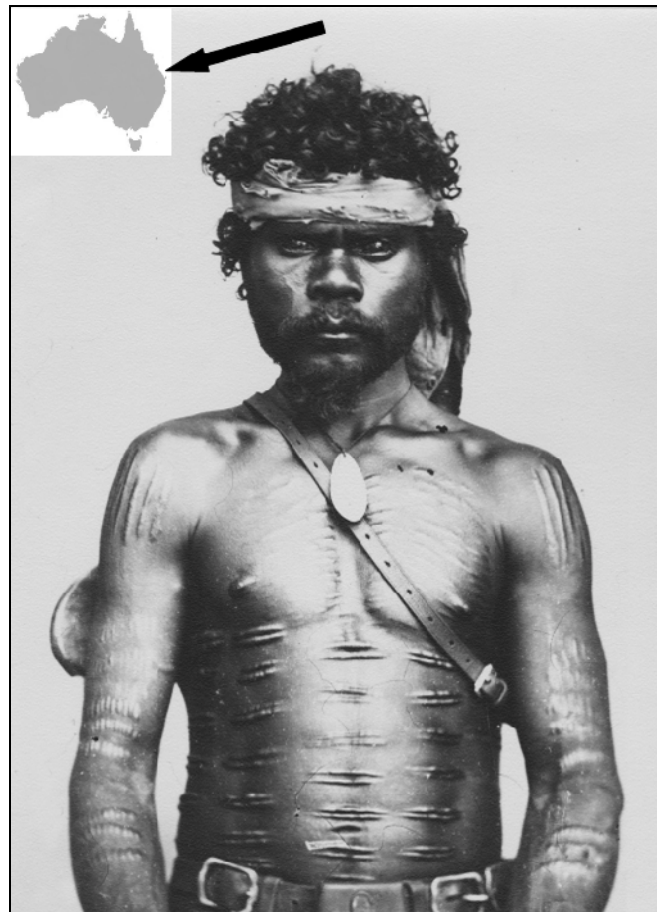


Figure 6.22. Young man from the Sunshine Coast, Qld, 1860s. Photo Courtesy of State Library of Queensland. Neg. No. 103586

- The wearing of *Conus* sp. shell pendants was restricted to the tip of Cape York (Roth 1910b (15), Sect. 30). In the Mapoon area, this object was worn for ceremonial purposes by both men and women (Roth 1900: 45 in Schall 1985: 31).
- Pairs of eagle's claws were cemented together and suspended from neck-strings in north-western Queensland. The claws were traded to the Bouli District from the north (Roth 1897, Ch. VII, Sect. 182). Figure 6.23 shows an example of this type of ornament. This ornament was also worn by the Arrernte in Central Australia (see Figure 6.57 in Section 6.2.7).



Figure 6.23. Pairs of eagles' claws, from Roth (1897, Plate XIII, Fig. 270)

- In north-western Queensland, chest and back ornaments were manufactured mainly from shell or the claws of eagles (Roth 1897, Ch. VII, Sect. 182).
- In north-western Queensland, ornaments of two kangaroo (rarely dingo) teeth fixed into a more or less oval-shaped base of cement were attached to the hair through a small aperture in the cement – worn by both men and women at celebrations (Roth 1897, Ch. VII, Sect. 166) (see Figure 6.24).

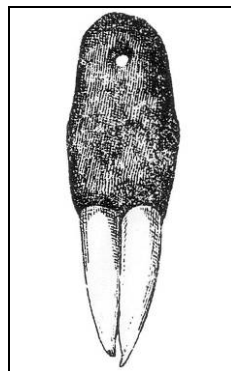


Figure 6.24. Macropod teeth set in cement, from Roth (1897, Plate XIII, Fig. 263)

- Pairs of eel cheek bones cemented together and attached to strings were worn at Tully River on the East Coast (Figure 6.25).

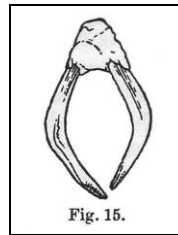


Figure 6.25. Pairs of eel cheek bones from Roth (1910b (15), Fig. 15)

- Necklaces made from eyes of cray-fish.
- Pencils of hardened beeswax attached to string for a necklace at the Daintree River in East Cape York.
- Necklaces of shark vertebrae at the Batavia River (now Wenlock) in West Cape York.

From the above, in my sample I should find series of shell segments and whole shells in Cape York Peninsula, around the Gulf and down the eastern coast of Queensland. Shell pendants will be varied in distribution but some pearl and baler shell will travel inland into north-western Queensland. Reed or bugle necklaces will be throughout Queensland. Teeth and claw objects will be in north-western Queensland. There will be ornaments in my Roth sample made from a variety of raw materials.

6.2.4.2 Hale and Tindale

Herbert Hale and Norman Tindale spent a month with the Aboriginal people at Princess Charlotte Bay, East Cape York, in north Queensland in 1927. From Hale and Tindale's observations of ornaments in the area 'pearl-shell pendants are more plentiful than any other kind on the coast and are more sought after' and, of necklaces in general, the grass and reed necklaces 'are not so highly valued as the shell ones' (Hale and Tindale 1934: 141, 142).

From Hale and Tindale's photographs, Figure 6.26 shows shell series forms, Figure 6.27 shell pendants and reed series, and Figure 6.28 shows a series of goanuts (*Pangium edule*).

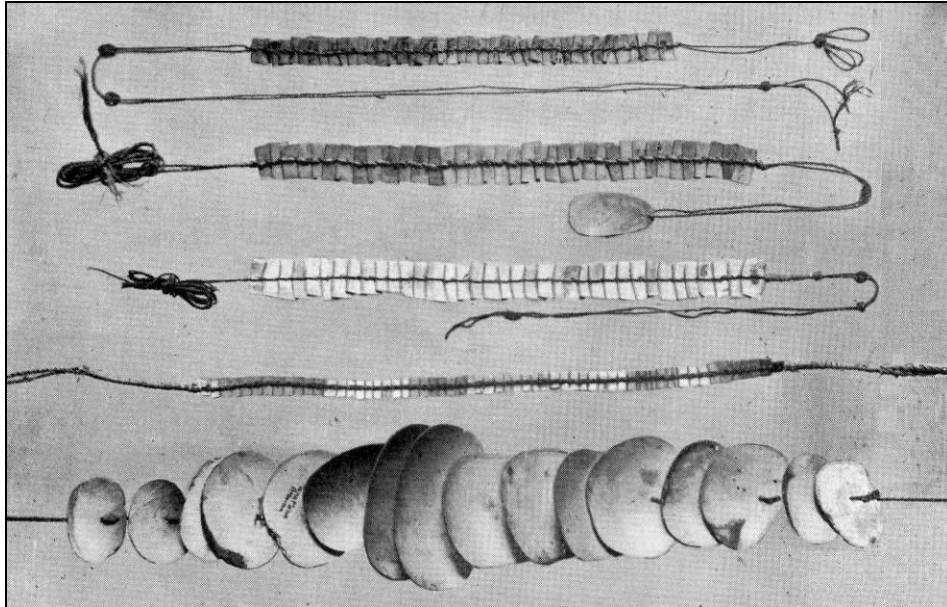


Figure 6.26. Shell series worn at Princess Charlotte Bay, from Hale & Tindale (1934: 141)

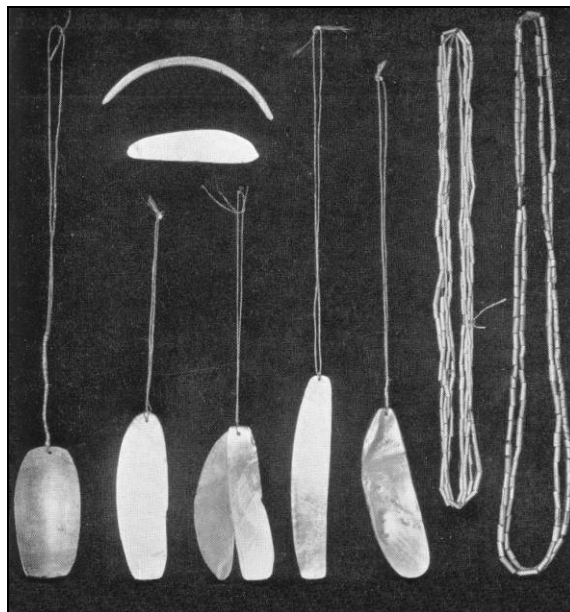


Figure 6.27. Shell pendants and reed series worn at Princess Charlotte Bay, from Hale & Tindale (1934: 142)

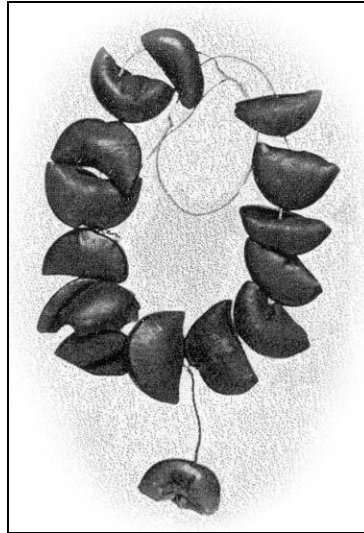


Figure 6.28. Goa nuts (*Pangium edule*) worn as rattles at Princess Charlotte Bay, from Hale & Tindale (1934: 140)

The above figures show examples of the range of beaded ornaments found around the Princess Charlotte Bay area. Hale and Tindale write of the bean goanut series:

...the bean leg-rattles...used by women during dancing...certainly increase the personal vanity of the individual, and may all be recorded therefore as “ornaments”. (Hale and Tindale 1934: 139)

Seeds and beans were used to manufacture ornaments in other areas of Australia (Hamby and Young 2001: 90-95).

6.2.4.3 Thomson, D.

Thomson travelled throughout Cape York Peninsula, Arnhem Land and later in Central Australia. Thomson provided excellent photographs of Aboriginal people during that time. Thomson recorded shell ornaments worn during initiation ceremonies around the north-western area of Cape York, North Queensland (Thomson 1934b: 255). He wrote about the Wik Monkan tribe of western Cape York, during the ceremonial presentation of a child to its father:

...the body of the baby is smeared first with red ochre...then painted with white. Its breast was marked with longitudinal streaks of white, and it was adorned with a mother of pearl breast pendant (onkäm); one necklace of mother of pearl nacre (männ ättuwa) was placed on its forehead and another on its neck with native companion feathers inserted under the latter. (Thomson 1936: 383)

Figure 6.29 shows a woman from the Wik Monkan tribe in West Cape York wearing mourning ornaments, including several strands of *Oliva* sp. and *Dentalium* sp., worn around neck and across the chest to underarms, and pearl shell pendants.

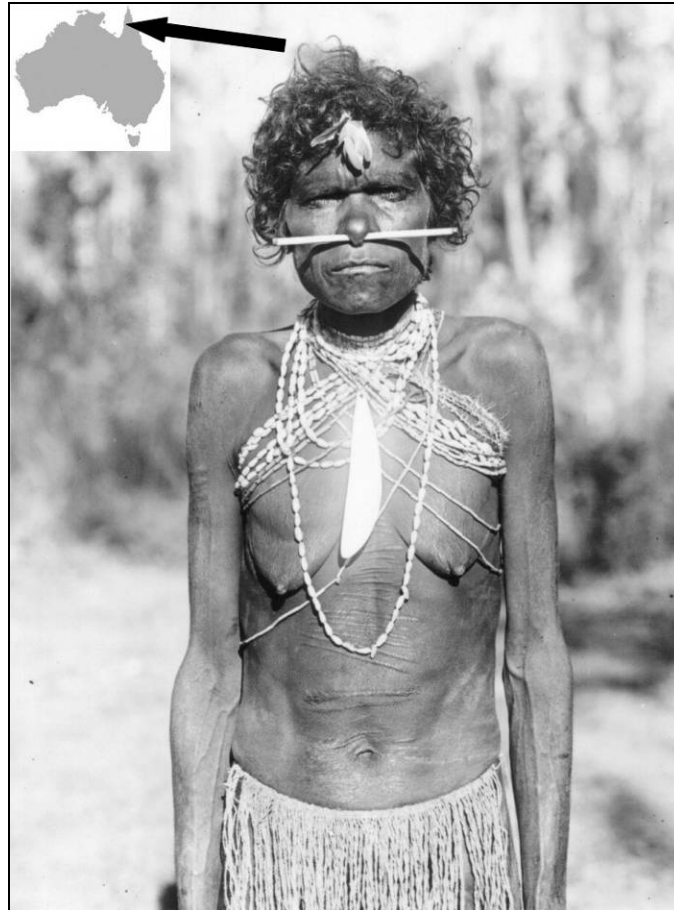


Figure 6.29. Woman in mourning. Photograph by D.F. Thomson, Courtesy of Mrs D.M. Thomson and Museum Victoria

The woman pictured above is wearing shells in both series and pendant form. On the other side of Cape York, Figure 6.30 shows a Koko Ya'o drum man from the northern tip wearing a *Comus* sp. shell as described by Roth above. The man is dressed for ceremony.

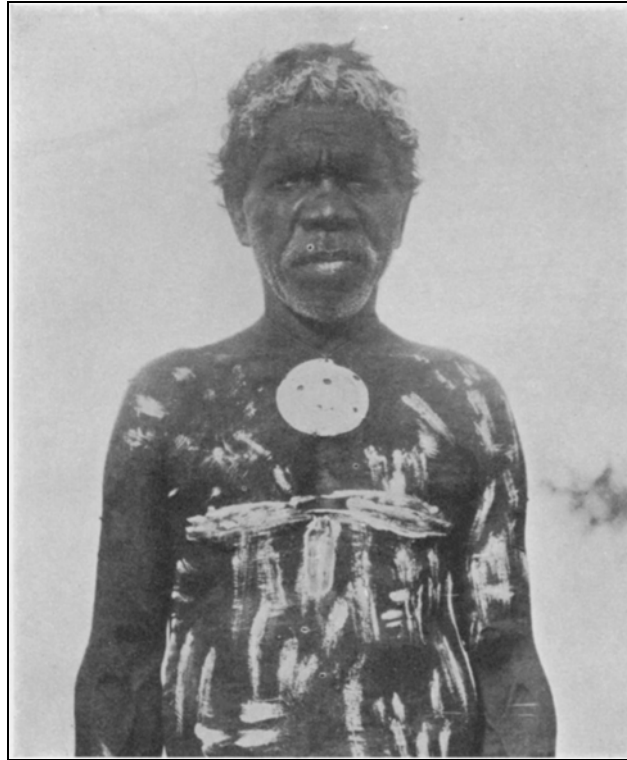


Figure 6.30. Man wearing *Conus* sp. shell from Thomson (1933, Plate XXIX, Fig. 1)

On the western side of Cape York, the Tjungundji people wore this object during initiation ceremonies. Thomson reported:

...breast pendant of many kinds, the most valued of which is the one made from the circular end of the *Conus millepunctatus*...are also worn during the initiation ceremonies. (Thomson 1934b: 228)

This fits in with Roth's (1910b (15), Sect. 30) distribution for this object. I have seen photographs taken by Thompson and held in the Museum of Victoria that depict the following from West Cape York:

- male from Edward River wearing shark vertebrae necklace;
- male from Edward River wearing rectangular shaped pendant;
- male from Edward River wearing series of rectangular pearl shell segments as a necklace; and
- women from Archer River wearing crescent shaped pearl shell pendants and series of rectangular shaped segments of pearl or *Nautilus* sp. necklaces and headband.

This is by no means the full extent of Thomson's photographs of beaded ornaments but more an indicator of what beads were worn in West Cape York.

6.2.4.4 McConnel, U.

Ursula McConnel provided a list of ornaments, for many of which she described the functions. McConnel recorded on West Cape York, Queensland:

- pearl shell pendants, cowrie and pearl shell necklets and head bands. These objects were worn only in ceremonial dances and not for daily use. They were also common to Papua and Islands (McConnel 1953: 4). McConnel illustrated a semi-lunette shaped pearl shell pendant (Figure 6.31).

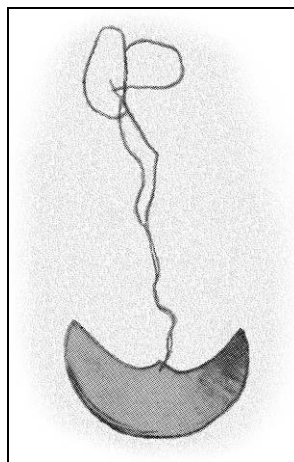


Figure 6.31. Semi-lunette pearl shell pendant from West Cape York. Adapted from McConnel (1953, Plate vii, Fig. D)

This form, as well as the oblong pearl shell ornaments, was ‘worn mostly by men suspended from the neck; pearl shell usually traded in from east coast and Torres Strait’ (McConnel 1953: 24).

In general, McConnel (1953: 15) noted beads worn by Aborigines included:

- men and women wore pearl shell or *Nautilus* sp. pendants suspended with string round the neck or on the head;
- women wore cowrie shell girdles and cross-overs – the shells were not local but ‘borrowed’ from the north;
- strings of threaded golden grass bugles; and
- local pearl shell necklets and headbands.

McConnell observed the use for beaded ornaments:

- ‘Grass bugles, scarlet seeds and yellow orchid bark, feathers and cowrie shells (threaded on string) are used for decorative purposes’ (1953: 8); and
- grass bugles were worn in mourning (1953: 17).

Many of the observations made in West Cape York by Roth, Thomson and McConnel are alike.

6.2.4.5 Other ethnographic accounts from Queensland

A variety of seeds were used for manufacturing ornaments in Queensland. Edge-Partington (1898) described objects from Cape York including necklaces made of abrus beans and coix seeds; half coix seeds; and coix seeds with antennae of cray fish. An example is shown in Figure 6.32.



Figure 6.32. Series of half coix seeds from Edge-Partington (1898: Part 3: 131, Fig. No. 14)

Hamlyn-Harris (1918) noted that pendant charms made with gum cement were popular practice on Cape York Peninsula. Hamlyn-Harris mentions charms made with the branchiostegal rays of the eel (bony rays supporting the gill membranes behind the lower jaw) mounted in gum cement from the Atherton District, a rainforest area west of Cairns:

It would appear that these were in use by young boys when being initiated into manhood. They are worn hanging on the chest and the opposing tribe is supposed to throw spears at them during the ceremony. (Hamlyn-Harris 1918: 9)

Mjöberg studied the Aborigines rainforest people early in the 20th Century and believed that their traditional culture was intact (Ferrier 1999: 53). Mjöberg (1913a, 1913b, 1913c, 1913d, 1914, 1915a, 1915b, 1918a, 1918b, 1923, 1925a, 1925b cited by Ferrier 1999, originals not seen) collected tools and weapons and commented on their difference to Central and Western Australian tribes. Ferrier (1999) wrote a dissertation on the material culture he collected and

took back to museums in Europe, matching Mjöberg's writings with the material culture.

Among his collections were the following ornaments:

- Mussel shell pendants that were worn on the forehead or around the neck.
- Grass necklaces worn in several layers around the neck.
- Necklaces made of pieces of mussel shell (Ferrier 1999: 75).

Other than mussel shell and grass necklaces, there is little other information about beads from Mjöberg.

Richards, brought up in the Mount Mulligan district west of Cairns in north Queensland, described the ornaments of the Aborigines in the area:

For ornaments they wore feathers in their hair, necklets of grass beads (made by threading segments of grass on string), and sometimes a single white shell was suspended around the neck. Numbers of small mussel-shell would be squared by rubbing on stones, bored, threaded on string, and tied round the forehead. (Richards 1926)

Once again, grass and shell series ornaments were dominant forms. Richards does not give an explanation for the function of the ornaments.

Smythe (1978 (1): 279) wrote of the following articles he had received from Queensland:

- from Bundaberg on the east coast of Queensland: a cluster of shell pendants cemented to a reed necklace; and
- from Mackay in Central Queensland:
 - a forehead band made of ground oval segments of *Nautilus* sp. shell strung in a series on vegetable fibre; and
 - a pair of elliptical shaped pieces of *Nautilus* sp. shell strung on vegetable fibre, worn on the chest.

The reed necklace had shells attached with cement.

Lumholtz (1908) did not provide detailed descriptions of beaded objects but he provided a drawing of a pierced shell pendant, possibly baler shell (Figure 6.33) and a grass reed or bugle necklace (Figure 6.34) from the Herbert River District in north-eastern Queensland.

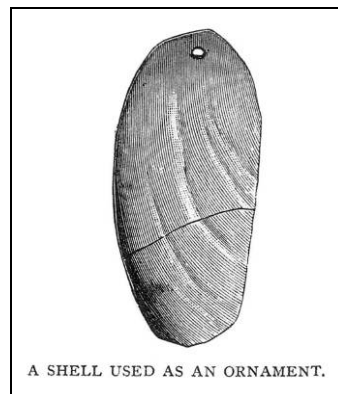


Figure 6.33. Shell pendant from Herbert River District, adapted from a sketch (Lumholtz 1908: 258)

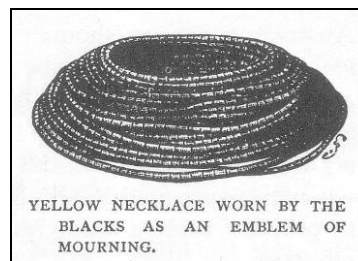


Figure 6.34. Reed necklace from Herbert River District, adapted from a sketch (Lumholtz 1908)

Lumholtz called the latter ornament ‘the yellow necklace’ and noted:

These necklaces consist...of short-cut pierces of yellow grass strung on a string long enough to go round the neck ten to twelve times. Sometimes they are worn as ornaments by both men and women. (Lumholtz 1908: 222)

Lumholtz added that the yellow necklace was also worn by Aborigines in mourning.

Information about the Aborigines in the Brisbane area was provided by Tom Petrie, who arrived in Brisbane as a young boy in 1837 and spent a lot of his life with the Aborigines in the area. Petrie observed that men could wear grass bugle necklaces at any time (Campbell-Petrie 1975: 19, 20). At the bunya festivals in the ranges west of Brisbane, reed necklaces and shells for ornaments were traded from the coastal groups to the inland groups. Petrie does not describe what type of shell ornaments were made (Campbell-Petrie 1975: 56). Petrie does, however, mention a ‘snake-throttle tied round his forehead’ worn by initiates at the Samford Kippa ring, north of Brisbane (Campbell-Petrie 1975: 43).

McNiven (1992) has described the personal ornaments of the Aborigines of the Cooloola Aborigines, north of Brisbane in south-eastern Queensland. *Nautilus* sp. shells were highly sought after and their value increased with distance when traded from the coast. McNiven cites Russell (1888: 289) who in 1842 was searching for a good specimen but was informed that the shell was 'so precious for the wearing string round the neck' that none would be found. McNiven (1992: 15) presumes the shells are of the crescent shape, worn by 'the chief singer and head of the bora ring, and the head of the tribal council'.

McNiven (1992: 19) refers to the *Nautilus* sp. shell being worn in the Gympie region, and cited Mathew 'both sexes would wear a piece of mother-of-pearl shell suspended by a string from the neck' (Mathew 1910: 95) and 'the chief ornament they seem to have worn was a piece of sea-shell of elliptical shape...hung from the neck' (Mathew 1887: 155-156). Mathew (1910: 95) also referred to 'long necklaces of beads made of a yellow reed' worn by women in the Gympie area.

Curr (1886: 340, 374) notes the use of ornaments in western Queensland. Reed necklaces were worn in the Flinders and Cloncurry River District and at the junction of the Thomson and Barcoo Rivers. In the Cloncurry River area:

...both men and women wear necklaces of shells; and my informant affirms that the wild Blacks in his neighbourhood will not harm a white man who hold up to them one of these ornaments. (Curr 1886: 331)

At the Hamilton River:

...the Yanda women wear, on occasions of corroboree, an ornament common in many parts of Australia...it is made of the two front teeth of the kangaroo, which are fastened together at their butts with sinew and gum, and extend at an angle of 45 degrees. (Curr 1886: 360)

These teeth ornaments were mentioned by Roth earlier in this section.

An unusual bead series was collected by N. and L. Birks from northern Queensland and described as a girdle (Waite 1923). The girdle consists of 160 moth cocoons (probably from the Family Bombyiidae, genus *Pinara*) measuring over 2.5 metres in length. The object is held in the South Australian Museum (Figure 6.35).



Figure 6.35. Moth cocoon girdle from northern Queensland, held in South Australian Museum (Photo J. McAdam)

No further information was given on the function or distribution of this object and the provenancing is too poor to use in analysis. However, this is at least evidence of use of a raw material that is not recorded elsewhere.

6.2.4.6 Summary of Queensland beads

From the above accounts, there are at least the following beads from Queensland (drainage basins in parenthesis):

- reed series throughout, at least three styles and some may have crustacean legs attached or shells attached with cement (Gulf, NE Coast, Lake Eyre, Murray/Darling and Bulloo);
- shell series worn in Cape York, down the eastern coast and inland to the Cloncurry District. Distribution will be determined by species (Gulf and NE Coast);
- shell pendants worn throughout but the distribution will be determined by species (Gulf, NE Coast, Lake Eyre, Murray/Darling and Bulloo);
- series of pairs of eel cheek bones around the Tully River area (NE Coast);
- pendants of branchiostegal rays of the eel mounted in gum cement from the Atherton District (NE Coast);
- pendants made from pairs of eagles' claws and teeth of kangaroo or dog teeth in the north-west (Lake Eyre and possibly Gulf);

- series and pendant made from a variety of seed species throughout (Gulf, NE Coast, Lake Eyre, Murray/Darling and Bulloo);
- series of crayfish eyes;
- series of hardened beeswax
- series made from shark vertebrae in West Cape York (Gulf); and
- series of pierced moth cocoons from the north (Gulf and NE Coast).

Most of the ethnographic accounts come from the northern area of Queensland and I will continue the next sections by discussing the northern region of the Northern Territory and Western Australia, followed by Central Australia and South Australia.

6.2.5 Northern region of Northern Territory ethnohistoric accounts

Figure 6.36 shows the locations from the northern region of Northern Territory that are mentioned in this section.

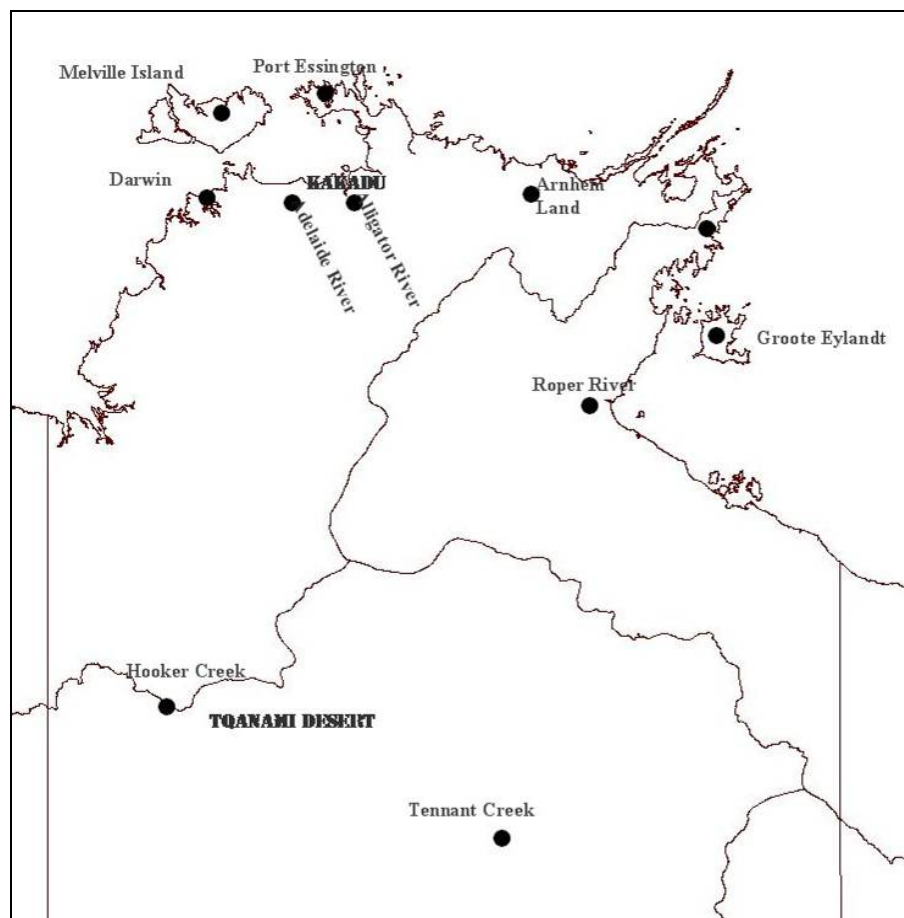


Figure 6.36. Locations mentioned in text (northern region of Northern Territory)

South and to the west of Gulf of Carpentaria, at the Barkley Tablelands on the Queensland and Northern Territory border, Edge-Partington (1898 (3): 140, Fig. 1) listed a 'forehead ornament – of a Queensland bean and porpoise teeth – worn by a “doctor” in tribal rights’ The ‘Queensland’ bean is the seed of *Entada phaseoloides* and commonly called matchbox bean (Figure 6.37).

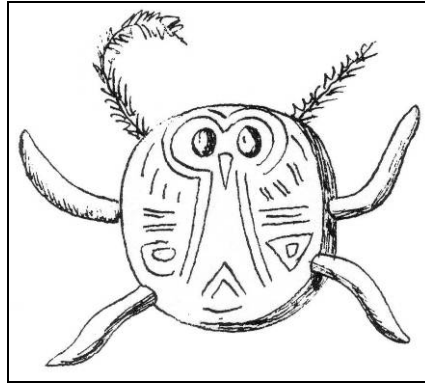


Figure 6.37. Forehead ornament of matchbox bean and porpoise teeth, Edge-Partington (1898 (3): 140, Fig. 1)

Dolphin teeth were incorporated in other forms of ornaments. From the Roper River, Northern Territory, Edge-Partington (1898 (3): 140, Fig. No. 6) shows a head or neck band made of plaited cord with three dolphin or porpoise teeth attached (see Figure 6.38).

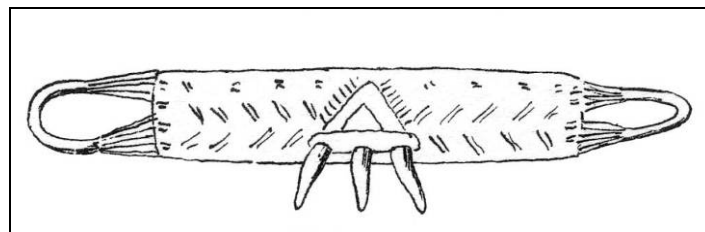


Figure 6.38. Dolphin or porpoise teeth attached to band, Roper River, NT, from Edge-Partington (1898 (3): 140, Fig. No. 6)

The Roper River, Northern Territory, flows into the western side of the Gulf of Carpentaria, north of the Barkley Tablelands.

Also, on the western side of the Gulf of Carpentaria, McCarthy (1953) witnessed a circumcision ceremony at Groote Eylandt in 1948. During the ceremony, the initiates (seven year old boys) were decorated. Included in the ornaments were:

...a head circlet of ruddled possum cord on each end of which is suspended up to five wallaby incisor teeth in one set and a number of shell-valves in the other set. (McCarthy 1953: 97)

The species or form of the shell has not been provided nor the technology for attaching to the head string. The object was possibly a smaller version of the form shown in a photograph by Donald Thomson of a young woman decorated for ceremony at Arnhem Land, Northern Territory (Figure 6.39). I have classified these objects as pendants because the teeth have been cemented together and suspended as a single set.

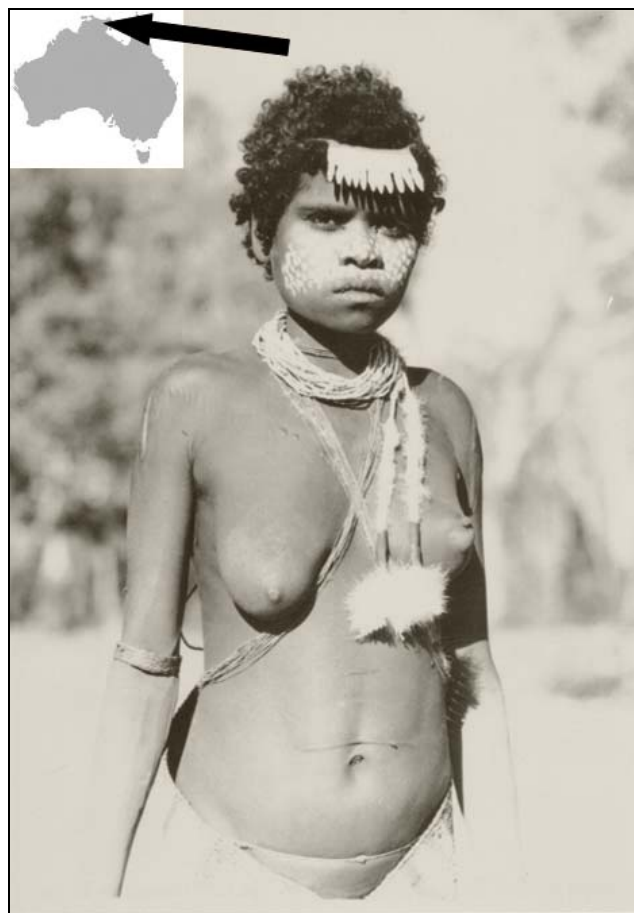


Figure 6.39. Young woman from Arnhem Land. Photograph by D.F. Thomson, Courtesy of Mrs D.M. Thomson and Museum Victoria

The woman's face was painted and she had cicatrices. She was wearing strings, feathers, armbands and an object on her forehead made from a set of macropod teeth that have been set in beeswax and attached to string. The object has been coloured. The necklace wound around her neck is difficult to identify and may be reed bugles or even scaphopod shell. This

woman's ornamentation is vastly different to that of the woman from Cape York in Figure 6.29 earlier in this chapter, also photographed by Thomson.

Another photograph taken by Thomson shows a young woman from Caledon Bay in Arnhem Land, Northern Territory, wearing a circlet of string on her head, from which crocodile teeth (identified by Thomson) are suspended (Figure 6.40).

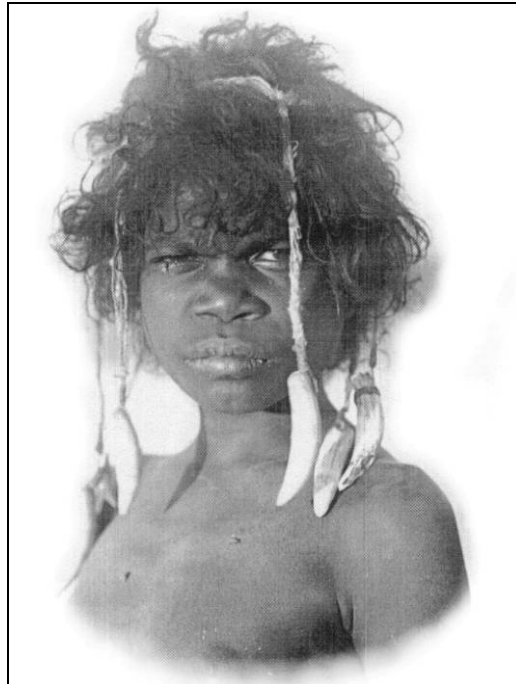


Figure 6.40. Girl wearing ornament made from crocodile teeth in Arnhem Land. Adapted from Thomson (1948: 405)

This girl was a young bride, aged twelve. No other ornaments are apparent, although only the top half of her body is shown.

Teeth appear to be a common material for ornaments in Northern Territory. In Kakadu, west of Arnhem Land, Spencer photographed ornaments made from kangaroo incisors set in gum or resin (Figure 6.41).

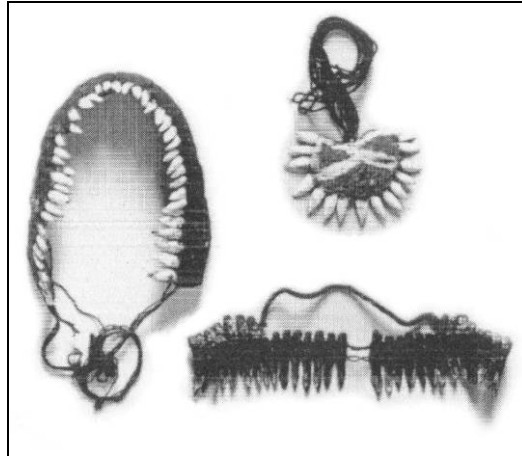


Figure 6.41. Kangaroo teeth ornaments from Kakadu, from Spencer (1914: 397)

The upper right hand object is a pendant that has been decorated but a different form from that worn by the woman in Figure 6.39. The other two objects consist of a series of teeth segments. I have seen other photographs in the Melbourne Museum by Thomson that depict a man from Arnhem Land wearing a grass or reed bugle necklace and women at Melville Island wearing perforated rectangular shaped shell pendants – one as a forehead ornament when in mourning, and the other as a chest ornament when preparing food.

Edge-Partington lists a necklace manufactured with grass sections and shells from Port Essington, north coast of Northern Territory, collected by Stockdale (Figure 6.42).

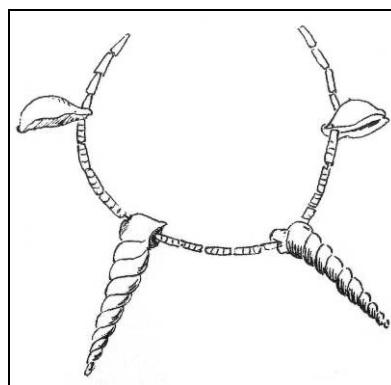


Figure 6.42. Grass bugle and shell necklace from Port Essington from Edge-Partington (1898: 131, Fig. 19)

Grass bugles with attached shells were described by Smythe from Bundaberg on the east coast of Queensland. The ornament differed in that the shells were cemented to the object. The above shells appear to be pierced.

Akerman (in prep.) mentions pendants and series of beaks of spoon bills cemented in beeswax that were worn in Arnhem Land. The pendant was worn by young people during specific teaching events.

Further around the Northern Territory coast, at Alligator River, Figure 6.43 illustrates a series of pierced echidna spines that have been threaded onto a string (Edge-Partington 1898 (3): 140, Fig. No. 7).

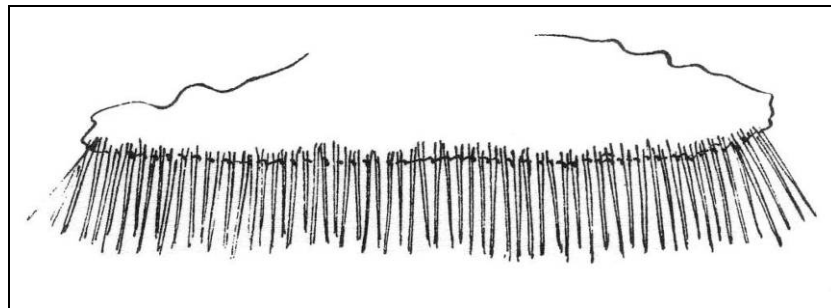


Figure 6.43. Echidna spines threaded on string from Edge-Partington (1898 (3): 140, Fig. No. 7)

Edge-Partington illustrated another object manufactured from echidna spines set in gum, shown in Figure 6.44.

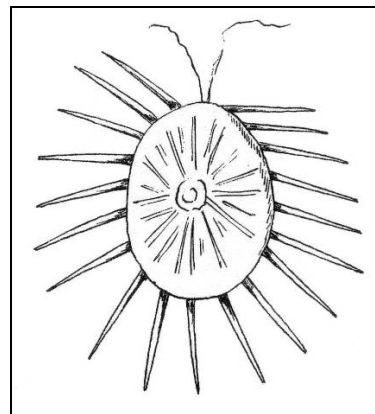


Figure 6.44. Echidna spines set in cement from Edge-Partington (1898 (3): 140, Fig. No. 2)

This object has been designed to suspend, probably as a pendant on the chest. No provenancing has been provided. A similar form of object was also found in New Guinea except kangaroo teeth are used instead of echidna spines (Figure 6.45).

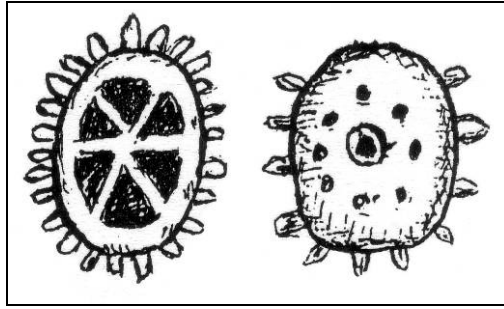


Figure 6.45. Kangaroo teeth embedded in gum, Fly River, New Guinea, from Worsnop (1897: 158)

Figure 6.45 shows that there were similar types of objects made at the Fly River in New Guinea with different material. Worsnop mentioned that Aborigines at the mouth of the Fly River wore:

...ornaments nearly approaching in form to stars. The material is either fur from the kangaroo or opossum amassed together with some tenacious gum. On the edge are fixed teeth of the kangaroo, also firmly embedded in a rim of grasstree gum. (Worsnop 1897: 160)

Around the same time, in 1891, Bassett-Smith (1894) was a surgeon on HMS 'Penguin' in north-western Australia, working mainly around Port Darwin and Adelaide River in the Northern Territory and down to Roebuck Bay, on the coast of Western Australia. Bassett-Smith did not mention kangaroo teeth or echidna spine ornaments and wrote about the Aborigines from Adelaide River 'here the influence of outsiders cannot be very great on the natives' (Bassett-Smith 1894: 324). Then he adds:

The only ornaments worn were bands of plaited grass round the arms and legs and a girdle of hair and fibre round the loins...the lubras had short cloth petticoats (not native make). (Bassett-Smith 1894: 327)

On the other hand, at Roebuck Bay (Broome) on the west coast of Western Australia, Bassett-Smith noted scantily clad 'men occasionally wearing a pearl shell ground down' and women 'had scarcely any ornament, armlets, and sometimes wearing kangaroo teeth as charms' (Bassett-Smith 1894: 329).

6.2.5.1 Summary of northern Northern Territory beads

Beaded ornaments recorded for the northern section of NT include:

- ornaments with dolphin teeth (Gulf and Timor Sea);
- seed pendants (Gulf);
- pendants of a set of kangaroo incisors set in gum, may be decorated (Gulf and Timor Sea);
- series of kangaroo incisors (Gulf and Timor Sea);
- series of crocodile teeth attached to head-string (Timor Sea);
- shell pendants (Timor Sea);
- grass or reed bugle series, may have other materials attached (Timor Sea);
- series of echidna spines (Timor Sea);
- pendants and series of spoon bill beaks in resin (Timor Sea); and
- possible *Dentalium* sp. series (Timor Sea).

There appears to be a greater variety of materials and forms used in the manufacture of beaded ornaments in Northern Territory than eastern States.

6.2.6 Western Australian ethnohistoric accounts

Figure 6.46 shows the locations within Western Australia that are mentioned in this section.

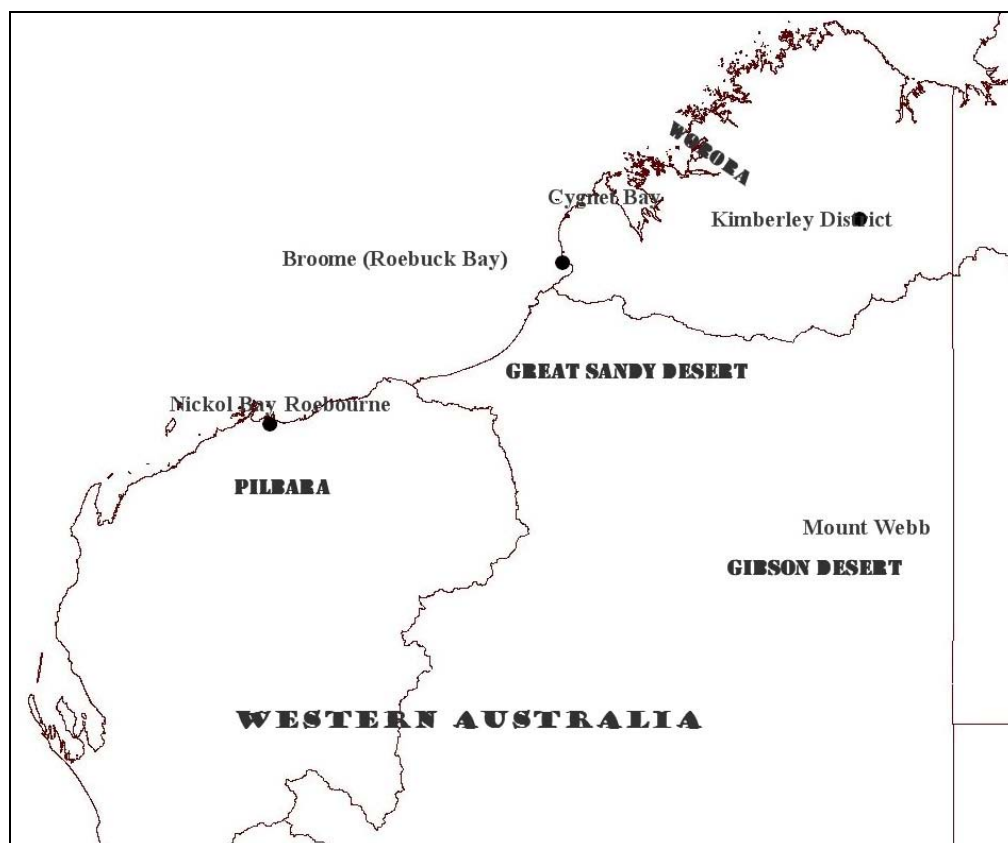


Figure 6.46. Locations mentioned in text (Western Australia)

Figure 6.47 illustrates an object from the Ord River, Kimberley District, Western Australia and listed by Edge-Partington (1898 (3): 140, Fig. No. 3).

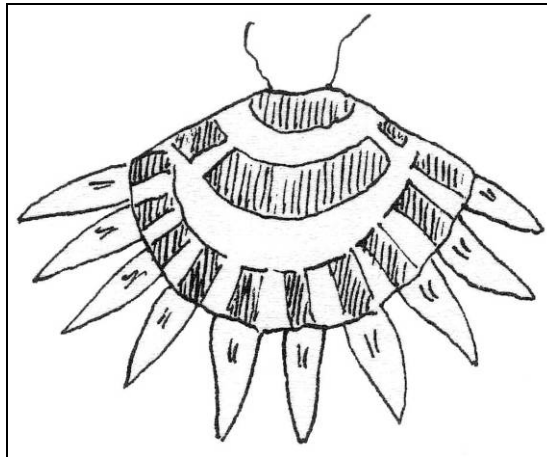


Figure 6.47. Decorated ornament manufactured with kangaroo incisors embedded in gum (Edge-Partington 1898 (3): 140. Fig. No. 3)

The ornament is made of macropod incisors set in gum and is possibly the same type of form described by Bassett-Smith.

In his notes on the Worora tribe of north-western Western Australia, Love (1917: 27) noted that men wore an oval shaped pearl shell as an ornament suspended from a belt either front or back and women and men would wear several of those shells down their backs, suspended from human hair necklets. Figure 6.48 shows a young boy wearing a pearl shell pendant attached to a waistband.

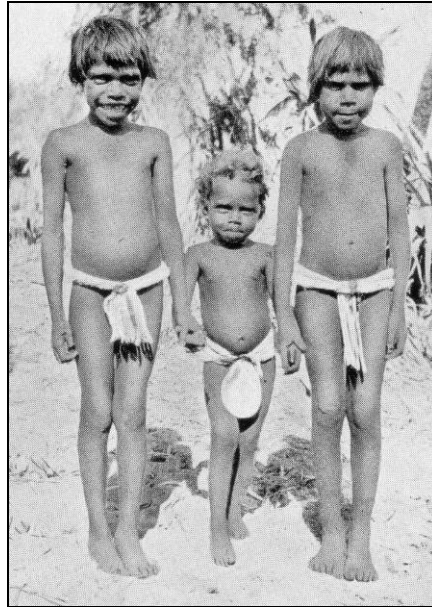


Figure 6.48. Young boy wearing pearl shell pendant. Adapted from Love (1936: 116)

The fact that a young uninitiated boy could wear this form of ornament could indicate that these ornaments were not prestige goods in this area and were worn for everyday use.

Also, from the Pilbara Coast in Western Australia, Clement noted that the pearl shell was used to identify Aboriginal doctors (*taketa*):

...*taketa* is easily recognized by the “pinjambenger” he wears around the neck... This is a piece of mother of pearl shell, ground down in the shape of the accompanying drawing, with a hole through which a string of human hair is drawn. The ornament rests on his chest. (Clement 1903: 7, 8)

The accompanying drawing depicted an elongated oval shape, pierced at one end with string attached. In a footnote to the above quote ‘Dr. Clement has sent also a specimen of this ornament, to which in place of pearlshell is fastened the neckbone of a cetaceous animal’. I would doubt that dolphin or porpoise vertebrae could be considered a similar specimen as pearl shell. The value of the material would not be the same.

Ada Janet Peggs (1903) and her husband were among the first European settlers in Broome, Western Australia and collected Aboriginal artefacts from Western Australia between 1899 and 1901. Figure 6.49 shows examples of the objects in their collection including pearl shell pendants (Items 3, 4, 8, 9, 11, 13) and a scaphopod shell necklace (Item 14).

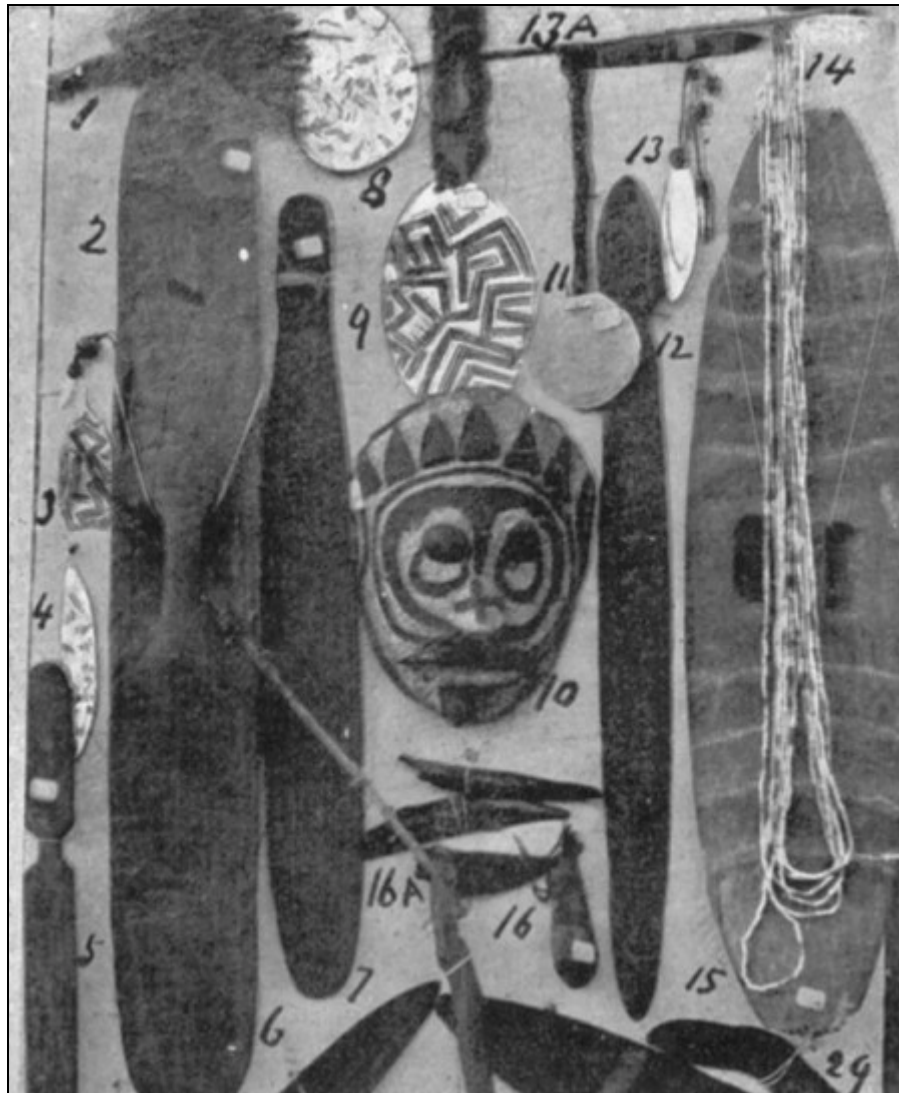


Figure 6.49. Objects collected 1899-1901 (adapted from Peggs 1903: Fig. XV)

Ada Peggs described the objects and their functions in a series of letters to England. I have listed the number of the objects as shown in Figure 6.49, and their functions below. Peggs' comments are in Appendix 3:

- Items 3 and 4: 'Pearl-shell letters of introduction...it was worn round the neck by a string with a piece of shell placed just over the shoulder' (Peggs 1903: 365).
- Items 8 and 9: 'Chastity-shells and hair girdle. The full war dress of the warriors. When shell is worn behind it denotes that the man wants a wife' (Peggs 1903: 365).
- Item 11: Smaller chastity-shell with hair girdle (Peggs 1903: 353).
- Item 13: Pearl shell charms against sickness; and kangaroo teeth taken from the head of a child who was *wilgyed* (died) (Peggs 1903: 346, 347).
- Item 14: Shell necklace worn by the women when in want of a husband (Peggs 1903: 346).

Other objects sighted in the Kimberley District include turtle shell, fragments of painted (possibly pierced) and oval shaped (Davidson 1937: 66; Edge-Partington 1898, Part 3: 132, Figs. 17, 18).

The most outstanding ornament from the Kimberley/Broome area is the pearl shell pendants, which has played, and still does play, a major role in many aspects of Aboriginal life. For example, the anthropologist, Kaberry (1939: 131, 225, 248) wrote that, in the Kimberleys, soon after betrothal, pearl-shell and bamboo necklaces were included in the first gifts given to the bride's family. Also, after undergoing subincision in the Kimberleys, young men were given a pubic pearl shell ornament. In addition, a woman experienced acute pain after dreaming of a pearl shell pendant that was forbidden for women.

Although scaphopod shells have been found in archaeological sites in Western Australia (Balme 2000; Balme and Morse 2006), there is little mention of them in ethnographic notes. Worsnop (1897: 158) gave a brief mention of them when describing necklaces in Australia, 'Others were made from the small pipe-like, but transparent, shells of the *Dentalium* by the Aborigines of Cygnet Bay, north of Broome, Western Australia'.

Carnegie (1898a: 281-282), travelling in the interior of Western Australia, wrote that at Mount Webb in the Gibson Desert 'we got a "sporran" consisting of a pearl oyster-shell or large conch shell, also one formed from the top portion of human skull'. The 'sporran' is often what others refer to as 'phallocrypt' or pubic cover. Carnegie (1898a: 269) also noted seed necklaces 'in the bundles they carry all sorts of finery...necklaces of beans'. Carnegie does not identify the beans but when writing about the desert people and trade, he wrote about their possessing 'the red beans which are found in the Kimberley' (Carnegie 1898b: 395).

Daisy Bates (1985: 359) observed ceremonies in the Roebourne and Pilbara District in Western Australia '[t]hey will also wear the pearlshell...showing their status'. The pearl shell was exchanged from Broome to the north and among the items sent back were 'necklaces made of human hair and kangaroo teeth attached with gum'. (Bates 1985: 285)

Aboriginal dress and ornamentation was not always described. During his expeditions in north-west and through Western Australia (1837, 1839), George Grey, explorer, encountered Aborigines. In Western Australia, he talks about ‘the fantastic ornaments’ of the Aborigines but doesn’t describe the ornaments (Grey 1841 (1): 305). When describing dancers in Australia in general ‘it is all fair for the dancers to do their utmost, by the arrangement of paint and ornaments, to shew off their personal attractions’ (Grey 1841 (2): 255). Once again, Grey does not describe the ornaments.

Others gave limited descriptions of ornaments. In 1861, on their north-west coast expedition, there is mention in A.C. Gregory’s journal of their meeting with Aborigines around Nickol Bay, South of Roebourne, Western Australia, where they obtained pearl shells:

Some very fine pearly-oysters, from which several pearls of good colour had been obtained, but appeared to be principally valuable on account of the size and beauty of the mother-of-pearl, which averaged six inches diameter, with more than half-an-inch in thickness of solid shell. (Gregory and Gregory 1884: 73)

Gregory noted (as did Roth) that the size and sheen of pearl shells were the elements that the indigenous people desired.

One raw material not mentioned so far is clay beads. Edge-Partington has listed a necklace of clay beads from the Gascoyne District, Western Australia (Figure 6.50).



Figure 6.50. Clay beads strung on twine, from Edge-Partington (1898 (3): 131, Fig. 11)

There is no information about the manufacture or use of the clay beads.

6.2.6.1 Summary of Western Australian beads

Beaded objects from Western Australia include:

- large ground pearl shell pendants, may be incised (Timor Sea, Western Plateau, Indian Ocean, SW Coast);
- smaller shaped pearl shell pendants, clusters or singly (Timor Sea and Indian Ocean);
- pearl shell pendants with dolphin vertebrae (Indian Ocean);
- pendants made from sets of kangaroo teeth set in Gum (Timor Sea and Indian Ocean);
- series of kangaroo teeth set in gum (Timor Sea);
- turtle shell pendants (Timor Sea);
- grass or red bugles (Timor Sea);
- pendants of human skull (Western Plateau);
- *Dentalium* sp. series (Timor Sea, Indian Ocean and Western Plateau);
- red seed series (Western Plateau); and
- clay series (Indian Ocean).

The outstanding ornament described in Western Australia was the large pearl shell, which could be incised. The shell travelled across to the Central Desert and southern South Australia. Other smaller pearl shell ornaments are mentioned as prolific along the coastal areas.

6.2.7 Central and South Australian ethnohistoric accounts

Figure 6.51 shows the locations within Central and South Australia that have been mentioned in this chapter.

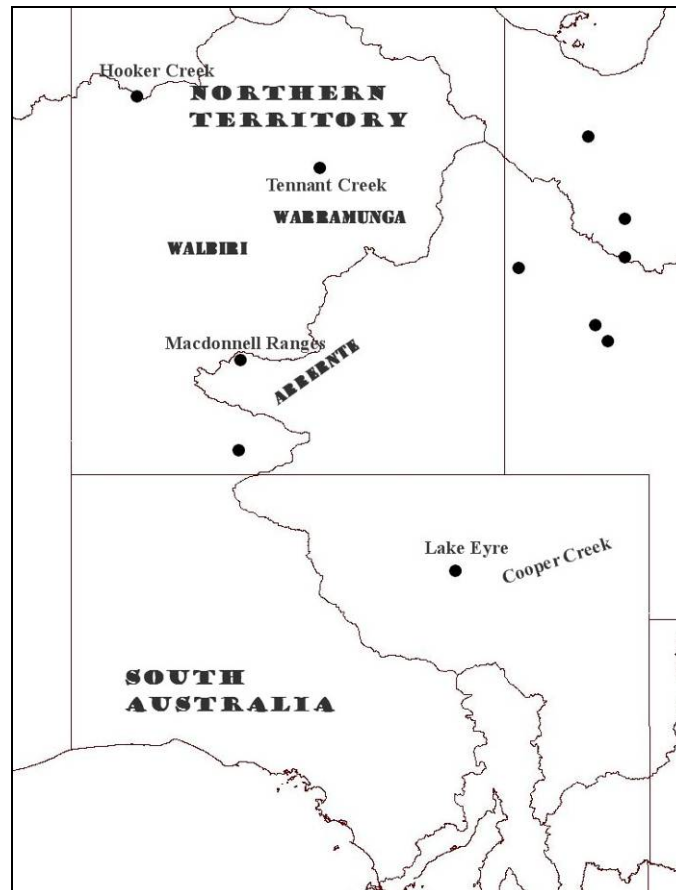


Figure 6.51. Locations mentioned in text (Central & South Australia)

Shells from the northern coastline of the Gulf of Carpentaria and the eastern coast of Queensland also found their way to Central Australia. Around the Lake Eyre region, Horne and Aiston observed:

A newly initiated man or sometimes another will wear his coorietoorooka or sign of initiation. This is a mussel shell (*Unio*) polished and threaded on a string. It is usually worn attached to the pubic tassel, but may be round the neck or tied to the beard. Formerly the coorietoorooka was a piece of a sea-shell cut oval (the one I have is probably *Meleagrina*, or *Melo aethiopica*), but these have nearly all vanished after being passed on from father to son. (Horne and Aiston 1924: 47)

Horne and Aiston refer to mussel shell pendants replacing *Melo* sp. (baler shell) ornaments in initiations ceremonies. Baler shell was a marine shell from the northern coast and exotic to these districts whereas certain species of mussel shell could be gathered from rivers. This could indicate that the baler shell was no longer being traded down to Lake Eyre at that time.

Smythe was informed by Samuel Gason that the Dieyerie tribe in the Cooper Creek region of South Australia used pierced mussel shells to suspend from the neck or attach to the beard and

could be used in circumcision ceremonies. The author did not specify how the shell was suspended (Smythe 1878 (1): 281).

For the Central Desert area, Spencer and Gillen wrote of Aboriginal use of ornaments:

There is very little scope for the display of artistic capacity in the matter of clothing or personal ornaments. Except for waist-bands, forehead-bands, necklets and armlets and a conventional pubic tassel, shell, or in the case of the women, a small apron, the Central Australian native is naked. (Spencer and Gillen 1899: 570)

Spencer and Gillen (1899: 544, 545, 573) noted the use of shell pendants (*Lonka lonka*) manufactured from baler shell or the pearl oyster shell (*Meleagrina margaritifera*), often worn by men attached to a waistband and used for charming women and for sickness:

It is traded down from the north and is widely used throughout the Centre. We have never seen any design incised on the *Lonka Lonka* found amongst these tribes, but on similar articles from West Australia the characteristic zig-zag pattern is sometimes present. (Spencer and Gillen 1899: 573)

I have mentioned the pearl shell pendants from WA and provided Akerman's map (Figure 3.23) showing its distribution east throughout Australia as far as Boulia and the Gulf of Carpentaria in Queensland and possibly Mootwingee in New South Wales (Akerman and Stanton 1994: 14-17). Mountford and Harvey reported the use of the pearl shell ornament in circumcision ceremonies by the Ngadjuri tribe of the central-north of South Australia. The object was worn as shown in Figure 6.52.

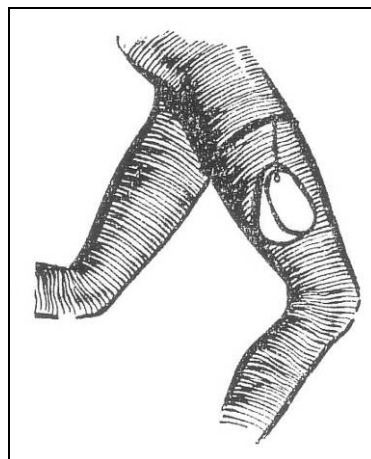


Figure 6.52. Pearl shell ornament worn in mid –north South Australia, from Mountford & Harvey (1938: 126, Fig. C)

It appears the pearl shell could be worn on almost every area of the body and was multi-purpose.

Spencer and Gillen described a wallet and its contents found in the Macdonnell Ranges:

...manufactured simply out of small slabs of bark tied round with fur-string, contained a bunch of eagle-hawk feathers, an emu feather chignon, a stone knife and its sheaf, three knots, a woman's ornament of resin with teeth fixed in a mass, a piece of pearl shell of a pubic ornament, a nose bone, several armlets and necklets, and two strands of human hair carefully enclosed in fur-string and evidently used for charms. (Spencer and Gillen 1899: 611)

The woman's ornament of resin and teeth was probably similar to that illustrated in Figure 6.53.

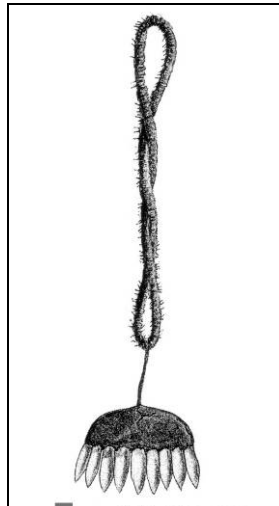


Figure 6.53. Kangaroo teeth set in resin (Spencer and Gillen 1904: 688, Fig. 258)

The ornament is described:

Often by way of ornament...made of a lump of resin with kangaroo teeth fixed. These ornaments are worn hanging down over the forehead, and they are met with amongst all tribes. (Spencer and Gillen 1904: 687-688)

Gillen photographed an Arrernte woman wearing this type of ornament (Figure 6.54).

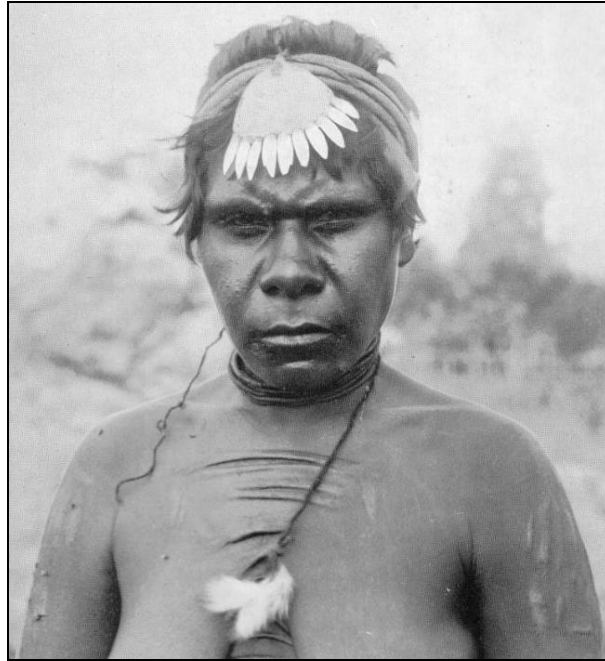


Figure 6.54. Central Australian woman wearing kangaroo teeth ornament. Photo by Gillen, adapted from Chewings (1936, opposite p. 106)

This type of ornament appears to have been worn by women through the Centre from the Macdonnell Ranges to north of Tennants Creek:

...the Kaitish and Warramunga tribes especially, the women wear as ornament on the forehead a small mass of porcupine-grass resin, into which from six to twelve incisor teeth of a kangaroo are fastened in a radiating manner along the lower edge. A strand of human hair-string, fastened into the resin, serves to attach it to the hair of the wearer, over whose forehead it hangs down. (Spencer and Gillen 1899: 574)

Spencer and Gillen (1899; 1904) refer to the teeth ornaments several times in their publications. The ornament is similar in form to those described earlier in this chapter from northern Northern Territory and Western Australia except for the lack of decoration.

Another ornamental use for kangaroo teeth was as a necklet:

A necklet with pendants of incisor teeth of kangaroos or wallabies is met with amongst tribes...there is a central band made of a considerable number of vegetable fibre strings...a varying number of pendants is added, each made of a string with a lump of resin at either end into which a kangaroo incisor is fixed. (Spencer and Gillen 1904: 694)

This object is illustrated in Figure 6.55.

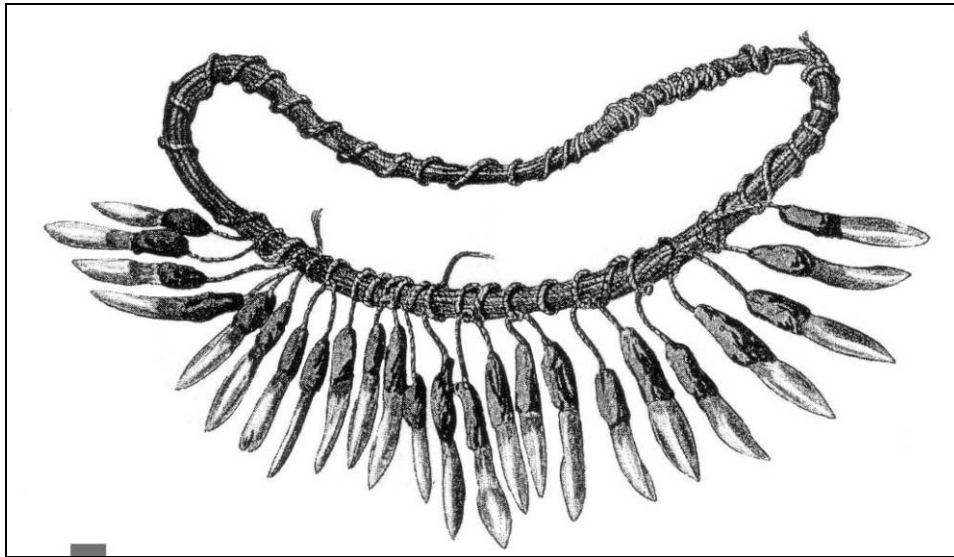


Figure 6.55. Necklet manufactured from kangaroo teeth (Spencer and Gillen 1904: 694)

The resin in the ornament type shown in Figure 6.55 was generally red ochre and the teeth coated with pipeclay so that they stood out against the black skin (Spencer and Gillen 1904: 694). This object differs from other series of kangaroo teeth where fibre is tied around teeth and then cemented together to form a band. With the ornament shown in Figure 6.55, each tooth is cemented to its own string, then looped onto a circlet made of multi-strands of vegetable fibre.

Spencer and Gillen recorded other materials mounted in resin and worn as ornaments by Central Australian Aborigines. Figure 6.56 illustrates an ornament Spencer and Gillen (1904: 692) describe as a ‘neckband of a single strand of human hair string and ornaments of resin into which eagle-hawk claws are fixed’. I referred to Roth’s (1897, Ch. VII, Sect. 182) description of the use of eagles’ talons in north-western Queensland earlier in this chapter.

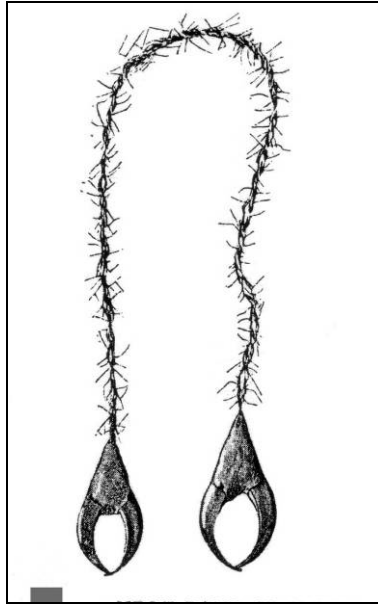


Figure 6.56. Eagle hawk claws and human hair (Spencer and Gillen 1904: 692)

The ornament in Figure 6.56 was used in the Central Desert as a sorcery charm (Spencer 1928: 253). Figure 6.57 shows a young woman from Central Australia wearing this form of ornament. The photograph was taken by Gillen.

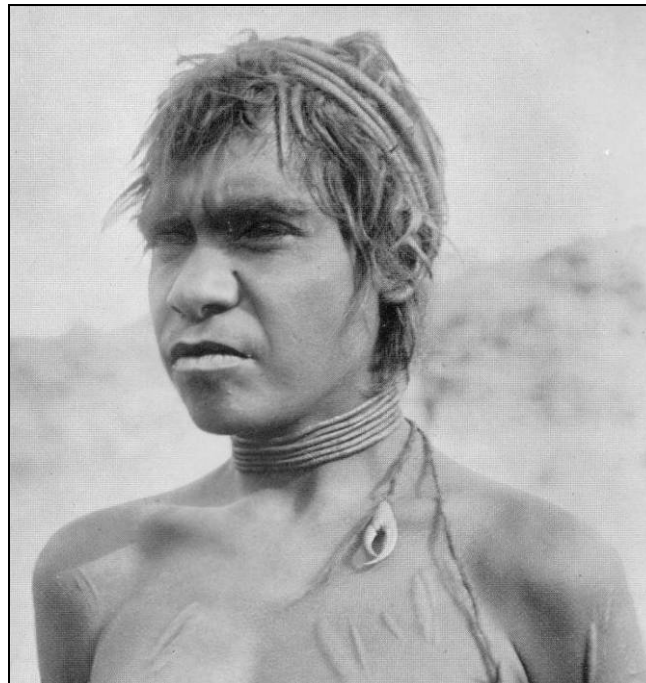


Figure 6.57. Central Australian woman wearing eagle-hawks' claws. Photo by Gillen, adapted from Chewings (1936, opposite p. 66)

Spencer and Gillen (1927 Vol. 2: 435) also refer to Arrernte widows wearing headbands with jaws of animals, amongst other material, attached with resin from porcupine grass (Figure 6.58).

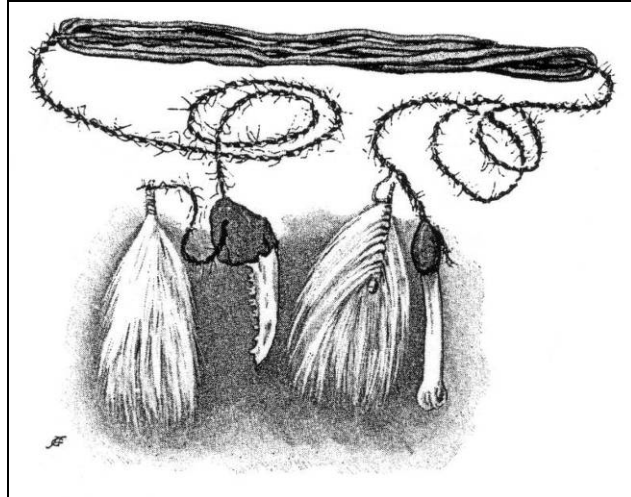


Figure 6.58. Ornament with animal bones attached with resin (Spencer and Gillen 1904: 691)

Arrernte men wore the object shown in Figure 6.58. Animal bones, including jaw bones, were worn in Central Australia during the final mourning ceremony were smashed and placed in the burial (Edge-Partington 1890-98: 116) (shown in Figure 6.59).



Figure 6.59. Animal bones attached to fibre with gum. From Edge-Partington (1890-98: 116). Picture taken by Spencer & Gillen

Another object described by Spencer and Gillen was the necklaces made with red beans from the *Erythrina vespertilio* tree:

...amongst the younger women especially, instead of, or perhaps in addition to, the hair neck ring, there may be worn a long string of the bright red beads of the bean tree. Each bead is bored through with a fire stick, and the pretty necklet thus made hangs round the neck in several coils, or may pass from each shoulder under the opposite arm pit. (Spencer and Gillen 1899: 27)

Chewings (1936: 65) also describes the red bean necklaces ‘strings of Stuart’s bean-tree beans are made by boring a hole through the beans with a hot wire and putting a string through them’.

At the southern end of South Australia, Worsnop (1897: 158) recorded a reed necklace that had other materials attached, including feathers, human hair, beaks of swans and ducks, and shells from the Lower Murray. No information was given for its use.

Nearby at Lake Alexandrina, South Australian coast, south-east of Adelaide, Edge-Partington (1898, Part 3: 131, Fig. No. 5) listed a pierced fragment of human skull (Figure 6.60).

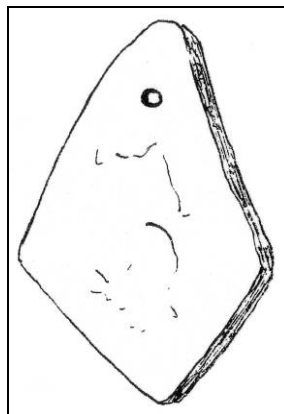


Figure 6.60. Fragment of pierced human skull from Edge-Partington (1898, Part 3: 131, Fig. No. 5)

There is no description of how the object was worn and why.

Meggitt (1962: 260) wrote of the use of strings of *Dentalium* sp. shell series in rituals in 1953 at Hooker Creek, north-west of the Tanami Desert, ‘during circumcision ceremonies...men wore the dangerously “strong” *landjulgari* dentalium shells, the sight of which is believed to

be fatal to women'. During the ceremony, older men who wear the shells, removed them and place one on the initiate, thus transferring the power of the shell to the boy (Meggitt 1962: 295, 296). These objects appear to be the only shell series beads used in Central Australia and they were highly valued.

6.2.7.1 Summary of beads from Central and South Australia

Beaded ornaments recorded from Central and South Australia include:

- shell pendants throughout. Distribution and decoration will be affected by species (SA Gulf, Murray/Darling, Lake Eyre and Western Plateau);
- Scaphopod shell necklaces used as ritual objects in Central Australia;
- series of kangaroo teeth, attached to a resin band or multi-strands of vegetable fibre (Lake Eyre and Western Plateau);
- pendants of sets of kangaroo teeth - undecorated (Lake Eyre and Western Plateau);
- pendants of pairs of eagles' claws (Lake Eyre and Western Plateau);
- series of animal bones and teeth (Lake Eyre and Western Plateau);
- series of red beans (Lake Eyre and Western Plateau);
- human skull pendants (Murray/Darling); and
- grass or reed bugle necklaces with composite materials attached (Murray/Darling).

Many of the raw materials used in the manufacture of beads in other States were used in Central and South Australia. The high value of shell pendants in Central Australia and minimum referral to shell series forms is noted. Added to that is the increase in use of red bean series while there is little mention of grass or reed bugles.

6.3 Summary and conclusion of beads from European writings

I have summarised the presence/absence of ornaments mentioned in the above accounts according to State and Drainage Basins (Appendix 4). I realise that these accounts are not complete and there are other ethnohistoric references to Aboriginal beads that I have not included in this study. However, I am confident the accounts I have recorded have provided a representative account of what beads were being worn at the time of European settlement. From these accounts, I have knowledge of the minimum variation that existed at that time.

This is not the complete repertoire of Aboriginal beads but more a starting point on which to base my classification. Table 6.1 summarises the number of bead types within States mentioned in this chapter, and Table 6.2 the numbers in drainage divisions.

Table 6.1. Number of bead forms in each State

State	QLD	NT	WA	Central & SA	VIC	NSW	TAS
Total	14	12	11	11	9	8	5

With the exception of NSW, the numbers graduate from highest number of forms in Queensland to lowest in Tasmania.

Table 6.2. Number of bead forms in each drainage division

Drainage Division	Timor Sea	SE Coast	NE Coast	Western Plateau	Eyre	Murray/Darling	Indian Ocean	Gulf	Tasmania	Bulloo
Total	12	12	9	9	8	8	7	5	5	2

When looking at the numbers of different forms in relation to drainage divisions, Timor Sea Division in the north-west of Australia and Southeast Coast (opposite end of the continent) have the most variation in forms. Lower numbers occur through the central section of the continent from the southern end to the Gulf of Carpentaria. Tasmania has smaller number of varieties. The Bulloo is too small an area to compare with the other divisions.

Of the major forms of beaded ornaments, the following distribution has been recorded:

- kangaroo teeth series occur in all States except Queensland and Tasmania, they are not mentioned in the Indian Ocean and Western Plateau drainage divisions;
- kangaroo teeth pendants (single of sets of multiple teeth) occur in all States but not in the Gulf of Carpentaria and North east Coast drainage divisions;
- grass or reed bugle series seem to occur most areas except Tasmania and perhaps the Indian Ocean and Western Plateau drainage areas;
- shell pendants are described in Victoria or Tasmania but are in all drainage division except Tasmania.

- Other than one reference to *Dentalium* sp. in Central Australia, shell series are not mentioned in Central Australia or the Eyre, Western Plateau or Murray/Darling drainage divisions; and
- beaded ornaments manufactured from bones, teeth and integument (e.g. claws, spines) of animals, humans and birds are distributed throughout Australia and may be found in small numbers in my sample. I would expect to find the environment will play a role in the distribution (e.g. coastal and marine species around the coast).

With the exception of Meggitt’s description of *Dentalium* sp. necklaces in worn in 1953, the outstanding difference is the lack of shell series ornaments (necklaces etc.) in opposition to shell pendants through the centre of Australia. Does this indicate that the pendants travelled because they were more valuable to the inland Aborigines than series objects? An important theme coming out of this chapter is the variation in the degree of decoration on objects. For example, the pendants manufactured from a set of kangaroo teeth that have been cemented together are more highly decorated in the north of Northern Territory than those observed in Central Australia.

I have compared the functions of beads as described in this chapter by early European writers with those outlined by Vanhaeren (2205) in Table 6.3.

Table 6.3. Comparison of functions from literature with Vanhaeren’s (2005) functions

Vanhaeren's functions	Functions mentioned in this chapter
Aesthetical expression and self-assertion	<ol style="list-style-type: none"> 1. Buckley in Victoria wrote about ornaments and how those with the most ornaments were considered fashionable and attractive. 2. Reed necklaces - could be worn anytime in some areas of Australia or restricted to gender and social status in other areas. 3. Men and women wore grass bugles as ornaments at Herbert River, north QLD. 4. Men wore grass bugle necklaces at any time in the Brisbane area. 5. Bones were worn as earrings by women in north-western NSW. 6. Human teeth were worn in Southeast VIC as ornaments by initiates. 7. Half bean rattles were worn by women in dancing as rattles and personal vanity. 8. A large pearl shell pendant was worn suspended from the waist by a Worora boy from north-west WA - worn for everyday use.
Courtship	<ol style="list-style-type: none"> 1. Large pearl shell pendants could show a man wanted a wife, or shell series worn by women wanting a husband in Kimberley area. 2. Pearl shell and bamboo necklaces were presented to a bride's family in the Kimberley, WA. 3. Reed series were placed on a young man's head during initiation by his future wife at Lachlan River in NSW.

Social and individual markers	<ol style="list-style-type: none"> 1. Reed series could be worn after initiation, restricted to gender or age throughout Queensland 2. Shell series could be restricted to age and gender in Cape York 3. Pearl shell pendants were worn to show first signs of womanhood at Pennefather River, Cape York. 4. Cone shell pendants worn by initiated males in West Cape York. 5. Large pearl shell pendants were worn by Aboriginal doctors at the Pilbara Coast, WA. 6. Large pearl shell worn as part of the full dress of a warrior in the Kimberley, WA. 7. Pearl shell pendants given to male initiates for pubic covers in Kimberley. 8. Pearl shell was worn for status in the Pilbara area, WA. Pearl shell was forbidden to women and could cause pain after dreaming of the shell in the Kimberley and WA. 9. Oval cut mussel shell were worn as a sign of initiation at Lake Eyre - previously baler or pearl shell. 10. <i>Nautilus</i> sp. pendants were worn by the chief singer and head of the bora ring, and head of tribal council in south-east QLD 11. Grass bugle series were worn in mourning in West Cape York, QLD. 12. Brachiostegal rays from eels were worn for initiation at Atherton and Cairns in north QLD. 13. Young male initiates wore series of wallaby teeth and shells at Groote Eylandt, Gulf of Carpentaria. 14. Kangaroo teeth were worn by people of high status in WA. 15. 'Chiefs' wore headbands with kangaroo teeth pendants in western VIC.
Ritual objects and offerings	<ol style="list-style-type: none"> 1. Pearl shell series and pendants were worn by babies when presented to fathers at West Cape York. 2. Women wear olive and tusk shell series and pearl shell pendants at mourning ceremonies at West Cape York. 2. <i>Dentalium</i> sp. shell series were worn by men as symbols of power in the Desert region and for initiation ceremonies - the object was fatal to women. 3. Small pearl shell pendants worn by mother and females dancing around corpse at Pennefather River, West Cape York. 4. Women wore rectangular shaped shell pendants in mourning and another form when preparing food at Melville Island. 6. Pearl shell ornament were used in circumcision ceremonies in inland NT. 7. Triangular pearl shell, used as charm in north-western QLD. 8. A young bride could wear a headstring with crocodile teeth suspended in Arnhem Land, NT. 9. Grass bugles were worn in mourning at Herbert River, north QLD. 10. Animal bones were worn in mourning ceremonies, later crushed and placed in burial by Arrernte in Central Australia. Also women wore animal jaws.
Amulets, talismans and prophylactics (protection against sickness or disease)	<ol style="list-style-type: none"> 1. Body parts from corpses worn as pendants and said to alert the person of approaching enemies on the south-east coast of VIC. 2. Human bones were worn around the neck as charms in Tasmania. 3. Shell series worn by white man could protect the wearer from being harmed by Aborigines in western QLD. 4. Kangaroo teeth were worn as charms at Roebuck Bay, WA. 5. Kangaroo teeth were taken from a child who had died in Kimberley, WA. 6. Triangular pearl shell pendants were worn as charms or for magic in western QLD. 7. Bean and porpoise teeth pendant were worn by the "doctor" in tribal rite at Barkley Tablelands. 8. Pearl shells were worn as charms against sickness in the Kimberley area. 9. Pearl or baler shell used for charming women and preventing sickness in Central Australia. 10. Pendants made with eagles' talons were worn as sorcery charms in the Western Desert.
Exchange media	<p>The exchange of some ornaments is well documented. From this chapter:</p> <ol style="list-style-type: none"> 1. Pearl shell pendants were exchanged across the continent. 2. Baler shell traded from Cape York to Central Australia. 3. Pearl shell and cone shell ornaments traded from Torres Strait to West Cape York. 4. Reed series necklaces and shell ornaments were traded between coastal and inland groups at the Blackall Ranges in southern QLD. 5. Pairs of eagles' claws were traded to Central QLD. 6. Kangaroo teeth were traded in the Pilbara and other areas of WA.

Inalienable possessions (beads may be symbolic properties that prevent their being transferred or taken away)	1. Oval cut baler or pearl shell was passed from father to son in the Lake Eyre district according to Horne & Aiston (1924).
Communication systems (symbolic storage of information)	Australian Aboriginal bead held symbolic content relating to almost all of the function listed by Vanhaeren, in particular, personal and social markers. Peggs noted that pearl shell pendants were worn as 'letters of introduction' in WA, Peggs (1903: 365).
Counting devices.	Not noted in my research.
	<p>Dress: Beads were worn at ceremonies for initiation, marriage and burials. Examples from this chapter:</p> <ol style="list-style-type: none"> 1. Ornaments were worn for dress at ceremonies, war and corroborees throughout Australia. 2. Pairs of kangaroo teeth were worn at ceremonies in north-western QLD. 3. Longer pearl shell pendants were worn by men and women at corroborees and special occasions in West Cape York. 4. Cone shell pendants were restricted to use in ceremonies in West Cape York. 5. Women wore two kangaroo teeth at corroborees at Hamilton River in Central QLD. 6. Reed series were worn at ceremonies by people from Yarra River, VIC.

From Table 6.3, it is clear that Australian Aboriginal beads were multi-functional and beads had an important symbolic and economic role, and the high value of shell ornaments at the source has been emphasised. There is ambiguity in the categories of social and ritual when the ritual changes the social status of the individual and the examples I have outlined may cross over into different categories. For example, when a bride wears the crocodile teeth at the marriage, the ornament is part of the ritual but it also marks the changed status of the young girl.

I have added 'dress' to the list of functions. For the main part, Aboriginal people wore ornaments when they were dressing for special ceremonies or occasions. As for Europeans – birth, puberty, marriage, wars and death are some of the major events in the human life-cycle and early European writers have commented on the importance of the wearing of ornaments for these events.

The ethnographic accounts discussed in this chapter are by no means exhaustive for the whole of Australia. However, they are representative of the writings available about the Aboriginal use of beads and provide a substantial inventory of beaded ornaments across Australia. These accounts have provided a guide to what I should expect to find in museum collections and the variation in materials and forms of beaded ornaments. From this chapter and the previous background chapters, I can choose variables that will distinguish similarities and differences in beaded objects and compare the results with evidence from this chapter, archaeology and previous studies on Australian beads. In the following chapter, I will discuss the methods for collecting, recording and analysing the beads in my sample from Australian museums

CHAPTER 7 METHODS

7.1 Introduction

The aim of this chapter is explain the process for selection, classification and analysis of a sample that could address the research questions. I will outline the methods used for collecting my sample, determine variables that emphasise differences and similarities of ornaments, and outline the method of analysis. I have based my research design on my study on boomerangs in 2001 as many of the approaches and limitations for that project apply to this study, although the same method of analysis is not appropriate for these data. This chapter will build on the previous chapter, where I proposed a minimum range of beaded ornaments that were being used by Aborigines during the early years of European settlement and their distribution in Australia.

There are four possible lines of evidence for the spatial distribution of early Aboriginal personal ornaments in Australia. These include:

- archaeological material;
- early photographs;
- primary literary sources; and
- objects held in ethnographic collections.

To investigate the spatial variation of Aboriginal beaded personal ornaments across Australia, I needed a sample that would represent the population from, at least, each drainage division of Australia. I have added Horton's (1996) divisions to this study as another dimension to the spatial analysis. An exhaustive study would include specimens from every cultural area as defined by Tindale (see Figure 3.5 in Chapter 3). The sample should contain all forms that are mentioned from the literature, and it should be large enough to make an analysis.

Variables need to be chosen that will describe the morphological, metric and decorative variations in objects to determine spatial patterning (Vanhaeren 2005).

Distinct from my work on boomerangs, this study included a much broader area and I anticipated that the range of variation in ornaments would be much greater than in boomerangs. Added to this, the function of personal ornaments is different and less obvious than among boomerangs. Boomerangs can be defined as a tool whereas ornaments have no obvious purpose other than for aesthetic reasons (although they may acquire it in exchange etc., see Chapters 2 and 6 for functions of ornaments).

7.2 Data gathering

My first task was to research what beaded ornaments had been found in the archaeological record in Australia to date (see Chapter 4). Then, I needed to establish the range of Aboriginal beaded forms and their functions both prior to, and during, the early years of European settlement (Chapter 6). While I was visiting different Australian State capital cities to record the museum ornaments, I undertook ongoing research through State Libraries and Museums to find as many early ethnographic account of the Aboriginal use of beads and to view as many photographs as possible. My approach was:

- to research the current literature about material culture studies, archaeological evidence, symbolism and early Australian ethnographers as background for my study;
- contact the major museums in Australia to organize visits to their collections;
- record objects in museums that were relevant to my study, entering variables into Excel which I would later transfer to ArcMap in ArcGIS, Version 9 (software for mapping analysis);
- examine photographs from major Libraries and the Australian Institute for Aboriginal and Torres Strait Islander Studies (AIATSIS); and
- visit major repositories for researching early ethnographic literature. For example, journals and writings of early explorers, missionaries, anthropologists, collectors, pastoralists, convicts and government workers such as policemen.

My aim was to set up a database that would allow me to evaluate similarities and differences and nominate categories of Aboriginal beads across Australia. I could then investigate the

relationship between the archaeological record, ethnographic ornaments held in museums, ethnographic literature and the photographic record.

7.2.1 Archaeological data

The distribution of beaded ornaments recovered from archaeological sites has been discussed and plotted in Chapter 4. The relationship between archaeological sites and other lines of evidence will be investigated in Chapter 11.

I searched the current literature to find information on beads recovered archeologically in Australia. In addition, whilst visiting museums, I enquired about archaeological objects that may have been held in their collections. The response in the museums was not overwhelming and the sample of beads recovered archaeologically consisted of only a few items.

7.2.2 Ethnographic literature and photographs

Early written accounts and photographs of Aboriginal people wearing beaded ornaments can supplement the evidence from archaeology and objects held in museums. My research of ethnographic literature was on-going. My main sources for locating material aside from electronic downloads, included:

- Dixon Library (University of New England);
- Australian Institute of Aboriginal and Torres Strait Studies (AIATSIS);
- National Library of Australia (Canberra);
- State Library of New South Wales and the Mitchell Library (Sydney);
- State Library of Queensland and John Oxley Library (Brisbane);
- State Library of Victoria (Melbourne);
- State Library of South Australia (Adelaide);
- South Australian Museum Archives Collection (Adelaide); and
- State Library of Western Australia (Perth).

During those visits, I examined primary sources that referred to Australian Aborigines wearing beaded ornaments and examined photographs of people wearing those objects. My purpose was to table the ethnographic accounts and photographs of each type of ornament,

then to compare the distribution of beads according to early writers with the distribution of archaeological beaded objects and the distribution of objects I recorded in the museums.

I examined thousands of photographs from various institutions. I found the following problems:

- There was a lack of clarity with photographs. In a high proportion of the photographs, I could not discern if people were wearing ornaments or, if they were, what raw material or form was depicted. For example, with the help of Robert McWilliams (Indigenous Cultures Department, Melbourne Museum), I examined 864 photographs from the Baldwin Spencer collection. Only a small proportion of the photographs examined were found that illustrated the wearing of the objects I was interested in, mainly due to the fact that people were simply not wearing them, or because the photograph was not clear enough to determine what type of objects was worn.
- Restrictions were placed on access to material. In some collections, photographs thought suitable for my study were selected for me by staff.
- Copies of the same photographs turned up in different institutions and there was a risk of recording the same information more than once.
- Photographs had been taken of the same people wearing the same objects in different contexts.
- Photographs had been taken of the same object on different subjects (see earlier Section 5.1.1).
- Bias in photographing procedures and photographers.

In the previous chapter, I showed a selection of images of people wearing different forms of beaded ornaments. Some of those images were from published articles and some were from photographs held in libraries or museums. I requested and received permission from the appropriate institution to use these photographs in this work. I have indicated this in the captions below the photographs. There were a number of other photographs, which I am unable to present in this work because of restrictions placed on their use by cultural groups, relatives or institutions and I respect their wishes. Another problem was that some institutions only allowed a limited number of photographs to be purchased for the project.

After attempting several recording forms, I eventually came to the conclusion that it was too difficult to use the photographs as an analytical tool for this project. One outstanding observation I made was that there was a lack of people wearing ornaments in everyday situations as opposed to ceremonial use. Added to that, photographs were taken where Aboriginal people were placed in an artificial setting and armed with weapons and finery. I concluded that, although helpful in some aspects (e.g. seeing the object worn), photographs were not a reliable source for this project.

7.3 Sampling: Beaded ornaments held in ethnographic collections

The sample consists of 1007 beaded ornaments from nine museums. Visiting museums is time consuming and costly, therefore, I had to restrict the number of museums I visited to one major museum from each State. Exceptions to that were the Museum of Tropical Queensland, which now houses artefacts from the Queensland Museum, and Tasmania. In Tasmania, I visited museums in Launceston and Hobart, both museums held small numbers of objects and I wanted as large a sample as possible from that State because of Tasmania's long isolation from the rest of Australia, and I anticipated that the objects would reflect that difference. Museums included in the study were:

- Queensland Museum (Brisbane, Queensland).
- Museum of Tropical Queensland (Townsville, Queensland).
- National Museum of Australia (Canberra, Australian Capital Territory).
- Australian Museum (Sydney, New South Wales).
- Melbourne Museum – a division of Museum Victoria (Melbourne, Victoria).
- South Australian Museum (Adelaide, South Australia).
- Western Australian Museum (Perth, Western Australia).
- Queen Victoria Museum and Art Gallery (Launceston, Tasmania).
- Tasmanian Museum and Art Gallery (Hobart, Australia).

I did not visit the Museum and Art Gallery of Northern Territory because most of the artefacts collected in the early days of white settlement were taken to Adelaide. The Northern Territory was part of New South Wales between 1825 and 1863, and part of South Australia from 1863 to 1911. Many other museums could have been included in this study if time and

money had allowed. Australian Aboriginal ornaments are held in private collections and smaller museums in Australia. In addition, and a greater problem for Australian researchers, many early Aboriginal artefacts have been taken offshore.

My purpose for visiting museums from all states was in the hope of finding objects from most regions within those states. I wanted to find material that would give a good coverage of Australia. Unfortunately, that was not the case.

I approached the project with an open mind. The only preconception I had of the types of objects I would find was from the limited literature I had read at that time. Prior to my visits, I contacted each museum for permission to search their listings and to access their collections. As for my study on boomerangs, I spent the longest time at the Queensland Museum, where I was introduced to Australian Aboriginal ornaments and first became aware of the enormous task it would be to record all the Aboriginal ornaments held in the museums. Therefore, I placed limits on the time-frame and types of objects I would record.

At the Queensland Museum, time was spent designing recording forms so that the observations I noted would provide me with variables that could give me enough information to make a significant analysis and to avoid subjectivity where possible. I considered I would need information regarding spatial context, morphology, metric and decorative aspects of each object. My intention was to identify discrete ‘types’ or forms from combinations of selected elements. I limited my sample to objects that were well provenanced and collected before World War II, which I will discuss in later in this chapter.

7.3.1 Problems with the sample

I encountered many of the problems associated with using museum resources that Best (1999: 120-130) and I (McAdam 2001: 45-48) had encountered earlier. These include:

- bias in collection procedures – by both museums and the early collectors;
- incorrect labeling;
- inconsistencies of data entries into registers;
- problems with provenancing of objects;
- restricted access to objects due to cultural values placed upon them;

- missing objects and non-access to objects on display within the museum; and
- objects travelling on exhibition away from the museum.

In addition to the factors listed above, are the physical problems associated with working in museums (e.g. availability of staff for supervision).

7.3.2 Biases in collecting procedures

Biases in museum collection procedures are evident. Collections often reflect preferences for material that is spectacular, male associated or of a particular personal interest to collectors and museum curators (Mather 1986; Robins 1990), objects have often undergone several shifts of status as collections items and objects were produced for trade with collectors.

Early collection practices of past museum donators were often disordered with very little detail about how, when and where the objects were acquired, although there were exceptions. For instance, the collection procedures of Roth were recognised as systematic. Even so, in an analysis of objects that had been collected by Roth, McInnes (1995: 91) found a preference for weapons and male implements, which was in keeping with collections from that time frame. McInnes argues that Roth selected material in ‘ways which supported and mirrored evolutionary and ethnocentric beliefs’ and this has affected our present perception of Aborigines. McInnes (1995: 90) concluded that ‘Museum collections are the products of social and historical contexts’.

It is true that, in my earlier study, I found there were comparatively fewer coolamons in the museums than boomerangs and this is probably due to the lower status of coolamons. In addition, coolamons were probably not traded as widely because they were too important functionally. Also, like Schall (1985: 21), I found that Donald Thomson’s provenancing was limited, often offering broad references for an object.

Another factor is that some of the supposed male bias may reflect ‘tradeability’ with collectors. Aborigines were offering objects to the whites because of their trade value. This may provide a bias towards the more spectacular types of objects in my sample. For example,

within a particular area, a collector may show preference for ornaments with engravings to those with no engravings.

7.3.3 Incorrect labeling

The species of raw material was often wrongly identified on the label. The identification was nominated by the collector or museum staff, at times unqualified for the task.

7.3.4 Inconsistencies in register data entries

Inconsistencies of data entries into registers occurred due to the lack of information from early data entries, staff shortages and turnover, and the movement of objects. Generally, early register entries do not provide adequate information about objects. Early collectors may not have noted information about an object (e.g. where or when it was made, who made it) or the objects may have come from a private collection or another institution and the information is lost.

Over the years, the numbers and efficiency of staff in museums have varied. A past curator in charge of archaeological material at the Queensland Museum, Richard Robins (2000, pers. comm.) points out that material may be kept in storage at museums for a considerable length of time before items are entered into catalogues, due to staff shortages. In this case, the items are registered in bulk, and the year entered does not necessarily reflect the year the object was collected. Also, the information about material in museums has been entered by different people over a long period and leaves room for error in entries.

7.3.5 Problems with provenancing of objects

One of the main problems in museum studies is accurate provenancing of objects and I had to eliminate many objects because of this problem. Provenancing and identification was a problem noted by Mulvaney (1976: 80). Most objects held in the museums have been allocated to collection points and many have no record of their original source. Other objects have been intuitively assigned locations by the museum based on a style. Also, with some

objects, the provenancing was too broad or there are uncertainties regarding the history of the object.

The location prescribed in museum registers or electronic databases does not necessarily refer to where the object was originally collected. For example, the location for an artefact may be listed as 'Boulia'. That could just mean that Boulia was the location the museum obtained it from. The object could have originated a long distance away from there, or may have been in a private collection for many years. However, if the museum objects could be treated as archaeological items, then taphonomic processes are a major issue in the study of materials recovered archaeologically. The movement of goods through means such as trade is always a consideration when interpreting the archaeological record. The movement of goods is not a recent phenomenon and objects moved across Australia well before white influences (see Chapter 3).

Other objects have been noted as being in the style of a certain area without knowing the collection history (e.g. Lake Eyre style). I did not record those objects because this study will be investigating whether a particular style is located in areas away from where the style has been recorded ethnographically.

Some items appeared in collections that were unusual for the sample but were not well provenanced. For example, I reluctantly rejected two spectacular and unique objects because of provenancing uncertainties. I have mentioned both objects in Chapter 6. The first object was the moth cocoon girdle in the South Australian Museum collections (Waite 1923: 331). The location for this object was listed 'northern Queensland', an area that stretches from Townsville on the east coast to the Torres Strait (over 1,000 kilometres) and west to the Gulf of Carpentaria. I considered this as problematic because the area was too large, with at least four drainage areas, multiple river systems, several ecosystems and a considerable number of Aboriginal cultural groups.

The second object was manufactured from wombat claws and held in the Tasmanian Museum and Art Gallery in Hobart, Tasmania. There is uncertainty about whether this object was originally collected from Victoria around 1840 by George Augustus Robinson, who was the

Chief Protector of the Port Phillip Aboriginal or from Tasmania dated to around 1830 (Akerman in prep; Clark 1988: 81). Tony Brown (Curator, Tasmanian Museum and Art Gallery) has informed me (Brown, 2006, pers. comm.) that there is a plan to take DNA samples to identify the species to Victoria or Tasmania. To date, the matter has not been clarified and I made a decision not to include the object in the major data set. I have noted both of these objects and acknowledge that they are part of the repertoire of objects that were in use at the time Europeans first contacted Australian Aborigines.

While I considered the locations entered into museum registers and catalogues for many objects far too broad to include in this study, others, though not specific to a particular place, could be useful. For example, the location of a considerable number of objects had been assigned to rivers only (e.g. Cooper Creek). As I intended using drainage basins as a layer of investigation, these objects have been included in the sample.

Another clue to the origin of an object is the name of a cultural group, even though no location was provided, particularly if the name of the collector is provided, then the place and time of collection may be traced. I also included areas that could be placed within a drainage area. For example, Arnhem Land is within Horton's Arnhem division. Those items will be useful in that layer of investigation but not for more localised analysis. Unfortunately, many objects are noted at unspecific locations such as North Queensland or Western Australia. I think that contemporary political boundaries may have been important to a degree because the collection policies of a particular State could influence what was collected. Nevertheless, I do not think that the distribution of patterning will be affected to such a degree that I should include an object because it has been provenanced to, for example, Western Australia. I think of more importance is the topographic, ecological and cultural factors that influence the region.

Locations are often nominated for objects that are in close proximity. For example, beaded ornaments collected by Reverend Love are labeled from Kunmunya Mission and Port George IV, two locations close to each other. Kunmunya Mission replaced the mission that had been established at Port George. The literature would indicate that he worked at Kunmunya Mission around the time the object from Port George IV was collected. I made the decision to

place the object in Port George IV as I cannot be sure if the object was manufactured from the mission or it may have been made at Port Georg IV when the mission was active there.

Another concern is whether the completed object was transported or whether the raw material was transported unmodified or partially modified. Raw material (e.g. marine shell) could be transported to as far as the centre of Australia. The question is whether the raw material was modified at its source or, on the way to, or after reaching the location it was collected from.

The problems outlined above did influence the quantity and quality of my sample. Apart from those objects allocated to rivers, drainage basins and cultural groups, only those items with a definite collection point have been included in the study, which excludes a large number of objects. I did not count or record objects I considered outside the scope of my study because of time restrictions working in some collections. Those objects may or may not affect the pattern of distribution of my study but that course of inquiry could be followed by another person in a future study.

7.3.6 Restricted access to objects due to cultural values placed upon them.

Due to the sensitive nature of some ornaments, access to them was restricted. Aboriginal groups are now asserting their ownership of the manufacture and access to certain objects and the cultural value of these artefacts must now be accepted. Australian museums, as do I, respect the wishes of the original inhabitants of this country and many objects are placed in areas restricted to public access. These items are not included in this study. This factor could eliminate or diminish numbers of ornaments manufactured from materials such as human bones.

7.3.7 Physical problems associated with working in museums

Travel, accommodation and permission for access to listings and collections, are a few of the logistics that had to be addressed during the first phase of the project. While museum staff was helpful, each museum has a different system in place. Catalogue entries, methods of storage, lighting, workspace and supervision vary in each establishment. These factors impact

on the consistency of data collection and recording. For example, to cut down on the time spent in the collections, I had photographs taken of every object for reference so that I could examine variables away from the museum. This allowed me to check on suspect data entries and to consider changes. One museum did not allow this and, although they were generous in providing photographs of the ornaments I recorded, many of those images were not of the same quality that I had for the rest of the assemblage and many did not allow the data checking I could achieve with my own photographs.

7.3.8 Other factors influencing sampling

Two other factors influenced my sample composition. First, I have confined my study to objects that were collected before and including 1940, because of the influence of early Europeans on the manufacture and movement of goods. After the First World War there was an increase in the interaction of Europeans and Aborigines. Even prior to that time, there would have been a lot of interference from Europeans. Contact between Aborigines and pastoralists, explorers, government representatives and missionaries occurred much earlier in the 1800s. For example, by 1866, the Lutheran mission at Lake Killalpaninna was established on a branch of Cooper Creek, east of Lake Eyre (Jones and Sutton 1986: 32). Jones (1996: 236) wrote ‘Missionary collectors facilitated innovation and change within Aboriginal material culture to a greater degree than any other group of collectors’. In fact, the production of artefacts as part of the mission economy has been called an ‘industry’, creating forms of material culture that were not traditional (Horne and Aiston 1924; Jones and Sutton 1986: 168).

Added to that, European settlement disrupted traditional life and the Aboriginal population was dispersed or exterminated. In the Lake Eyre district, most of the decline in Aboriginal numbers occurred before World War I which was followed by the 1919 influenza epidemic (Jones and Sutton 1986: 28). At a museum conference held in Melbourne in 2005, I spoke with Philip Jones about the problem. Jones, now a Senior Researcher in the Anthropology Section of the South Australian Museum, has undertaken extensive research on the collectors and collection methods, and he thought that the start of World War II would be a good time to limit my study to because he felt that European influence was much greater after that time.

Second, after searching the listings, many of the objects I considered suitable for recording were not available because they were either on display in the museum, or, in the case of South Australia, a large number of artefacts have been taken off-shore as part of touring exhibitions. The main problem is that the sample is now less representative than in its entirety. The only way to overcome this problem is to return to the museums at a later date to record the items unavailable at the time of recording. This is impractical for this study as the objects may not be available for months or even years. Where possible, I recorded variables for the objects on display and will use them in broader levels of analysis.

7.3.9 Summary of sampling limitations

These problems outlined above are inherent to museum studies. This raises the question of whether museum objects are representative of the objects in circulation at the time of collection. Although these studies have limitations, they provide a layer of investigation that can supplement the evidence we have from archaeological finds and ethnohistoric literature to form a clearer picture of the behaviour of people from a specific time frame. Davidson (1997: 142) argues that ‘the best evidence we’ve got is the evidence we’ve got’. In spite of the collection practices, I am confident that my sample will provide enough information to identify the general patterning of variation among Aboriginal beads in Australia.

7.4 The sample

The sample included every available beaded ornament held in the collections that I considered well provenanced and collected prior to and including 1940. The ornaments I categorised as beads were objects that had been designed for suspension. See Chapter One, Section 1.5 for definition of beads (including pendants). In total 1,007 objects were selected. The frequency of objects from each museum is summarised in Table 7.1

Table 7.1. Number of beaded objects recorded at museums

Museum	Total
Australian Museum	191
Museum of Tropical Queensland	6
National Museum	38
Queensland Museum	116
Queen Victoria Museum & Art Gallery	46
South Australian Museum	194
Tasmanian Museum & Art Gallery	13
Museum of Victoria	242
Western Australian Museum	161
Total	1007

After the objects had been selected, a useful way of organising the properties of those items was essential for a substantial analysis.

7.4.1 Raw materials in sample

Raw materials used to manufacture beads were varied. At the time of European settlement, Australian Aborigines made use of whatever resources were available to manufacture ornaments. These included animal or fish bones, teeth, shells, grasses or reeds, seeds, crustacean, integument (e.g. echidna spines, eagles' talons) and turtle carapace. European materials were also converted into traditional type ornaments. For example, china was shaped into pendants. Some materials appear to have been more valuable for trade or for use in ceremonies.

I have provided species for materials as identified in museum catalogues and registers. In some cases, I had the materials reclassified by museum staff or contacted Kim Akerman, for his expert advice. In time, I could identify the species from my own experience after looking at hundreds of objects within the museums. It was impossible to identify species of many objects (e.g. due to weathering) and I have classified those objects under broader categories (e.g. bone). The sample consisted of ten different major raw material types, which I have listed in alphabetical order. I have provided species and common names where possible. I separated vertebrae from other bone because vertebrae contain an aperture and could be considered a 'natural' bead where, aside from defleshing, no modification was necessary for suspension. The materials will be quantified in Chapters 8-10 and Appendices 14-16.

Materials recorded in the sample include:

- bone - other than vertebrae:
- bugles (reed, grass or bamboo);
- carapace;
- china;
- gum (e.g. moulded clay, resin or beeswax)
- integument (e.g. nails, spines);
- seed;
- shell;
- teeth; and
- vertebrae.

Material species in the sample are listed in relevant chapters (e.g. shell species in Chapter 9).

7.4.2 Data recording of museum objects

Each ornament was collected from a drawer or shelf in the collections room (gloves were worn when handling objects), placed on a bench top and examined. A measuring board, sliding calipers, 300 mm plastic ruler and a 1,500 mm soft tape measure were used for measuring variables. The data were entered directly into Excel worksheets.

Three steps were involved for recording the ornaments. First, it was necessary to identify categories and variables. Then I needed to design a recording form that would provide information such as the collection history, spatial associations and shape and decoration of each item. I designed a recording form that would give me information on collection history, morphology, technology, metric variables and decoration. From the variables, discrete types were identified. After the variables were recorded, objects were photographed with a Canon PowerShot Pro-1 Digital camera, 8 megapixel resolution. Included in each image was a 10 cm coloured scale.

7.4.3 Identification of variables and categories

Ornaments examined in this study displayed a great range of variability in material species, shape, size, technology and decoration. Where possible, the terminology for variables and designs was adopted from Roth (1897; 1902; 1903; 1904; 1907; 1910a; 1910b; 1910c; 1910d).

For this study, objects are described as having two surfaces. For example – the concave surface of a shell is Surface 1 and the convex is Surface 2. For teeth, the outer surface is Surface 1 (buckle) and the inner surface (lingual) is Surface 2.

The observations are organised into six sections:

- collection history and spatial references;
- categories;
- variables morphology
- variables technology;
- variables metric; and
- decoration.

An example of the data set is displayed in Appendix 5 and the key to describe coded elements within variables in Appendix 6. The complete data is in the CD attached within the back cover of this document or, for electronic versions, Appendix 19.

7.4.3.1 Identification of individual items and collection history

The following variables itemize each object and assign the object to a museum, time and collector.

ID: each object has been allocated a number between 1 and 1007.

Photo: A reference indicating the day the object was photographed and recorded.

Museum: The museum the object was located in.

Reg. No.: (Registration Number): Reference number allocated to object by museum.

Year: The year the museum either acquired the object or has information about the manufacture or collection of the object – this is the earliest definite date for manufacture of the item.

Collector: According to museum databases and registers.

7.4.3.2 Spatial information

Variables in this section were designed to place each object in the landscape for analysis in ArcMap in ArcGIS (9). A map showing all drainage divisions and locations is in Appendix 7. Horton's (1996) divisions are marked on a map in Appendix 8.

- **Location:** The location recorded by the museum according to their register and/or database. Spatial information was not always specific to a point which could be determined by a reference. Those indistinct locations account for almost 50% of the sample. The sample was collected from 156 locations.
- **Provenancing level:** I have nominated scales of spatial information for each location:
 - Level 1 - location (prov.), most specific;
 - Level 2 - secondary locations where objects have been provenanced to a watercourse (e.g. Cooper Creek); or
 - Level 3 - general area (e.g. or Kimberley).

I have nominated latitude and longitude points for poorer provenanced areas at Level 2 and Level 3, and combined some nearby locations to one reference point (see Appendix 9). The frequency of objects within specific levels of provenancing is in Table 7.2.

Table 7.2. Frequency of objects and scale of accurate provenancing

Level 1 - specific location	Level 2 - region	Level 3 - water-course	Total
581	143	283	1007

- **Longitude:** Minutes were converted to a percentage of a degree for entering into ArcMAP spatial analysis computer programme. For cases with indistinct locations (e.g. Level 2 and Level 3 locations), a precise reference point has been selected.
- **Latitude:** See 'Longitude' above.
- **Australian State.** The State or Territory that the museum has recorded the object was collected from, not where it was stored.
- **Drainage:** Drainage divisions (according to Australia Drainage Divisions and Basins) prepared for the Australian Water Resources Division of National Mapping, Department of Minerals and Energy, Canberra.
- **Horton** (1994, 1996) spatial units. These regions are those proposed by Horton in a map designed for the Australian Institute of Aboriginal and Torres Strait Studies to mark language/tribal/groups of indigenous people. The regions are based on linguistic boundaries and drainage areas but the watersheds do not necessarily agree with the

Geoscience map used for defining drainage divisions (Chapter 3). This spatial unit provides a closer breakdown of distribution within large drainage areas with a large number of objects, such as Timor Sea.

- **Circumcision:** Each location has been placed within the circumcision/subincision defined by Tindale (1974; Tindale and George 1974) at the time of first European settlement. The code for Tindale's zones is in Appendix 6.

7.4.3.3 Categories

The categories were defined by the variables for morphology, technology and measurements in the following sections.

- **Class:** Major classification into two groups:
 - Class 1 (Series) consist of multiple segments designed to be attached to string in a series (vegetable, animal etc); and
 - Class 2 (Pendants) consist of one or a set of segments attached to string at one or two points only.
- **Form (or style):** Forms are specific to raw material type. The object style has been determined by a variable relating to morphology, technology and measurement. I have provided a full description of object styles (forms) and sub-forms in Chapters 8-9 and Appendices 14-16.
- **Sub-form (or sub-style):** Objects that display slight variations to the form above.

7.4.3.4 Variables – material and morphology

Discrete forms were categorised by a combination of elements relating to material, morphology, technology and measurements. Shape and technology were determined by the following features:

- **Material:** The dominant raw material from which the object is manufactured. I have defined vertebrae as a separate material from bone because it has been treated in a different way. Vertebrae have a natural aperture and need no modification except for drying, and most vertebrae in the sample are from shark cartilage or fish bone.
- **Material species:** Additional description about material – e.g. species or common name.
- **Material 2nd:** Material other than the dominant material (e.g. pearl shell pendant attached to a *Dentalium* sp. necklace).

- **Shape of segments:** Shape of segments (plan form) is described (e.g. rectangular, oval).
- **Symmetry of shape of segments:** The object displays a high degree of longitudinal and/or lateral symmetry presence/absence. This variable is a guide to shape and is not intended as an analytical element.

7.4.3.5 Technology

- **Technology applied to segments other than attachment:** (this does not include piercing). Includes elements such as grounding of edges. See Appendix 6.
- **Method of suspension:** This variable applies to the technique used to modify the object for attaching to fibre. For example piercing or cementing. See Appendix 6.
- **Adhesive or cement:** Presence or absence of adhesive on object (e.g. gum, resin, beeswax)
- **Number of perforations per segment.** Total number of perforation displayed on a segment.
- **Position of perforation.** Top, bottom, centre or lateral.
- **Convex shell surface cleaned:** This variable was recorded to ascertain the degree of effort used to produce the ornament and applies mainly to pearl shells. If effort is a measure of the value of an ornament to the maker/owner, then a pearl shell which has been carefully cleaned to show the lustrous surface must have been more valuable than one with the rough outer shell intact.
- **Convex shell surface colour:** Colour of the back of shells was recorded to help identify shell species.
- **String material:** The material used for manufacturing the string. This variable is limited for use in analysis because a high percentage of ornaments do not have string. Also, modern string has been tied to ornaments in the museums to attach labels. Because of this, I have not included this variable in my analysis but have recorded it for any future research.

7.4.3.6 Metric variables

- **No. of segments:** Number of segments for each ornament. Accurate counts of this variable applied to pendants and smaller series objects only as it was impossible to count longer series in the time allocated. Also, some objects were too fragile to count segments.

- **Length of series:** Measurement (mms) from the first to the last segment of the series. For example, if the object has six loops and two ties, the ties are not included but all the loops containing segments will be added together.
- **Average length of segments:** On Class 1 (Series) objects, the average measurement (mms) of the most frequently occurring length. For Class 2 (Pendants), the longest length of the object is the length. For multiple segments of Class 2 pendants, the longest measurement was recorded.
- **Average width of segments:** On series objects, the width (mms) is taken from the most commonly occurring widest point of segments. For pendants, the width is taken at the widest area at right angles to the length. For multiple segments in one pendant object, the longest length was measured.
- **Percentage of segments within 10% of the average width and length.** This is a subjective entry, more or less to determine whether the manufacturer was trying to make a standard product.

7.4.3.7 Decoration

- **Decoration:** Extractive (e.g. incised), additive (e.g. red ochre) or a design/pattern constructed with the raw material (see Appendix 6 for codes).
 - None.
 - Both extractive and additive.
 - Extractive only.
 - Additive only.
 - Design constructed from material. That is, a pattern has been formed arranging segments by colour, shape or size.
- **Mountford design:** Design added to ornaments based on designs defined by Mountford and Harvey (1938). Codes in Appendix 6.

7.5 Strengths and weaknesses of sample

I have outlined the problems associated with museum studies earlier in this chapter. Nevertheless, I considered the sample to be appropriate for this type of study and the objects recorded representative of the beads being used by Aboriginal Australians in the early years of European settlement. Objects held in museum collections can give insights into Aboriginal behaviour within a period of time. Robins (1990: 24) has acknowledged the use of museum

objects to investigate the distribution of stylistic difference as a tool for interpreting human behaviour.

One of the limitations of the sample is that it represents only part of the Australian continent. A more comprehensive sample would include every available ‘beaded’ ornament from the drainage basins in their entirety (e.g. every ‘beaded’ ornament held in overseas museums and in smaller Australian museums and private collections), allowing a more thorough analysis between and within drainage basins. However, time and money prevented my spending more time on this project but it would certainly be a worthwhile project for the future.

Time constraints (particularly inside museum collections) have prevented my undertaking fine grained analysis such as microscopic examination of the method of perforation. Instead, raw material, morphology and decoration are the focus of my analysis.

7.6 Data analysis

Because of the nature of classification, I decided on a structural and material approach. I have developed a hierarchical method of sorting objects to produce categories of forms or types according to similarities/differences (Chapters 8, 9 and Appendices 14-16). First, I will distinguish two major classes for the sample. Then, I will separate the objects in each class into major raw material groups. The major raw material groups are then divided into forms with a further breakdown to sub-forms to separate out objects with slight variations. For example, a single string of *Oliva* sp. shell with a pearl pendant would be classified: Class 1 (Series); Category SH (shell); Form SH01; Sub-form SH01.01. The process is displayed in Figure 7.1.

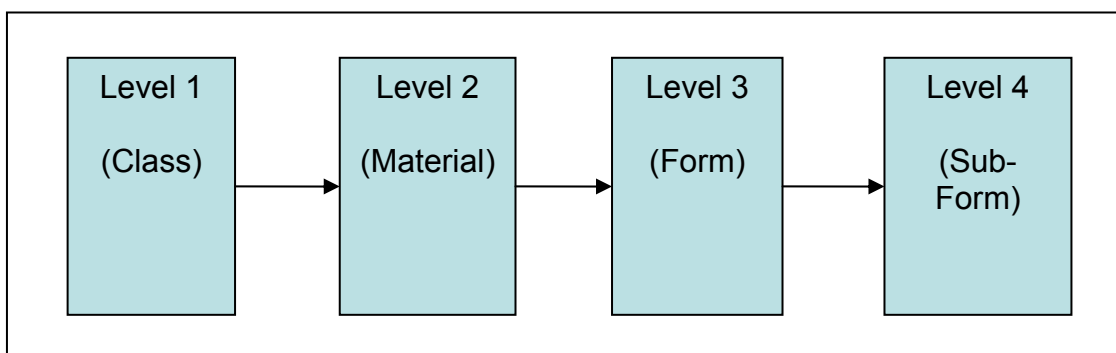


Figure 7.1. Process of classifying objects

Objects will be sorted into the broadest classification at Level 1 then progressively broken down into groups that have very minor variations in Level 4.

I have not attempted to name objects as necklaces, necklets, headbands or waistbands. Although all objects in the sample have been designed for suspension, the same form of object could be suspended from more than one portion of the head or body depending on location, gender and/or social status. Roth described his problems with categorising ornaments:

Owing to the immense number of variations met with in the way of fashion, I have found it impossible to carry out my original intention of describing seriatim all local costumes, but propose, as far as possible, detailing the various ornaments and means of cover, constitution clothing, according to the portion of body decorated or covered. Even by this arrangement, difficulties are to be seen in that: - a necklet may be worn as a waist-belt; an article donned by a male may be forbidden to a member of the opposite sex, and vice versa; an ornament worn throughout one district with a special signification attached to it may have no meaning whatsoever in another; certain ornaments according to their materials of construction are found only in certain areas; a decoration donned on different parts of the body will convey different meanings, an article of dress essential in early life may be discarded with adolescence; and often nothing at all may be worn in contradistinction to a complete costume indicative of rank, virginity, grief, fight, etc. (Roth 1910d: 21)

Following description of each form, I will table the frequency of sub-forms within drainage divisions and Horton's (1996) spatial units, and plot the distribution using ArcMAP Version 9.2, ArcGIS computer software. At the end of each chapter I will summarise the results. In Chapter 10, I will analyse the richness of sites (number of forms within spatial units), examine metric results to assess standardisation of size, and measure the amount of decoration on objects to assess the degree of value added to objects. In Chapter 11, I will discuss the form in context with similar archaeological finds and rock art in the area, and ethnographic accounts relating to the manufacture and function of objects.

As there is a great range of variation within the bead forms of ornaments, I will present the results of classification in five Sections. I will present the classification of beads in depth for classes and overall raw materials in Chapter 8. In Chapter 9, I will set out the method and results for shell bead categories. In that chapter, I will demonstrate the process I have used

for categorising bead forms for a specific raw material. I will use the same process for grass/reed bugles, teeth, and other raw materials and present the procedure in Appendices 14-16. The results from Appendices 14-16 will be summarised in Chapter 10. Also, in Chapter 10, I will present the richness of sub-forms, metric analysis of beads and decoration of beads.

I have not used multivariate techniques in this analysis because the patterning displayed in maps generated in ArcMAP were obvious. I did undertake a trial analysis using a multivariate statistical software programme. The results reinforced the observable distribution from ArcMAP. The information from the level of analysis I have undertaken is sufficient to answer my research questions.

7.7 Summary

Variables selected for this study were designed as descriptors of ornaments to investigate the spatial variation of beaded ornaments. Contextual categories have been used for the collection history and spatial references while the morphological, technological, metric and decorative variables of each item will allow the examination of differences and similarities between objects.

During collection and recording of objects, constant handling of the material brought about familiarity with variables. After recording for some time, I could often recognise a form or 'type' of ornament as soon as I collected it from the shelf, often being able to determine where the museum had obtained it. I needed to formulate a method of grouping common variables in objects to justify my intuitive classification into discrete types and to organise the small variations within a type into sub-groups. The research design outlined above will provide a method of categorising forms and assessing the variation in categories across space.

CHAPTER 8 RESULTS: CLASSES AND RAW MATERIAL

8.1 Introduction

In this chapter, I will introduce the data, investigating the frequency and distribution of beads within spatial units, based on the variables I have nominated in the previous chapter. The process that I use here for two major categories and raw materials will be repeated for the following analysis of shells (Chapter 9), grass bugles (Appendix 14), teeth (Appendix 15) and other materials (Appendix 16). The results from these chapters and appendices will be summed up in relation to metric standardisation of forms and the degree of decoration in Chapter 10. The implications of spatial patterning of Aboriginal beads in relation to the research question will be discussed in Chapter 11. The object of this chapter is to investigate the variation in form and distribution of major classes and raw materials of Australian Aboriginal beads.

8.2 Classes

The sample consists of a total of 1,007 objects collected from 156 locations (Appendix 10). Of those, 581 objects are classified as Class 1 (series) and 426 as Class 2 (pendants). Series ornaments include objects consisting of a series of segments that have been strung sequentially on fibre – similar to European strings of beads. I use the term ‘pendants’ loosely. Pendants may include one or more segments that have been designed to suspend from string from one or two attachment points – occasionally a set of series may be cemented together to form a single, inflexible ornament such as for teeth ornaments (see Appendix 15). The objects in both classes are suspended from string by one of the following methods:

- perforations (perforations may be natural or modified);
- notching;
- tying; or
- cementing (resins, beeswax, spinifex gum etc.).

The string may be manufactured from vegetable fibres, human hair, animal fur, animal sinew or modern media such as cotton or fishing line.

8.3 Frequency and distribution of classes

Figure 8.1 shows the distribution of series and pendants. The circles on these maps have no status except to bound the empirical distributions.

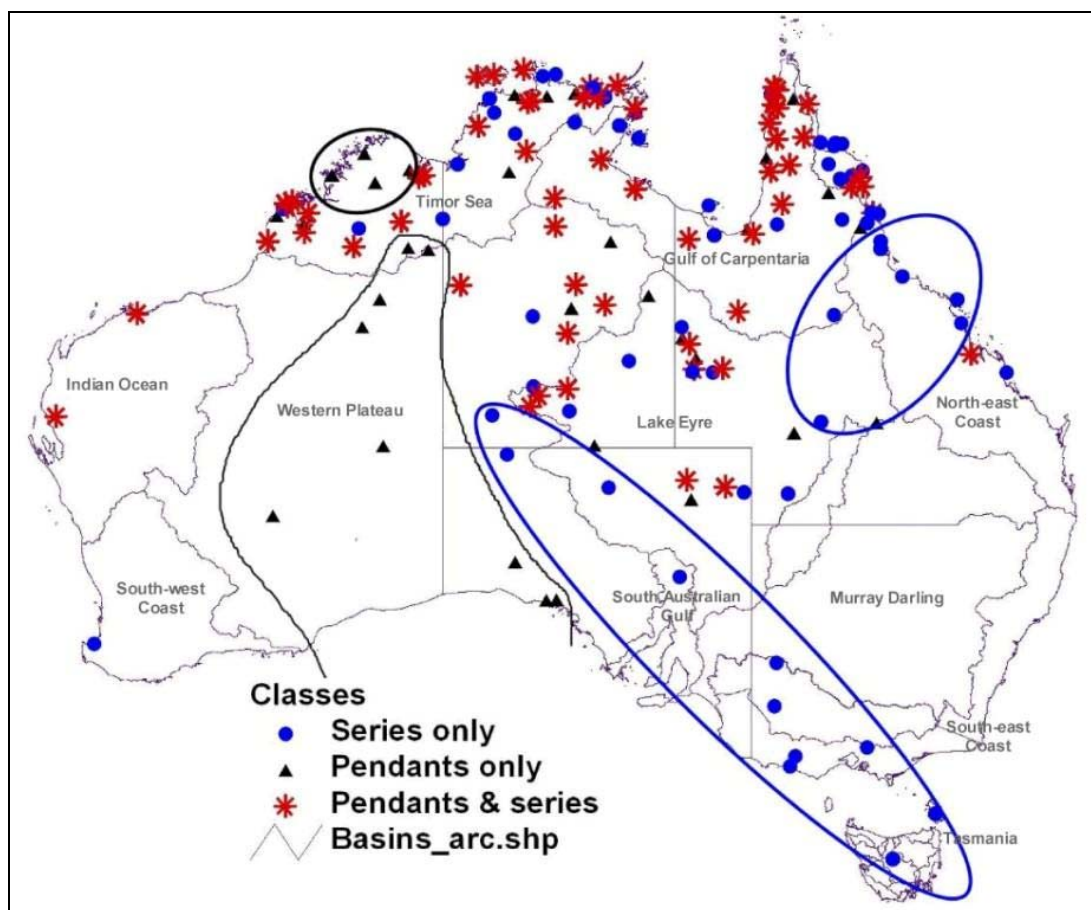


Figure 8.1. Distribution of Class 1 (series) and Class 2 (pendants) within drainage divisions

Series ornaments appear throughout a larger area than pendants in this sample. Pendants are spread throughout the central area of Australia from the northern to southern coastlines but

not as well represented along the eastern coastline of mainland Australia and not at all along the south-eastern mainland and in Tasmania. The distribution of classes will be discussed according to three levels of spatial units – from broadest to more specific. The sample will be broken into: drainage divisions in Section 8.3.1; Horton’s (1996) spatial units in Section 8.3.2; and specific locations in Section 8.3.3.

8.3.1 Frequency and distribution of classes within drainage divisions

The frequency of series and pendants are summarised in Table 8.1.

Table 8.1. Frequency of Class 1 (series) and Class 2 (pendants) within drainage divisions

Drainage division	Class 1 (series)	Class 2 (pendants)	Total
Timor Sea (TS)	228	223	451
Gulf of Carpentaria (G)	177	88	265
Lake Eyre (LE)	52	40	92
Northeast Coast (NEC)	74	12	86
Western Plateau (WP)	14	48	62
Tasmania (TAS)	26	0	26
Indian Ocean (IO)	3	12	15
Murray Darling (MD)	2	3	5
Southeast Coast (SEC)	3	0	3
Southwest Coast (SWC)	1	0	1
South Australian Gulf (SAG)	1	0	1
Total	581	426	1007

All drainage division contained series objects. No pendants were recorded from Tasmania, Southeast Coast, Southwest Coast and South Australian Gulf. All other drainage division held both series and pendants. The Timor Sea drainage division has the highest number of objects with almost equal numbers of series and pendants. The Gulf of Carpentaria (from now on referred to as Gulf) has 265 objects with approximately 67% series. The greater proportion of objects that were collected from Northeast Coast are classified as series (86%). All drainage areas included in the sample have higher numbers of series objects than pendants with the exception of Western Plateau (77% pendants), Indian Ocean (80% pendants) and Murray Darling (60% pendants).

8.3.2 Frequency and distribution of classes within Horton's (1994, 1996) divisions

When the distribution is examined by grouping locations into Horton's spatial units, there is a difference in the sample breakdown. For example, Timor Sea is divided into four units – Kimberley, Fitzmaurice, North and Arnhem Land and those units combined do not have the same overall boundaries as Timor Sea drainage division. See Table 8.2 for the relationship between Horton's (1996) units and Geoscience drainage divisions. Horton's regions may spread into more than one drainage division.

Table 8.2. Breakdown of regions (Horton 1996) and Geoscience drainage divisions

Horton (1996) units (abbreviated)	Geoscience drainage division
Arnhem (A)	Gulf of Carpentaria
Arnhem (A)	Timor Sea
Desert (D)	Gulf of Carpentaria
Desert (D)	Lake Eyre
Desert (D)	Western Plateau
East Cape York (EC)	Northeast Coast
Eyre (E)	Lake Eyre
Fitzmaurice (F)	Timor Sea
Gulf (G)	Gulf of Carpentaria
Kimberley (K)	Timor Sea
North (N)	Timor Sea
Northeast (NE)	Northeast Coast
Northwest (NW)	Indian Ocean
Rainforest (RF)	Northeast Coast
Riverine (R)	Murray Darling
Southeast (SE)	Southeast Coast
Southwest (SW)	Southwest Coast
Spencer (SP)	South Australian Gulf
Spencer (SP)	Western Plateau
Tasmania (TAS)	Tasmania
West Cape York (WC)	Gulf of Carpentaria

Major differences in the sample breakdown occur in Gulf and Lake Eyre (1994) as shown in Figure 8.2.

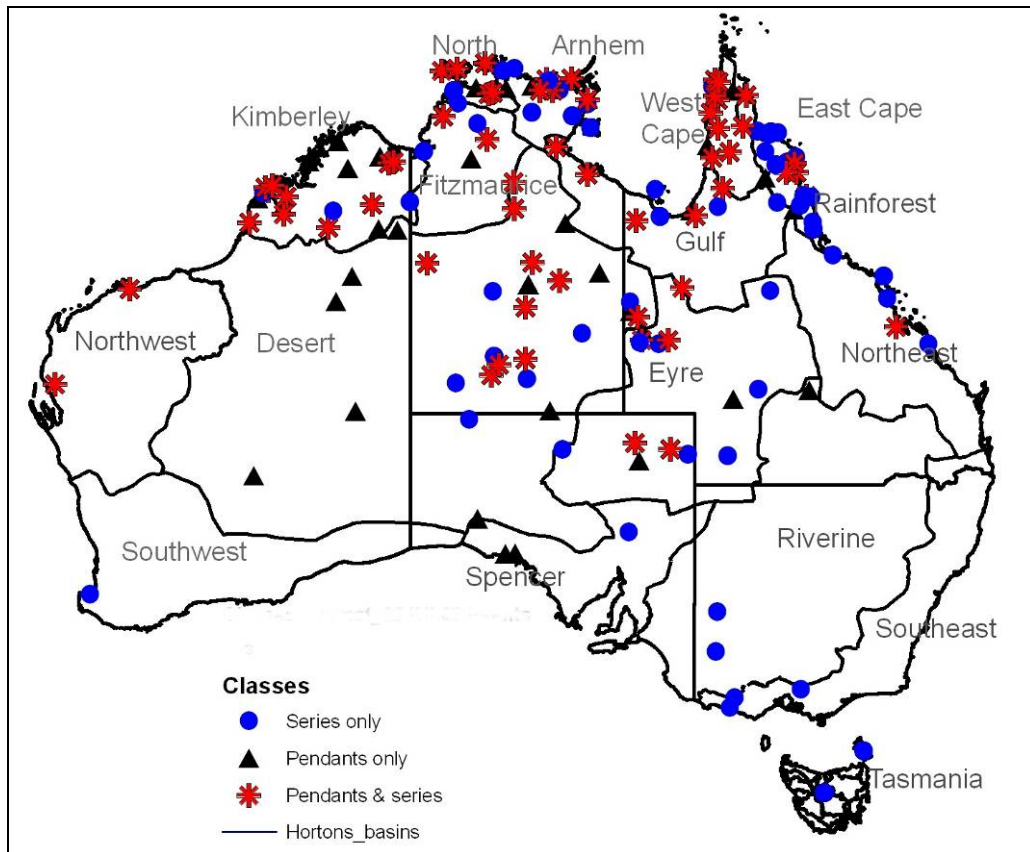


Figure 8.2. Distribution of Class 1 (series) and Class 2 (pendants) within Horton’s (1996) divisions

The frequency of artefacts is rearranged to show a different picture when looked at by Horton’s spatial units rather than by drainage divisions as shown in Table 8.3.

Table 8.3. Frequency of classes within Horton’s (1996) divisions

Horton’s division (State)	Class 1 (series)	Class 2 (pendants)	Total
Kimberley (WA)	79	140	219
Arnhem (NT)	103	51	154
West Cape (QLD)	97	51	147
Desert (WA, NT, SA)	42	60	102
Gulf (QLD, NT)	63	28	92
North (NT)	45	32	77
East Cape (QLD)	45	9	54
Eyre (QLD, NT, SA)	26	25	51
Tasmania (TAS)	26	0	26
Fitzmaurice (NT)	16	7	23
Rainforest (QLD)	20	1	21
Northwest (WA)	3	12	15
Northeast (QLD)	9	2	11
Spencer (SA)	1	5	6
Riverine (NSW, VIC)	2	3	5
Southeast (NSW, VIC)	3	0	3
Southwest (WA)	1	0	1
Total	581	426	1007

Using Horton's (1996) units, the highest number of objects was collected from the Kimberley (within Timor Sea) and these are predominantly pendants. Arnhem follows with 154 objects and West Cape York with 147. Desert has 102 objects and Gulf has reduced to 92 objects. Lake Eyre's numbers have reduced from 92 to 51 objects using these spatial units.

All Horton's divisions have series objects. Tasmania, Southeast and Southwest hold series only, while all other divisions contain both series and pendants. The ratio of series to pendants is altered when using Horton (1996) rather than Geoscience drainage divisions as spatial units. For example, Timor Sea drainage division has four regions with only one of those (Kimberley) containing more pendants than series. Contiguous regions Kimberley, Desert, Northwest, Spencer and Riverine contain more pendants than series. Eyre region has almost equal numbers of both classes and all other areas contain more series than pendants.

The following section examines the spread of bead classes using specific locations as the spatial unit.

8.3.3 Frequency and distribution of classes in locations

Figure 8.3 illustrates the distribution of the sample according to the total number of objects recorded from each location. The arrows mark the outliers – red for Cooper Creek and blue for Roebourne.

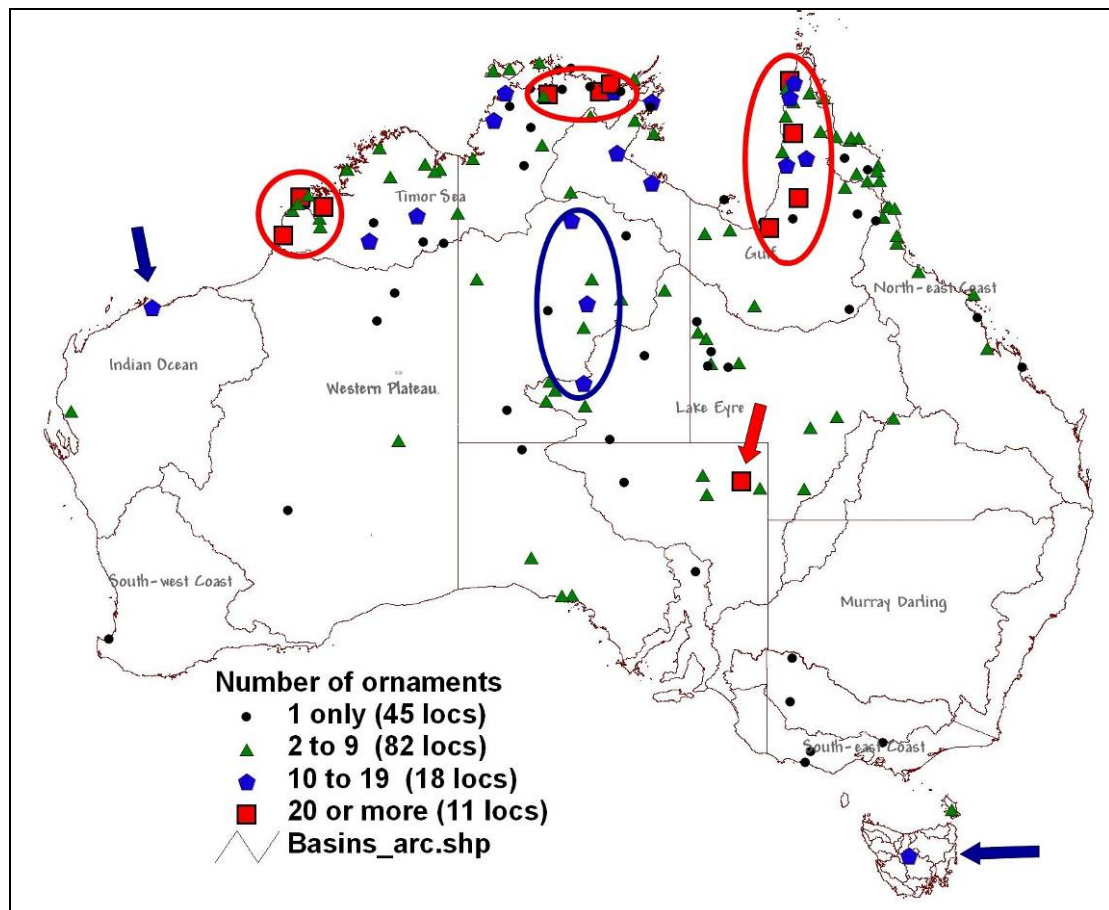


Figure 8.3. Total number of objects collected from each location

With the exception of Cooper Creek in Central Australia, all locations containing larger numbers of objects (20 or more) are positioned across the northern coastal areas of Australia, within the Gulf and Timor Sea drainage divisions. Locations from which 10-19 ornaments were collected are concentrations along Cape York West (Gulf division), Arnhem Land and the Kimberley district (both within Timor Sea division).

The distribution, according to quantity in sites, is summarised in the following tables. Richness of sites (the number of different forms in a site) will be discussed in Chapter 10, after I have described all forms and sub-forms. I have separated the frequency of series and pendants into four separate tables showing the locations containing: 20 or more objects (Table 8.4); 10-19 objects (Table 8.5); 2-9 objects (Table 8.6); and one only object (Table 8.7 for series and Table 8.8 for pendants). I have included columns in these tables that define which drainage division and Australian State the location is within. See Appendix 10 for an alphabetically tabulated list of locations relative to drainage divisions, Horton's (1996) divisions, States and classes (series or pendants). Coded terms for States (in parenthesis) and

drainage divisions are provided in this chapter. All locations have been plotted and labelled in Appendix 7.

Over 50% of the objects were collected from 29 sites (18% of total locations). The remaining examples come from locations that contain nine or less objects. Table 8.4 lists locations containing twenty or more objects.

Table 8.4. Locations with 20 or more objects

Location (State)	Drainage division	Horton's (1996) divisions	Series	Pendants	Total No. ornaments
Arnhem Land unprovenanced (NT)	TS/AL	A	50	22	72
Lombadina Mission (WA)	TS	K	21	26	57
Alligator River (NT)	TS	F	24	23	47
Mapoon (QLD)	G	WC	19	17	36
King Sound (WA)	TS	K	12	23	35
Archer, Kendall & Holyrod Rivers (QLD)	G	WC	26	4	30
Broome (WA)	TS	K	13	17	30
Cooper Creek (SA)	LE	E	9	14	23
Staaten River (QLD)	G	G	9	13	22
Normanton (QLD)	G	G	15	6	21
Millingimbi (NT)	TS	A	12	8	20
Total	na	na	210	183	393

Table 8.4 shows:

- Over one third of the sample was collected from 7% of the locations.
- Within sites containing more than twenty objects, there are a higher proportion of series (53%) than pendant objects.
- All sites except Cooper Creek are located across the northern region of Australia.
- The highest frequency of objects is in Arnhem Land (NT) (unprovenanced) with seventy-two objects, fifty of those are series and twenty-two are pendants.
- The second highest frequency of fifty-seven objects occur at Lombadina Mission (WA) with twenty-one series objects and thirty-six pendant objects.
- Alligator River has the third highest number of objects with almost equal incidences of series and pendants. The East Alligator River forms the western boundary of Arnhem Land.

- Sites within the Arnhem Land area (Arnhem Land unprovenanced. and Millingimbi) have higher numbers of series and pendant ornaments.
- Samples from north-western Western Australia (Broome, Lombadina Mission and King Sound) contain predominantly pendant objects.
- With the exception of the Staaten River sample, Queensland samples from Western Cape York (Archer, Kendall and Holyrod Rivers, Mapoon and Normanton) contain mainly series objects.

Locations containing 10-19 objects are listed in Table 8.5

Table 8.5. Locations containing 10-19 objects

Location	Drainage division	Horton's (1996) divisions	Series	Pendants	Total No. ornaments
Tasmania (TAS)	TAS	TAS	19	0	19
Kimberley unprovenanced (WA)	TS	K	7	10	17
Darwin (NT)	TS	N	16	0	16
Roper River (NT)	G	G	14	1	15
Weipa (QLD)	G	WC	9	6	15
Alice Springs and Arrernte (NT)	E and WP	D	9	5	14
Cape York West (QLD)	C	WC	8	5	13
Cygnets Bay (WA)	TS	K	7	5	12
Daly River (NT)	TS	F	8	4	12
Darbilla Creek (NT)	TS	A	8	4	12
Roebourne (WA)	IO	NW	1	11	12
Barrow and Tennant Creeks (NT)	LE	D	0	11	11
Caledon Bay (NT)	G	A	4	7	11
Mitchell River (QLD)	G	WC	8	3	11
Fitzroy Crossing (WA)	TS	K	3	7	10
McArthur River (NT)	G	G	6	4	10
Newcastle Waters (NT)	WP	D	2	8	10
Port Musgrave, Wenlock River and Ducie River (QLD)	G	WC	8	2	10
Total	na	na	137	93	230

Table 8.5 shows:

- Nineteen examples were collected from Tasmania, all of which are series, next is the Kimberley Region (unprovenanced) with seventeen objects, followed by Darwin with Roper River and Weipa containing fifteen objects each.

- With the exceptions of Kimberley, Roebourne, Barrow and Tennant Creeks, Fitzroy Crossing and Newcastle Waters, locations contain predominantly series. These sites are in central and north-western Australia.

Locations containing 2-9 objects are listed in Table 8.6 below.

Table 8.6. Locations containing 2-9 objects

Location	Drainage division	Horton's (1996) divisions	Series	Pendants	Total No. ornaments
Burketown (QLD)	G	G	9	0	9
Flinders Is (QLD)	Off NEC	EC	9	0	9
Embley River (QLD)	G	WC	5	4	9
Cooktown (QLD)	NEC	EC	4	5	9
Wyndham (WA)	TS	K	4	5	9
Aurukun Mission (QLD)	G	WC	7	1	8
Elcho Is (NT)	Off TS	A	5	3	8
Sunday Island (WA)	Off TS	K	1	7	8
Tennant Creek (NT)	WP	D	1	7	8
Cardwell (QLD)	NEC	RF	7	0	7
Furneaux Islands (TAS)	Off TAS	TAS	7	0	7
Pascoe River Iron R (QLD)	NEC	EC	6	1	7
Port Essington (NT)	TS	A	5	2	7
Coen River (QLD)	G	WC	4	3	7
Melville Is (NT)	Off TS	N	2	5	7
Blue Mud Bay (NT)	G	A	6	0	6
Macdonnell Ranges (WA)	WP	D	6	0	6
Bloomfield River (QLD)	NEC	EC	5	1	6
Butchers Hill (QLD)	NEC	EC	4	2	6
Barrow Ck (NT)	WP	D	3	3	6
Atherton (QLD)	NEC	R	5	0	5
Laura (QLD)	NEC	EC	5	0	5
Elkedra to Tanami (WA)	WP	D	4	1	5
Turn-off Lagoon (QLD)	G	G	4	1	5
Forrest River (WA)	TS	K	0	5	5
Port George IV (WA)	TS	K	0	5	5
Windorah (QLD)	LE	E	0	5	5
Bulman Roper (NT)	G	A	4	0	4
Pender Bay (WA)	TS	K	4	0	4
Victoria River (NT)	TS	F	4	0	4
Whitsunday Is (QLD)	Off NEC	NE	4	0	4
Boulia (QLD)	LE	E	3	1	4
Hermannsburg (NT)	LE	D	3	1	4
Tempe Downs (NT)	LE	D	3	1	4
Kaparlgoo Mission (NT)	TS	N	2	2	4
Katherine River (NT)	TS	F	2	2	4
Admiralty Gulf (WA)	TS	K	0	4	4
Drysdale Mission (WA)	TS	K	0	4	4
Kunmunya Mission (WA)	TS	K	0	4	4
Ooldea (SA)	WP	D	0	4	4

Location	Drainage division	Horton's (1996) divisions	Series	Pendants	Total No. ornaments
Urandangie (QLD)	LE	D	0	4	4
Cape Bedford (QLD)	NEC	EC	3	0	3
Crocodile Island (NT)	Off TS	A	3	0	3
Ord and Nigri Rivers (WA)	TS	K	3	0	3
Pennefather River (QLD)	G	EC	3	0	3
Port Stewart (QLD)	NEC	EC	3	0	3
Wilson River (QLD)	LE	E	3	0	3
Cairns (QLD)	NEC	R	2	1	3
Carandotta (QLD)	LE	D	2	1	3
Gascoyne District (WA)	IO	NW	2	1	3
Ord River (WA)	TS	K	2	1	3
Warburton Creek (SA)	LE	E	2	1	3
Cape Stewart (NT)	TS	A	1	2	3
Daly Waters (NT)	G	D	1	2	3
Frew River (NT)	WP	D	1	2	3
St Lawrence (QLD)	NEC	EC	1	2	3
Minnie Downs (QLD)	MD	R	0	3	3
Penong (SA)	WP	S	0	3	3
Barcoo River (QLD)	LE	E	2	0	2
Barron River (QLD)	NEC	R	2	0	2
Bathurst Head (QLD)	NEC	EC	2	0	2
Cape Grafton (QLD)	NEC	R	2	0	2
Cape Melville (QLD)	NEC	EC	2	0	2
Groote Eylandt (NT)	Off G	G	2	0	2
Innaminka (SA)	LE	E	2	0	2
Lower Tully River (QLD)	NEC	R	2	0	2
Mt Burrell (NT)	LE	D	2	0	2
Townsville (QLD)	NEC	NE	2	0	2
Bathurst Is (NT)	Off TS	N	1	1	2
Castlereagh Bay (NT)	Off TS	A	1	1	2
Cloncurry (QLD)	G	G	1	1	2
Glenormiston (QLD)	LE	E	1	1	2
Yeeda Station (WA)	TS	K	1	1	2
Beagle Bay (WA)	TS	K	0	2	2
Derby (WA)	TS	K	0	2	2
Edward River (QLD)	G	WC	0	2	2
Koonibba (SA)	WP	S	0	2	2
Moreton Electric Office (QLD)	G	EC	0	2	2
Mungeranie Station (SA)	LE	E	0	2	2
Palmer River (QLD)	G	EC	0	2	2
Ranken River (NT)	LE	D	0	2	2
Warburton Ranges (WA)	WP	D	0	2	2
Total	na	na	204	135	339

Table 8.6 shows:

- Eighty-two locations contain between two and nine objects with representatives of only one class in forty-seven of those locations.

No obvious patterning is apparent in the distribution of locations containing between two and nine objects. Table 8.7 lists locations with single series and Table 8.8 list locations with single pendants.

Table 8.7. Locations with single Class 1 (series) object

Location	Drainage division	Horton's (1996) divisions
Busselton (WA)	SW	SW
Cape York East (QLD)	NEC	EC
Chillagoe (QLD)	G	G
Endeavour River (QLD)	NEC	EC
Georgina River (QLD)	LE	E
Gilbert River (QLD)	G	G
Goulburn Is. (NT)	Off TS	A
Headingly (QLD)	LE	D
Hopkins River (VIC)	SEC	SE
Hughenden (QLD)	G	E
Idamere (QLD)	LE	E
Jervois County (NT)	LE	D
Keppel Is. (QLD)	Off NEC	EC
King Leopold Ranges (WA)	TS	K
Lake Amadeus (NT)	WP	D
Lake Hindmarsh (VIC)	WP	R
Mackay (QLD)	NEC	NE
Mallee (VIC)	MD	R
Mornington Is. (Qld)	Off G	G
Murganella (NT)	TS	A
Musgrave Ranges (SA)	WP	D
Nilpena Station (SA)	SAG	S
Oodnadatta (SA)	LE	E
Pine Creek (NT)	TS	F
Rum Jungle (NT)	TS	F
Trial Bay (NT)	G	A
Warramulla Mt Stuart (NT)	WP	D
Warrnambool (VIC)	WP	SE
Woolen River (NT)	TS	A
Yarra River (VIC)	SEC	SE
Total	30	30

Single series objects were collected at forty-five locations. This represents 29% of the total number of locations for the sample.

Table 8.8. Locations with single Class 2 (pendant) objects

Location	Drainage division	Horton's (1996) divisions
Anthony Lagoon (QLD)	G	D
Cape Leveque (WA)	TS	K
Charlotte Waters (NT)	LE	D
Flora Vale (WA)	WP	D
Godfrey Tank Canning Stock Route (WA)	WP	D
Halls Creek (WA)	TS	K
Irvinebank (QLD)	G	G
Karumba (QLD)	G	G
Laverton (WA)	WP	D
Liverpool River (NT)	TS	A
Oenpelli (NT)	TS	A
Roxburgh Downs (QLD)	LE	E
Van Dieman Gulf (NT)	TS	N
Well 42 Canning Stock Route (WA)	WP	D
Willeroo Station (NT)	TS	F
Total	15	15

Of the forty-five sites containing one object only, thirty are series and fifteen are pendants.

Locations with single examples are spread randomly throughout the sample.

8.3.4 Summary of classes

With the exception of Cooper Creek (Central Australia), locations with the highest number of beaded ornaments (20 and over) are spread around the coastal fringes of northern Australia from the tip of Cape York Peninsula, Queensland, to Broome in Western Australia - within the Gulf and Timor Sea drainage divisions. Within the sample, there are objects that have been broadly provenanced to areas or rivers such as Kimberley, Arnhem Land or Cooper Creek. Some of those poorly provenanced areas have had the highest numbers of objects recorded against them. For example Arnhem Land unprovenanced has the highest number of objects (72 total).

An explanation for the numbers collected in areas could be the choices of collectors. The most active collectors, that is, those who gathered the most objects for the sample, were collecting from those areas. Another influence is the presence of missions and the industries associated with them as discussed in Chapter 5. Table 8.9 provides a summary of the number of objects collected by well known collectors from locations with twenty or more ornaments.

Table 8.9. Number of objects collected by main collectors

Locations with over 20 objects	Number of objects collected by main collectors
Arnhem Land unprovenanced (NT) – 72 total	<i>Thomson, D.</i> (36); Legge collection (14); Warner, W. (14)
Lombadina Mission (WA) – 57 total	Rev. Nicholson (34); Chief Protector of Aborigines (23)
Alligator River (NT) – 47 total	Maurice, R.T.(14); W.B. Spencer (9)
Mapoon (QLD) – 36 total	Roth, W.E. (32)
King Sound (WA) – 35 total	Fletcher, B. (30)
Archer, Kendall & Holyrod Rivers (QLD) -30 total	McConnel, U. (14), <i>Thomson, D.</i> (13)
Broome (WA) – 30 total	Captain Hilliard (7); Mrs Bromley (6)
Cooper Creek (SA) – 23 total	Aisten collection (6), Reuther (4)
Staaten River (QLD) – 22 total	Roth, W.E. (22)
Normanton (QLD) – 21 total	Roth, W.E. (19)
Millingimbi (NT) – 20 total	Shepherdson, H.U. (10); <i>Thomson, D.</i> (9)

As shown in Table 8.9, collectors like Thomson, Roth, Rev. Nicholson, Spencer, Legge and Warner contributed to Australian ethnographic collections from a few main areas whereas large areas of Australia have little or no examples of Aboriginal ornaments.

The main point arising from the above section is that there is a difference in the distribution of series and pendants. To understand the spread of series and pendants, the raw materials of the objects needs to be considered. If the pendants in the western area of Australia were manufactured from pearl shell, then this supports the ethnohistoric accounts that large pearl shells moved along trading routes from the north-western coast around Broome to the centre of Australia. Also, the Lake Eyre region contained extensive trading routes with connections to the north, south, west and east (see Chapter 3). Series and pendants are discussed in relation to raw materials in the following section.

8.4 Raw materials

The sample contains ten different basic raw materials. Frequency of series and pendants in relation to material types are listed in and their distribution shown in Table 8.10.

Table 8.10. Raw materials and classes

Material	Class 1 (series)	Class 2 (pendants)	Total number in sample
Shells	237	320	557
Grass or reed bugles	211	0	211
Teeth	48	93	141
Seed	45	1	46
Vertebrae	33	0	33
Bone	3	8	11
Gum or resin	2	0	2
Integument	2	2	4
Carapace	0	1	1
China or glass	0	1	1
Total	581	426	1007

In both classes, objects manufactured from shell occur most frequently, representing over half of the sample (55%). Fifty-seven percent of the shell examples are pendants. Bugles make up 21% of the sample and all examples are series. Teeth make up 14% of the sample, with pendants making up more than 65% of the teeth sample. Seed objects make up around 8% of the sample; all but one of these is recorded as series. No pendants were manufactured from vertebrae while this material was used for around 5% of the series sample. The frequencies of objects manufactured from integument, bone, gum, carapace and china are very low.

8.4.1 Distribution of raw materials

The distribution of main raw materials for series is shown in Figure 8.4 for drainage basins and Figure 8.5 within Horton's (1996) spatial units.

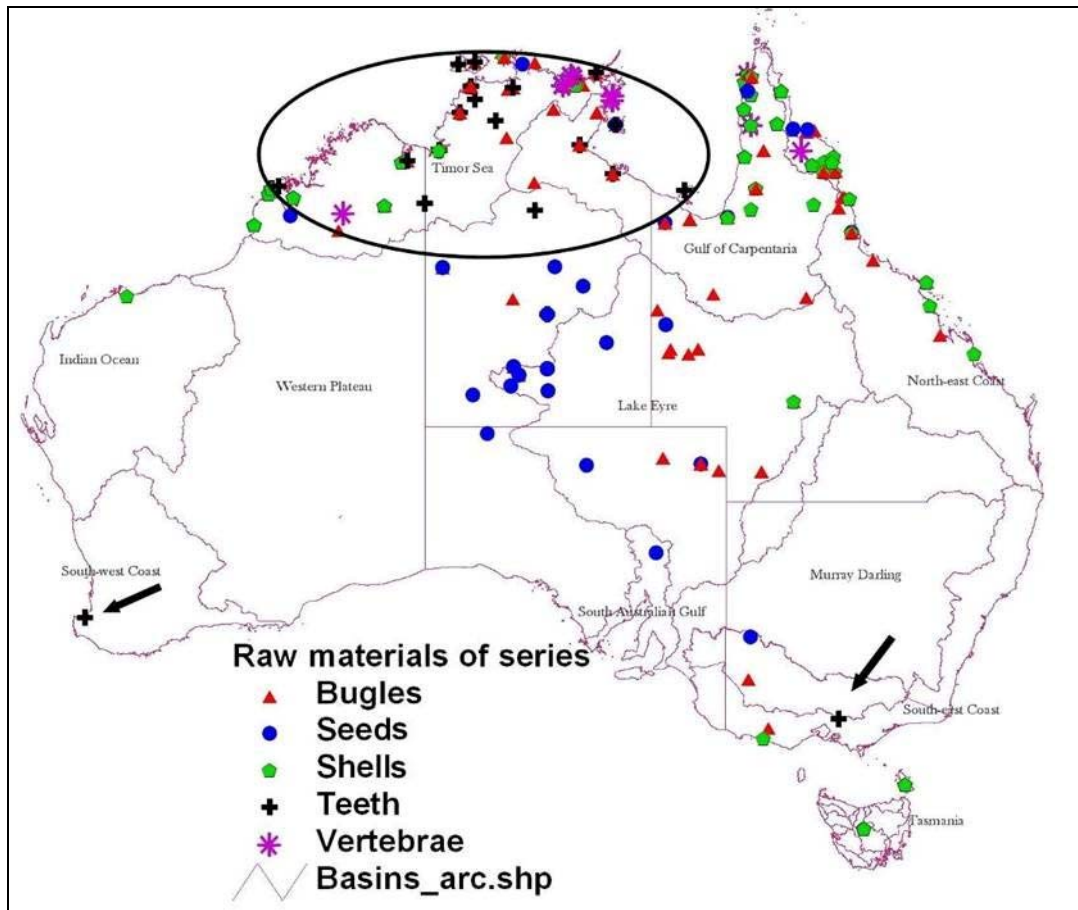


Figure 8.4. Distribution of raw material for Class 1 (series) within drainage divisions

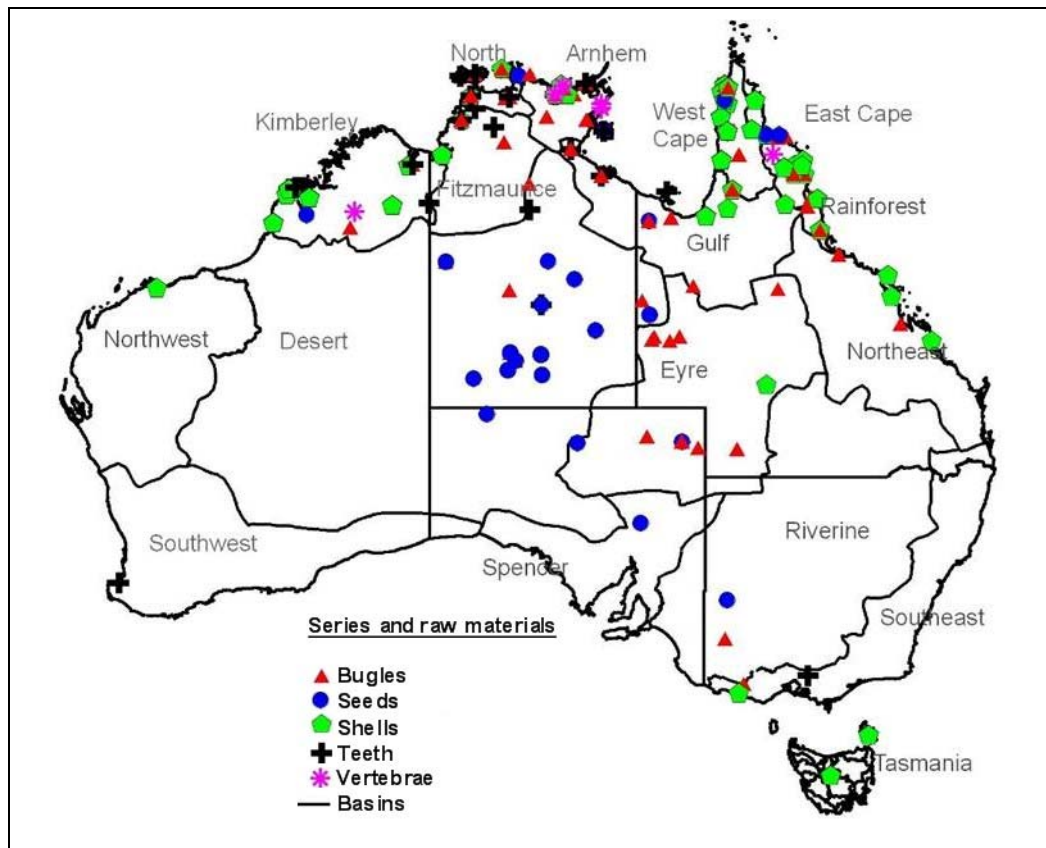


Figure 8.5. Distribution of dominant raw material for Class 1 (series) within Horton's (1996) divisions

Some series materials are clearly grouped but, at this broad level for raw material, neither drainage basins nor Horton's spatial units appear to be useful for describing the patterning.

The patterning is more related to contiguous areas:

- Shell series are spread around the coast but none are in the centre except for one location in the eastern Lake Eyre area and the broad provenancing for the Kimberley. Tasmania's sample contains shell series only.
- Grass or reed bugles are mainly across the northern area of Australia and down the centre of the Lake Eyre drainage division into Victoria.
- Teeth series are located mainly across the north west of Australia in the Timor Sea and Gulf divisions.
- Seed objects are mainly grouped in the centre of the continent and few sites in Cape York.
- Vertebrae objects are restricted to across the northern end of Australia – North east Coast and Timor Sea.

Low numbers of gum and integument prevent a worthwhile discussion on distribution at this scale.

Figure 8.6 illustrates the distribution of major raw materials of pendants within drainage areas and Figure 8.7 shows the same distribution within Horton's (1996) units.

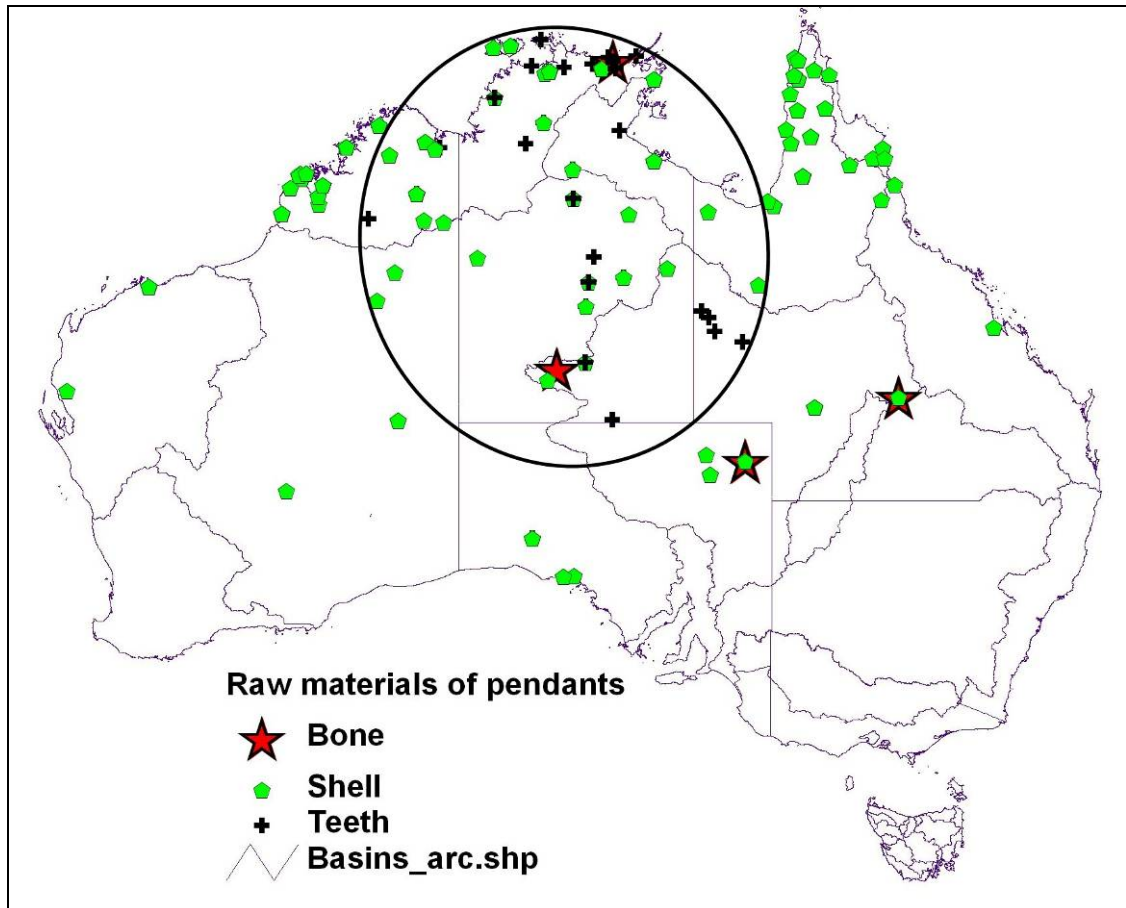


Figure 8.6. Distribution of dominant raw materials for Class 2 (pendants) within drainage divisions

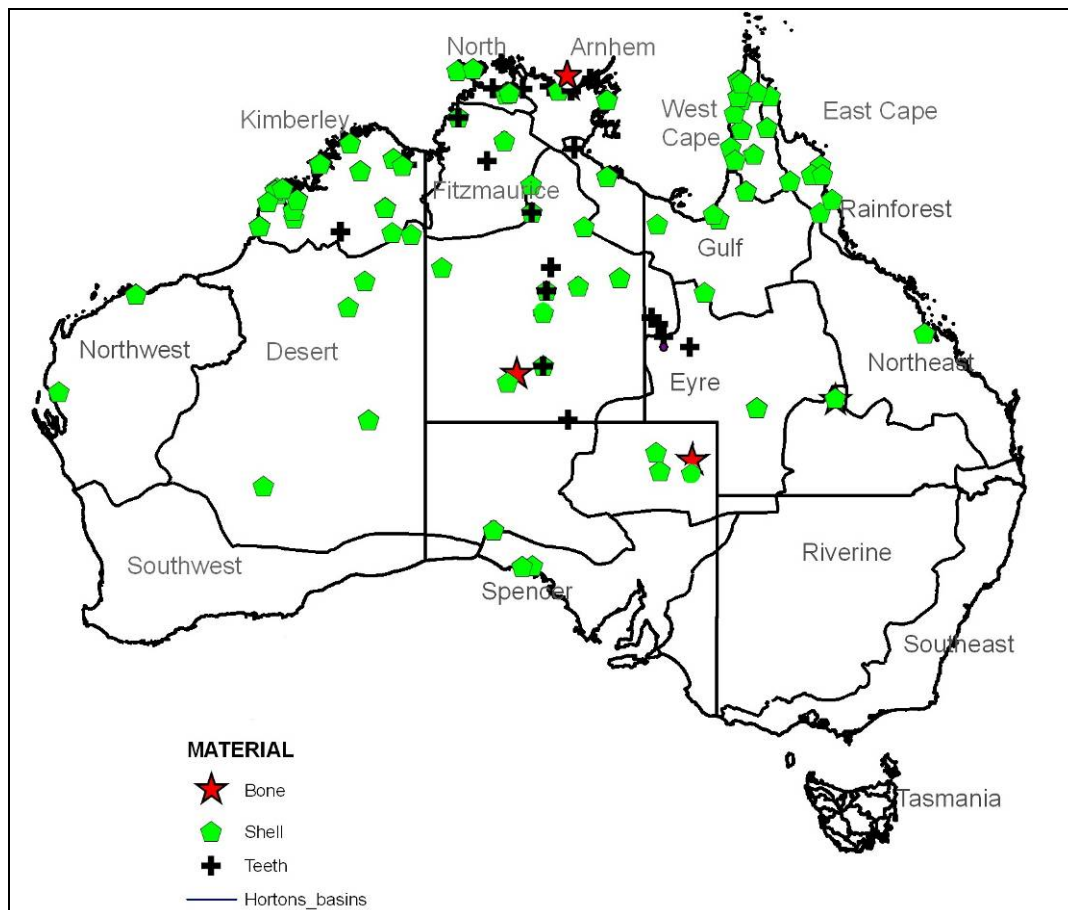


Figure 8.7. Distribution of dominant raw materials for Class 2 (pendants) within Horton's (1996) divisions

Once again, there is no apparent patterning within either drainage basins or Horton's (1996) divisions. The most widespread distribution of pendants is objects manufactured from shell. The distribution for pendants is as follows:

- Shell objects are more widespread but do not appear extensively along the eastern coast of Queensland. There are no shell pendants in Tasmania or on the south east of the continent.
- Bugles – no bugle pendants were recorded.
- Seed objects are scarce – appearing only in the Gulf division.
 - Horton: only in the West Cape unit. The sample is too small to make predictions.
- Teeth objects extend further to the south than series through Central Australia.
- Bone objects are mainly in the Lake Eyre division.

No vertebrae pendants were recorded and low numbers of carapace, china and integument objects prevent a worthwhile investigation at this scale.

Neither drainage basins nor Horton's units appear useful in describing the distribution. To clarify the distribution, I have tabled the raw materials according to drainage basins and Horton's units in the next section.

8.4.2 Variation of raw materials within spatial units

The frequency of raw materials within drainage divisions is summarised in Table 8.11.

Table 8.11. Frequency of raw materials within drainage divisions

Drainage division	Bone	Grass reed bugles	Cara-pace	China	Gum	Integ-ument	Seed	Shell	Teeth	Verte-brae	Total
Timor Sea	2	82	1	0	0	3	2	249	88	24	451
Gulf	0	64	0	0	0	0	5	177	11	8	265
Lake Eyre	5	25	0	1	0	0	26	25	10	0	92
Northeast Coast	2	36	0	0	0	0	3	44	0	1	86
Western Plateau	1	2	0	0	0	1	8	20	30	0	62
Tasmania	0	0	0	0	0	0	26	0	0	0	26
Indian Ocean	0	0	0	0	2	0	0	13	0	0	15
Murray Darling	1	1	0	0	0	0	1	2	0	0	5
Southeast Coast	0	1	0	0	0	0	0	1	1	0	3
Southwest Coast	0	0	0	0	0	0	0	0	1	0	1
SA Gulf	0	0	0	0	0	0	1	0	0	0	1
Total	11	211	1	1	2	4	46	557	141	33	1007

Timor Sea has the highest number in this sample, with 451 objects made from eight different types of raw material, the Gulf is next with 265 objects made from five different materials. Lake Eyre, Northeast Coast and Western Plateau have substantially fewer numbers but have objects made from six different materials. This could indicate that there will be more variety of forms within Lake Eyre, Northeast Coast and Western Plateau drainage areas than within Gulf drainage division. I point out here that nothing can be done about sample size effects because we are hostage to the samples that were collected. Frequency of raw materials is shown in Table 8.12 using Horton's (1996) spatial units.

Table 8.12. Frequency of raw materials within Horton's (1996) divisions

Region	Bone	Bugles	Cara-pace	China	Gum	Integu-ment	Seed	Shell	Teeth	Verte-brae	Total
Kimberley	0	6	0	0	0	0	1	196	15	1	219
Arnhem	2	52	0	0	0	3	1	43	25	28	154
West Cape York	0	18	0	0	0	0	2	125	0	3	148
Desert	2	6	0	0	0	1	32	22	39	0	102
Gulf	0	34	0	0	0	0	3	44	10	0	91
North	0	28	1	0	0	0	0	12	36	0	77
East Cape York	0	18	0	0	0	0	2	33	0	1	54
Eyre	4	23	0	1	0	0	2	19	2	0	51
Tasmania	0	0	0	0	0	0	0	26	0	0	26
Fitzmaurice	0	6	0	0	0	0	0	5	12	0	23
Rainforest	2	13	0	0	0	0	1	5	0	0	21
Northwest	0	0	0	0	2	0	0	13	0	0	15
Northeast	0	5	0	0	0	0	0	6	0	0	11
Spencer	0	0	0	0	0	0	1	5	0	0	6
Riverine	1	1	0	0	0	0	1	2	0	0	5
Southeast	0	1	0	0	0	0	0	1	1	0	3
Southwest	0	0	0	0	0	0	0	0	1	0	1
Total	11	211	1	1	2	4	46	557	141	33	1007

Objects manufactured from shells are the most abundant. Shell ornaments are found in all regions except Southwest but there is only one object (teeth) from that region. Bugles are next, with no examples in Tasmania, Northwest, Spencer and Southwest. The latter two are small samples and not significant but Tasmania has an ample sample and will be discussed further in the following chapter. Teeth are predominantly in Desert (39), North (36), Arnhem (25), Kimberley (15) and Fitzmaurice (12). The remaining materials appear in smaller numbers. The variety of materials within regions are summarised below:

- The Kimberley region has 219 objects manufactured from five material types. Almost 90% were manufactured from shell.
- Arnhem has 154 objects that have been manufactured from a broader material base with examples from seven materials. Grass or reed bugles represent the highest proportion of material followed by shells, vertebrae and teeth.
- West Cape has four materials manufactured into 148 objects of which almost 85% are shell.
- Desert has 102 objects manufactured from six materials.
- Gulf, North, East Cape and Rainforest have four materials each.
- Eyre has only 51 objects but a broader material base with six materials used.
- Fitzmaurice has three material types.
- Tasmanian objects were all manufactured from shell.

The remaining regions contained small samples but, of note, is that Riverine contained only five objects made from four different materials, whereas Kimberley has 219 objects with only five different materials.

The variation in distribution of raw materials is enormous and patterning and frequency is different for different species. Some areas are richer in raw materials for the number of objects recorded. For example, Lake Eyre has only fifty-one objects but with six different materials.

8.5 Summary of classes and raw materials

It appears there is patterning for materials at a gross level, but drainage basins and Horton's units are not useful for describing the patterning, a more localised approach seems appropriate. The material itself does not determine the distribution of ornaments. The class of object seems to play a part in the spread for some materials – what form is imposed on the raw material appears to be a factor. For example, few of the shell series travel far into Central Australia while shell pendants are more widely distributed.

In this chapter, I have shown there is a great deal of variation in the frequency and distribution of the two major classes of beads. To clarify the distribution, I will discuss each material in turn, identifying categories and plotting the frequency and distribution. In Chapter 10, I will sum up results from the analysis of all categories to look at the richness of forms in spatial units. As mentioned earlier in this chapter, objects have been assigned to discrete forms and sub-forms by a combination of elements with the main determinant being material (e.g. shell and *Melo* sp.). Shell categories will be presented in the following chapter and all other materials in Appendices 14-16.