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# **A SURVEY OF AUSTRALIAN ABORIGINAL PEARL AND BALER SHELL ORNAMENTS**

*BY C. P. MOUNTFORD, ACTING ETHNOLOGIST, AND  
ALISON HARVEY, HON. ASSISTANT IN ETHNOLOGY*

## **Summary**

The shell ornaments described in the following paper are used by the aboriginal population over wide areas in Australia. They may be divided into two general types, one made from the Baler shell (*Melo diadema*), the second from the shell of the Pearl Oyster (*Meleagrina maxima*), and from the smaller pearl shell (*Meleagrina margaritifera*).

The pearl shell ornaments are found almost exclusively in the western half of the continent, while with a few exceptions, the baler shell ornament is limited to Queensland, Western Central Australia and North-eastern South Australia.



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Plates viii-ix, and Text fig. 1-7.

## INTRODUCTION.

THE shell ornaments described in the following paper are used by the aboriginal population over wide areas in Australia. They may be divided into two general types, one made from the Baler shell (*Melo diadema*), the second from the shell of the Pearl Oyster (*Meleagrina maxima*), and from the smaller pearl shell (*Meleagrina margaritifera*).

The pearl shell ornaments are found almost exclusively in the western half of the continent, while with a few exceptions, the baler shell ornament is limited to Queensland, Western Central Australia and North-eastern South Australia.

## PEARL SHELL ORNAMENTS.

### MANUFACTURE.

The pearl shell ornaments of the North-west Coast of Australia early attracted the attention of visitors and scientists. Martin and Panter in 1863, p. 86, noted that the method of manufacturing these objects consisted in grinding away about two-thirds of the marginal substance of the shell, and drilling a hole at one end of the smaller diameter for the hair-string. The patterns on the decorated ornaments were engraved to a depth of about half a millimetre, and the spaces filled in with a pigment of gum and charcoal.

Stirling, on a card in the South Australian Museum, substantiates the above description, and noted that the rough outer surface of the shell was covered with hot ashes and then removed by grinding with sand and water.

### USAGE.

Use of the pearl ornament lies in two fields, as a means of personal decoration and as an object of ceremonial importance. Love (1925, p. 27) points out that the men of the Worora tribe wear these shells as ornaments, and suspend them from



their belts at the back and front; while both men and women hang several of them down their backs from a necklet made of human hair. Small pieces of oval pearl shell are sometimes used as forehead ornaments.

Martin and Panter (1863, p. 86) noticed the coastal north-western tribes wearing these ornaments suspended from a waist band. These writers consider them to be largely ornamental, although Campbell (1914, p. 86) saw them, at Sunday Island, being worn by youths who were passing through the final stages of initiation. On these occasions they wore richly ornamented shells (E and F, pl. viii). This evidence is supported by Mr. J. Heggie in connection with A and B, fig. 1. The dress of a fully initiated man consists of a plain shell.

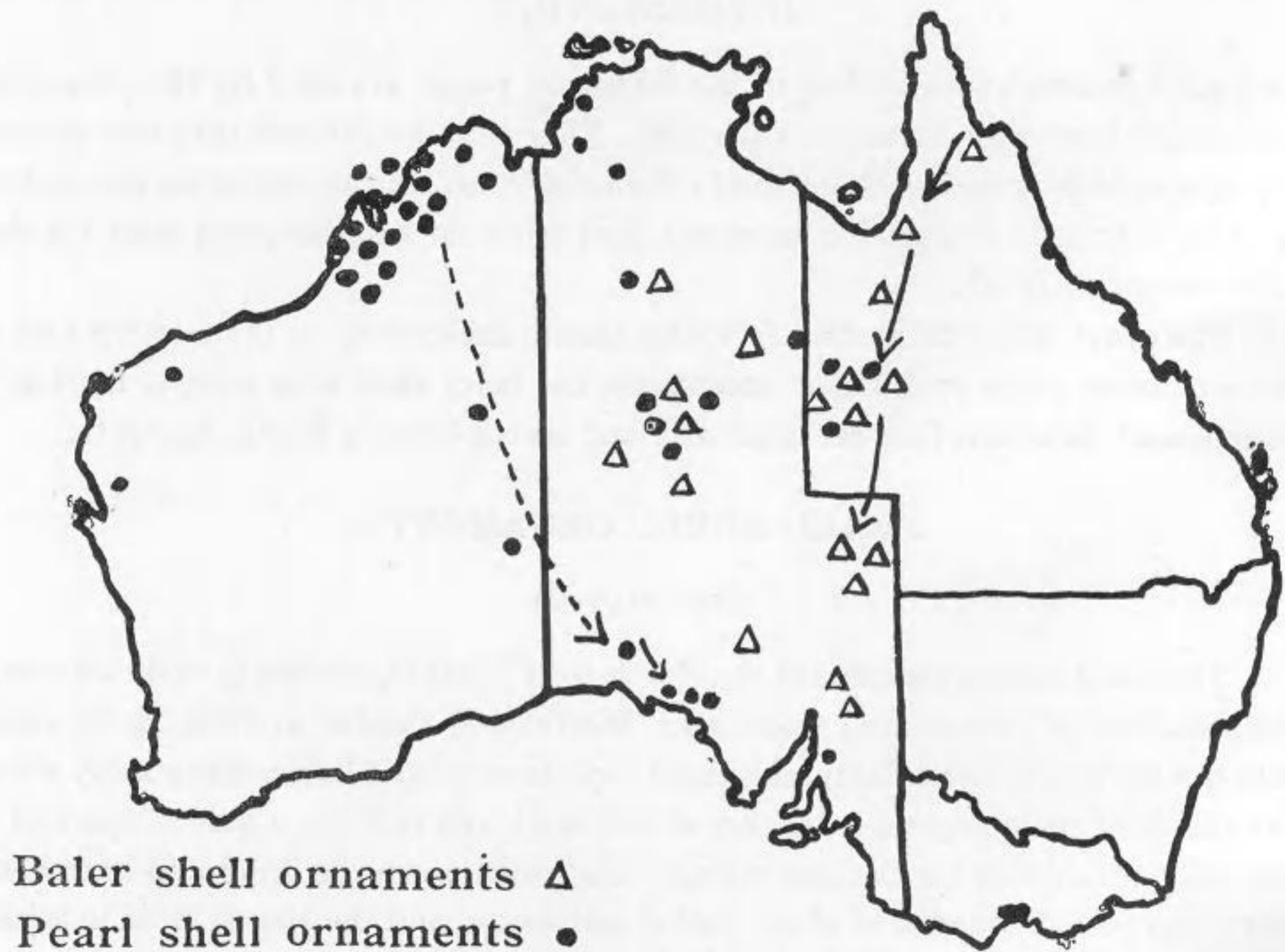


Fig. 1. Distribution of Pearl and Baler Shell ornaments.

The shell ornaments of South-Western Queensland have two uses, one as a public ornament for "corroborees and other public rejoicings", the other, in the hands of malignantly-disposed people, as an object of evil magic.

In Central Australia, such ornaments have an important magical value. Nevertheless they are still used as a form of decoration (Spencer and Gillen, 1899, p. 544).

According to Mr. N. B. Tindale, pearl shells at Ooldea (H, fig. 3) were used

in the rain-making rituals, but a photograph by the late R. H. Pulleine, which pictures an aborigine wearing one as a neck pendant, suggests that on some occasions, the shells still perform the function of decoration.

In the Ngada tribe of the Warburton Range of Western Australia one of the authors observed that a pearl shell pendant was used by one of the older men as an article of dress in both the ordinary camp life and the initiation ceremonials.

In a recent interview a native called Waria, a member of the almost extinct Ngadjuri tribe of the middle north of South Australia, described how he wore pearl shell ornaments at the time of his circumcision. The shell ornaments, which he had not seen previously, were tied on the upper part of the leg (C, fig. 6) and according to Waria rattled and shone in the firelight as he ran round the ceremonial ground. The fact that Waria had not seen these ornaments before his initiation indicates their sacred character.

#### MAGIC.

As articles of magical worth, these ornaments are widely distributed in Australia.

In Central Australia they are found as such, and the chief aspects of their magic being their potency as charms for women and their healing properties. Describing their use in connection with the latter, Spencer and Gillen (1899, p. 544) write: "If a man desires to charm a particular woman, he takes a *Lonka-lonka*, as the ornament is called, to some retired spot, and charms it by singing over it, '*Ma quatcha purnto ma qillia purtno*', which conveys an invitation to the lightning to come and dwell in the *Lonka-lonka*. After the charming has taken place it is hung on a digging stick at the corroboree ground until night time, when a man removes it and ties it to his waist band. While he is dancing, the woman whom he wishes to attract, alone sees the lightning flashing in the *Lonka-lonka*, and all at once her internal organs shake with emotion. If possible, she will creep into his camp that night or take the earliest opportunity to run away with him."

From the description of the *Lonka-lonka* "flashing" in the firelight, it would appear that the object was made from pearl shell, as a baler shell (which is also in use in this area) would not "flash".

On the same page, in a footnote, Spencer and Gillen refer to the healing qualities of the *Lonka-lonka*. Used in sickness of any kind its magic has great curative properties. Roth (1897, p. 163) also refers to the use of the pearl plate as an antidote to sickness because of its magical powers.

At Ooldea, according to Mr. Tindale, scrapings of the shell are used in the rain-making ceremonies.



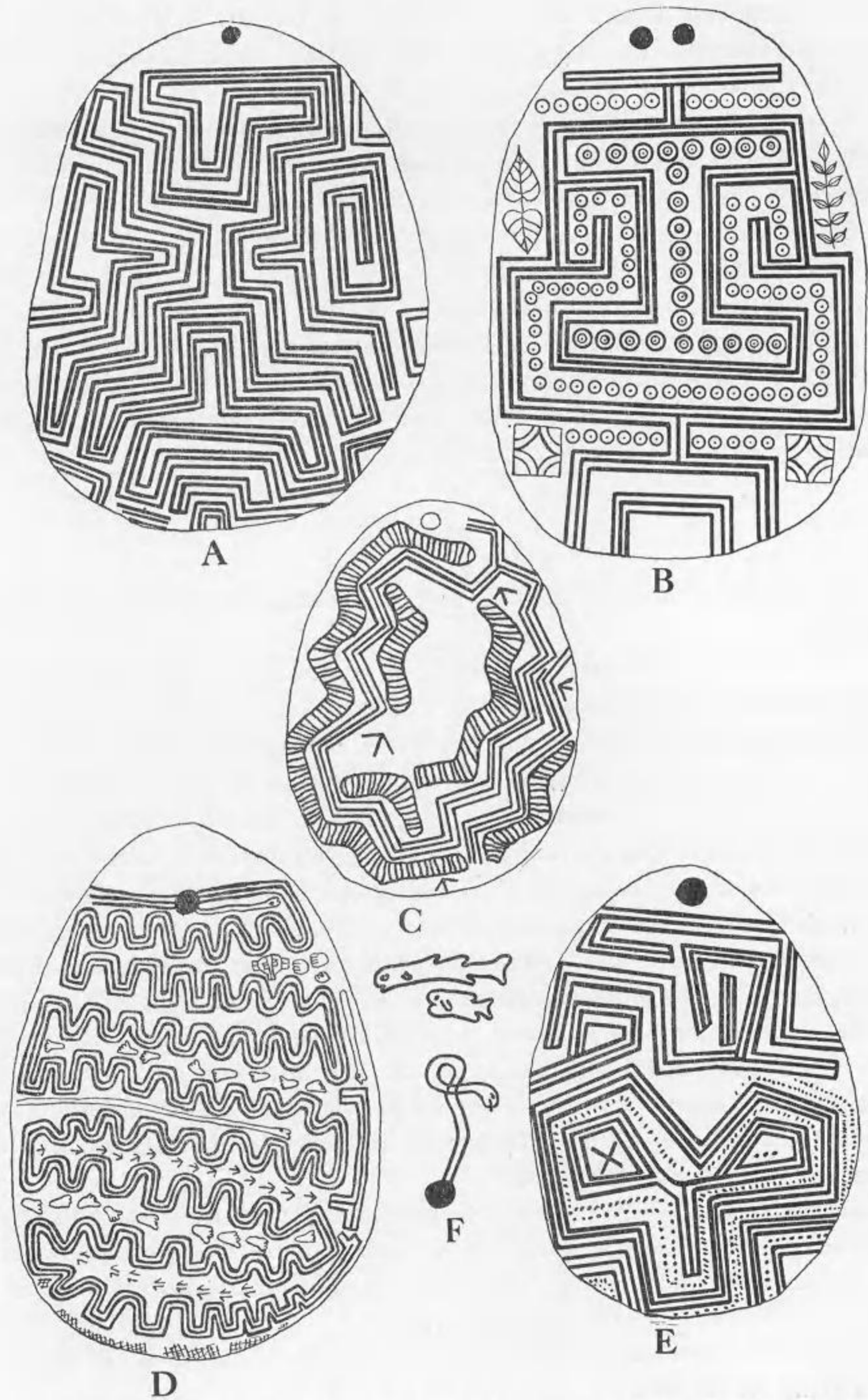


Fig. 2. Decorated Pearl Shells. A, B, and D; Sunday Island, Western Australia. C; Cygnet Bay, Western Australia. E; Mount Casuarina, north-western Australia.



## MYTHOLOGY.

Various myths are woven round the pearl shell. Professor A. P. Elkin, in a foreword of "Aboriginal Decorative Art" (McCarthy, 1938), writes that on the north-west coast a particular chant is sung when the design is being engraved on the pearl shell. The design cannot be made except by those who know the "song". This suggests that the patterns are traditional. This statement is supported by Mr. Heggie in connection with A, fig. 2.

According to Mr. N. B. Tindale, the natives at Ooldea believe that the shell comes from a place in the far north-west, where large lizards live in the water and attack the men who collect the shells (H, fig. 3).

## DESCRIPTION.

The pearl shell ornaments are somewhat oval in shape, and vary from two to eight inches in length. Each shell has at one end either a hole or a mass of resin or wax to which a hair-string is attached. Pearl shells are of two types, plain and engraved. The pattern on the latter is usually carried out on the concave face, but sometimes on both.

Twenty-eight examples of pearl shell ornaments, from the eighty-five available for study, were chosen as being representative of the various forms. These are illustrated in fig. 2-6.

A, fig. 2, collected at Sunday Island by Mr. J. Heggie, is a striking example of a maze design. Commencing at the lower edge of the shell, three parallel lines can be followed without a break over most of the surface, finishing in the middle of the left-hand side. Basedow (1925, p. 355) figures a pearl shell from the same locality in which a definite anthropomorphic figure can be traced, and the fundamental design of the Sunday Island specimen is similar. According to Mr. Heggie, the youths of this locality, after they have passed through the four earlier stages of their initiation, wear engraved ornaments, while the insignia of the fully-initiated is a plain pearl shell.

The owner of the ornament (A, fig. 2) explained to Mr. Heggie that the pattern had been thought out by somebody a "long long time ago", and in that form had been handed down, generation by generation, to the aborigines of the present day. This statement suggests that the design is associated with the tribal mythology.

B, fig. 2, is also from Sunday Island. The engraved pattern is the key or meander type—a definitely aboriginal concept belonging to the north-western area (Davidson 1937, p. 130)—but the lines of circles, the leaf, and the conventional designs make one suspect European influence, while the regularity and accuracy



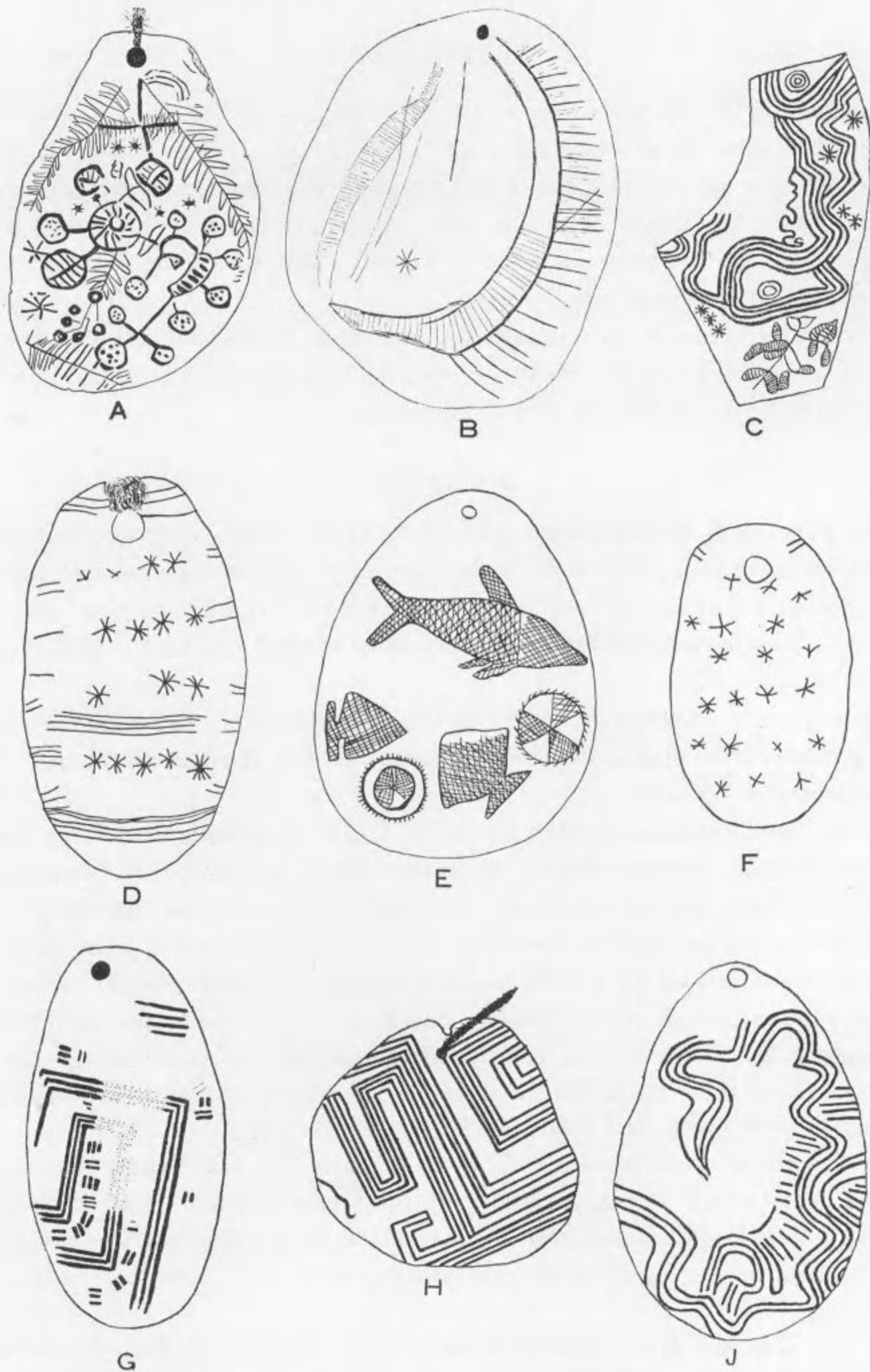


Fig. 3. Decorated Pearl and Baler Shells. A; Pearl Shell, Roebuck Bay. B; Pearl Shell, Katherine River, Northern Territory. C; Pearl Shell, Roeburn, Western Australia. D; Baler Shell, Daly Waters, Central Australia. E; Pearl Shell, north-western district, Western Australia. F; Baler Shell, Central Australia. G; Pearl Shell, between Barrow and Tennants Creek, Central Australia. H; Pearl Shell, Oldea, South Australia. J; Pearl Shell, Sunday Island, Western Australia.

of the circles suggest the use of a steel tool. With one exception (C, fig. 3) this shell is the only example in the collection on which the concentric circle is engraved. This design is that most commonly employed in Central Australian decorative art (Mountford, 1937, p. 25).

The ladder-like, meandering design on C, fig. 2 (from Cygnet Bay) resembles the snake motif often found in the tjurunga designs of the Central tribes. Mountford, 1937, fig. 9, illustrates a crayon drawing that relates to a snake totemic centre, the meandering line of which resembles that on the left-hand of C, fig. 2. It is not unlikely that the design of the pearl shell refers to some mythical snake ancestor. The significance of the other figures is unknown, except those resembling arrow heads, which throughout Australia represent bird tracks.

D, fig. 2, was collected from the same locality as A, fig. 2. These are two of the most decorative examples in the collection. Three parallel lines meander backwards and forwards over the whole surface of the shell, making a modified maze. The spaces between are filled with engravings of tracks of human beings, kangaroo-like creatures and birds.

Snake designs have been engraved across the centre of the shell, on the upper right-hand edge, and emerging from the drilled hole at the top. This pattern is repeated on the reverse side (F, fig. 2) in greater detail. Above the snake is a remarkable group, the significance of which could hardly be misunderstood. The upper figure pictures one of the many sharks that infest the northern waters, while that immediately below is strongly suggestive of a Sucker-fish or Remora (1) ready to attach itself to its host.

E, fig. 2, was obtained at Mount Casuarina, which is the most northerly locality at which engraved pearl shell plaques have been collected. No meaning can be ascribed to the pattern.

A, fig. 3, from Roebuck Bay, is in the collection of the Hamburg Museum, and was photographed there by Mr. N. B. Tindale in 1937. The patterns, which do not appear to be as deeply engraved as those previously described, are almost entirely naturalistic. The two main figures, one on the lower right, the other slightly left of the centre, are similar to representations of yams seen on bark paintings from Arnhem Land, and in crayon drawings of the Granites district in the north-west of Central Australia. In such figures the circles indicate the yams, and the connecting lines the roots. The engravings on this pearl shell may have a similar meaning. Several star forms are also present.

B, fig. 3, was collected on the Katherine River, Northern Territory. A sharp-

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(1) The Sucker-fishes possess a large dorsal sucking disc and attach themselves to sharks, whales, or even the bottom of boats. When a meal is in sight the remora will leave its host, capture the prey, and return to its resting place.





Fig. 4. Decorated Pearl Shell. A; Derby, Western Australia. B; Roebuck Bay, Western Australia. C; Cygnet Bay, Western Australia. D; Bernice Bay, Western Australia. E; Bernice Bay, Western Australia. F; Kimberley Coast, Western Australia.

edged tool had been used to cut the pattern, which is composed entirely of fine lines, some almost indistinguishable. With the exception of a single star, only ladder-like designs are present.

A fragment of what must have been a particularly decorative example is shown in C, fig. 3. The original is in the possession of Mr. W. B. Saunders, of Georgetown, who collected it at Roeburn. He kindly permitted a rubbing to be made, and from this the illustration was prepared. The plant-like figures on the lower edge are suggestive of those on A, fig. 3. Meandering lines, stars, and a single concentric circle form the remainder of the designs.

E, fig. 3, was collected from the north-western districts of Australia by Davidson (1937, fig. 44). The engraving on the lower right hand probably represents the silver bat fish (*Monodactylus argenteus*), and that on the centre left one of the coral fish. No meaning can be ascribed to the circular figures.

G, fig. 3, is a portion of a large pearl shell—collected between Barrow and Tennant's Creeks, Central Australia—on which the angular meander had been engraved. This design is strongly suggestive of the north-west coast, the home of this motif. The central portion of the pattern had been ground away, perhaps for the same reason as that recorded in connection with H, fig. 3 (2).

H, fig. 3, when sketched by Mr. N. B. Tindale at Ooldea, on the Trans-Australian Railway Line, was being used by the natives of those parts. Here again only a fragment of the original pearl shell remains, and consequently only portion of the engraved angular meander. According to Mr. Tindale the shell is called *kararba*. The natives claim that it comes from a place in the north-west, where large lizards live in the water and attack the men who collect the shell. Scrapings of the shell are used during rain-making ceremonies, which practice probably accounts for the small size of examples collected in South Australia (see also H, fig. 5; B, fig. 6; and as previously noted G, fig. 3).

By the courtesy of the Australian Museum, rubbings of J, fig. 3, as well as many others, were made available for study. This, in common with A, B, and D, fig. 2, was obtained from Sunday Island. The triple meandering lines, particularly on the upper right-hand side, resemble the almost obliterated design on H, fig. 5.

The long oval shell pictured on A, fig. 4, comes from Derby, north-west Australia, and had been cut from a shell already engraved with the angular meander. This example was attached to several long strings of shells, and had been used as a neck pendant. Similar, but unengraved, plates, attached to shell necklets, are in the South Australian Museum.

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(2) In Central Australia, similar unengraved ornaments, called *Lonka lonka*, are worn by men, especially during ceremonies (Spencer and Gillen, 1899, p. 544).



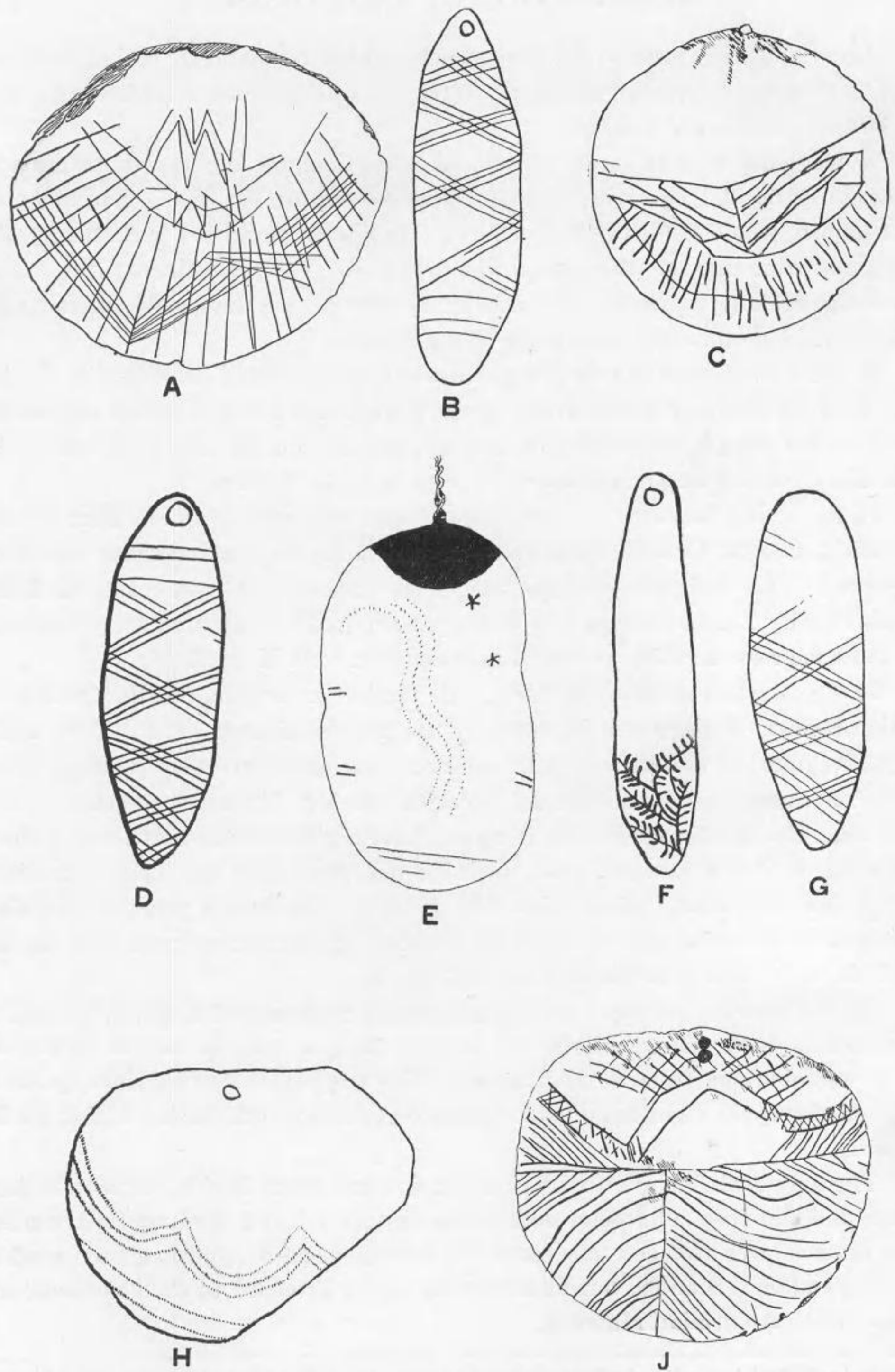


Fig. 5. Decorated Pearl Shell. A, C, and J; Maratuna Tribe, Western Australia. B and D; Lake White, Northern Territory. E; Central Australia. F and G; Timber Creek, Northern Territory. H; Koonibba, South Australia.

B, fig. 4, is from Roebuck Bay. The zig-zag lines predominate in the decoration of this shell; the concentric rhomboid is also present. This motif is unusual on this class of ornament, although common on other forms of aboriginal mobile art (Davidson, 1937, p. 119).

C, fig. 4, is a pendant from Cygnet Bay engraved with a meandering design, and like A, fig. 4, it was attached to a necklet of shells. E, fig. 5, from Central Australia, bears an identical but almost obliterated design.

D, E, and F, fig. 4, were collected by Dr. D. S. Davidson (1937, fig. 44) from Bernice Bay, and Kimberley Coast, respectively. These are figured on account of the unusual lattice pattern on D, the zig-zag and leaf-like forms of F, and the striking representation of a crocodile on E. The distortion of the crocodile to fit into the available space is a common feature of the bark drawings of Arnhem Land.

A, C, and J, fig. 5, were photographed at the Leiden Museum by Mr. N. B. Tindale. The pattern on all three examples is unlike any other in the series, with the possible exception of the faint lines on B, fig. 6. These ornaments were made from the smaller pearl shell (*M. margaritifera*), by the Maratunia Tribe. The locality of the above tribe could not be traced, but the fact that neither the larger nor the smaller pearl shell occurs any further south than Hamelin Pool, on the West Coast of Australia, suggests that the tribe is north of this place.

B, D, F, and G, fig. 5, were collected by Dr. C. J. Hackett while on medical research in the Northern Territory. B and D (from Lake White), and G, from Timber Creek, are scratched with lattice patterns similar to those on D, fig. 4. A decorative fern leaf design occupies the lower edge of F (Timber Creek).

E, fig. 5, comes from Central Australia. From the point of design this specimen is of unusual interest. The parallel lines and star motif, which is confined to the centre of the continent (fig. 7) had been scratched on the surface of this pearl ornament. In addition, three faint meandering lines, reminiscent of those on C, fig. 4, from Cygnet Bay, proclaim, so to speak, the place of its birth. It would appear that this shell was engraved on the north-west coast, and, by the process of trade, found its way into Central Australia. Here it was again engraved, but this time with stars and parallel lines. Another such example is illustrated on D, pl. ix. A baler shell ornament bearing the same design is shown beside it for comparison.

H, fig. 5, is a fragment of the large pearl shell which, according to Mr. N. B. Tindale, had been traded to the natives of the Koonibba Station from Kalgoorlie. This shell has several scarcely discernible meandering lines on its inner surface, a remnant, no doubt, of the original engraving. This, as pointed out earlier, resembles the upper right-hand side of J, fig. 3.



B, fig. 6, a specimen from Penong, is also a fragment, chipped to its present size from a much larger shell. On this ornament a series of very fine lines forms a ladder-like pattern.

Pearl shell ornaments, called *Mukubi*, of which no specimens have been collected, were used by the Ngadjuri tribe of the middle-north of South Australia in their circumcision ceremonies. C, fig. 6, illustrates the method of wearing.

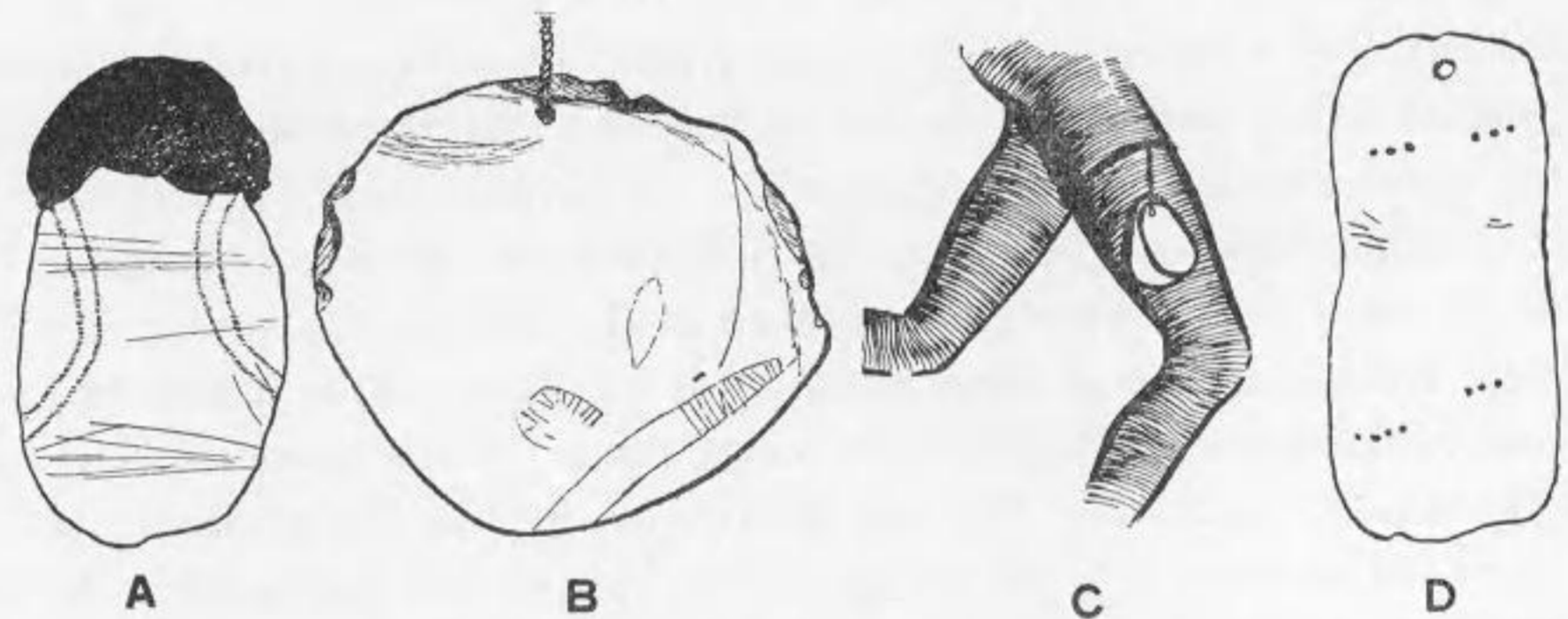


Fig. 6. Pearl and Baler Shell ornaments. A; Decorated Baler Shell, Coopers Creek, South Australia. B; Decorated Pearl Shell, Penong, South Australia. C; Method of carrying Pearl Shell ornaments by the Ngadjuri Tribe, South Australia. D; Decorated Baler Shell ornament, South Australia.

D, pl. viii, is the top of a fruit tin lid collected by the Canning Stock Route expedition. When obtained it was in use as a pubic ornament.

It is easy to imagine that the native, finding a lid when new, would see in it a striking resemblance to the shining pearl shell, and would wear it as such.

A, pl. viii, figures a plain pearl shell from Newcastle Waters, which illustrates the custom of repairing these shells, which have considerable value in this area.

B, pl. viii, is a shell bearing a modified maze design in which two bird tracks are incorporated. Both A and B, pl. viii, are attached to belts of hair string.

## BALER SHELL ORNAMENTS.

### MANUFACTURE.

The method of production of the baler-shell ornaments for spear-throwers at Princess Charlotte Bay is described by Hale and Tindale (1934, p. 99): "Two pieces of shell are roughly chipped to shape, and are then ground to an oval form on stones, sand and water assisting the operation; next the convex outer face is polished on a smooth rock, using finer sand as an abrasive, until it is pure white.



The shells are then placed, one on each side and with the concave or inside faces opposed, at the 'grip' end of the throwing-stick and fastened with beeswax, which fills the gap between them. A charm is frequently concealed within the adhesive between the two shells." G, pl. ix, pictures the haft of a spear-thrower from this area.

#### USAGE.

The use to which this ornament is put varies with the different localities; it may be used for ornamental or ceremonial purposes. Among the tribes of north-west-central Queensland it appears to be solely ornamental, being found as an article of personal adornment and as a decoration on the haft of spear-throwers. In the former case, Roth (1897, p. 112) states that as a chest ornament it is worn suspended on a hair string, and that it is occasionally but irregularly worn as a forehead ornament. He also gives the following description of its use as a spear-thrower (1897, p. 149): "This (spear-thrower) has a sort of haft to prevent the hand slipping off; this, projecting at an angle from the same edge as the peg, is composed of a flattened ovate piece of beef-wood gum, about three inches or more in its greater diameter; a white piece of shell . . . with convex side outwards, is fixed to both sides of it."

Hale and Tindale (1934, p. 99), also found the baler shell used as a decoration for spear-throwers. Among the Dieri people of the far north-east of South Australia the shell ornament has a great magical value, and is closely connected with the circumcision ceremony in which it is worn by the initiate as a chest ornament.

Gason (1874, p. 18) refers to its use in the above ceremony, and states that, as soon as a boy shows signs of advancing manhood, the older men select a woman whose duty it is to suspend a "mussel" shell around the boy's neck, which she does at the appointed time, while engaging him in conversation.

Mr. T. Vogelsang, who spent many years among the Dieri people, related in a personal interview that the youths wear them immediately before, and just after, the circumcision ceremony. One of the tribal elders (the man who seized the youth chosen for initiation) also wore a plain baler shell around his neck, which gave him considerable authority and magical power.

Further south, the Urubunna and Wongkanguru tribes of the Peake district use this shell ornament in connection with initiation ceremonies in a way similar to the Dieri. In the manuscript notes by Mr. E. C. Kempe, on the Aborigines of the Peake District, the following reference is made to the initiation of a young man: "A certain rare shell is used in this ceremony. It is considered particularly precious by these blacks, and is handed down from operator to operator. When a young man is to be operated upon, he is, on a given signal, suddenly seized in camp



by two blacks, his mouth covered to prevent outcry, and the shell ornament hung round his neck by a string."

In the Anjamatana tribe in the Northern Flinders Range, these ornaments have the same ceremonial uses. A string of these shells, *makili*, is suspended round the neck of the youth during the initiation ceremonies after they have been handled by certain women relatives.

These shells are the objects of greatest value in the tribe, and are placed under the care of one of the old men, who informed one of us that if they had been lost or broken in the olden days he would have been killed for his carelessness (F, pl. ix).

#### MAGIC.

The only tribe known in which the Baler shells are used as objects of evil magic is the Dieri. Among the members of this tribe they serve the same purpose as the "pointing bone" of Central Australia, and have similar lethal qualities.

#### MYTHOLOGY.

These ornaments are used by the Anjamatana tribe of the Northern Flinders, who, not knowing their source, suppose them to have a mythical origin. Two such legends are known to these people. One tells of a great "whale" (*Kukuri*) who lived in the springs, but is now in the sea; from the back of his neck come the shells that make up the necklace worn by a youth in the first initiation ceremonies. At one phase in the above ceremony, the youth, placing his hand under the shells, rattles them as he runs around the ground (3).

In a variant of the foregoing legend, baler shells were "tick" on the neck of snakes. An Anjamatana native told one of the authors that he had heard that a mythical snake died in John Creek, and, on searching the locality, found an undrilled baler shell in a swamp near Wertalooona. This shell is one of the string still used by that tribe.

#### DESCRIPTION.

The baler shell ornament has a fairly uniform appearance; it is an ovate piece of white *Melo* shell varying in length from two and a half to five inches, and has either a hole or a piece of resin gum to which the suspensory hair-string is attached. There are two types, one of which is plain, and the other engraved on the concave face (see E, pl. ix). In both, the inner face is smooth and white, and in most cases shows signs of having been coloured with red ochre, which makes the pattern stand

(3) This rattling of the shells was a feature in a similar ceremony of the more southerly tribe, the Ngadjuri (see C, fig. 6).

out clearly. In the plain forms, however, this colouring has almost disappeared, due no doubt to continual use.

Twenty-nine ornaments made from Baler shells (*Melo diadema*) are available for study, and of these seven are shown as text figures. They have been selected to illustrate types and designs. D, in fig. 3, collected at Daly Waters, exhibits the arrangement of stars and parallel lines so characteristic of the Central Australian area (fig. 7). The lines of the design are about 0.5 mm. in width, engraved on the

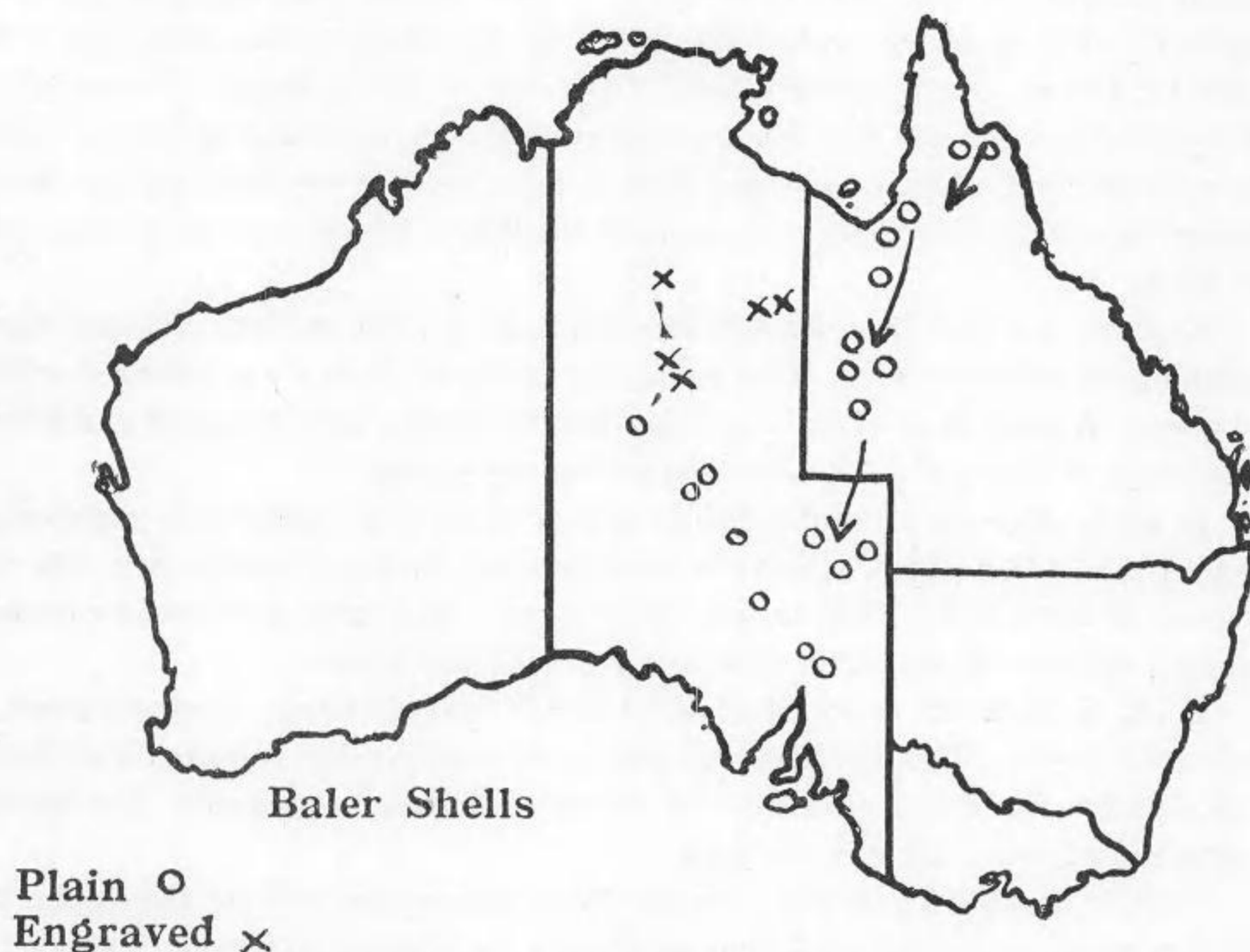


Fig. 7. Distribution of engraved and plain Baler Shell ornaments in Australia.

concave face, and coloured with red ochre rubbed into the cuts. The topmost portion of the shell, above the hole through which the string is threaded, has been broken, and later repaired with gum made from Porcupine Grass (*Triodia*) resin.

F, also in fig. 3, is a variation of the above motif in which engraved stars predominate. The shell is smooth and white, but red ochre has been rubbed into the design. This specimen, collected in Central Australia by F. J. Gillen, has not been fully localized.

A, fig. 6, is from Cooper's Creek. A large lump of gum has been attached to



the top of the ornament, probably to fix the hair-string. Two parallel lines in a loop design have been lightly scratched at each side of the shell; this was the only specimen of baler shell which bore any sign of the meander motif so frequently found engraved on pearl shells, especially on those from the north-west coast. (See E and H, fig. 5, and C, fig. 2.)

D, in the same text figure, is an unlocalized baler shell collected by Mr. R. T. Maurice. This specimen is one of two varying from the usual ovate form; it bears an uncommon design composed of sets of dots and parallel lines. B, pl. ix, is a typical example of the plain baler shell. (The convex face has been photographed). The specimen—called *Kuripikiri* by the Mikari tribe—was collected at Minnie Downs, North-Eastern South Australia, by Mr. L. Reese. The smooth, white and glossy concave face was not engraved, but showed signs of having been coloured with red ochre, which remains as a faint trace in scratches on the face. Human hair string suspends the ornament through a hole in the top portion of the shell.

E, pl. ix, is a shell from Daly Waters bearing the characteristic line and star design on the concave face. Here again the engraved design was coloured with red ochre. A pearl shell (D, pl. ix) from Barrow Creek, three hundred and fifty miles south, is included for comparison on the same plate.

A, pl. ix, shows an unlocalized copy in bone of the plain baler shell ornament. Spencer and Gillen (1904, p. 446) in the legend of the two Oruntja men, tell of how one of them killed Induda, an opossum man, and from his shoulder-blade made a *Lonka-lonka*, which he wore as a forehead decoration.

C, pl. ix, shows the convex face of a "shell" ornament from Cooper's Creek, made from kaolin. This specimen was pale pink in colour, had acquired a surface gloss, and was made as a substitute for the true baler shell ornament. The latter is rare and of great value in this area.

F, pl. ix, is a photograph of a youth of the Anjamatana tribe of the northern Flinders wearing the baler shell ornament while undergoing initiation. This shell is called *makali* by these people (4).

#### DESIGN AND DISTRIBUTION.

The engraved patterns of the ornaments described in this paper can be classified into two main groups:

- (1) Geometric.
- (2) Naturalistic.

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(4) The name is similar to that given to the pearl shell ornament (see C, fig. 6) of the Ngulgura tribe who live in the area bounded by Wilpena Pound to the north, the western Flinders to the west, and Gawler in the south.

The former, which predominates, can again be subdivided into :

- (a) The angular meander or maze designs.
- (b) Meandering and zig-zag lines.
- (c) Lattice and ladder designs.
- (d) Parallel lines and stars.

(1) *Geometric.*

- (a) The angular meander or maze design (see A, B, D, and E, fig. 2; G and H, fig. 3; and A, fig. 4), originates on the north-west coast of Western Australia, whence all but four of these examples were obtained. The remaining ornaments, *i.e.* those collected on the Canning Stock Route, Western Australia, at Barrow Creek, Central Australia, sketched by Mr. Tindale at Ooldea (C, pl. viii, and G and H, fig. 3) and that seen by one of the authors in the Warburton Range of Western Australia, undoubtedly reached their present position by various native trade routes.
- (b) The meandering and zig-zag pattern is largely confined to the far north-west. Fourteen pearl shells and one baler shell bearing this pattern were examined, and on the only three collected outside of this area (E, fig. 5, from Central Australia, A, fig. 6, and H, fig. 5, from the Great Australian Bight), the designs were hardly distinguishable, due no doubt to age and attrition. When, however, one considers how long it must have taken for such an ornament to have been traded from its source to the Great Australian Bight, it is not surprising that the engravings were almost obliterated and the shell much reduced in size, particularly in view of the custom mentioned in connection with H, fig. 3.
- (c) The lattice and ladder motifs (C, fig. 2; B, fig. 3; D, fig. 4; B, D, C, J, fig. 5; and B, fig. 6) are, without exception, cut into the surface of the shell with a sharp tool. In general, these designs originate on the north-west coast, although B, fig. 3, was collected on the Katherine River, Northern Territory, and B, fig. 6 from the Great Australian Bight. The lines on the latter are so fine that a magnifying glass was necessary to distinguish them. A, C, and J, fig. 5, were decorated with lightly-incised lines. The latter were unlocalized, and unlike any other examples in the series.
- (d) Twelve of the shell ornaments were engraved with the stars and parallel lines motif. Three of these were made of pearl shell. One, D, pl. ix, is compared with a baler shell, E, pl. ix, both from Central Australia. This



method of marking is confined entirely to the centre of the continent, and is more commonly seen on the baler shells of this area (see fig. 7).

(2) *Naturalistic.*

With the exception of the single example from south-western Northern Territory (F, fig. 5) all naturalistic designs originated in the north-west. Some are decidedly decorative, *i.e.* F, fig. 2; A, C, and E, fig. 3, and E and F, fig. 4.

A comparison of the patterns engraved on pearl-shell and those on tjurungas of Central Australia show few, if any, points of resemblance. In fact, except for the tracks on D, fig. 2, the concentric circles on B, fig. 2 and C, fig. 3, and the zig-zag lines and concentric rhomboids on B, fig. 4, none of the engravings on the shells of the north-west area appear on the tjurungas or the crayon drawings of the central tribes. The latter were collected by one of the authors.

It would seem that the art of the pearl-shell ornament is confined to the north-west, with the exception of the parallel lines and star motif, which is only found on both baler and pearl shells in the centre of the continent (fig. 7). It is noteworthy that the ornaments tend to become engraved with the typical design of the area in which they are used. Thus, a pearl shell from Barrow Creek (G, fig. 5), to which reference has already been made, has the typical design of the "centre" superimposed on an almost obliterated meander design of the north.

From the information already obtained, the southerly diffusion of these ornaments is a noteworthy feature. They originate in two well-defined areas, the pearl-shell in north-western Australia, with King's Sound as an approximate centre, and the baler shell in the Cape York area of Northern Queensland. Both types can be traced through Central Australia to South Australia (fig. 1).

Numerous references in literature support this evidence. Campbell, 1914, p. 86, noticed pearl shells in the Gascoyne districts similarly marked to those at Sunday Island. He concluded that they had been carried southward by barter, as the shells indigenous to the Gascoyne districts were much smaller and belong to a different species (probably *M. margaritifera*).

Roth, 1897, p. 163, when studying the aborigines of south-western Queensland, found that the pearl shell ornaments were traded to those districts from the north-west. Similarly, the same author, in p. 112, mentioned that the baler shell ornaments reached the same districts by the north or north-easterly trade routes, originating in the Gulf of Carpentaria. He traces these routes in considerable detail.

Hale and Tindale (1934, p. 99) when at Princess Charlotte Bay, ascertained the direction of their diffusion; they write: "The area over which these baler shell



ornaments are made is limited to Cape York, but the shell discs are articles of trade to southern inland people.”

Mr. T. Vogelsang, in a personal communication, said that trade in these ornaments, as well as pituri and other articles, took place among the Dieri along the present Queensland stock route, which runs in a somewhat north-easterly direction.

An examination of the distribution and uses of these ornaments reveals an interesting fact. In places where the articles originate they have, in general, an utilitarian purpose, particularly in the case of the baler shell. As these are traded further from their source they assume the function of ornament, and in the most distant localities are associated only with the ceremonial aspect of the tribe. In other words, they tend to take on a more secret character as they travel further from their source. The two types meet in South Australia, the Anjamatana tribe, to the east, using the baler shell, and the Ngadjuri tribe, the adjacent tribe to the west, the pearl shell.

#### REPLACEMENT.

The high value placed upon these shell ornaments in the inland districts is illustrated by the fact that numerous replacements or substitutes of both types of shell ornaments have been found, and that such replacements have occurred where the shells have magical or ceremonial value. Thus the kaolin specimen (C, pl. ix), collected at Cooper's Creek, was made by tribes among whom, as before observed, the baler shell ornaments are of value both as magical objects and factors in initiation rituals.

The bone example (A, pl. ix) is unfortunately unlocalized, but the legend of the two Oruntja men, collected by Spencer and Gillen in Central Australia, in which a *Lonka-lonka* was made from a shoulder-blade, shows that bone replacements are known in Central Australia. Roth (1897, p. 112) records that at Roxburgh, in north-west Queensland, and south of that station (which is well within the area wherein the shells are used as ornaments at Boulia) the shell ornament is copied by grinding down pieces of broken chinaware.

Another interesting replacement is that collected on the Canning Stock route of Western Australia, where a fruit tin lid had been used in place of a pearl shell ornament (D, pl. viii). C, pl. viii, figured as a comparison, is a pearl shell pendant, also collected on the Canning Stock route.

#### USE BY WOMEN.

In general these shell ornaments are for male use only, and this is a fact to which many observers have drawn attention. It appears, however, that in certain



circumstances women are associated, as is shown by Gason's description of the circumcision ceremony, to which reference has been made earlier in this paper (Gason, 1874, p. 18). Also in the Anjamatana tribe of the Northern Flinders certain female relatives handle the baler shell necklace before it is placed round the neck of the initiate. Sir Edward Stirling, in a note on shell ornaments in a case in the South Australian Museum, also mentions their use "in certain circumstances" by women. Hale and Tindale obtained specimens of baler shell ornaments at Princess Charlotte Bay from both men and women.

#### SUMMARY.

This paper describes the aboriginal shell ornaments of Australia. A selected number are figured and described, and their method of manufacture, use, magical value, mythology, design, and distribution are discussed.

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## EXPLANATION OF PLATES.

## Plate viii.

- A. Repaired plain Pearl Shell ornament, Central Australia.
- B. Engraved Pearl Shell ornament, Western Australia.
- C. Engraved Pearl Shell ornament, Canning Stock Route, Western Australia.
- D. Fruit tin lid used in place of Pearl Shell ornament, Canning Stock Route, Western Australia.
- E. and F. Method of wearing Pearl Shell ornaments, Sunday Island, north-western Australia.

## Plate ix.

- A. Plain bone ornament, locality unknown.
- B. Plain Baler Shell ornament, Minnie Downs, South Australia.
- C. Plain Kaolin ornament, Cooper's Creek, South Australia.
- D. Decorated Pearl Shell ornament, Barrow Creek, Central Australia.
- E. Decorated Baler Shell ornament, Daly Waters, Northern Territory.
- F. Initiate wearing Baler Shell ornament, Anjamatana Tribe, South Australia.
- G. Baler Shell on spear-thrower, Princess Charlotte Bay, Northern Queensland.



