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THE NEW ZEALAND OCTOPUS LURE: FACT OR FICTION

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Just as the members of the order Octopoda occur in all major oceans and seas, a number of tricks and devices for catching them are also world wide in their distribution. Probing their lairs with a pointed stick, or simply by hand, and the dispatching of the prey by turning the body inside out have been recorded from the Mediterranean to the Pacific (Hornell, 1950:130). In Italy and Japan strings of earthenware pots are lowered to encourage small octopuses to make their homes in them, while on Easter Island stone shelters are constructed to improve the ease of finding and capturing them (Métraux, 1940:191). Polynesians caught the octopus by hand or with spears and/or gaffs in almost every island group for which ethnographic records exist. A more complicated device (Fig. 14.1), erroneously referred to as a " cuttlefish bait" (Beasley, 1921) or "squid lure" (Buck, 1957:359), was collected from several Polynesian islands by early European explorers. Collating museum specimens and missionary accounts, Beasley (1921) produced a detailed paper which not only established the octopus lure as a consistent artefact type but drew an important conclusion from its distribution:

> "Ten groups of islands are shown to have more or less knowledge of this highly specialized form of fishing, and with one exception all are either pure Polynesian or contain well-known Polynesian influences... Some consideration of the distribution of these baits may be of help in the study of the early Polynesian migration." (Beasley, 1921:100)[1]

Until Buck compiled Hawaiian accounts of octopus fishing, no writer had offered any explanation of why this more complicated device supplemented the use of the spear. The answer was quite straightforward: spearing was only practicable in shallow water (1-2 fathoms), while the lure could extend octopus fishing to a depth of 120 fathoms (Buck, 1957:359).

Ethnographic descriptions of octopus lure fishing in West Polynesia frequently refer to the lure as representing a rat, and relate a fable to account for the octopus's fury at seeing it. The story related on Ngau (Fiji Is.), Tonga, Niue, and Lifu (Loyalty Is.) involves the rat obtaining a passage across the ocean on the octopus's back but failing to show his gratitude. In one version the rat mocks the octopus's bald head, in another it is seasick over it, and in another it commits the ultimate insult, defaecating on the head of the octopus, and once safely ashore telling the octopus to put a hand on its head (Beasley, 1921:101-2). The Samoan version is by contrast quite simple, referring to a fight between the two creatures, in which the rat was victorious.

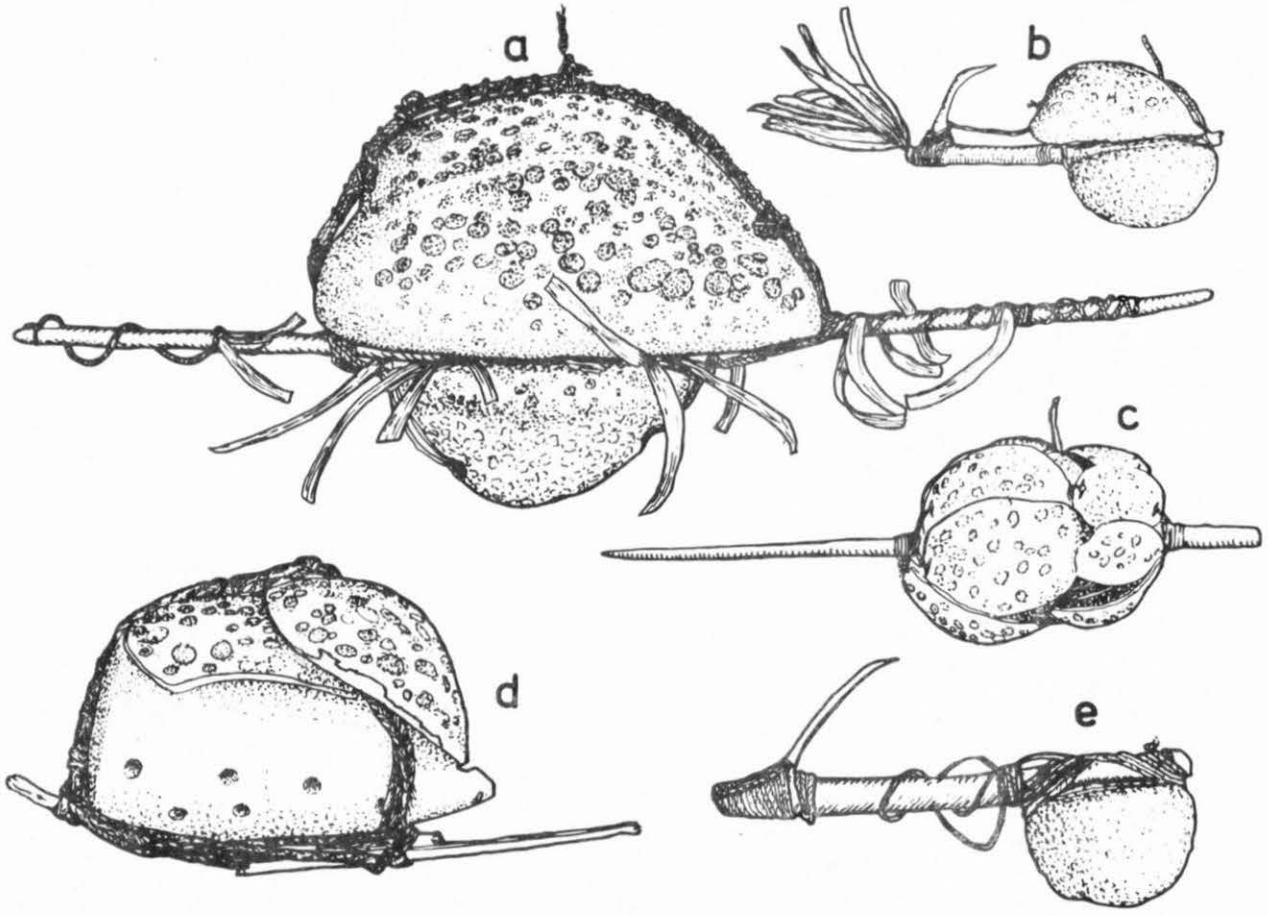

Fig. 14.1 Ethnographic Specimens of Octopus Lures. a. Niue. Otago Museum D24.295. Length 25 cm. b. Hawaii. After Beasley, 1921. c. Tahiti. Otago Museum D31.126. Length 33 cm. d. Tonga. Otago Museum D24.721. Length 13 cm. e. Hawaii. Kilo type. After Beasley, 1921.

From a behavioural point of view it is inconceivable that an octopus should recognize a rat, since their habitats are necessarily quite separate. What then is the attraction of the lure? An answer to this question can only follow the isolation of the key elements of the Polynesian octopus lure. Cowry shells, either whole or in sections, or as combinations of whole shells and pieces, occur on octopus lures throughout Polynesia.

The spotted or tiger cowry (Cypraea tigris) seems to have been preferred (Suggs, 1961, 90-91). Cowry shell was not essential, however, to the success of the lure for one of two Hawaiian methods, known as kilo, utilised the other usual components (shank, stone sinker and hook) without any shell. Buck noted that the fisherman had to be able to see (kilo) the octopus at a depth of up to 10 fathoms in order to jerk the line when the octopus drew the stone beneath its mantle to explore it with its mouth (Buck, 1957:357-8). Even a sinker can be omitted from the lure rig if the weight of the shells is sufficient, as in Niue (Beasley, 1921:105-6) or Tahiti (ibid.:108-9). Alternatively, the cowry shell could be filled with pebbles as suggested by an archaeological specimen from the Marquesas (Suggs, 1961:90). The shank occurs on all known museum specimens but varies from a flexible or stout rootlet to a straight piece of rounded and polished wood, or a long bird wing bone wrapped in braided sennit (Beasley, 1921). The hook was positively recorded in Hawaii only (see below). Strips of coconut or banana leaves attached beneath the cowry shell, along the 'tail' portion of the shank and/or on the end of the rod were common in West Polynesia, and were developed into a distinctive 'hackle' in Hawaii (Buck, 1957:357; Emory, Bonk and Sinoto, 1959:11, Figure 5). It may be argued then that the essential features of the lure are the shank, a round mass towards one end of the shank (stone, cowry shell or both), and the cord. The non-essential elements may nevertheless have played an important role in increasing the lure's attractiveness, as in the case of the tiger cowry shell and the leaf strips. The hook presumably increased the device's holding power, especially in deep water octopus fishing.

Several studies of octopus behaviour in aquaria have now been made, and these are of some relevance to the archaeological problem posed by octopus lures. A leading researcher into cephalopod brain structure, M. J. Wells commented that "Cephalopods have the largest brains of all invertebrates and their behaviour is comparable in many respects with that of the higher vertebrates" (Wells, 1962:2). They have been found to have good image-forming eyes, and they hunt their prey by sight. The octopus is also capable of detecting sound waves but there is no evidence that it reacts to sound. As well, the octopus seems able to taste things by touch, using chemo-tactile sensors on its arms (ibid.:1, 5). It pays most attention to moving objects, seldom attacks a stationary object, and is extremely cautious of unfamiliar objects. Anything that is both moving and larger than the octopus provokes a fear response, although octopuses in tanks soon become accustomed to the appearance of an experimenter.

Home-making is a common activity with moveable objects, especially stones, being collected up around the entrance of the burrow. Thus it is possible that the stone portion of the kilo lure of Hawaii is seen by the octopus not as potential food but as suitable material for concealing its home entrance.

Crabs form a major portion of the diet of the octopus species and as they elicit a rapid attack response they are most commonly used in learning experiments (ibid.:52; Young, 1956). An adult octopus will consume 20 or 30 small crabs in a day (Walls, 1962:15). Their attitude to the hermit crab is particularly significant to this study for they will learn to take specimens with anemones attached to the shell, despite the stings they receive. It has been found that "shells and anemones were later discarded intact together with the hard parts of the crabs." Of course the most poisonous types of anemone are left well alone.

It is possible that the cowry lure is seized by the octopus simply because the octopus eats cowries. Several factors make this seem unlikely. When the cowry has its mantle fully extended it covers virtually the whole shell and the spots are hardly visible under the covering of flesh and bluntish papillae (Roughley, 1936:115). When the animal is withdrawn into the shell, the exceptional shell thickness should protect it from crushing. In addition, the octopus is not known as an important predator of univalves.

The octopus may, however, recognize the cowry lure as a hermit crab inhabiting a shell and able to be prized out. Its eagerness to take the lure then becomes explicable. Because the hermit crab cannot withdraw completely into the shell, various appendages such as claws protrude from it. In the octopus lure these are simulated by the shank and leaf strips, and the scuttling movement of the crab is simulated by jerking the lure along the bottom (Beasley, 1921:108; Suggs, 1961:92; Buck, 1957:362; Fornander, 1919:180). In contrast the kilo lure was not moved until the octopus had enveloped it; this reinforces the view that the octopus did not regard it as food but as 'building material'.

Regional variation in tropical Polynesian or related octopus lures can be summarised as follows:

Recent Examples

Fiji (Beasley, 1921:106-7; Otago Museum specimen 010.334).

(a) 2 cowry plates, both with single perforations, attached to conical stone sinker, thin shank.

(b) 2 cowry shells of equal size with bases removed enclosing egg-shaped lump of coral, 2 pairs smaller cowry shells filling in front and rear space, short rootlet 'tail' (Ngau Is.).

Tonga (Beasley, 1921:103-4; Otago Museum D23.990, D24.721, D24.722, D57.361)

2 cowry plates, 1 or both with single perforations, attached to conical stone sinker occasionally with flattened area to accommodate edge of rear cowry plate, thin shank, leaf strips known - 1 sinker drilled with shallow holes imitating cowry spots?

Samoa (Beasley, 1921:104-5; Hornell, 1950:131 & fig; Otago Museum D41.324).

(a) 2 cowry plates, both with single perforations, attached to conical stone sinker, thin shank, leaf strips common right along shank.
(b) Wickerwork bait made in shape of rat containing small stones.

Lifu, Loyalty Island (Beasley, 1921:103)

1 cowry plate with single perforation, attached to oval lump of coral rubbed down, thin shank, leaf strips beneath body.

Niue (Beasley, 1921:105-6; Otago Museum D24.295)

2 whole cowry shells lashed base to base, 2 perforations on each shell at front and rear, upper shell larger than lower, no sinker, very long thin shank, leaf strips common.

Fakaofu, Union Island (Beasley, 1921:106-7).

Cowry body, shank with leaf strips.

Society Island (Beasley, 1921:108-9; Handy, 1932:101; Rappaport, Rappaport & Green 1967:195; Otago Museum D31.126).

(a) Egg-shaped collection of cowry backs, each with double perforations, no internal sinker, substantial pointed shank 30-35 cm long, recorded 1820, 1838.
(b) Large complete cowry with 8 attached perforated cowry plates, no internal sinker, slender bone shank c. 25 cm long with 'tail' end wrapped in sennit with 2-3 fibre tails, front of shank covered with a small Turbo shell, recorded 1769, possible bone hook suspended beneath.

Marquesas Islands (Linton, 1923:402; Suggs, 1961:90).

(a) White stone sinker and lure above 3 hooks lashed back to back, no native knowledge of 'coffee-bean' shaped sinker (Linton).
(b) Coffee-bean sinker, cowry shell lure with 1 or 2 perforations, cowry plate 'flapper', shank, hook (Suggs).

Hawaii Islands (Fornander, 1919:180; Beasley, 1921:111-4; Buck, 1957: 356-63; Emory, Bonk & Sinoto, 1959:7).

(a) Kilo method, rough sinker with flattish surface, shank 13 cm long, bone hook with backwards extension, tufts of leaves camouflaging hook.
(b) Cowry lure utilising complete shell with 2 perforations front and rear, 'coffee-bean' sinker, shank 15-23 cm long, bone hook point with basal perforation or backward extension, toggle adjacent to rear perforation of shell, hackle.
(c) 2 cowry shells, one mounted over 'breadloaf' sinker, shank, 1-2 hooks sometimes iron, toggle, hackle.

Because of the separation and decay of the various components in the ground, archaeological finds of the Polynesian octopus lure (Figure 14.2) are

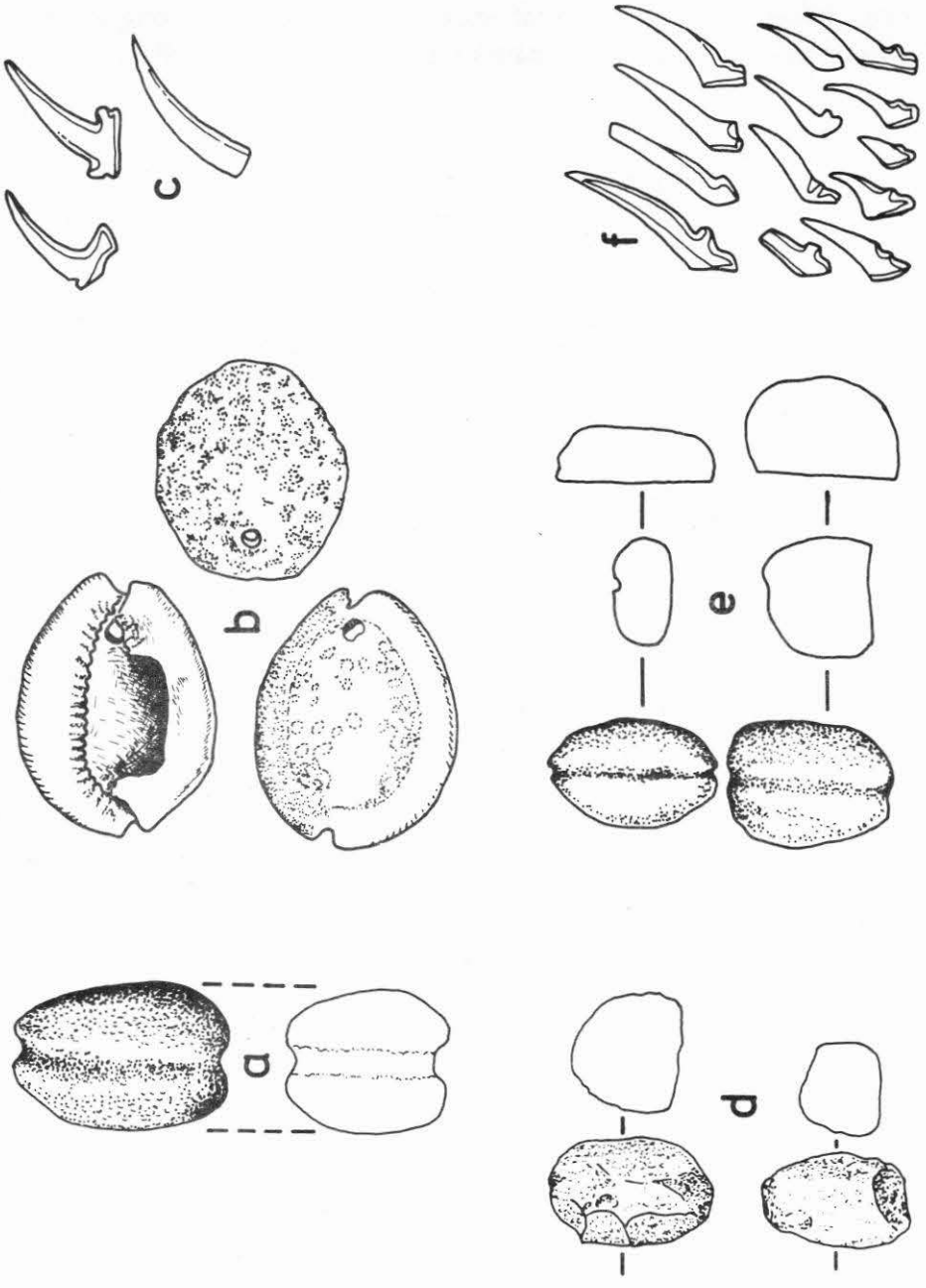

Fig. 14.2 Archaeological Evidence of Possible Octopus Lures.

a. Sinker. Marquesas Is. After Suggs, 1961: Figure 28.
b. Perforated cowry shells. Marquesas Is. After Suggs, 1961: Figure 26.
c. Possible hooks. Marquesas Is. After Suggs, 1961: Figure 26.
d. Sinkers. Samoa, Su-Va-1. After Green & Davidson, 1969: Figure 58.
e. Sinkers. Hawaii. After Emory & Sinoto, 1961: Figure 49.
f. Hooks. Hawaii. After Emory & Sinoto, 1961: Figure 42.

subject to problems of identification and interpretation. When is a stone sinker an octopus lure sinker, when is it a line or net sinker? How can one distinguish an octopus lure hook from a bonito hook? Was the cowry shell perforated for functions other than attachment to an octopus lure?

Taking advantage of the large Bishop Museum collection (for example, 35 cowry lures - Buck, 1957:359), Emory, Bonk and Sinoto (1959) believed they were able to identify hook points, shanks, cowry lures, sinkers and toggles, found in 24 excavated Hawaiian middens and cave sites. In all they listed 36 points, 2 shanks, 37 lures, 42 sinkers, and 37 toggles from archaeological deposits. Although the overall numbers of each element are fairly consistent (with the exception of shanks), only 7 sites contained the basic assemblage of hook points, cowry lures and sinkers. Another 7 sites produced only hooks, raising the problem of the fate of the cowry lures and sinkers. This anomaly casts doubts on the identification of some of the points as octopus lure points. The statement that the average length of octopus lure points is 43.1 mm, and of bonito points 29.1 mm (Emory, Bonk and Sinoto 1959:18) does not specify whether the averages include ethnographic specimens or have been calculated from archaeological examples alone.

Both size and angle (not stated) were used to distinguish octopus lure points from bonito points. The criteria for identifying octopus lure sinkers seem to have been their adherence to 1 of 4 coffee-bean shapes or 1 of 2 bread-loaf shapes. No mention is made of the rougher sinkers which Buck recorded in use on kilo lures. Cowry shells were identified as octopus lure cowries from the position of their perforations. These criteria are still used to identify components of octopus lures. Kirch, for example, found the base of a large point with backward extension in the early Halawa Dune Site (600-1200 A.D.) describing it as "an unfinished octopus-hook point" (Kirch and Kelly, 1975:34, Figure 17). A broken, shaped, canine molar root from the same site was thought to be an octopus lure toggle. No coffee bean sinkers were found, only 2 grooved 'line' sinkers. If the identifications of points and toggle are correct they substantially alter the conclusion of Emory, Bonk and Sinoto that in the Hawaiian sequence

> "elaborated toggles of the U and arched shapes as well as the bone points, appear to be of the middle and later periods" (Emory, Bonk and Sinoto, 1959:40-1).

Identification of octopus lure components in Marquesan archaeological sites appears to have been influenced by Hawaiian experiences. In 1923 Linton described a coffee-bean sinker in a Hiva Oa collection as a possible import via missionaries from Hawaii. His claim that Marquesans had no knowledge of this lure was contradicted by Suggs:

> "Squid lure sinkers are found throughout the Marquesan sequence from the settlement period to the present" (Suggs, 1961:90).

Suggs' 'squid lure sinkers' were described as plano-convex in section, ovoid to ellipsoid in plan, and bearing a groove along the convex surface sometimes continuing on to the flat side. In contrast the Hawaiian sinkers studied by Emory, Bonk and Sinoto (1959:27, Figure 11) have the groove most commonly on the flat surface sometimes extending on to the curved back.

It is difficult to judge from his report how Suggs believed the Marquesan lure was made up. He describes cowry shells with single or double perforations and base removed from 4 sites, plano-convex sinkers from 3 sites, and cowry plates or 'flappers' from 6 sites. Although he twice refers to the "hook shank" (ibid. :90, 92) there is no attempt to equate any hook type known archaeologically with the octopus lure hook, nor to explain the absence of octopus lure hooks in the sites. Were Marquesan cowry shells mounted on the back of the sinker as in West Polynesia or opposite it as in Hawaii? Since the Hawaiian cowry can be left whole (except for the perforations) without interfering with the lashings or shank, it seems likely that Marquesans went to the extra effort of breaking out the base of the whole shell and cutting shell plates because these were to be mounted directly on the sinker. The tendency for Marquesan sinkers to be grooved on their convex surface rather than on the flat side supports this interpretation, for without a groove the cord securing the sinker would interfere with the close fitting of the cowry shell pieces.

Sinoto's Marquesan research led to the discovery of 7 specimens of an earlier type of presumed octopus lure sinker:

> "Those of the coffee-bean type were found throughout the Nukuhiva sequence, but none in the excavations in Hane. Instead, Hane sinkers appear to be of a type ancestral to present day West Polynesian octopus sinkers of the conical or top shape, and also to the later East Polynesian coffee-bean sinkers. Thus Hane sinkers are conical in shape with one side and end flattened and with or without a longitudinally encircling groove." (Sinoto, 1966:299).

The implication of this find is that the coffee-bean type developed in the Marquesas group and was subsequently introduced to the Hawaiian Islands.

As has been shown ethnographic specimens of the octopus lure from Tahiti do not possess a stone sinker. Suggs claimed that there was a tendency in the Marquesas for the stone sinker to be dropped in favour of filling the cowry shell with pebbles (Suggs, 1961:92). The same tendency may have been present in the Society Islands where several coffee-bean sinkers have been recovered from surface collections. In 1964 Emory and Sinoto attributed these to "influence from Hawaii in post-European times" or "sporadic contact with Marquesans" (Emory and Sinoto, 1964:158). Of the 4 known from Tahiti, 3 had a groove over the top only, in the Marquesan rather than Hawaiian style. Excavations on Mo'orea produced a few items assigned to octopus lures. One was a perforated cowry shell plate, another was a large (65 mm) unfinished hook point which may have articulated with its shank at a wide angle (Rappaport, Rappaport and Green, 1967:195). The latter identification was unexpected since the existence of a octopus lure hook was not known outside Hawaii. Of course Suggs had referred to octopus hook 'shanks' in the Marquesas, and on the grounds of hook size and openness of angle, several of his illustrated lure points might be interpreted as octopus lure points, for example his biflanged point (45 mm long), L-shaped point (51 mm long), or inset point (63 mm long) (Suggs, 1961:Fig. 26).

In West Polynesia, archaeological finds of octopus lure components have been confined to Samoa. They consist of an appropriately shaped but imper-

forate piece of cowry shell from a coastal midden (Davidson, 1969:244), and 2 stone sinkers from Vailele 1 which prompted the following comments from Green:

> "The early [octopus lure] sinkers from Samoa are of a type which I propose to call cowrie-shaped sinkers, because their form approximates that of the complete cowrie shell that is usually employed in whole or in part in making the lure portion of these objects. Stone sinkers of this type have a flattened base with the body at one end being broader and rising more steeply than at the other end... In addition the more steeply rising end is often partially flattened. Some may even have traces of a groove on the upper surface along the centre line of the sinker. Octopus lure sinkers of this type are known from these early Samoan examples and from those of the Settlement and Developmental periods in the Marquesas." (Green:1969:135).

> "The identity in form with the early octopus lure of the Marquesas but not the later octopus lure sinkers of Samoa, Tonga, Hawaii, or the Marquesas, and the complete lack of sinkers of this type from any Tongan or other Lapita contexts, appears to me to have some importance. It may well be that the attachment of the large stone sinker to this lure is a Polynesian innovation which had its beginnings in Samoa" (Green, 1974:269).

Combining the archaeological and ethnographic evidence, several other interesting suggestions may be added to Green's:

1. That the coffee-bean sinker developed out of the cowry-shaped sinker in the Marquesan group and subsequently spread to Hawaii and possibly the Society Islands.

2. That the long, wide-angled hook was not, as originally thought, a Hawaiian invention but occurred in the Marquesas and Society Islands. It may possibly have evolved with the coffee-bean sinker and been distributed with it.

3. That the practice of lashing the sinker on opposite sides of the shank from the cowry lure was a Hawaiian invention.

4. That the notion of the lure representing a rat arose in West Polynesia after the settlement of East Polynesia.

Some of the major difficulties in the identification of octopus lure components in sites have already been discussed. It is apparent, too, that the only archaeological examples so far reported have been noticed by archaeologists with Hawaiian experience. Even in Hawaii with its continuity of material culture from prehistoric to historic eras the various toggle and hook types have not always been identified with certainty. It also seems likely that many rougher examples of sinkers have been mislabelled as line or net sinkers.

New Zealand archaeologists might be excused for failing to recover evidence of octopus lures in this country for several reasons. Firstly, the genus Cypraea to which most of the cowries belong, does not live in New Zealand's cool coastal waters. Secondly, neither coffee-bean nor bread-loaf shaped

sinkers have been recovered in 'significant' numbers from New Zealand sites; odd examples which approximate these shapes are presumed to do so by accident. Thirdly, the Polynesian octopus lure was never seen in use in New Zealand by European recorders.

At this point it would be easy to conclude that the Polynesian octopus lure was never made in New Zealand. However, there are several important examples of artefacts, such as the reel, chevroned pendant, various adzes and the large harpoon, which were manufactured in New Zealand in the first few centuries of Polynesian occupation and subsequently dropped out of use. A type of octopus lure might be added to this list since it was certainly present in the Marquesas and probably in the Society Islands at the time New Zealand was settled. We can only guess at the details of the octopus lure which the first New Zealanders had known in their East Polynesian homeland and which might serve as a model for a locally produced lure. It probably used 1 or 2 perforated cowry pieces lashed on to a rough partially-grooved sinker, in shape somewhere between a cowry, cone, and a coffee-bean, and it may have possessed a bone hook, at the end of its wooden shank.

On their arrival in New Zealand, the Polynesians demonstrated conservatism in maintaining their mixed horticulture and marine exploitation while at the same time modifying the design of fishing equipment to suit new raw materials. It might be expected therefore that the octopus lure which allowed the extension of octopus fishing beyond the immediate coastal reef would continue in production perhaps for a few centuries. It is clear from the evidence of trolling lures that other forms of line fishing from canoes persisted.

The large local octopus which is so widespread that Polynesians must have encountered it almost at first landfall, is known as Octopus maorum. It is believed to be derived from the wide-ranging Pacific and Indo-Pacific species Octopus macropus (Dell, 1952:145). In size, O. maorum is comparable to O. macropus. Dell gives length measurements between 207 and 1482 mm (ibid.) for O. maorum. Like its cosmopolitan cousin, the large New Zealand octopus and the small Robsonella australis feed on crustaceans. Indeed, Dell comments that "There is no evidence to show that these forms ever feed upon species of Mollusca in this country" (ibid.:149). Morton and Miller (1968:549-50), however, list Octopus maorum as an enemy of the scallop, Pecten novaezelandiae, as well as a consumer of crabs. If they possess the same preference for hermit crabs as the other octopus species display, the most suitable shell to replace the cowry in the octopus lure would surely be one commonly inhabited by the New Zealand family of hermit crabs (Paguridae). The common Pagurus novaezelandiae "uses chiefly small cerithiid shells when young, then transfers to topshells and cats eyes, and later Cominella or even larger whelk shells" (ibid.:94). Among the latter could be Penion, Neothais, Haustrum or even Struthiolaria. Since these are quite common components of Archaic middens, a perforated or roughly shaped example might easily be missed. Similarly, a grooved sinker of cowry or coffee-bean shape might be classified as a line or net sinker simply because an octopus lure sinker has up till now not been expected in a New Zealand site. Until appropriately modified gastropod shells are recovered in association with sinkers, evidence of hooks may provide the strongest support for the

hypothesis. The Hawaiian examples show a tendency to greater length and more open angle between hook and shank than the points of bonito lures. The purpose of the hook appears to be to prevent the octopus releasing its hold of the lure and slipping off the rig on the long haul to the surface. Being an animal without an internal skeleton it cannot exert any leverage or force once its grip on the sea floor has been lost. With its mantle impaled on the bone point there would be little chance of the point breaking as it would with a thrashing fish.

An exceptionally long and slender type of bone point has been recovered from several sites in Otago and Southland (Figure 14.3). Unfortunately none of these is accurately dated or adequately recorded. In broad terms, however, the associated material is Archaic. In Hjarno's classification (1967:26) this hook is Type C 1C. He noted its presence in Shag River, and the lower levels of Little Papanui and Papatowai. The most interesting feature of this point, apart from its length and slender appearance, is the area of articulation with the shank, which is bevelled to a distinct edge, not flattened as in the minnow lure point or large composite bait hook. Presumably this enabled it to fit into a groove or slot in the lure shank. If the preferred method of articulation of a hook with a bone or stone minnow lure or bone shank was a flat platform, it seems likely that the bevelled hook was intended to be coupled with a wooden shank which can be grooved without difficulty. As has already been shown, most octopus lures utilize a wooden shank.

A number of sinkers are illustrated from the sites of Little Papanui and Shag River (Figure 14.4). If found elsewhere in Polynesia they might be described as coffee-bean, incipient coffee-bean, or conical octopus lure sinkers. Traditionally, any conical object found in New Zealand is called a top so the Shag Shag River examples which are man-modified sandstone concretions were undoubtedly classified as tops by both Skinner and Teviotdale. Other conical stone objects in the Otago Museum have also acquired this description for the purposes of display; for example D21.416 is displayed as a Maori top while the Register describes it as "part of squid hook? Tonga". A "top" possibly from the Bay of Plenty (D.19.164) is also referred to as a "pounder" from "?Polynesia". For sure, wooden whip tops were seen in use by early recorders in New Zealand, but it appears that no-one ever saw a stone top being spun. Those described by Best (1925:88) were identified from Museum collections. A comparison of a dismantled Tongan lure rendered in agate with the largest Shag River specimen shows several points of similarity: asymmetry (a handicap for a top), flattening of one side, flattened end (Figure 14.5). Unfortunately Teviotdale did not recover shell from his excavations so it will never be known if roughly perforated whelk shells or shell fragments were associated with these possible sinkers. Similarly the assymetrical grooved sinkers of Little Papanui may have been found with pieces of worked shell.

In future, New Zealand archaeologists should not assume that all conical objects of stone are tops, that grooved stones are solely line or net sinkers, or that all hooks are meant for fish. Archaeological evidence from tropical Polynesia coupled with information on octopus distribution and diet suggest that early New Zealanders may have tried to manufacture a local form of octopus lure for offshore fishing. It if existed at all, it will be positively identified not from its individual components (which may have been discovered already in a hundred Archaic sites) but from the repeated association of these elements.

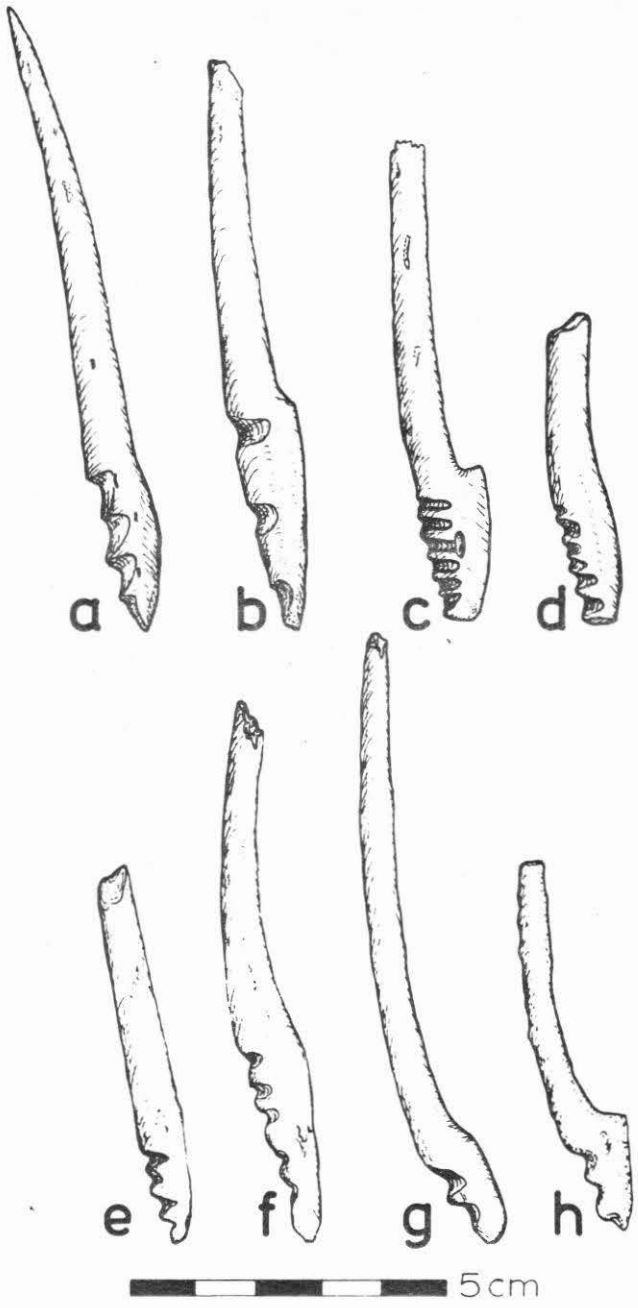

Fig. 14.3 Possible Octopus Lure Hook Points from Otago, New Zealand.

a. Little Papanui. Otago Museum D29.226.
b. Little Papanui. Otago Museum D29.228.
c. Little Papanui. Otago Museum D29.229.
d. Little Papanui. Otago Museum D77.2.
e. Shag River Mouth. Otago Museum D77.3.
f. Shag River Mouth. Otago Museum D27.1167.
g. Shag River Mouth. Otago Museum D27.1164.
h. Shag River Mouth. Otago Museum D77.4.

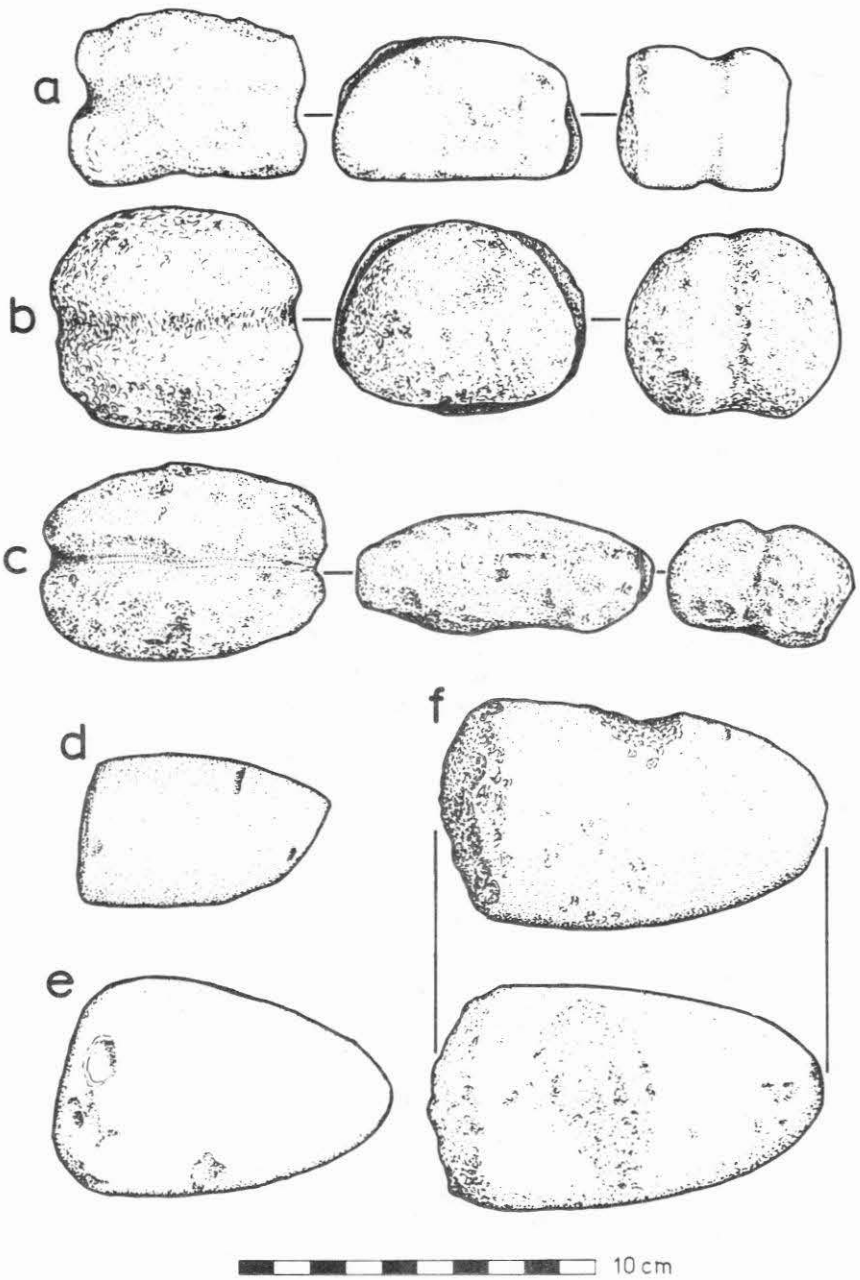

Fig. 14.4 Possible Octopus Lure Sinkers from Otago, New Zealand.

a. Little Papanui. Otago Museum D32.1887 (?)
b. Shag River Mouth. Otago Museum D30.1070.
c. Shag River Mouth. Otago Museum D30.1066.
d. ?Shag River Mouth. Otago Museum D77.5.
e. Shag River Mouth. Otago Museum D27.1334.
f. Shag River Mouth. Otago Museum D29.4382.

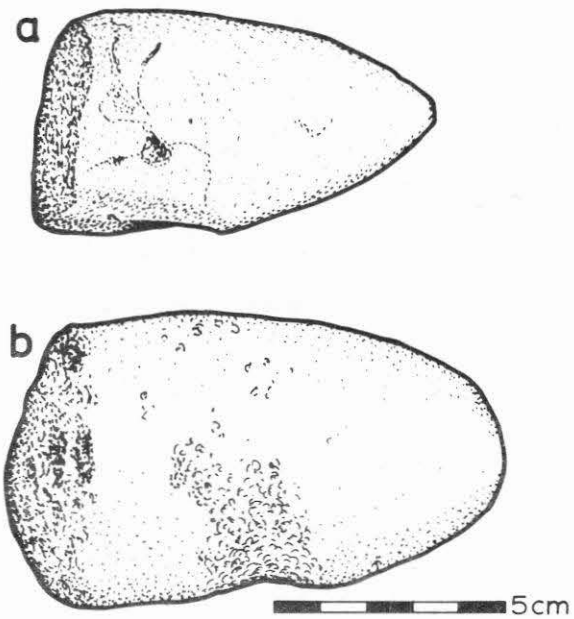

Fig. 14.5 A Comparison of a Tongan Octopus Lure Sinker and a Possible Sinker from New Zealand.

a. Tonga. Otago Museum D57.361.
b. Shag River Mouth. Otago Museum D29.4382.

NOTE

1. Beasley in fact lists only nine: Lifu (Loyalty Is.), Tonga, Samoa, Niue, Ngau (Fiji Is.), Fakaofu (Union Is.), Funafuti (Ellice Is.), Tahiti, Hawaii.

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