

NEW ZEALAND.

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# DOMINION MUSEUM.

(A. HAMILTON, DIRECTOR.)

BULLETIN No. 2.

FISHING AND SEA-FOODS OF THE ANCIENT MAORI.

BY THE DIRECTOR.



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## INTRODUCTION.

THE present Bulletin will be devoted almost entirely to the publication of a number of photographs illustrating the subject of fishing as practised by the ancient Maoris.

When I was engaged on the preparation of the material for "Maori Art" I found that there were several important subjects that could not be included in the scope of that publication, owing to the large number of plates required to properly illustrate them. Amongst others, the subjects of fishing and of stone implements had to be excluded. I trust that the present publication will remedy the deficiency as far as fishing is concerned. The subject of stone implements must, however, still stand over.

One difficulty which faced me then still exists, and that is the impossibility of procuring reliable information on the details of the subject, such as the seasons for certain fish, the marks for fishing-grounds, the technical names for the parts of fish-hooks, &c., and traps, and more minute details of the art in general. Much that is on record is imperfect and disappointing. There is no doubt that in this, as in other things, there was a marked difference due to locality, and that local needs developed local types of sinkers, hooks, and nets. In time it may be possible to work these out, but much will depend on the way in which collections are made and recorded. The sandhills round our coasts still contain many treasures yet to be exposed by the winds, and if proper and authentic records are kept of what is found, there will be eventually a great body of evidence which will yield new facts. The inland fisheries are included in the scope of the Bulletin, and details will be given as far as possible of the methods adopted on the lakes and rivers.

Since the establishment of the National Maori Museum a considerable amount of material has been brought together, and I propose in this Bulletin to illustrate the subject by photographs from objects in the Museum and in private collections in the colony.

The information concerning the use of various kinds of hooks and nets is still very unsatisfactory, and it appears as if the time has gone past when any information of value can be obtained.

The subject is one which was of great importance, and played a conspicuous part in the daily life of the Natives, and by their toil and industry they reaped a rich harvest from the ever-sounding sea. Nature had placed a plentiful supply of fish and edible Mollusca easily accessible to the hands of the Natives, and the lakes and rivers contributed to the support of the teeming population of Maori New Zealand.

The patience and ingenuity of the race is well shown in the well-made hooks and sinkers found in the large shell-heaps, and their industry by the great heaps of fish-bones and shells found in middens around the coast. Bone hooks and barbs are specially numerous, and remain in good preservation long after the wooden part and the flax lashings have decayed and perished. Barbs and hooks of stone are rarer.

Stone sinkers for fishing lines and nets are still plentiful along the coast-line. Some idea of their number may be gathered from the fact that one collector, in the neighbourhood of Patea, collected as many as five hundred in a few years.

Considerable interest attaches to certain hook-shaped ornaments, mainly of greenstone, which were probably used as amulets or charm-stones.

From the plates the whole history of the manufacture and use of the bone hooks can be followed, and the advent of the white man is heralded by the use of copper and iron hammered into the old form, and the gradual disappearance of the hook of wood and bone.

The specimens figured will afford an opportunity for comparisons with the fishing appliances of other countries.

On the title-page I take the opportunity of publishing a photograph, kindly furnished by the authorities of the British Museum, of an old Maori sail for a canoe, woven from split flax, and corresponding in every particular with the sketches and illustrations in the works of early voyagers to the colony. Even the appendage suggesting a flag is present, and the cords by which the sail was handled. At the time of the publication of the first part of "Maori Art" I was unaware that a specimen was in existence.\*

\* Forster, "Cook's Voyage," vol. i, p. 217, describes the sail and the feather-tufts along the top. He does not, however, mention the flag-like appendage.



## SOME OF THE MYTHOLOGICAL AND HISTORICAL TALES OF FISHING, THE SEA, THE SEA-GODS, AND THE GREAT SEA-MONSTERS.

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FOREMOST in interest amongst the ancient sacred stories of the Maori race was that of the fishing of Maui, one of the labours of the Polynesian Hercules to which we are indebted for the islands of New Zealand. Numerous versions of the story are known, and some day they will no doubt be edited and studied in detail. The story has suffered many local adaptations in the course of the centuries, and it will be interesting to trace the source of these various lections.\*

The story of the dragging of an island from the deep as a fish, even in its New Zealand form, is found elsewhere in the Pacific, but, of course, referring to the emergence of other islands from the deep to the light of day.

Even more interesting to us, and less easily explained, is the story of the greenstone found by Ngahue. The greenstone, or Pounamu, was a fish deity, a son of Tangaroa. His brothers were Poutini, Te Whatu-kura-a-Tangaroa, and Te Whatukura. Pounamu is also said to have been generated in the liver of sharks, and, until exposed to the air, to be quite soft.

Almost the earliest event in the history of Maui is a tale of the sea, for when Maui was thrown into the sea by his mother, wrapped in a tress of her hair, the water-spirits wrapped the baby in soft seaweed, with cushions of jelly-fish, till Tama-nui-te-rangi took charge of it.

Then we have the great sea-king, the Polynesian Neptune, Tangaroa, known as the lord of the deep by the people of a thousand isles—Tangaroa, the son of Rangi and Papa, Tangaroa the large-eyed, the husband of Te Ano Matao. In his realm are many of the lesser marine gods, as Tuna, the eel-god; Naha, the *atua* of flounders (*patiki*); and Punga, the *atua* of the fish called by us a gurnard or gurnet (*kumukumu*).

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\* See the elaborate essay by Schirren on the Maui Mythos.

Of lower degree are the sea-monsters—Parata, the swirling whirlpool; the female sea-demon, the Marakihau,\* sucking into her mouth through her funnel-shaped tongue the fishes large and small; and the Taniwhas of river, pool, and stream.

The fairies who were surprised in their revels, and left their fishing-nets to Kahukura, on the moonlit strand—magic nets, which became a pattern for men—though not sea-maidens, come within the scope of our inquiries.

Even in the silent stars the imagination of men of old saw the great hook of Maui, which he used in raising the islands from the sea, set in what is known to us as the constellation of Scorpio.

In the midnight sky Te Hao-o-rua is the *kupenga*, or net, seen in the heavens near the constellation of Orion, or Te Kakau. The story says, “Autahi said to Tariao, ‘Let us travel by land, that we may avoid entering the Mangoroa (the Milky Way).’ Tariao replied, ‘No; my desire is that the Mangoroa do enter the net.’ So Tariao dwells within the Mangoroa, and it was Tariao who fixed Tu-oreore and Tuputupu (the Magellan clouds) as pillars or posts for the net.”†

As in other countries, dangerous currents and whirlpools were said to be the haunt of some sea-demon, and in one of the stories of the migration the Waha-o-parata was escaped with difficulty by the Arawa canoe.

The ebbing and flowing of the sea was supposed to be occasioned by a huge sea-monster—whose home was far off, low down in the depths beyond the horizon—through its power and deep respiration. The monster’s name was Parata, and one of the solemn maledictory spells given by Colenso begins thus, “Dreadful big beetling precipices, deep down in ocean’s depth, listen! obey! Be quick and lie scattered to the one side and to the other, that the mighty Parata may go to work. Parata! hear! blow thy irresistible overwhelming tides strongly hitherwards to the shore.” This was done so that the seaside forts and villages (always close to the beach, and sometimes built on it) might be injured by the sea, and so easily overcome, and their inhabitants scattered, and, with their canoes, destroyed.

In shallow water lives the sea-monster Matarua, who is responsible for disturbances of the ocean depths, when the water is too discoloured with mud so that no fish can be caught.

Perhaps we should have mentioned earlier the fountains in the sea, called Rangiriri, from whence proceed all fish.‡ According to one tradition, Ika-tere is the father of fishes. Seaweed (*rimu*) was used as an offering of gratitude to the sea-gods who brought in safety the Maori people over the vast ocean of Kiwa when they reached the shores of Aotea-roa. Fish were also offered to the great and

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\* Figure 75. † Jour. Poly. Soc., ix, p. 111. ‡ Pol. Myth., p. 325; Anc. Hist. Maori, p. 40.



mysterious deity Io on certain occasions,\* and again there is a mention of a ceremony, "Cook two fish . . . put them one over the other, and perform the customary ceremonies when offering to the male and female gods."†

Different localities had their guardian gods, as, for instance, the marine deities guarding the Hokianga Bar are Taungeri and Arai-te-uru.

In some of the old fishing-songs of the Maori a long-forgotten place called Rangiriri is mentioned as a fresh-water spring in the ocean—the source of all fish.

A strong fresh-water spring rising to the surface of the sea is to be found some distance from the coast-line near Waimarama, in Hawke's Bay, and the reef in the neighbourhood is noted for the fine fishing to be obtained there.

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\* Anc. Hist. Maori, iv, p. 88.

† Anc. Hist. Maori, ii, p. 39.





## THE HARVEST OF THE SEA.

### MAMMALS.

THE only branch of the Mammalia affording any food or valuable spoil to the Native, excepting the Native rat and introduced dog, was that portion inhabiting the surrounding seas. In the South Island there were numerous places where the fur-seal and the sea-leopard (*Ogmorhinus leptonyx*) were fairly numerous, and sometimes even a sea-lion (*Macrorhinus leoninus*) would stray up from its more southern home. The middens yield traces of these three, and small ornaments are found made from the teeth. In the North Island I have only found traces of the sea-leopard, which is still an occasional visitor to those parts. It is perhaps scarcely within the limits of an article on fishing, but, as inhabitants of the realm of fishes, seals were clubbed and eaten in considerable quantities; therefore they are mentioned here. Still less claim, perhaps, have the Cetaceans to our consideration; but in one way or another whales (*tohora*) were of great importance to the Maoris, and a sharp look-out was kept for any that might be stranded.

Legends state that an old-time wanderer, Ruawharo, brought with him, when he came to New Zealand from Hawaiki in the Takitimu canoe, some of the gravel from Te Mahia Beach, in that country. The gravel, which was the *mauri*, or the enticing charm for whales, was spread on the beach (also called Te Mahia) at the northern end of Hawke's Bay, and since then unto the present day it has been a favourite place for whales, many being stranded there. I have myself seen four or five young sperm-whales ashore at one time.

The whale most prized was the great sperm-whale (*Physeter macrocephalus*). From the lower jaw all sorts of bone weapons could be made, and rarer jewels from the great teeth. Other members of the whale family were frequently stranded, but were not so highly prized, as little use could be made of them. Some of the smaller whales, known to us as black-fish (*Globiocephalus melas*), were used as food, as it is recorded that when the great chief Rauparaha and all the principal chiefs

of Ngatitōa were on their way to Ohau they were feasted by the Ngatirahira (a hapu of Ngatiawa) upon the flesh of the black-fish, a large school of which had been driven ashore at low water, when the Natives ingeniously tethered them by their tails to strong flax and rope, killing them as they were wanted for food.\* And again, in an ancient story,† the guests were fed on the flesh of a whale and of the *hakura* (another sort of whale).

When the European and American whalers sailed into these waters in pursuit of the right and the sperm whale, they were always able to recruit a number of daring and willing hands to "fish" for the great sea-monsters in the wide seas. From that time to the present much of the coastal whale-fishing has been done by the Maoris.

In speaking of whales, we must not forget the story of Tinirau and his pet whale, Tutunui. A long time ago there was a quarrel between Maui, the great Maori hero-god, and Irawaru, his brother-in-law, the end of which was that Irawaru was transformed into a dog. Maui's sister, Hinauri, was so distracted at the loss of her husband that she went to a rocky height and uttered her death-song, beginning thus:—

Ever lamenting—  
Henceforth I am ever imploring  
To the stealthy one of the ocean,  
To the big Parata of the ocean,  
To the huge monsters of the ocean,  
To the enormous whale of the ocean,  
That he may come hither  
That Hina may be swallowed up.

So saying, she threw herself into the sea.

When next we hear of Hina she is the third wife of Tinirau, the great chief of Motutapu. She had been found floating in the ocean, covered with weeds and barnacles; but had been revived, and taken to wife by Tinirau. In consequence of this, a child was born, and Tinirau sent to the celebrated Tihi-o-manono for a skilful priest named Kae to perform the proper ceremonies over the child, who was named Tuhuruhuru.

The ceremony over, the usual great feast was given, when Tinirau called for his pet whale, named Tutunui (big gamboller), who was then away in the ocean disporting itself, and when it had run itself in near to the shore, a large portion of its fat side was sliced off, and baked nicely in the earth-oven for Kae. The old priest made a hearty meal, enjoying greatly the deliciousness of the fat flesh of the whale. After this Kae wished to return to his own place, and a canoe well manned was got ready to take him thither, but he was not willing to enter the canoe, and so he

\* T. C. Williams: A letter to the Right Hon. W. E. Gladstone on behalf of the Natiraukawa Tribe. 1873. Appendix, p. 30.

† Anc. Hist. Maori, iii, p. 43.

remained there. This, however, was but a bit of deceit on the part of Kae, a cunning stratagem played by him that he might return riding on the pet whale's back, for he had both heard of its great usefulness in this way to its master, and had also tasted of the sweetness of the flesh of that fine fish. At length Tinirau consented, and lent him Tutunui, to serve as a canoe to carry him home through the sea, at the same time giving Kae precise instructions how to act, saying, "When thou art nearing the shore, and the fish begins to shake itself, then be quick and jump off on the right side." Soon after Kae left Motutapu, and went on fleetly through the sea; on nearing the shore of his own place, the big fish began to shake itself, in order that Kae might jump off and go on shore; but Kae would not do so; he kept his seat on the fish, and repeated his spells, and pressed it down in shallow water on to the sands, where its spout-holes soon got filled with sand and gravel, and the fish died. Then Kae directed his people, and they dragged the whale on shore to feast on, being such delicious food. They cut up the whale and baked its flesh in their earth ovens, using the fresh leafy green twigs and branchlets of the *koromiko* shrubs (*Veronica salicifolia*) as wrappings for the rich fat junks; hence it is that to this day the oil has ever remained in those branches of the *koromiko*, and from that circumstance arose the old adage of our fathers, "Behold the fragrant oil of Tutunui!" (a saying often spoken when those branches are used by the Maori for similar cooking purposes, the shrub being everywhere very common; and its clean smooth inodorous leaves highly fitting it for such a use, and when freshly taken off from the cooked food they present a wet glistening oily appearance). Tinirau waited for the return of his big pet Tutunui; he waited, however, in vain. Some time had passed, and he began to say anxiously to himself, "Wherever can it be? so long away." By-and-by, when the main cooking of the whale for storing was done, and the large ovens were uncovered, the wind being in the right direction wafted the rich smell of the baked fat right away on to Motutapu, and both Tinirau and his wife smelt it, and knew that their pet (lately given to their first-born son Tuhuru-huru) had been killed and eaten by Kae and his people. Then it was that, after due consultation, the big canoe of Hineiteiwaiwa, the sister of Tinirau, was launched and got ready.\* Forty women were told off to go on board. Among them were the following great ladies besides Hineiteiwaiwa herself—viz., Raukatauri, Raukatamea, Itiiti, Rekareka, and Ruahau-a-tangaroa. Only women were to go in the canoe, to lull any suspicion as to the cause of their coming. On leaving Motutapu, Tinirau's sister asked him, "What is the particular mark or sign by which Kae may be surely known?" and Tinirau replied, "By his large broken cross teeth." So they paddled away. On landing at Kae's place they were well received by the people, who gathered from all neighbouring parts to see and admire the strangers. In the evening the usual fires were lit up in Kae's large house of assembly, and there the

\* Their best canoes were always kept hauled up high and dismantled, and it always took some considerable time

to be placed on logs with skids, and under cover, and often

people all collected together with the visitors, and on their doing so, one whole side of the building (according to Maori custom) was allotted to the stranger guests. Now, Kae's own place was at the foot of the central column. Then Raukatauri and her party showed their skill at amusements: they sang their songs with appropriate action; made music on their different kinds of flutes and fifes; they performed many tricks of dexterity with their hands and fingers and rods, after the popular Maori customs; all of which took a long time; but still Kae never once joined in the merry general laugh. Then those women began to consider among themselves, while sitting and resting awhile, "Whatever more shall we do to make Kae laugh?" (This they said, because they were not quite sure which of the chiefs in the big house was Kae; and it was contrary to all Maori etiquette for visitors to ask the names of persons of the place visited.) At last they hit on a plan, which proved successful; and all those women got up to perform it—a lively kind of joyous dance, full of antics and outrageous gesticulation, singing also words in unison. And on their coming to the end of it, which was very jocular and rollicking, Kae could no longer contain himself, but burst out into a hearty and long laugh. Then it was that they clearly saw his teeth, and knew for certain that the man sitting by the centre post was Kae. (And hence this proverb has been handed down to us from our forefathers, whenever any sullen moody person laughs at the word or doings of another, then some one present is sure to say, "*Ka kata a Kae!*" = Kae laughs!) After this, the night being advanced and the performances over, the fires were extinguished, and preparations made for sleeping. The wily old priest, however, was in part suspicious; therefore he took two round pieces of mother-of-pearl shell (*Haliotis iris*), and cunningly fixed them into the orbits of his eyes, that those women visitors might be led to believe he was still awake, from the glistening of the pearly shells (for, according to Maori custom, he could not know the reason of their visit until they should choose to inform him, which might not be for some days). The women, however, were on the alert; they secretly performed their spells, and sent the whole house into a deep sleep, Kae also. Then they arose, and having got their canoe ready afloat, they all came and formed themselves into a long line leading from the door of Kae's house to their canoe, standing in pairs at equal distances. This done, two of them entered the house and took up Kae fast asleep in his mats, and passed him on carefully from hand to hand until he was fairly placed on board of their canoe, when they performed another deep-sleeping spell over him, and so carried him off. On their arriving at Motutapu, Kae, still soundly asleep, was carefully taken up, carried and placed at the foot of the central column in the big house of Tinirau. Now, Kae's house was of circular form,\* and Tinirau's house was long and angular. Kae being thus secured, Tinirau instructed his people how to act in the early morning, saying, "When I go out of my sleeping-house in the early morning,

\* This probably points to the story belonging to unknown to the New Zealand Maori, except perhap

cient house of the Maori, as a round house was almost house.

do you all set up the usual loud cry of welcome to a visitor, and say, 'Here comes Tinirau ! here is Tinirau !' as if I were a visitor just landing." So at broad daylight Tinirau went forth from his sleeping-house, and the loud cry was set up, "Here comes Tinirau ! here is Tinirau !" (as if he were a visitor chief loudly welcomed on his arrival). Kae, hearing this noise, awoke up from his sound sleep, and sat up on his mats. Tinirau went forward, and sat down outside, at the verandah entrance into the big house where Kae was ; there he saluted Kae in the usual manner, saying, "Greeting to thee, O Kae" ; and adding, "Who brought thee hither to this place ?" On this Kae replied (thinking he was in his own place and house), "Nay ; rather let me ask, Who brought thee hither ?" Tinirau rejoined, "Look, and see the form of this house." Kae did so, and said to Tinirau, "This is my own house." Tinirau then said, "Whereabouts is the window placed in thy house ?" Kae turned and looked, and then he knew from the different appearance of the house that it was Tinirau's, saying, "Verily, so it is ; this is Tinirau's own house !" Then he bowed down his head, well knowing his fate. So they dragged him forth, and immediately killed him. When Kae's people heard of it they made great preparations to avenge the death of Kae ; they collected together and came over in large bodies to Motutapu ; there they fought several times, and at last succeeded in killing Tinirau's son Tuhuruhuru, but not till after he had grown up and had married, and had sons born to him. And then Tinirau went to work to avenge the death of his son Tuhuruhuru ; and so a deadly exterminating war was carried on, ending in the destruction of many on both sides.

#### FISH.

When describing the plates I shall have occasion to mention most of the fish that were commonly caught and eaten by the Natives, so it is not necessary for me to enumerate them now, especially as it would probably be found that nearly all fish of sufficient size were eaten at one time or another if large enough to make it worth while catching them.

#### MOLLUSCA.

A very remarkable feature of the coast-line of New Zealand is the great extent of the hills of blown sand, in some cases reaching far into the interior. Until the arrival of the white man, these hills and dunes were covered with a coarse vegetation, which prevented much damage by the prevailing winds : and in the hollows and sheltered places just behind the first ridge of sand the Maori loved to build snug little *raupo* huts, and in some cases houses of a more substantial nature. A large part of the year was employed in fishing and obtaining stores of food from sea and river. From the North Cape to the Bluff, the site of these villages or camps can be traced by the enormous heaps of the shells of the Mollusca most plentiful in the immediate neighbourhood.

In one instance, near the mouth of the Shag River, I measured a section of a heap of shells (*Mesodesma novæ-zealandiæ*, the common long *pipi* of the Maori), which was 340 ft. long, 4 ft. 6 in. in thickness in the centre, the remaining part covering the half of a rough circle having a radius of about 50 ft. The deposit was partly removed by the river, which had cut into the sandhills at that point, and the heap, of course, thinned out towards the edges; but what remained must have represented an enormous number of shells. Other heaps were found, but not of such a size. In digging through one heap, mainly composed of *Chione stuchburyi* (*huai*), it was noticed that in a number of instances as many as ten or a dozen of the empty bivalves had been placed one in the other.

At the mouth of a small river running through dense bush, at Tautuku, south of the Catlin's River, in Otago, the action of the river-current has cut away the bank at the top of the sea-beach, on which grows a dense forest of large trees, mainly *Griselinia*. The section so exposed showed for a considerable distance—perhaps 50 ft. or more—a bed of shells, mixed with fragments of *moa*-bones, fish-bones, and dog-bones, about 4 ft. in thickness, and extending back as far as we could trace it under the roots of the trees. In many places tons of shells had been carted from these old sites, to be placed on paths and roads.

Nearly all the common species of Mollusca were appreciated as food, and, following the example of the Natives of Hawaii and other Pacific islands, they set aside the squids and octopus as food only to be enjoyed by high chiefs, or Arikis.

The species found in the shell-heaps have been noted by me for the last twenty years, and I now give a list of those found in sufficient numbers in middens to warrant their inclusion in a list of the species used as food.

Nearly all the large univalves had the upper spirals broken off with a stone, to render the extraction of the animal more easy. A considerable number of *Struthiolaria* are sometimes found with a hole roughly pierced in the last whorl, near the mouth. These have been strung on a necklace. A fine specimen of a necklace of this kind is to be seen in the Maori collection in the Canterbury Museum.

The following is a list of the univalves: *Siphonaria australis*; *Purpura succincta*; *Purpura haustum*; *Trophon stangeri*; *Siphonalia*, sp.; *Cominella*, sp.; *Scaphella pacifica*; *Litorium spengleri*; *Apollo argus*; *Amphibola*; *Struthiolaria*, sp.; *Litorina*; *Turbo viridis* (*pupu*)—small hooks were made from a part of this shell, but are not common; *Haliotis iris*; *Patella*, sp. (*ngakihi*).

*Dentalia* were collected on the north-west coast, between Mount Egmont and Raglan, and threaded carefully into a necklace of either six or nine strands. These white tusk-shells are mentioned in a saying used if you wish to compliment a lady on the perfection and whiteness of her teeth: "Your teeth are like the *pipi-taiari*."

The *Haliotis* (or *paua*)—especially the large species, *Haliotis iris*—deserves more than a casual mention, as its glorious colouring was much admired, and combined with nearly every carving in the eyes of the figures represented. Much could be said about the careful selection of the portion of the shell to be used. This was especially the case with the curved piece required for the *kawhai*-hooks, and the small rings inserted in the eyes of the *taiahas*. The people living on the west coast of the North Island, between Wellington and Auckland, used *Haliotis* (or *paua*) shell in inlaying their carvings, and did not confine their use of it to the eyes. The pieces were of various shapes, and the effect is, to my idea, not pleasing. In another part of this Bulletin mention will be made of some very delicate composite fish-hooks made from pieces of *paua*-shell. The *paua* were obtained from the rock-pools at low tide; and in the southern part, about Dunedin, bone implements, sharpened like chisels, and about 7 in. long, are found which have been used for detaching the shell from the rocks (*maripi paua*). Sometimes the men would dive into the deeper pools, where the largest shells were found, and Mr. White\* has recorded a story of the feats of Kahungunu in obtaining quantities of these shell-fish. The animal was taken out of the shell, and, if not required immediately for food, was strung on lines of flax, and dried in the smoke of a fire for future banquets till it attained the consistency of indiarubber. Kahungunu had a partiality for the *hua*, or “roc,” as the story says, of the *paua*, and reserved that for himself. In the same volume, page 229, it is recorded that women collecting *paua* at Otangitūa were attacked and killed by a flying party of their enemies. The *Haliotis* shell was sometimes used as a lamp, by filling up the small holes with clay, and using oil or grease, with a wick of the tow of flax plaited. A collection of useful articles found in a cave in Central Otago many years ago contained a large *paua*-shell which was full of long-dried-up red paint, together with the ball of flax tow that had been in use as the paint-brush.† *Paua*-shells with traces of paint in them are frequently found in the old middens on the Otago coast. The coarsely woven flax basket in which *paua* were collected is called in some parts *kawhiu*.

Bivalves are easily obtained from the sandy shores and mud banks in estuaries, and at all times of the day women were to be seen diligently collecting *pipis* in the large openwork flax baskets, and carrying them to the *kaingas*.

The largest and best *pipi* are found in fairly deep water, and I once witnessed a comical incident as I was crossing the bridge from the Western Spit to Napier. At the northern end there is a channel, on the edge of which very good *pipis* are to be found; but even at low water the swiftly flowing tide makes it difficult to get the *pipis* out of the sand, even if the device is resorted to of holding the kit in position with one foot and scratching the shells into it with the other. On this occasion three stout, strong young women were working a partnership. The three stood side by side up to the elbows in water, or perhaps a little more. The middle one

\* Anc. Hist. Maori, iii, pp. 82 and 89. † Trans. N.Z. Inst., xxviii, p. 174.



took a long breath, and plunged to the bottom, scratching the shells with both hands into a kit held in position by the feet of the others. The feet of the diver were straight up in the air, and held tightly by the two assistants, to keep the worker in the proper place until she had to come to the surface for a fresh supply of oxygen. It was then the turn of one of the others to take the middle place. In some places *pipis* are collected by canoes working in pairs, each pair having a many-pronged fork like a stout eel-fork, which the occupant of the canoe thrusts into the sand, while his companion hauls it out with a rope, raising the shell-fish, which cling to the fork.

Great interest was taken in preserving the best parts of the shell-fish beds, and occasionally a chief would *tapu* them to prevent their being exhausted by being overworked.

In "Maori Art"\* I have figured some small pendants in the shape of human teeth cut from the shell of a bivalve, but no great use seems to have been made of the bivalves as ornaments or material for ornaments. The shell of the *kuku*, or large mussel, was used in preparing flax and peeling potatoes, and a pair made good tweezers to extract undesired hairs on a well-tattooed countenance.

The chief genera of bivalves found in shell-heaps are *Myodora*, *Dosinia*, *Chione stuchburyi*, *Anaitis disjecta*, *Tapes intermedia*, *Mactra ovata*, and *equilatera*, *Standella*, *Tellina*, *Mesodesma*, *Pecten*, *Ostrea*, and *Glycimeris*.

Concerning the *toheroa* (*Standella*), it is said that one Mareao brought it with him from Hawaiki, and planted it on the west coast of the North Island. In this part it is found of great size, sometimes more than 6 in. long, especially on the coast to the north of the Manukau Harbour. It is esteemed a great delicacy by the Maoris, who often make expeditions to the long beaches of Rangatira and Ripiro to collect it, when it is cooked in the Maori oven or *hangi*. An enterprising firm in Auckland has recently started a factory for canning *toheroa*.

Besides these marine Molluscs, a large number of fresh-water mussels—*Diplodon* or *Unio* (*kakahi*)—were consumed.

Mussels (*Mytilus*) were taken out of the shells (*mai*), and dried like the *paua*; *pipis* of various kinds were also threaded and dried for future use.

#### CRUSTACEANS.

The principal item in the bill of fare taken in this group was the *koura*—the large red crayfish (*Palinurus* or *Jasus*)—and the fresh-water *koura* of the lakes and streams (*Paranephrops*). A number of traps and pots of various kinds were baited and set for these dainties, and they were also, in time of plenty, slightly smoked and dried, strung on a strip of flax.

Shrimps (*Kouraura*) were, I believe, sometimes collected from the weedy banks in shallow inlets; and small crabs (*rerepari* or *papaka*) from the rock-pools.

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\* Part iv, pl. 50.

## ECHINODERMS.

Sea-urchins or sea-eggs (*Echinus chloroticus*) (*kina*) were gathered from the rocky pools at low tide, and eagerly devoured. They are still so appreciated that large bowls of them may frequently be seen for sale in the fish-shops in Wellington and other places.

## SEAWEEEDS.

Two or three kinds of purple and green seaweed were collected, dried, and boiled into jelly, and flavoured with the juice expressed from the *tutu* (*Coriaria*).

At the Maori pa at the Christchurch Exhibition the women several times brought home green ulva and a purple seaweed from Sumner and Lyttelton, which they dried, and then boiled slowly with sugar.

A seaweed of another kind called *karengo* is also used in this way in Hawke's Bay.

The first pieces of seaweed caught in a newly made net were preserved, and as soon as possible laid on the *tuahu*, or sacred place of the people to whom the net belonged.

A large seaweed was also used for holding preserved birds and fat by the southern Natives, who ingeniously split the seaweed (kelp) and made large bags. These seaweed bags were also used to contain whale-oil\* at Wellington.

A curious sea polyp found in deep water is called *rimu*, or sea-totara.

## ASCIDIANS.

A curious pedunculated Ascidian (*Boltenia*) was occasionally eaten in default of better food.

\* Angas. "Savage Life and Scenes," vol. i. p. 237.





NOTES ON MATTERS CONNECTED WITH THE SEA AND WITH THE ART OF FISHING  
AS PRACTISED BY THE NATIVES OF NEW ZEALAND, WITH ILLUSTRATIONS OF  
THE IMPLEMENTS, ETC., USED IN PROCURING FOOD FROM THE SEAS, LAKES,  
AND RIVERS, MAINLY FROM SPECIMENS IN THE NATIONAL MAORI COLLECTION  
IN THE DOMINION MUSEUM, WELLINGTON.

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#### SAIL OF A MAORI CANOE.

THE title-page of this Bulletin bears a photograph of a Maori-canoe sail, probably the only specimen in existence. Through the kindness of Mr. J. Edge Partington, I was supplied with an excellent photograph taken from a sail which had been for many years rolled up in the great collection in the British Museum. I have been unable to find out anything as to where it came from, or when it was acquired, but as we know from the early voyagers and travellers that this type was the form universally found on the north and north-east of the North Island we may locate it as coming from probably the Bay of Islands. It is woven of fine strips of either flax (*Phormium*) or *kiekie* (*Freycinetia*), and has loops for the poles or sprits (*titoko*) by which it was kept in shape. From it depends a flag-like appendage, which is, I think, not copied from the European flags, as similar appendages may be found on sails in other parts of the Pacific. The top of the sail and the edges of the flag are adorned with tufts of pigeon-feathers.

Beneath is given a little sketch showing the sails in use, although the canoes are being paddled at a fair rate. I have seen old sketches where the sail has been used with the broad end downward—possibly when a stiff breeze was blowing.

The sail is called *ra*, or *rawhara*; the sheets, *kotokoto*; the upper sprit, *takoto-koto*; the lower sprit, *tatakoto*.

## FISHING-CANOE.

The canoe here figured was in daily use on the coast a little to the north of Gisborne when the weather was suitable for fishing-trips. A short distance away were some reefs, in the crevices and holes of which the pots were set, baited with pieces of offal or a bird of some kind, for the large sea-crayfish, which is very similar to the English lobster. The Natives are very fond of crayfish, and in the neighbourhood of towns large numbers are sold in the fishmongers' shops. The canoe is decorated with a carved figurehead, and is a good sea-going canoe.



Fig. 1.—Maori fishing-canoe at Poverty Bay, with basket traps for sea-crayfish.

## FISH-HOOKS, ETC.

All collectors come across hook-shaped objects of greenstone, bone, or steatite, and the variation in size, shape, and general finish is most astonishing. The first of the three specimens here figured is made of an inferior kind of greenstone, and, though sufficiently hook-shaped to come into this category, it is quite as suggestive of the dried sea-fish commonly called a sea-horse as anything else. This I found on the sandhills at the entrance to Waitati Inlet, near Dunedin. The central object is made of the best quality of greenstone, and is certainly the most beautifully worked greenstone ornament that I have ever seen in New Zealand. The absolute symmetry and the grace of its curves show the hand of a master workman. This ornament was dug up near Kaiapoi, in the South Island. The third specimen is equally beautiful in execution and form, but it is a more easily worked material, being cut out of the tooth of a sperm-whale. This belongs to His Honour Mr. Justice Chapman, and was found in the sandhills near Dunedin. It measures 44 mm. × 46 mm



Fig. 2.—*Hei matau* Ornaments in the form of a fish-hook.



Fig. 3.—*Hei matau* of steatite.  
2—DOMINION MUSEUM.



Fig. 4.—*Hei matau* of greenstone.

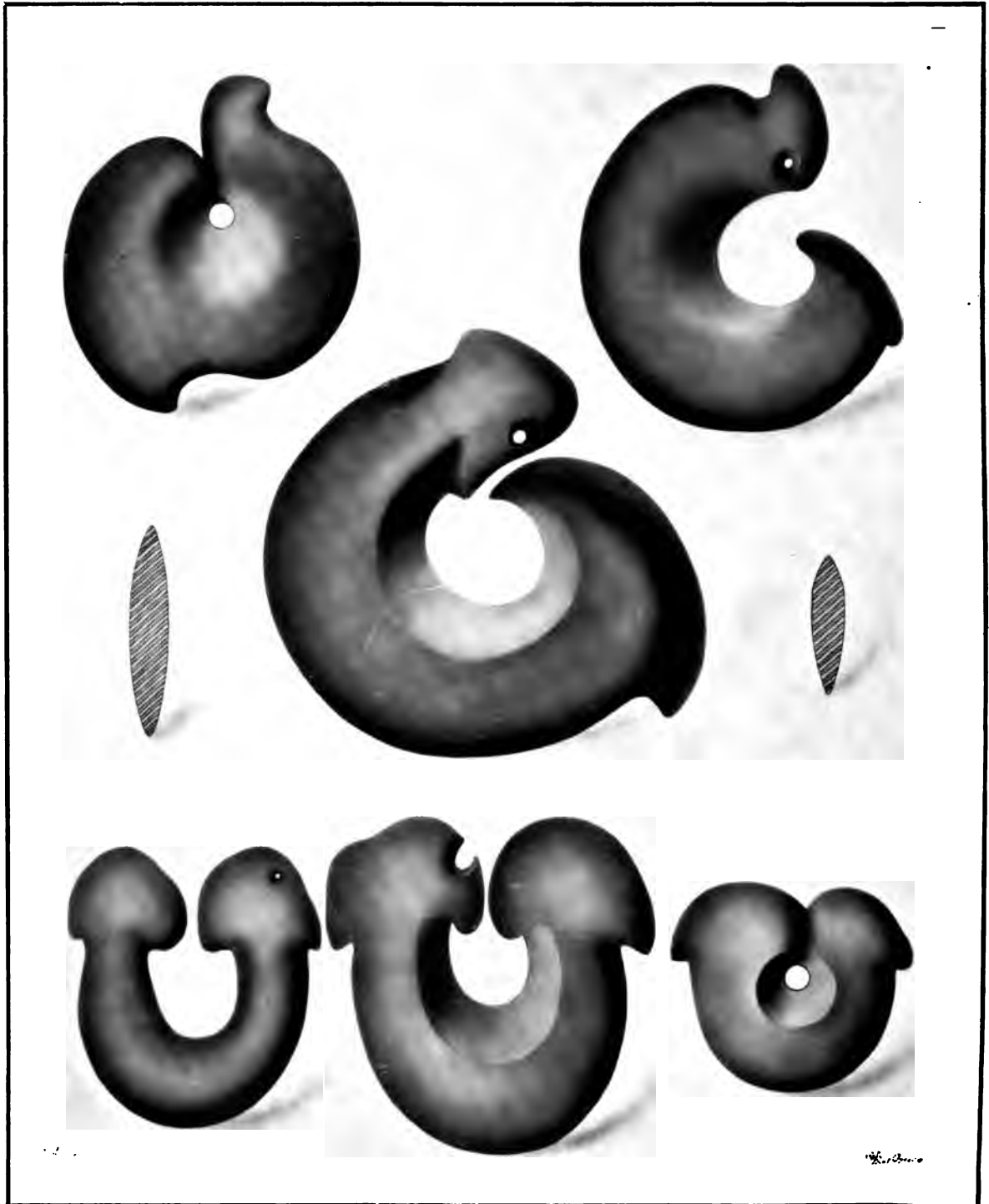


Fig. 5.—*Hei matau* of greenstone.

All three specimens are characterized by the same notched ornamentation—notches so slight as to be hardly visible. I have before stated that I consider the notched ornamentation to be almost peculiar to the earlier ornaments, and possibly pre-Maori in point of time.

In Fig. 3 we have a fish-hook form which has been so generalised that it is almost lost; but, nevertheless, I believe these important specimens to be intended, like those in the preceding and succeeding figures, as amulets in the form of a fish-hook, over which the necessary spells were recited when the owner went a fishing. These steatite hooks were found many years ago by Mr. Mitchell, on the shores of Lake Te Anau, in the ruins of a burnt village, and are in the collection of Mr. A. Turnbull, of Wellington, who has kindly permitted me to figure them. The upper one has considerable grace of line, and both are strongly notched. I would suggest that in one there is a suggestion of a human figure, of which the inside crescentic form is the arm; the hole for suspension, the eye; and the ridges below, the mouth.\* A reference to the last figure will also show a similar suggestion in Nos. 2 and 3.



Fig. 6.—*Hei matau* of bone.

It is also true that in Fig. 6 of two bone hooks the supposed mouth-lines are grooves for the fastening of the line, but a reference to Fig. 2 will show a fully carved face in the same position.

The two bone hooks (Fig. 6) were found buried with a skeleton at Papanui Inlet, Otago, and are very fine specimens of work in the hard bone from the jaw of the sperm-whale. It is possible that these may have been used for actual fishing, as they are no more "impossible looking" than the North-west American halibut-

\* As all the carved figures had a significance, we may suppose such a figure to be a symbol of the great ocean-ruler Tangaroa, or of Ika-tere, the father of fishes.

hook; but I prefer to class them as amulets, or luck charms, for the fishermen to carry. Length, 156 mm. (6.15 in.); weight,  $2\frac{1}{2}$  oz. : and 77 mm. (3 in.).

The *hei matau* is also found in various stages of manufacture from greenstone in the form represented by those given in outline in Fig. 5. In all these the resemblance to a fish-hook is remote, and the form is purely conventional. A most exceptional specimen is figured by me in "Maori Art," pl. xlvi, Fig 2, from a specimen in the British Museum, in which the two extremities are worked into human figures. I have only met with the notched ornamentation on the large central figure, which is a specimen found in the sandhills near Tauranga, and now in the Museum of the Auckland Art Gallery, and on a specimen belonging to Mr. T. E. Donne.

Somehow this type of ornament has been described from time to time as a hair-cutter. It is true that when it was necessary to cut off the hair it was severed by a sharp piece of obsidian used on a smooth flat stone, which was placed under the hair, but I have never been able to get any direct Native testimony that these hook-shaped greenstones were specially used for that purpose. Considering the sacred character of the heads of all those whose hair would be carefully cut, it is extremely unlikely that anything valuable would be used, as it would most certainly have to be destroyed after the operation. Shortland,\* in one of his books in reference to this matter, describes the *pure* ceremony: "When they had dipped in the river, Kahu commenced cutting the young man's hair, which is a part of the *pure* ceremony. In the evening, the hair being cut, the *mauri*, or sacredness of the hair, was fastened to a stone, which represented some ancestor. The stone and hair were then carried to a sacred place belonging to the *pa* (*wahi tapu*)." I do not gather from this that the stone was in any likeness of an ancestor, but that it simply represented one as a guardian of the hair.

The two pendants here shown (Fig. 7) were found, together with a skeleton of a female(?), in a cave shelter in the Hakateramea Gorge, in North Otago. One specimen is not perforated, and is of a different kind of greenstone to the other. The largest is of that translucent greenstone called *tangiwai*. Probably this also is an amulet or charm for an eel-fisher. A number of fragments of similar pendants were in the great collection of greenstones formed by the late Mr. John White, of Dunedin, which is now in England; and lately a sketch of a perfect specimen has been sent to me by Mr. Townsend, which was found on the West Coast. I have never seen this form from the North Island. The length of the perfect specimen is 145 mm. Both are in my collection in the Dominion Museum.

Tongue-shaped pendants are of great variety, and are specially interesting to us, as they undoubtedly represent an ornament commonly worn by men in the time of Captain Cook, as they appear in several of the portraits given in his voyages, drawn on the spot by the artists attached to his expedition. Both specimens were

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\* Shortland, "Religion and Myths," p. 56.





Fig. 7.—Greenstone pendants in the form of an eel.

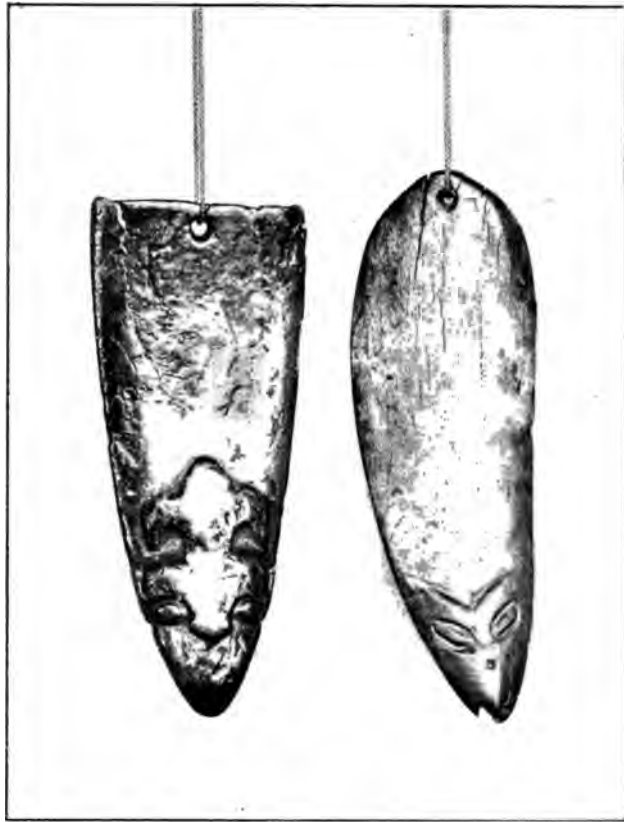


Fig. 8.—Tongue-shaped pendants in bone.

dug up in the South Island—one near Lake Ellesmere and one near Orepuki. One is carved from *moa*-bone, and the other from a whale's tooth. The ornamentation is different in each case, and difficult to explain at present. I believe them to be charms or amulets, probably connected with fishing. They are now in the collection of A. Turnbull, Esq., of Wellington.

I have a whale's tooth nearly cut through by grinding from each side, which was evidently intended to provide material for two specimens of this kind. As these were common in the North in Cook's time, it is very strange that, so far as I am at present informed, only one other specimen is known, and that was sold at a sale in London some years ago. It is true that a gentleman in Auckland has a beautiful pendant in bone that must go into this class, but is not quite the same. One of these has been figured in "Maori Art," pl. xlvii.

*Manea*, or the backs of composite fish-hooks, are placed here, as they were frequently used, without the bone barb, as charm-stones (sometimes called *whatu*) to attract fish to fishermen, after the proper incantations had been made over them to *taki*, or draw the fish from the fountains of the sea. The material varied in different parts of the country. In the North Island they are most plentiful on the west coast, and are made of fine black and grey slates. In the Otago District they are made

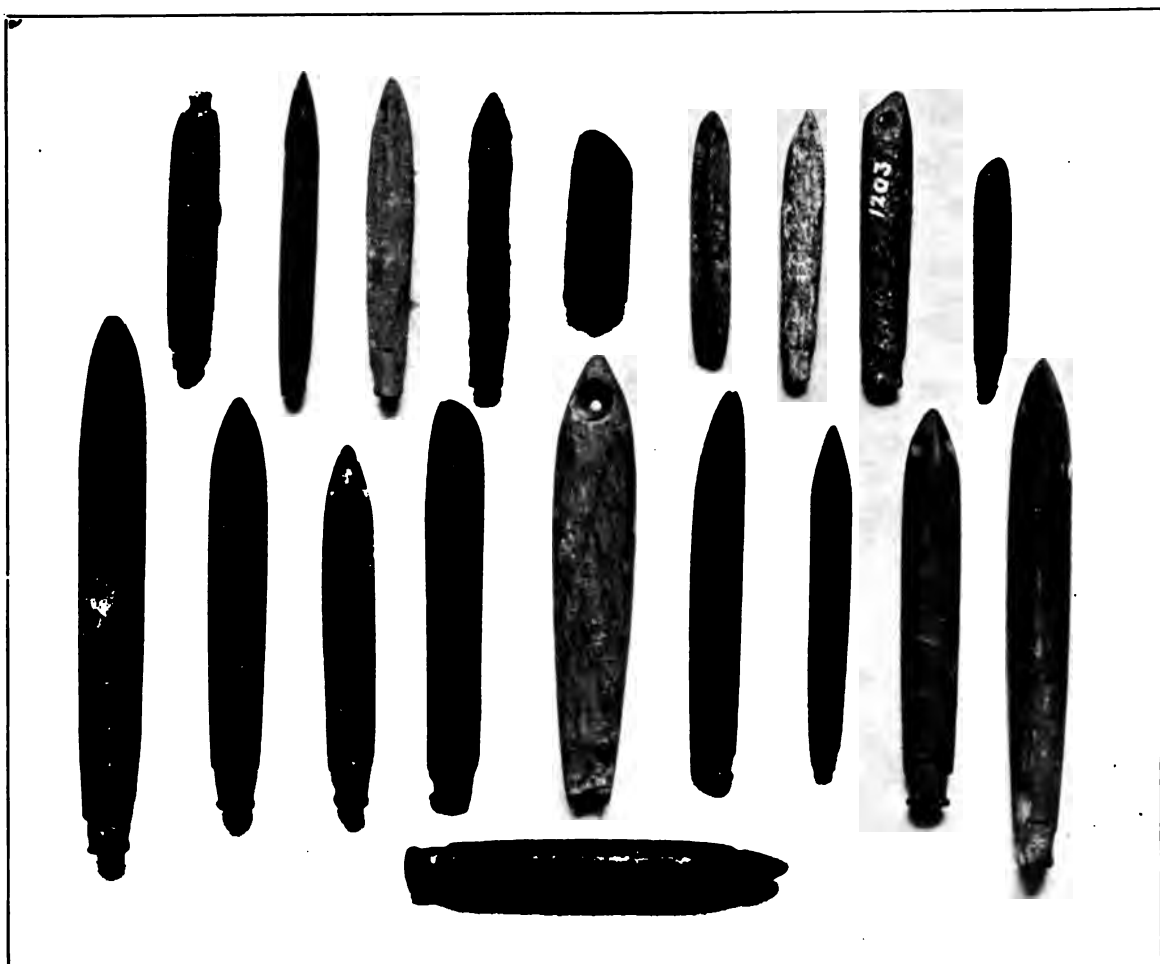


Fig. 9.—Stone charms or portions of fish-hooks (*manea*).

of hæmatite and other local rocks. They also vary in size from about 7 in. or 8 in. to 2 in. or 3 in., and can be found with all degrees of finish. They are all made on the principle of a jumping fish, so that when towed behind a canoe with a barb attached they attract *kahawai* and other fish. The line passes through the hole at the upper end, and the grooves at the other end are for the lashings with which to lash the bone barb securely to the stone. The weight of the stone causes the hook to have a tendency to sink, but the motion of the canoe forces it through the water, and the ridges near the hole give an upward tendency, which makes it jump like a live fish. For the present, however, we figure these stones as charm-stones, and will mention them as parts of fish-hooks in their proper place. The specimens figured are in the National Collection in the Dominion Museum.

Curiously shaped stones are sometimes regarded as the tribal *mauri* of that portion of the sea; sometimes a tree near the beach is so regarded. The *piha* of the principal fish of, say, *kahawai*, is concealed with the stone *mauri* somewhere near the beach. *Karakia* are repeated over the *mauri*, that it may hold or retain the

productiveness of the ocean, and cause good hauls of fish to be taken. If fish become scarce, the *tohunga* repeats the *whakaara* charm over the *mauri* to waken it up, to cause it to do its duty. He holds the stone *mauri* in his hand as he recites. In the Taranaki District sand supposed to have been brought from Hawaiki was kept in small cup-shaped stones. The *tohunga* recited his *karakias* over this sand, and then it was scattered over the surface of the sea. These cup-shaped receptacles—*punga-tai*—were in use at Waitara until quite recently. The sand was the *mauri* of the *kahawai*. When Ati-awa migrated to Port Nicholson (Wellington) first there were no *kahawai* there, but they sent back to Waitara for some of this sand, and ever after had plenty of *kahawai*.

In 1894 a man was charged with stealing from the bank of the Mokau River a certain historic stone—namely, Te Punga-o-tainui, or the stone anchor of the celebrated Tainui canoe, belonging to the Ngatimaniapoto Tribe. The prosecution was instituted by the Government, as the Natives attributed

a number of misfortunes to the removal—for instance, the Natives attributed the bad fishing season to the loss of the stone. The stone was returned, but I have no information as to the result on the succeeding fishing season.

I am informed that it was considered the darker-skinned Natives made the best fishermen, and were most successful in sea-fishing. It is, of course, well known that in the same tribe, and even in the same family, the difference in the colour of the skin was well marked. There are traces of curly hair and very dark skin, which may indicate a survival of the characters of the old race, said to have been found by the Maoris in occupation of the land—the veritable *tangata whenua*.

I am indebted to Mr. S. Percy Smith for the following *karakia* to be recited over a fish-hook :—

*He karakia tenei mo te hi ika, te ika o Tangaroa, ka haere te tangata ki te moana ki te hi ika, ka whiua te mataru, katahi ka karakia :—*

He aha tau, E Tonganui  
E whakatuturi ake nei i raro ?  
Ka puta te hau rangawhenua.

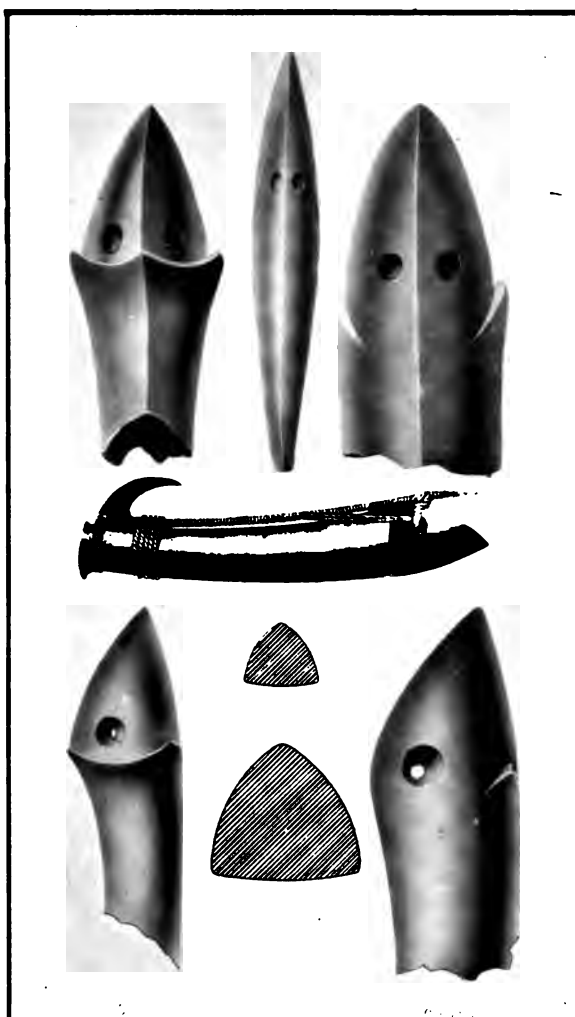


Fig. 10.—Portions of fish-hooks made of stone.



Fig. 11.—Stone tools used in the manufacture of bone fish-hooks.

#### HE KARAKIA HI IKA.

1.

Hei kai mau te tangata  
Makutu mai, mahara mai,  
Kei uira te hara  
Ko hara-aitu, ko hara-a-tai  
I pakia ai koe, i rahua ai koe.

2.

Niho koi, tara koi, kia u o niho  
Niho koi, tara koi  
Kei te tai timu  
Kei te tai pari  
Kai Rangiriri,  
Au kumea, au toia  
Nau ka anga atu, anga atu  
Nau ka anga mai, anga mai.

#### [Translation.]

1.

Man shall be thy food  
By witchcraft and remembered wrongs  
That was thy sin,  
The ill-omened sin, the sin of the sea.

2.

Sharp tooth, sharp barb, firm be thy  
hold ;  
Sharp tooth, sharp barb,  
In the time of low water,  
In the time of high water,  
At Rangiriri,  
Where currents pull and haul ;  
If you turn away, then turn away,  
If you turn hither, then turn hither.

The first verse is apparently addressed to the owner of the human bone from which the fish-hook was made ; the second is addressed to the hook itself. Rangiriri is the source from which all fish come.

*Heoti ano aku pitopito korero ko enei anake, apa he uri ahau no Tangaroa. Tenei ano nga karakia, otira ehara i te mea mo te hi ika.* (This is my small contribution. Had I been a descendant of Tangaroa it would have been otherwise.)

The Maoris were, as we have said, great fishermen, and probably every man had to keep himself well supplied with the necessary gear, including a good supply of fish-hooks, sinkers, and lines. For the smaller fish delicate hooks of bone and shell had to be prepared, and, as the bone had to be specially selected for its strength and toughness, it was necessary to provide special tools to work the piece of bone into the shape desired.

Amongst the sandhills now covering the sites of fishing villages of the long ago, we find here and there sandstone tools, some thin and narrow, others finger-shaped ; all of them excellent files when used with a little water. Most of them are pieces that have been used and broken and then thrown away, as fresh material was usually at hand, or could be procured. In Fig. 11 are shown some of the common forms from the old Maori villages on the coast near Dunedin. Their shape is suited to the finishing and polishing of the small bone hook made in one piece.

Another tool which was absolutely necessary for the manufacture of a bone hook in one piece was a drill of some kind, so that a start could be made to cut out the central portion. As the point of the hook was in most cases quite close to the shank, it was impossible to cut out the piece of bone in the middle by any other method than that of the drill. With the drill a Maori was wonderfully expert, and

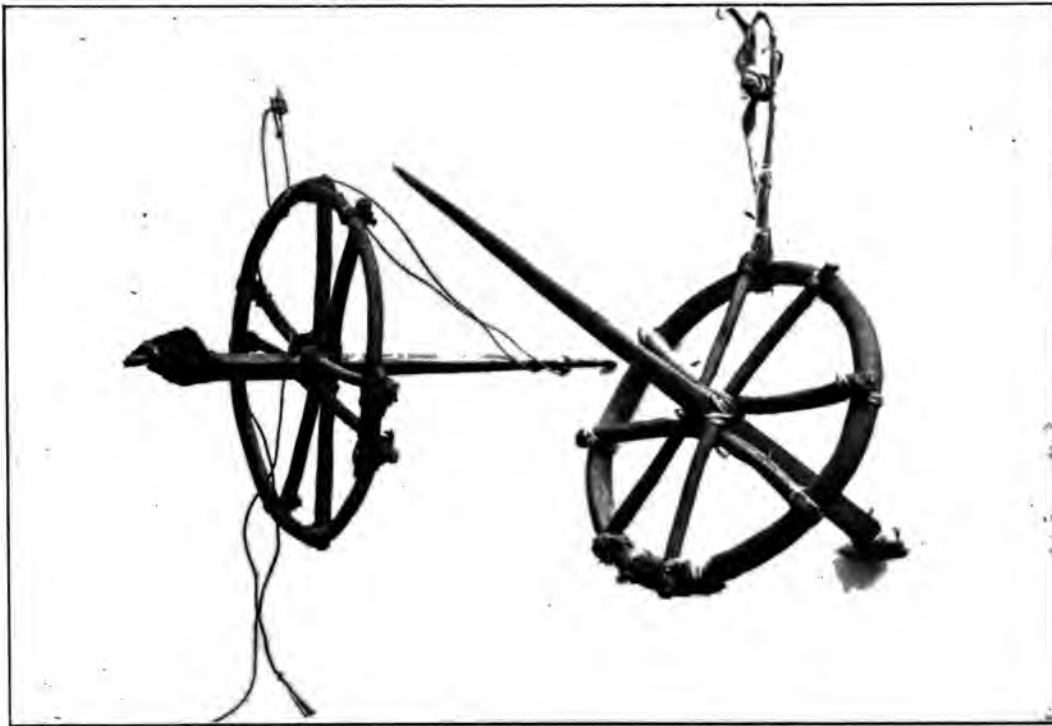


Fig. 12.—Drills used in the manufacture of fish-hooks.

some of his feats in drilling bone were extraordinary. A specimen of the drill used in the Urewera country is given in "Maori Art," and I now figure two drills with thin stone points from Poverty Bay. These differ in having no bar working up and down on the centre-pin, but are put in motion by the alternate pulling of strings attached to the top of the spindle. As this kind required two hands, the sharpened upper end of the spindle was probably held between the lips, to steady the drill at the outset of the work. The downward pull of the strings brought a certain amount of pressure to bear on the spindle. The piece of quartz or flint was attached to the end of the spindle somewhat obliquely.

In addition to these drills, pointed stones, such as those on the right and left of Fig. 11, were used in the hand for starting or enlarging a hole.

Having thus noticed the few tools required by the fisherman, we must proceed to get the necessary material on which to work. After many years' collecting in Otago, I was able to gather a series of specimens which well illustrate the operation of making a small bone hook. The bone must, of course, be solid and strong, and there not being any of the large land animals available, recourse was had to the bones of the whales, now and then thrown ashore by stress of weather. From the lower jaw a great quantity of suitable material could be obtained. There was also another source from which hooks were made, and that was the leg-bone of the giant *moas*. It must be remembered that when a bone has been buried in the earth for a long time,



Fig. 13.—Pieces of bone blocked out for fish-hooks.

or has been exposed on the surface to the wind and rain, it quickly loses its gelatine, and cracks, becomes rotten, and falls to pieces or splits into flakes. So many articles are found in the middens and sandhills that are made from the *moa*-bones that we must assume that at the time these were made the bones from which they were cut were in good condition, and possibly fresh. Of course, we cannot say for certain how long ago a hook was made, so that this does not do more than assure us that if the Maori did not see the *moa* alive, as some contend, they must have become extinct so recently that their bones were still in good condition. This would also make all the *moa*-bone hooks and implements date from the very earliest period, which is quite unlikely.

In Fig. 13 are a number of blanks cut roughly into the required shape. The others indicate various stages in the processes of drilling out the centre. In some of them the bone has cracked in the weakest place before the process of drilling was complete.

If the driller was successful, and the hook a large one, a core was cut out surrounded with the half-circle holes. I found a good example of this one day, but accidentally lost it. After the centre had been removed, the sandstone tools were set to work, and soon reduced the hook to proper shape.

In the next figure are a series of bone hooks from the same locality, with the exception of those in the lower line, which are from Hawke's

Bay. One broken hook is curious, having been made from a piece of bone on which some one had been practising drilling.

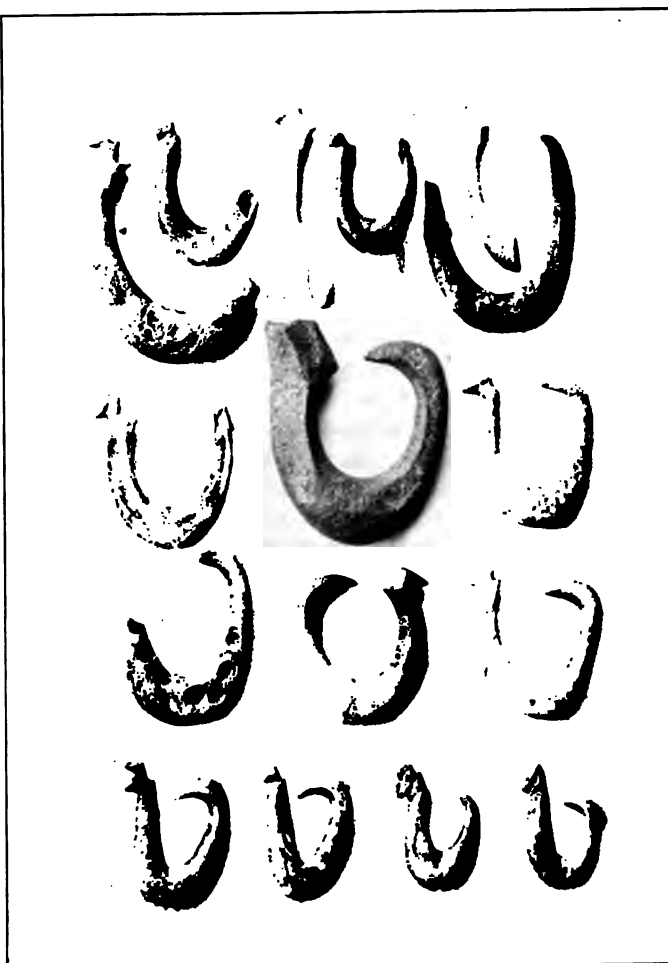


Fig. 14.—Bone fish-hooks.

We may take the hooks made entirely from one piece as representing our simplest form, and we can now notice one or two of the subclasses into which this group may be divided. There are first those of bone or shell with no barb, such as are shown on Figs. 14 and 16; then those to which a barb is added; and then those which, in addition to the barb, have a bait-string attached (*pakaikai*, or *takerekere*).

As far as possible, I have kept the hooks made entirely from one piece of shell or bone in one figure, but in Fig. 16 there is first a small hook cut from the outside whorl of a large shell, and next to it, in the centre, a unique and curious specimen of a composite hook found in Southland by Mr. Gibb. The shank is worked out of a sound piece of *moa*-bone, and has a large hole at the base for a lashing; on the inner side is a groove carefully worked to receive the corresponding convex part of the remainder of the hook; the hole in the second part to correspond



Fig. 15. Fish-hooks of bone and shells, with cords.

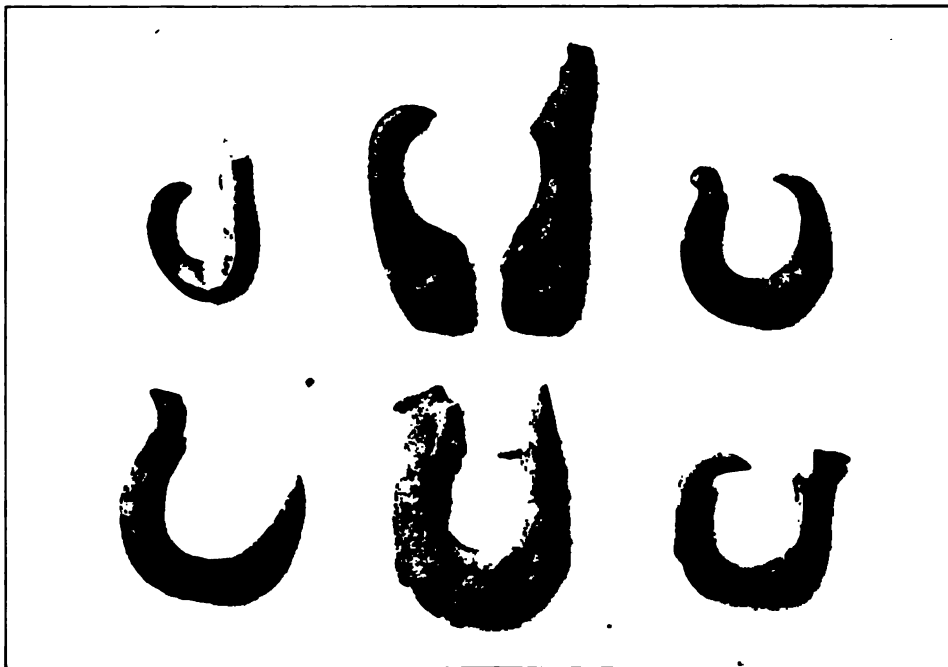


Fig. 16. — Bone fish-hooks.



with the first. I regret that this unique specimen is at present lost. Mr. Gibb allowed me to have it photographed when I was living in Dunedin, and, after leaving the photographer's studio, it seems to have disappeared. I shall be very pleased if it ever turns up again. The centre hook in the lower line has some notches at the bottom, intended to keep the bait-string in its place. All these hooks were found in the South Island.

In Fig. 17 another small shell hook is given, and three bone hooks of three different types. The ornamentation on the larger one is peculiar, and, I think, unique. I think it will be one of great antiquity. The long hook in the centre is a very uncommon type, having a cylindrical rod of bone for a back, with a bone barb lashed to it. All of them are in the Christchurch Museum.



Fig. 17.—Bone hooks in the Canterbury Museum.

Fig. 18 shows a large wooden hook for catching sharks. When a hook of this kind was desired, a piece of wood, suitably bent, was sought for, and it is said that young roots and limbs were artificially bent while growing for this purpose. The scale shows the great size of the hook. It is in my collection in the Dominion Museum, and originally came from a settlement near the East Cape.

Sharks were caught in great numbers for food, both by line and by large nets. The larger sharks were also prized for their teeth. The teeth of the *mako* (*Lamna nasus*) were held in great esteem as ornaments for the ear, their snowy whiteness



Fig. 18.—Large wooden hook for shark.

contrasting well with the dark skin and darker hair. To be a satisfactory pair they must be evenly matched, and have precisely the right curve. After the arrival of Europeans the base of the tooth was covered with red sealing-wax, when it could be obtained, as being more brilliant than the red clay formerly used. In the South Island this shark appears to be very rare, and there is evidence from the old middens that the teeth used all round the coast as ornaments for necklaces were from the blue shark (*Carcharias brachyurus*). All the teeth found have the basal angles rubbed down, and the base bored with two holes. It is just possible that some of these teeth were set together side by side in a groove in a wooden weapon, and used as a fighting or cutting instrument, as some have the base considerably reduced on each side, and ground flat, as if to fit closely against each other.

Knives, consisting of the teeth of *Heptanchias indicus* set in a grooved wooden handle, were made in the olden days as cutting-tools, possibly at tangis. The teeth were firmly lashed in position with fine flax cord.

Figs. 19 and 20 represent specimens of the well-known hooks made to catch *kahawai*. This was a sport much enjoyed by young and old. The hook is a composite one, and not easily made. There is first the back piece, made from a piece of hard wood; in a few rare cases it is made of bone, preferably of the bone of an enemy. This is neatly fitted to a piece of carefully selected *Haliotis (paua)* shell. Great care was taken to select a good piece of shell. In rare instances a piece of the inside of the large mussel-shell (*Mytilus latus*) has been considered attractive enough for the purpose. The *paua*-shell slip has a twist in it, and the wooden back is carefully fitted on to it, so that the shell is inlaid. A bone barb is

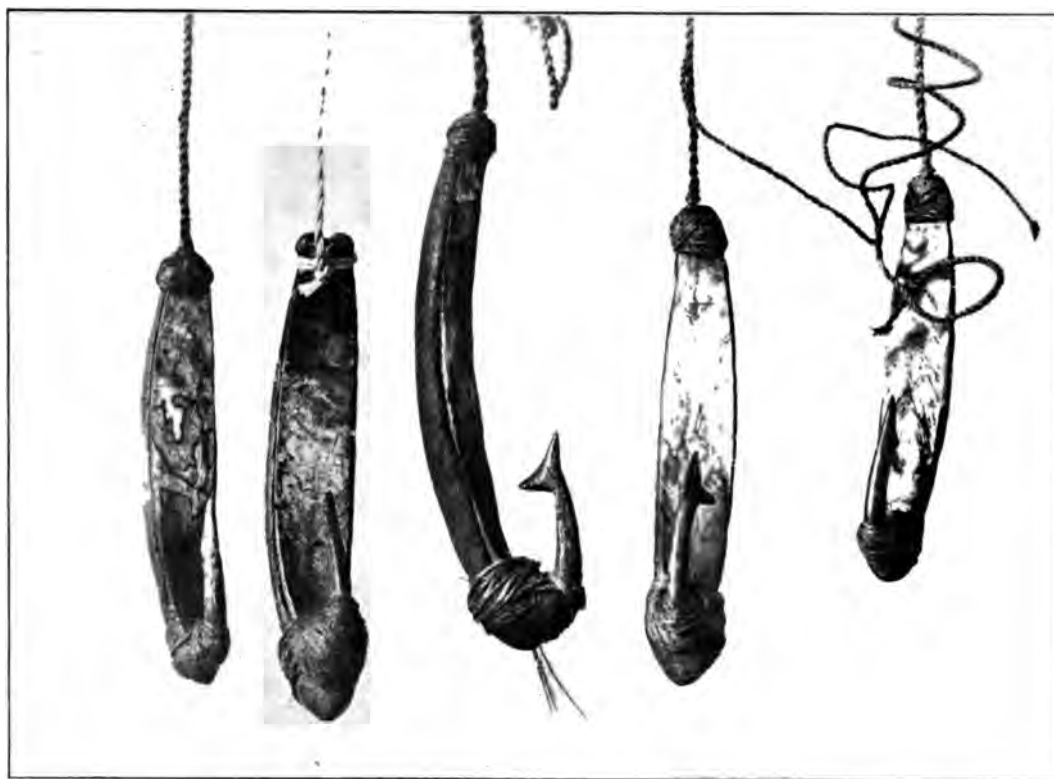


Fig. 19.—Pau-shell hooks for *kahawai*.

then made, usually from human bone, and the pieces are then ready for the lashings, which are to keep the parts together. In fastening the lashings of the barb at the bottom of the hook, a few feathers are generally inserted, usually *kiwi*-feathers, with a few of the bright-blue feathers from the *korora*, or small penguin, or the kingfisher (*kotaretare*), if procurable in the district. The flax line was then attached at the top, the back piece being so fastened as to give an opportunity for firmly fastening it. Different times of day, the character of the sky, the time of the tide required special varieties of this hook, and the fishermen would change the feathers at the end from the brown of the *kiwi*-feather to the light colour of the shredded *muka*, or the bright blue from the kingfisher, just as a fly-fisher tempts his trout or salmon with a March Brown or a Palmer, as his skill and knowledge dictates.

There is a note in an article on “Te Puna Kahawai i motu,” by Tiimi Waata Rimini, translated by E. Tregear, which gives a new version of the Maori obtaining nets from the fairies, or *turehu*, or elves—not the *patupaearehe*, the good fairies. In the article it is said that the fishing season is opened at Motu, on the East Coast, by a young Maori being sent out to catch three *kahawai*. These are presented to the directing spirits (*tupua*)—one to Pou,\* one to Kohinemotu, and one to Te Wharau.

\* Pou is the Moriori god of fish.



Fig. 20. - *Paua*-shell hooks for *kahawai*.

After the ceremony, word is sent to the people on the East Coast and northwards that Motu is open for fishing. This is early in December, and lasts for two or three months. He goes on to say that the shoals of fish are of great size, and thickly packed. The men and women stand on both sides of the tidal portion of the river, so that all the space is taken up. The river is here about 100 ft. wide. The fish caught during the day are cooked in huge ovens, over 200 ft. in length and about 4 ft. wide. About twenty or thirty thousand fish, he says, are cooked in an oven. He also gives a tale of the loss of Tapakakahu's *paua*-shell fish-hook, through the *kahawai*, which is remarkable, inasmuch as he talks of a *paua pounamu* (a greenstone *paua*-hook), an heirloom from his ancestors, which he must

have valued highly, as he gave the finder his dog-skin cloak. Possibly this may mean a *paua*-shell mainly of a greenstone shade of colour.

The hooks shown in Fig. 21 are most interesting, and we really know very little about them. Some years ago Mr. T. F. Cheeseman, F.L.S., the Curator of the Auckland Museum, showed me a number of pieces that had been brought down from some old middens in the extreme north of the Auckland District. I have since obtained the specimens figured from the same district. They are extremely small, and most delicately made. The uppermost pair on the left form a complete hook when lashed together at the bottom, and there are two other of these composites near the bottom. To the left of the centre line is a piece of the large whorl of *paua*-shell pierced, and by it two other pieces, one being partly finished, and the third a finished specimen. The three largest pieces are worked fragments of *Haliotis* (*paua*); notice the notching on the lowest one, the upper and lower forming parts of hooks. The third piece of *paua* is a most interesting specimen of a fish-gorge.



Fig. 22.—Composite fish-hooks of *moa* and human bone.



Fig. 23.—Composite bone fish-hook.

Fig. 23 is another photograph of the hook in the Canterbury Museum included in Fig. 17.

In Fig. 24 we have another type of hook common throughout the Pacific, composed of a piece of wood 5 in. or 6 in. long, with a hole at the end, into which is fastened, by either plugs or lashings, a barb of bone or stone. This kind is also used as a trolling-bait, and is very effective, as it jumps like a flying fish, in consequence of the way in which the line is attached to a groove and a deep notch at the other end. Numbers of barbs are found in the southern middens of this type, and sometimes they have a hole through which a small peg was passed, which prevented the barb from coming out. There is a specimen in the Canterbury Museum which has still part of a broken barb in it. It was found in the Moa-bone Point Cave, at Sumner. There is also a specimen in the same collection from Monk's Cave, at Sumner. By the side of this hook is a hook of which the back is made from

a piece of whale's bone. It came from the Taranaki District, and is now in my collection in the Dominion Museum. It has a bait-string.

Fig. 25 represents a kind of composite fish-hook, peculiar, so far as I know, to the Taranaki District, and probably adapted to some particular kind of fish. They appear to be radically weak in construction. In the centre is a small hook from the same district, made from a bent root. It has a hole for the line to be attached to it, and grooves to receive the line on each side. Presumably a lashing went outside to keep the line in its place. These specimens are in the Dominion Museum.

Fig. 26 is taken from the magnificent collection in the Auckland Museum, and includes nearly every known type of hook, including several specimens of the elaborately carved hooks used for catching albatross. A number of these specimens were formerly in the collection of Captain Gilbert Mair. Many years ago



Fig. 24.—Fish-hooks from west coast, North Island.

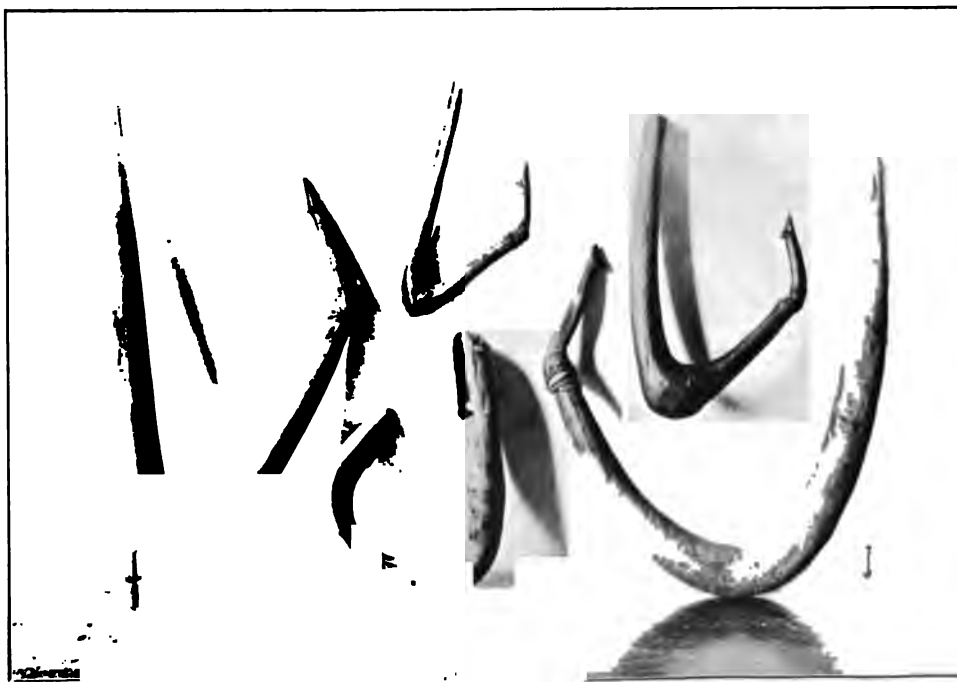


Fig. 25

m Taranaki.

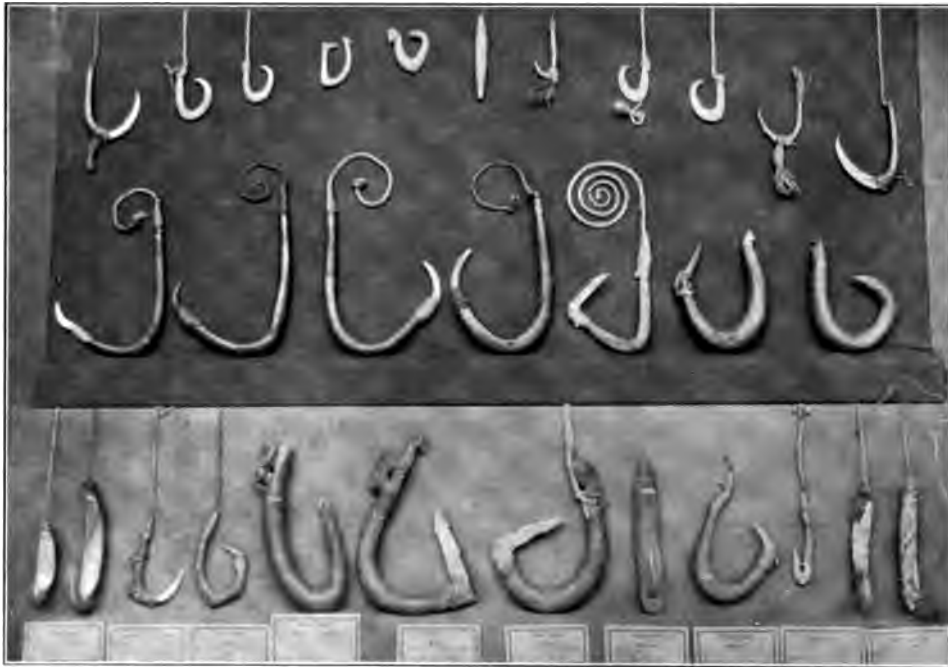


Fig. 26. — Collection of fish-hooks, Auckland Museum.

a huge hollow tree, near the mouth of the Wairarapa Lake, blew down in a gale and burst asunder, disclosing the fact that it had been fitted inside as a storehouse for fish-hooks of all kinds, and of great age. Most of these came into Captain Mair's possession, but a large number of them were soon afterwards destroyed by a fire.

In villages or *kaingas* near the sea Crozet found well-built storehouses, and he says, "The third storehouse contains the rope, fishing-lines, the flax for making rope, thread, and rushes for making string, an immense quantity of fish-hooks of every size from the smallest to the largest, stones cut to serve as lead weights, and pieces of wood cut to serve as floats. In this warehouse they keep the paddles of their war-canoes; it is there that they make their nets."\*

For large fish such as are found about the reefs in deep water large and powerful hooks were required, and in Fig. 27 are shown two very old specimens obtained in the Wanganui district by the author of the well-known book "Te Ika a Maui"—the late Rev. Basil Taylor. They are in excellent condition, and show how the main cord, which was either round or square plaited, was sewed over with a finer cord for some distance from the hook. These hooks are now in the collection of H. S. J. Harper, Esq., at Wanganui.

Fig. 28 represents a type common on the other side of the North Island, in the East Cape and Poverty Bay district. They have wooden backs, grooved at the base to receive the bone barb, which is then firmly lashed in position with fine flax cord. These specimens are in the Dominion Museum, Wellington.

\* "Crozet's Voyage," Ling Roth ed., p. 34.



Fig. 27.—Large composite fish-hook from Wanganui.



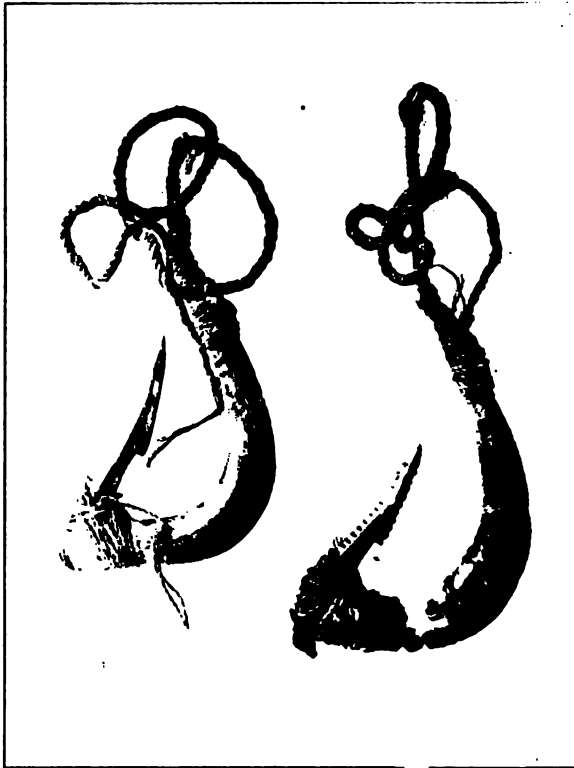


Fig. 28. — Composite fish-hooks from East Coast.

stead of a piece of bone. The third specimen is the wooden back, showing the shape of the wooden part of hooks such as those in Fig. 28. These backs were made from the tough wood of the *uhinau* (*Pomaderris*), and also the north from *mangemange* (*Lygodium volubile*), hardening them by means of fire. For *hapuka*-hooks they generally used a shrub called *kaikaiatua* (*Rhabdothamnus solandri*).

In the Auckland collection there are several fine examples of albatross-hooks, and here (Fig. 31) is a specimen, most delicately carved, and with a wonderfully worked bone barb, with fine projections like pin-heads. The line is not properly fastened to the shank, and there is no bait-string to the one; but in all the others that I have seen the bait-string is very long. I have been unable to get any

This double fish-hook (Fig. 29) is in the "Sir George Grey" collection, in the Auckland Free Library, and may possibly represent an ancient form, but I have seen no other specimen, and from the workmanship it appears to me to be comparatively modern, and made more for show than use.

The three fish-hooks shown in Fig. 30 are from the collection in the Canterbury Museum. The large one is a good example of a groper or shark hook, and, as the line has disappeared, the shape of that part of the back is shown. This is singular in having the barb of hard wood. It was found in the Moa-bone Point Cave at Sumner, near Christchurch. The smaller hook with a barb has a piece of the edge of a *paua*-shell sharpened to a point in-

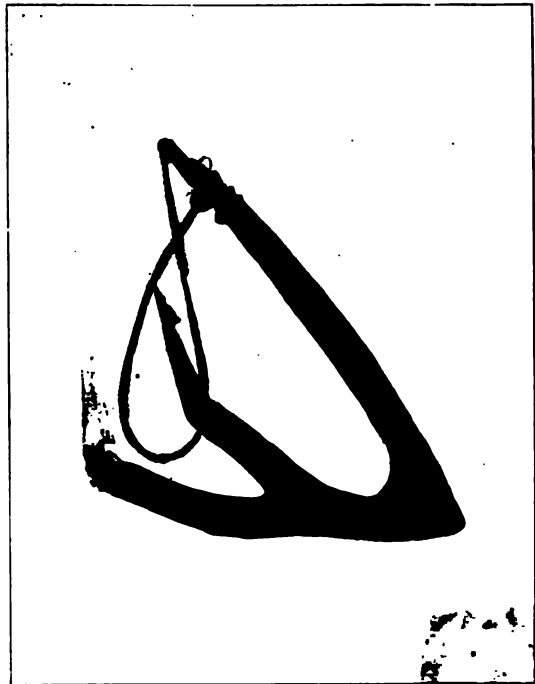


Fig. 29. — Double fish-hook.



Fig. 30.—Composite fish-hooks.



1.—Hook for catching albatross.

information from the Natives as to how they were used in my collection in the Dominion Museum, and came from the Cape, and all other specimens seem to have

So far we have figured hooks either entirely of bone or made from two or more materials, and which are still in existence in our public or private collections. As I have mentioned in another place, a great number of the bone barbs belonging to fish-hooks whose wooden parts have decayed have been found in the middens along the coast of Otago and Southland by His Honour Judge Chapman, by myself and my son, and by other collectors. To give some idea of the diversity of form, from the rudest piece of pointed bone to the most finished production, I now give photographs of specimens which can all of them be referred to types already figured. Fig. 32 gives eleven of these, all found at Long Beach, Purakanui, or Warrington. The one on the right is remarkable for having a small hole bored

specimen is in my own collection in the neighbourhood of the East district.

is a bone or made from two or more materials, and which are still in existence in our public or private collections.



Fig. 32. - Bone barbs for fish-hooks.

*moa*-bones. The three dark curved ones near the centre have an interesting history. Some years ago I was crossing a sandy neck of land at Stewart Island known as The Neck, and high up in the sandy cliff on one side I saw some human bones sticking out. Further investigation disclosed a complete skeleton, buried in a sitting posture, with its head on one side, resting on the right hand, the arm being close to the side, and the other arm crossed between the thighs and chest. On lifting the head, these three bone barbs and a small greenstone were seen: they had evidently been in the palm of the hand.

Fig. 35 is composed of a variety of bone barbs. In the specimen to the left the base has been exposed in the sand for a longer time than the top piece, and is more bleached. I have often found fragments, and months and even years afterwards found the missing pieces.

through the upper part of the barb for a bait-string, and is unique and, I think, a chance idea. The small well-finished barb near it is made from whale-tooth ivory. These are now in my collection in the Dominion Museum.

Fig. 33 gives a few specimens from Judge Chapman's collection from the same localities as those given in the preceding paragraph.

Fig. 34 has several interesting specimens, the straight sharp spike barb type not being represented in any other collection; nor are there any complete hooks of this kind known. The large one in the centre was dug up at the mouth of the Shag River, in the old middens full of



Fig. 33.—Bone barbs for fish-hooks.

Fig. 36 is entirely composed of bone barbs for *barracouta*-hooks, the base being passed through the wooden base, and fixed in position by a small peg. The upper left-hand corner shows an unusual form that has apparently been lashed on. Barbs of this kind were frequently seen in the old days hung in the ear as ornaments.

Figs. 37 and 38 represent the small and delicate barbs, the smaller ones usually being made from a piece of the wing-bone of an albatross. These are sometimes found in considerable numbers. I have found as many as forty more or less perfect specimens in one small area, probably where a *kete* full of hooks has decayed, leaving only the bone portion of the hook, the flax lashings and the wooden parts soon decaying. Nearly all the collections in the South Island have large numbers of these interesting relics. Hundreds, perhaps thousands, have been found in the site of old *kaingas* between the mouth of the Shag River and the Bluff. The specimens figured are in my collection, now deposited in the Dominion Museum, Wellington.

Fig. 39 shows a very interesting fishing implement, and one which for some time I took to be a picker for extracting shell-fish from the shell, or a pin for use in mat-weaving; but having found some broken in half, and some only cracked or partly broken, it then became evident that these double-pointed pieces of bird-bone (albatross) were "gorges"—one of the most primitive and elementary of all fish-catching apparatus. In nearly all the lake-dwellings in European lakes, and in pre-historic deposits in all parts of the world, these gorges have been found, and are in



Fig. 34.- Bone barbs for fish-hooks.

bobbing eels, and that is the stringing of worms on to a thin strip of flax or the mid-rib of a part of the leaf of the *nikau* palm. There is a story that when Maui and his brother went fishing after this manner, the brother did not tie any knots at the end of his threads, and consequently caught no eels, as the worms were drawn off; but Maui tied his bunch of worms into a ball, and when the eels bit at the worms they were jerked out on to the bank or into the canoe. This seems a variant of a similar story given at some length by Sir George Grey† of the fishing excursion of Maui and his brother Irawaru, when trouble arose because Irawaru was successful and Maui unsuccessful, and when Maui found that it was the barb on the hook used by Irawaru that made the difference he took a mean revenge, and by mighty spells and incantations changed Irawaru into a dog.‡

use at the present day in parts of Melanesia and New Guinea. Wooden gorges of this kind were also used by several Australian tribes.\* They are wrapped round with the bait, and so fastened parallel to the line that they are swallowed by the fish, and when any strain comes on the line the upper end sticks in the throat or mouth, and it is almost impossible to withdraw it. The line is made fast to the middle, and prevented from slipping by notches. I am unable to find out the name by which the implement was known to the Maori. It would, I imagine, be useful for any fish that swallow the bait freely. There is only one simpler method of fishing or

\* Brough Smyth, vol. 1, p. 388. (See also description of a New Zealand *kahawai*-hook, p. 392.)

† Poly. Myth., 1885, p. 50.

‡ See also "Te Ika a Maui," 1st ed., p. 25.



Fig. 35.—Bone barbs for fish-hooks.



Fig. 36.—Bone barbs for barracouta-hooks.



*Bone barbs for fish-hooks.*

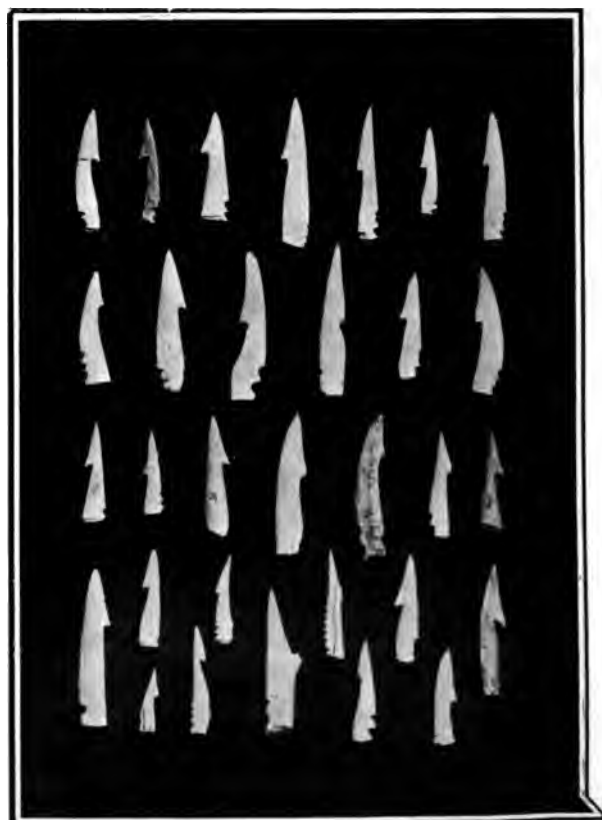


Fig. 38.—Bone barbs for fish-hooks.



Fig. 39. Fish-gorges.

shark, or for the large goproer caught in deep water off rocky shoals, or at some seasons from the beach just outside the line of breakers.

In Fig. 41 are shown a number of small barbless iron hooks, as used by the East Coast Natives, each provided with bait-string. The largest one I picked up in a village in Tolaga Bay some years ago. In recent years I have seen the Natives fishing for *hapuka* with a large horse-shoe sharpened at one extremity, and the line fastened to the other. All the specimens are carefully made, and after old patterns, such as the small bone hooks in Fig. 14. These specimens are in my collection, deposited in the Dominion Museum, Wellington.

Fig. 42 is another iron hook from the Taranaki coast, made from a round piece

We have now reviewed the majority of forms of fish-hooks used in Maoridom before the advent of the foreigner. Directly the explorer and whaler came to these shores the Natives became acquainted with the use of metals, and the old forms were reproduced in the copper bolt or piece of iron obtained from the visitors. Such a treasure as an unbreakable fish-hook was worth a great deal in those days, and only second to an iron axe. In order to show how they were made, a large-hook from the Taranaki coast is shown in Fig. 40. It has several barbs (*niwha*) and notches for the bait-string. Such a hook would be used for



Fig. 40.- Iron fish-hook for large fish.

of iron without notches for bait-string, but the manner in which the square plaited line is fastened to the shank of the hook is well worth examination.

Fig. 42A shows two large hooks from Poverty Bay, on the east side of the North Island, made from copper. They are well shaped and well finished, and strongly attached to strong flax cords, the part attached to the hook being wrapped round (*whakamia*) with finer cord (*whewheta*).

Fig. 43 is a collection of copper and iron hooks, with *ketes* for hooks and lines, from the Taranaki coast, which are at present in the Dominion Museum.



Fig. 41.—Iron fish-hooks.

Fig. 44 has four small wooden floats (*poito*) for nets when set for fish. These floats are made of very light wood—generally from the wood of the *whau* (*Entelea arborescens*), if procurable. In the North Island lumps of pumice were often used. In the centre are two flax spreaders, which were attached—generally to the number of three. The method of manufacture is visible in the photograph.

Sometimes these spreaders were made of bone or a suitable piece of wood. In Fig. 45 is shown a spreader (*pekapeka*), from Poverty Bay, made from a small rib of a whale, and to it are attached three old hooks. These are simply placed there to show where they would be attached; the attachment as made is probably quite incorrect. I think that probably there would be only two hooks, and a stone sinker hung from the centre.

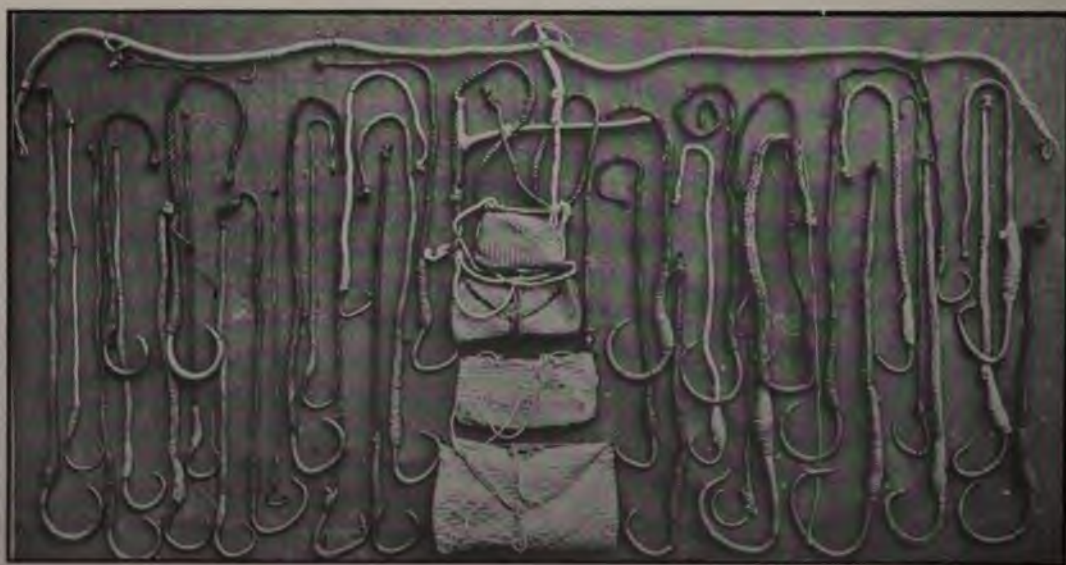




Fig. 42.—Iron fish-hook.



Fig. 42A.—Copper fish-hooks.

Fig. 43.—Copper and iron hooks, with *ketes* for hooks and lines.

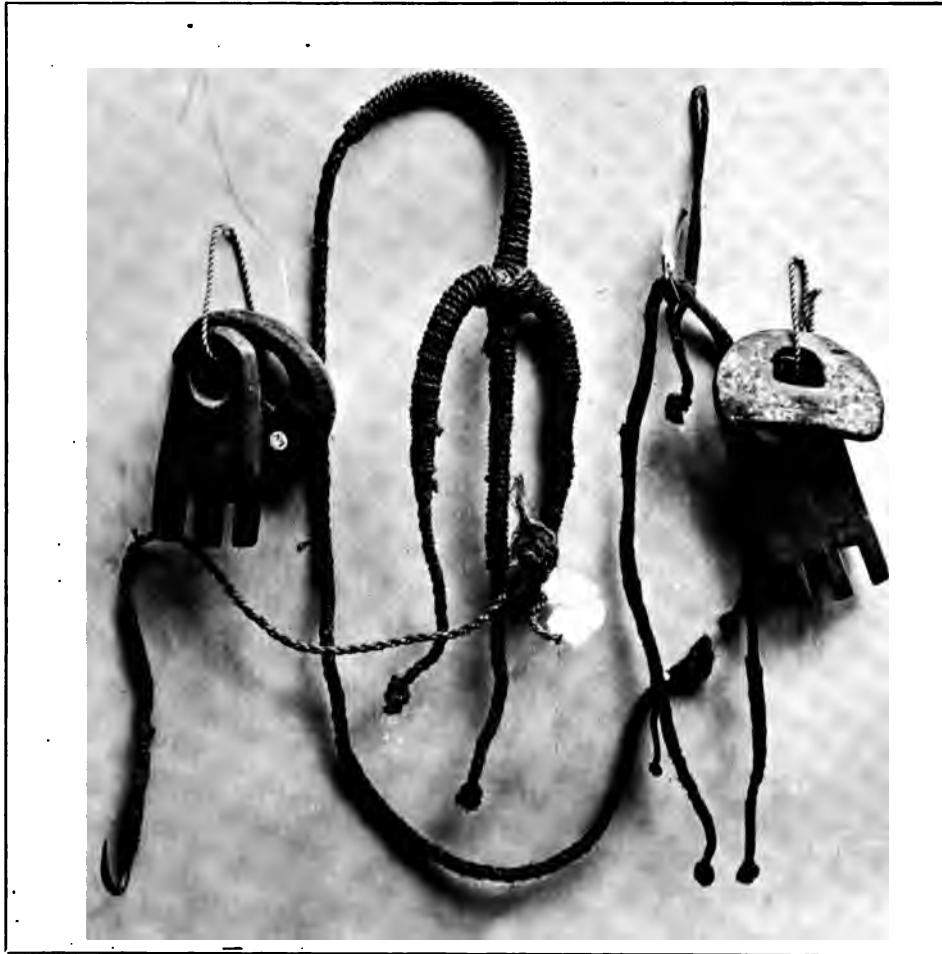


Fig. 44.---Wooden net-floats and flax spreaders.

Fig. 46 shows a well-carved spreader (*pekapeka*), made from a carefully selected piece of wood, and neatly fitted with lashings and loops for the attachment of the sinker to the middle (*taumahe*) and the two hooks.

A curious appendage to a short fishing-rod, such as would be used from a canoe, is figured in Fig. 47. It is about 7 in. in length, and is lashed to the top of the rod. The rod is then fixed with others to the side of the canoe, and the line passed through the upper part of the carving, being previously fastened securely to the canoe-thwart. At the lower part of the carving a number of valves of one of the common pipis are suspended by strings. When a fish takes the baited hook, the movement causes the shells to rattle, and calls the attention of the fisherman to the one of his lines that requires attention. I am indebted to Mr. F. J. Williams for a photograph of this curious specimen, which is peculiar, so far as I know, to the Poverty Bay district. It is called a *tautara*.

I have seen rough pieces, with several short branches, used as spreaders in several places in the North Island, such as may be seen on the right-hand figure of



Fig. 45. Bone spreader and hooks.

Fig. 48. To the specimens in this figure, which are from near the East Cape, I have attached two remarkable stone sinkers. The one on the right is made from arragonite (*tutae karoro*), and is probably rudely anthropomorphic. The other sinker is an unusual shape, and remarkably well made. I am not sure of the locality from which this was obtained, but I think it has come from the northern part of the Auckland District.

On the Taranaki coast and down to Wanganui there were a number of well-known fishing-grounds to which the Natives resorted, the exact positions of which were known by the bearing of marks on the hills or coast-line. When setting out, each fisherman would put into the canoe his bait and his hooks, carefully wrapped up in a neat *kete* made specially for that purpose, and having loops and a long fine cord affixed to the edges, so that it might be tied tightly, and keep the hooks and spare barbs from being lost. In Fig. 49 are shown three of these small *ketes*, two being of rather finer work than the other. They differ from all other *ketes* in having the long line for fastening them up, and are sometimes made from carefully prepared strips of the cabbage-tree, or *ti*.

them up, and are sometimes made

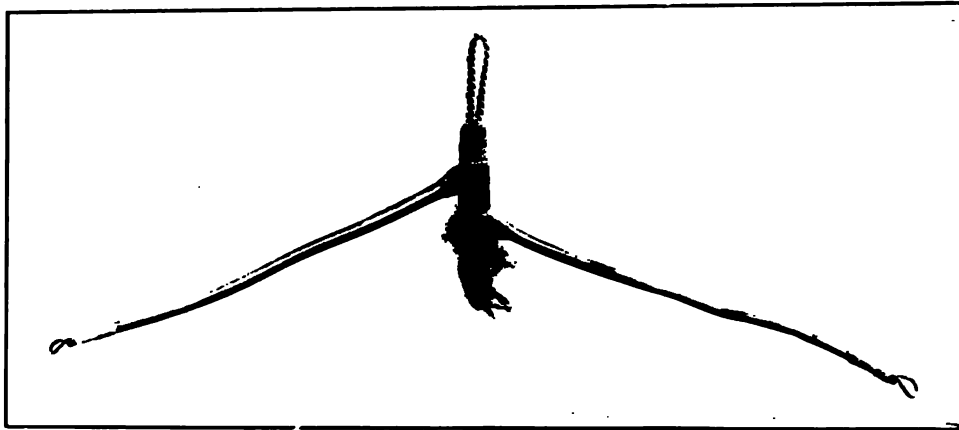


Fig. 46.- Carved wooden spreader.

## SINKERS.

For sea-fishing it was essential that the baited hooks should be carefully weighted, so that they might reach the feeding-grounds of the fish; and hence are found all along the coast-line numbers of sinkers that have been used for either fishing-lines or nets. The material was generally some suitable piece of the rock forming the coast-line; and when a piece already rounded by the action of the waves was secured, a groove was chipped out sufficiently deep to hold a cord in place. The groove was "picked" out by means of hard sharp stone, and very seldom ground or rubbed. In Fig. 50 a representation is given of part of a collection made by the Rev. T. G. Hammond in the neighbourhood of Patea, and a little to the north of Wanganui. The majority are naturally shaped stones, with grooves chipped either in the direction of the long or short axis; some—probably for nets



Fig. 47.—Figure carved on a fishing-rod.

—are flatter, and have either two or four notches, to retain the rope in position. Did we not know that they were only used as sinkers we could well imagine that some were for use as hammers, with a supplejack or pliable stick twisted round, in the manner of the American Indians or Australians. They range from small specimens weighing only a few ounces to specimens weighing as much as three pounds. There is such a great variety in form that it is impossible to give more than a general idea of the different groups into which they may be arranged.

Taking the plain grooved or notched natural stone as the lower end of the scale, we must place at the other end the highly carved specimens which are found in collections usually from the East Cape district. Fig. 51 contains three specimens, each in two positions. They are all made from a hard clay stone. The uppermost is a famous relic, now in the Auckland Museum, and formerly in the collection of Captain G. Mair. It is described in the Catalogue of the Dunedin Exhibition of 1889-90 as "A stone *kumara* god—Marutuahu—brought in the Mataatua canoe to New Zealand twenty-two generations ago." It is quite possible that it may have been used

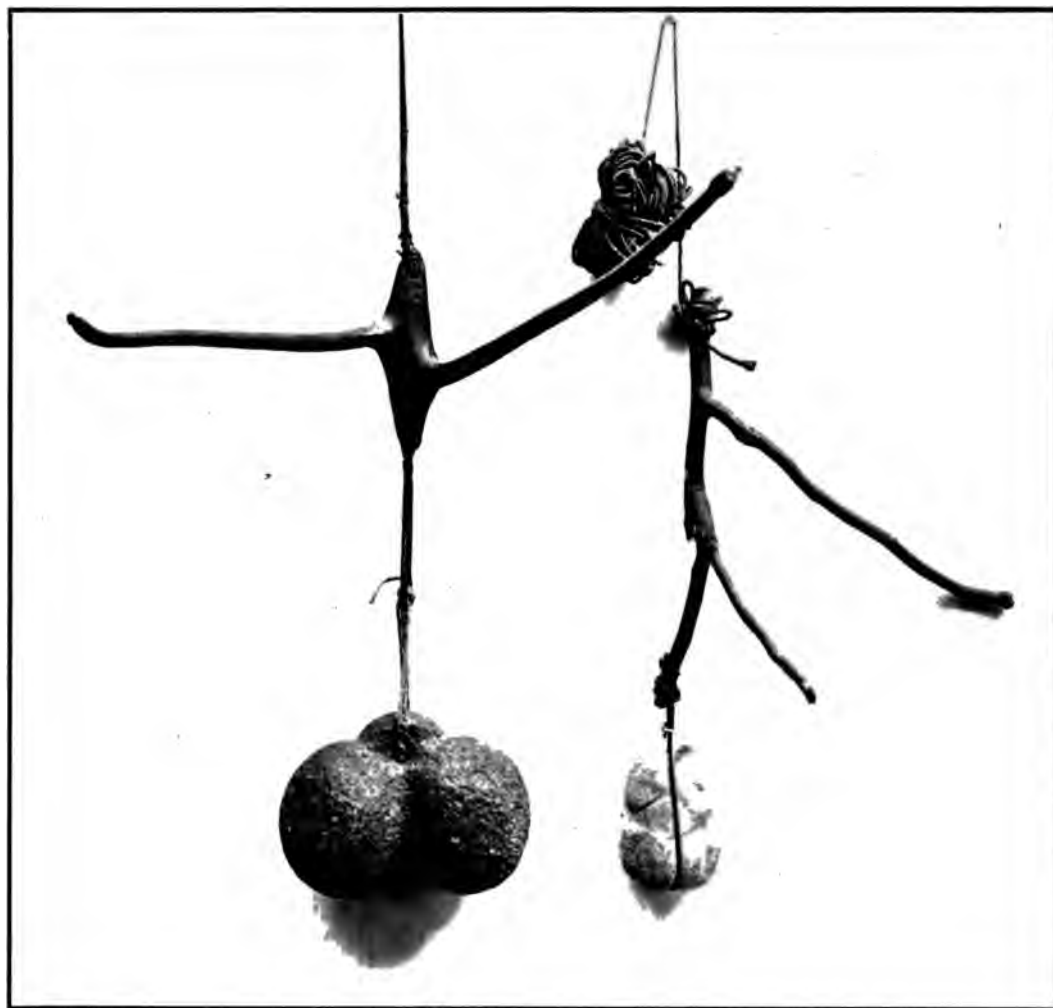


Fig. 48. Two spreaders and stone sinkers.

as a *kumara* god by the people to whom it belonged, but it is evidently exactly the same type as the other two sinkers figured, which were obtained near the East Cape, one being actually in use. The carving on the one formerly belonging to Captain Mair is done with great skill and regularity. The two from the East Cape are in my collection in the Dominion Museum.

It is possible that all these highly finished and ornamented sinkers were *manea*, or mediums for the spells recited by the fisher to bring the fish to his hooks. Fig. 52 shows a type of sinker confined almost entirely to the northern parts of Auckland, called a *mahe*, or *maihea*. The small specimen on the next figure (Fig. 53) is worked from a piece of arragonite, and came from the East Cape district. In addition to a hole at the top, it has a groove for the line to pass round it, and is ornamented with deeply cut channels in a regular pattern.

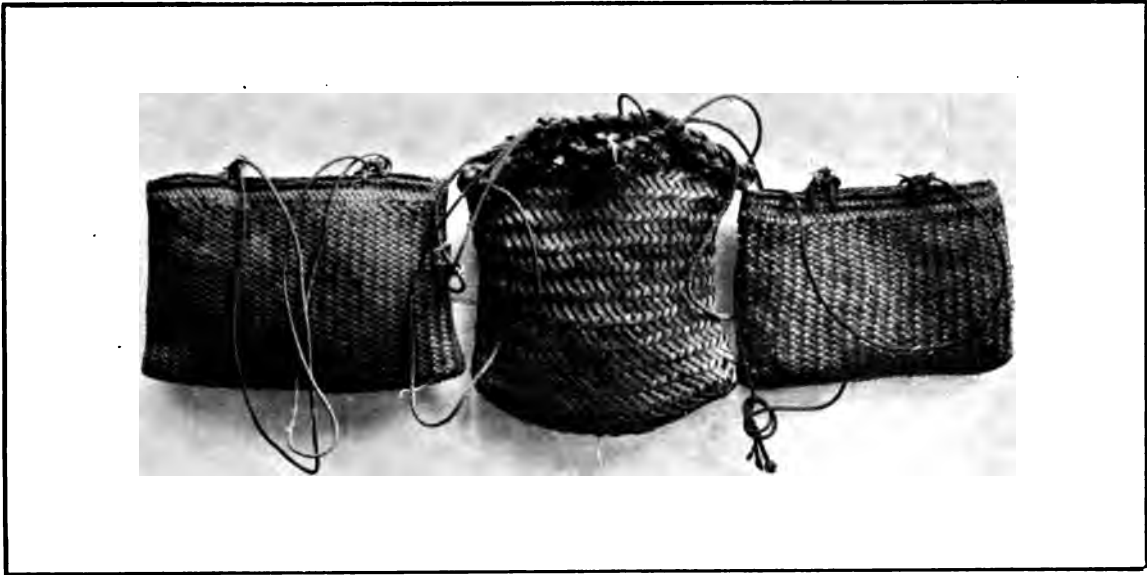


Fig. 49.- Small *kete* for fish-hooks and lines.

Fig. 54 shows a few small stone sinkers in my collection from Poverty Bay, with the original cords attached to them. The one in the centre is probably an imitation of an old-fashioned ship's block.

As I have said, a great number of interesting forms are in the Museum collection, but cannot be given here. As a final example, I will give an illustration (Fig. 55) of how a modern Native avoids the work entailed in chipping a groove in the stone. This line, with wooden spreader (*pekapeka*) and sinker, was in use at a fishing-village a little south of Gisborne, in Poverty Bay. I may here mention that I have seen



Fig. 50.—Group of stone sinkers.

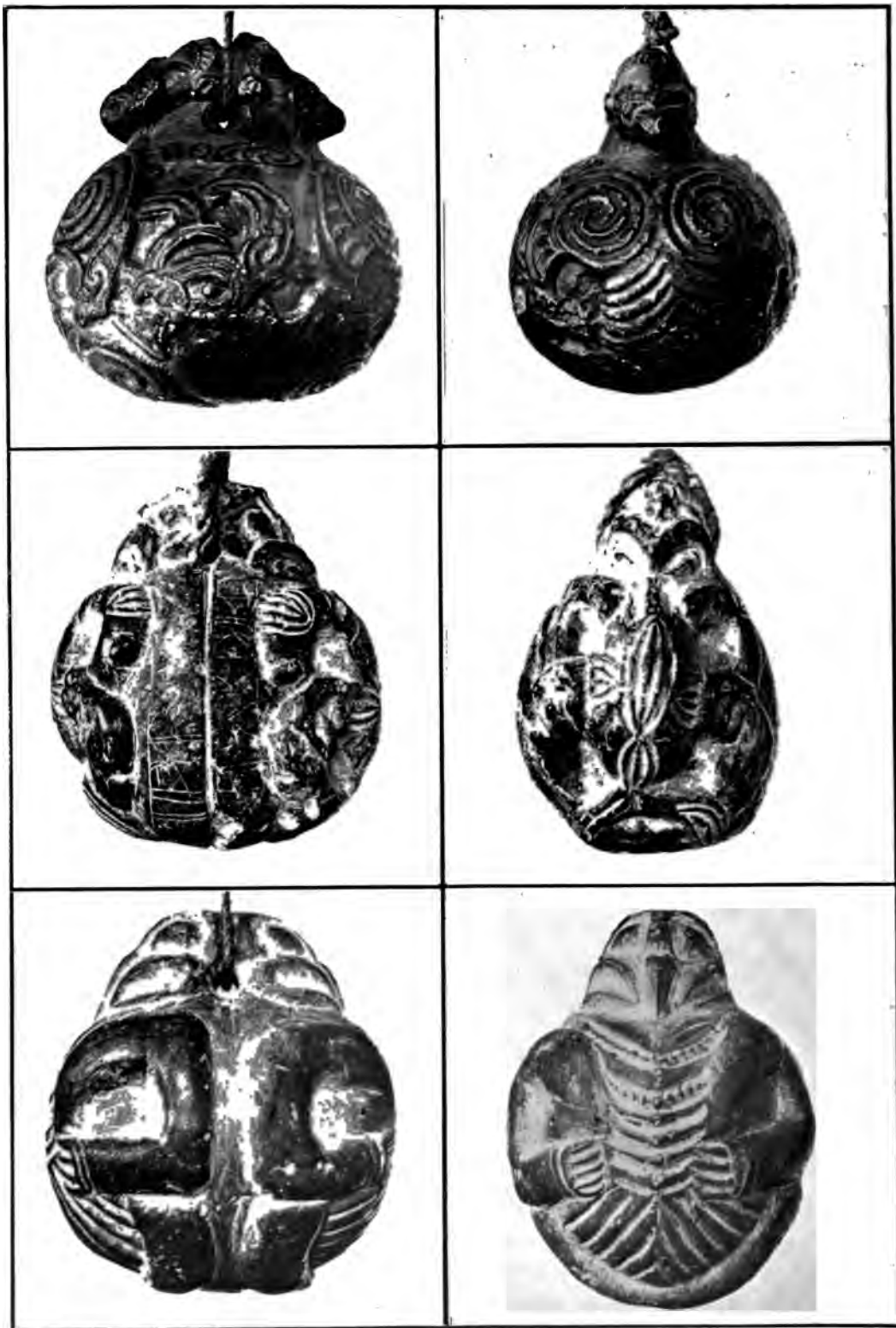


Fig. 51. Carved stone sinkers.



Fig. 52.—Carved sinker.

of the greater depths. *Hapuka* of great size are now caught in 125 fathoms in Palliser Bay by the local fishermen.

#### NETS.

The names of a great number of nets are to be found in the Maori dictionary and in lists of words relating to fishing, but very little information is now to be obtained concerning them. It is told in the story how the method of net-making was discovered, when the fairies fled from the beach as day dawned, and left their net of meshes with Kahukura. There was first discovered the stitch for netting a net, and it became a pattern for him. He then taught his children to make nets, and by this the

a whole horse-shoe, with one end sharpened, used as a fish-hook for groper. Some of the heavy sinkers were required for *hapuka*-fishing, as that huge fish, sometimes weighing 100 lb. in weight, feeds in deep waters, and a large sinker is required to take the baited hook down quickly through the shoals of *tamure*, of little account in comparison with their fat neighbours



Fig. 53.—Small carved sinker.



Fig. 54.—Sinkers from East Cape.





Fig. 55.—Spreader for hook and horse-shoe used as sinker.

Maori race were acquainted with the art, which they have now known from very remote times.\* The largest and most important was the *raharoa*, or great seine net. Nothing known could be more simple than the Maori fashion of splitting the flax-leaf into thin strips with the fingernail, drying them in the smoke to make the material as durable as possible, and then strip by strip netted on the hand without mesh or needle. It was usually done by old men, who were assisted on wet days by large numbers of both sexes and all ages. A net is mentioned in "Cook's Voyage"† as being seen at the Bay of Islands that was 5 fathoms deep and 400 fathoms long. This and others had small conical huts, in which they were stored for the winter, in heaps, on raised stages. The Natives laughed at the size of the seine net brought ashore by Cook's men. At the Dunedin

Exhibition in 1889-90 I had a large net of this kind from the Bay of Plenty, and when it was hung up it reached a great distance; but I find that I have no measurements, and after the Exhibition the net disappeared.

I am indebted to Mr. S. Percy Smith for the following *karakia* recited during the making of a net:—

E ngau ana te tawatawa ;  
 E ngau ana te tawatawa ;  
 Ki te matao (? matau) te harakeke ;  
 Kia mate iho  
 Matemate te tawatawa ;  
 Ko te ika ngutu roa ;  
 Ko te ika ngutu poto,  
 Ko te ika ngutu roa.

Ko te ika ngutu poto,  
 A-ha-ha !  
 Ko te ika teretere.  
 Puritia ai te whenua.  
 Ka rukuruku, ka heihei a ;  
 Ka rukuruku, ka caca ;  
 Oi, mokopu Tangaroa meha !  
 Ka eke ki runga.

\* Poly. Myth., p. 291.

† Hawksworth, "Cook's Voyage," vol. iii, p. 368.

[Translation.]

The mackerel\* bites ;  
 The mackerel bites ;  
 It bites the fish-hook, the lashing ;  
 Then let it die.  
 The mackerel shall die ;  
 The long-nosed fish,  
 The short-nosed fish,  
 The long-nosed fish,  
 The short-nosed fish,  
 A-ha-ha !  
 The shoal of fish.  
 Hold them to the land.

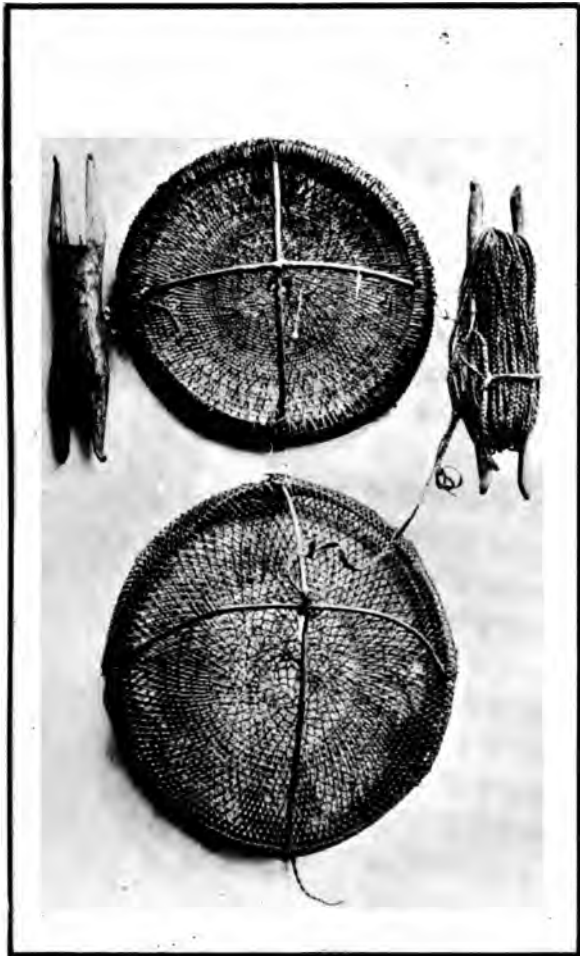


Fig. 57.—Nets for *koura*, Lake Taupo.

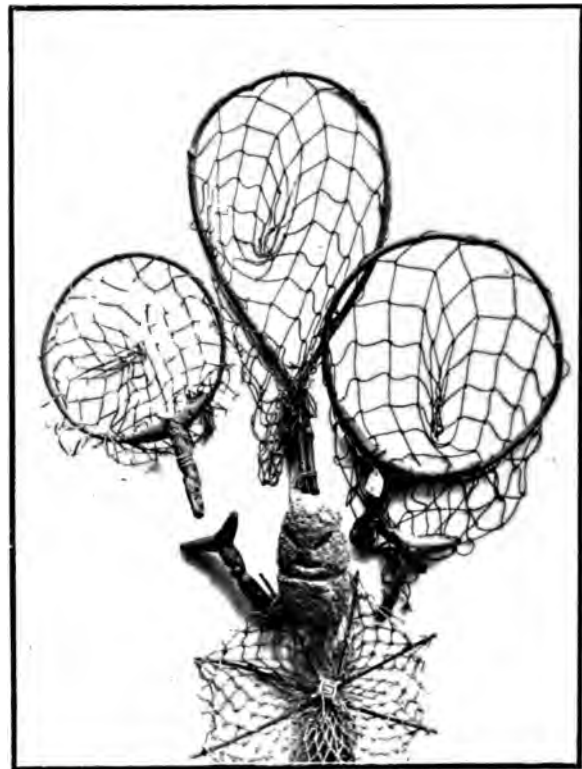


Fig. 56.—Hand-nets and carved sinker.

They dive ; they “kick up a dust” †  
 They dive ; they rise to the surface ;  
 O, spring up the offspring of Tangaroa ! ‡  
 They landed up above.

HE KARAKIA HI IKA.

Te ika i Rangiriri ra-e !  
 Ka tukia i reira, ka ngarue i reira,  
 Whare ripo, whare o Tangaroa.  
 Rire !  
 Ko ika ka tere mai.  
 Rire !  
 Te arataki ki whane toro hai.  
 Te ika i Kapiti ra-e !  
 Ka tukia i reira, ka ngarue i reira,  
 Whare ripo, whare o Tangaroa.  
 Rire !  
 Ko ika ka tere mai.  
 Rire !  
 Te arataki ki whane toro hai.

\* *Tawatawa*, so-called mackerel, only found in the north. It is *tapu* to Ngatiwhatua Tribe, whose ancestor was eaten by these fish.

† “Kick up a dust” is the equivalent of *heihai*. It means here the foam and obscurity and confusion in the waters caused by the attempts of the fish to escape.

‡ *Mokopu Tangaroa* is an expression obsolete except in this connection, and means the jumping-up of the fish above the surface, as when the *kahawai* is caught on the line.



Fig. 58. Carved bundles for hand-nets.

Te ika i Whanganui ra-e !  
Ka tukia i reira, ka ngarue i reira,  
Whare ripo, whare o Tangaroa.

Rire !

Ko ika ka tere mai.

Rire !

Te ika i Waitara ra-e !  
Ka tukia i reira, ka ngarue i reira,  
Whare ripo, whare o Tangaroa,

Rire !

Ko ika ka tere mai.

Rire !

[*Translation.*]

O fish at Rangiriri !  
Where ye (first) killed, where ye squirmed,  
In the whirlpool house of Tangaroa.

So be it !

The fish that hither come.

So be it !

Led here, with fierce on-coming.

O fish at Kapiti !

&c., &c.

O fish at Whanganui !

&c., &c.

O fish at Waitara !

&c., &c.

The story of the treachery of Maru-tuahu on the day of "the feast of rotten wood" is essentially of a great fishing-net, and this is how it is told : Whilst Maru-tuahu was living at Hauraki, his father (Hotonui) told him how very badly some



Fig. 95.—Small fish-trap (set), Tongariro River.

of the people of that place had treated him. These were the facts of the case, as the old chief related them to him: One day, when the canoes of the tribe came in full of fish, after hauling their nets, he sent down one of the servants from the house to the canoe to bring back some fish for him, and when the servant ran down for the purpose, the man who owned the nets said to him, "Well, what brings you here?" And the servant answered, "Hotunui sent me down to bring up some fish for him; he quite longs to taste them." Upon which the owner of the nets cursed Hotunui in the most violent and offensive manner, saying, "Is his head the flax that grows in the swamps at Otoi; or is his topknot flax, that the old fellow cannot go there to get some flax to make a net for himself with, instead of troubling me?" When Hotunui's servant heard this he returned at once to the house, and his master, not seeing the fish, said, "Well, tell me what is the matter"; so he replied, "I went as you told me, and I asked the man who had been hauling the net for some fish, and he only looked up at me. Again I asked him for fish, and then he said, 'Who

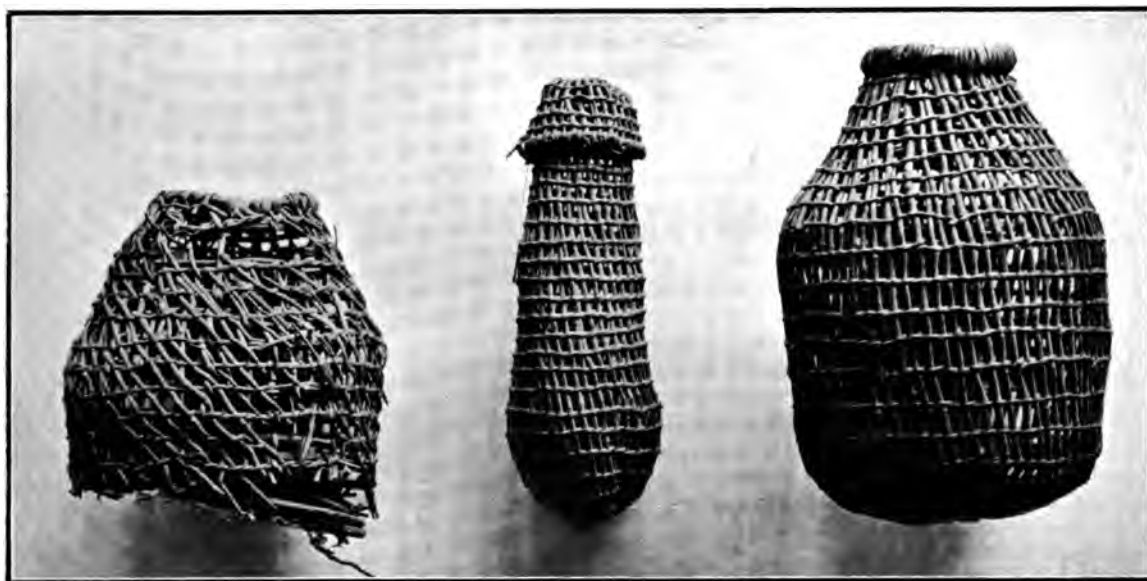


Fig. 60.—Small fish-baskets for lampreys and eels.

sent you here to fetch fish, pray?' Then I told him, "Hotunui sent me down to bring up some fish for him; he quite longs to taste them." Then the man cursed you, saying to me, 'Is Hotunui's head the flax that grows in the swamp at Otoi; or is his topknot flax, that the old fellow cannot go there to get some flax to make a net with for himself?'" When Hotunui had told this story to Maru-tuahu he said, "Now, O my son! this tribe is a very bad one; they seem bent upon lowering their chief's authority." The heart of Maru-tuahu felt very gloomy when he heard his father had been treated thus; and Hotunui said to him, "You may well look sad, my son, at hearing what I have just said; this tribe is composed of very bad people;" and Maru-tuahu replied, "Leave them alone; they shall find out what

such conduct leads to." Then Maru-tuahu began to catch and dry great quantities of fish for a feast, and he worked away with his men at making fishing-nets until he had collected a very great number. It was in the winter that he began to make these nets, and the winter, spring, summer, and part of autumn passed before they were finished. Then he sent a message to the tribe that had cursed his father to ask them to come to a feast, and to help him to stretch these nets; and when the messenger came back, Maru-tuahu asked him, "Where are they?" and the messenger answered, "The day after to-morrow they will arrive here." Then Maru-tuahu gave orders, saying, "To-morrow let the feast be ranged in rows, so that when they arrive here they may find it all ready for them." Upon this they all retired to rest, and when the dawn appeared they arranged the food to be given to the strangers in rows. The outside of the rows was composed of fish piled up; but under these was placed nothing but rotten wood and filth, although the exterior made a goodly show. He intended the feast to be a feast at which those who came as guests should be slaughtered, in revenge for the curse against Hotunui, which had exceedingly pained his heart. Soon after daybreak the next morning the guests came, and, seeing the piles of provisions which were laid out for them, they were exceedingly rejoiced, and longed for the time of distribution, and when they might touch the food, little thinking how dearly they were to pay for it. The guests had



Fig. 61.-- Fish-traps, Lake Taupo.

all arrived, and had taken their seats on the grass, when Maru-tuahu and his people came together—they were only 140. As they were to stretch the great net, made up of all the small ones, upon the next morning or that evening, they put all the nets and ropes into the water, to soak them, in order to soften the flax of which they were made, so that they might be more easily stretched; and when the morning dawned, those who had come for the purpose began to draw out the net, stretching the rope and the bottom of the net along the ground, and pegging it down tight from corner to corner, and thus whilst Maru-tuahu's people were preparing food for them to eat, the others worked away at stretching the net taut, and pegging it fast to the ground to hold it. It was not long before they had finished it, and put on the weights to sink it.

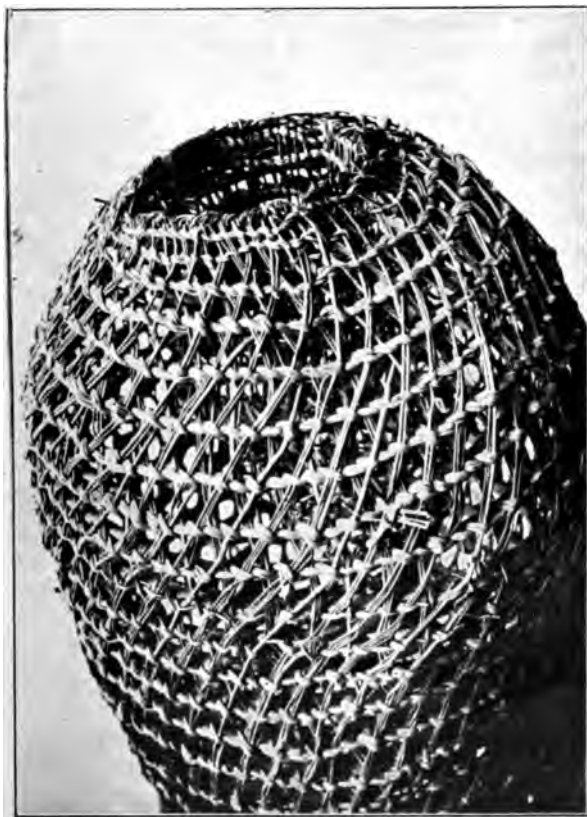


Fig. 63.—*Hinaki*, or eel-basket, Wanganui.



Fig. 62.—Urewera Natives, with fishing-devices.

Maru-tuahu sent a man to see whether they had finished stretching the net, and when the man came back he said, "Have they done stretching the net?" and the man answered, "Yes, they have finished." Then Maru-tuahu said, "Let us go and lift the upper end of the net from the ground; they have finished the lower end of it." Then the 140 men went with him, each carrying a weapon carefully concealed under his garment, lest their guests should see them, and when they reached the place where the net was they found the guests (nearly a thousand in number) had finished stretching

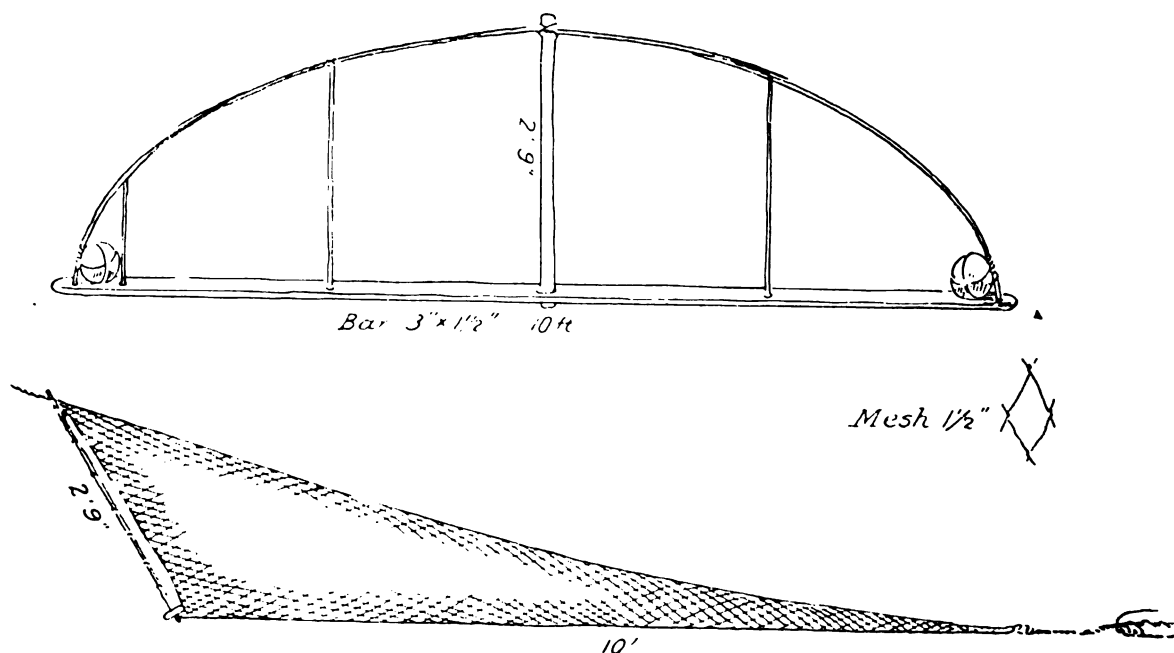


Fig. 64. Large dredge-net and diagram.

the lower end of the net. Then the priest of Maru-tuahū, who was to consecrate the net, said, "Let the upper end of the net be raised, so that the net may be stretched straight out," and Maru-tuahū said, "Yes, let it be done at once; it is getting late in the day." Then the 140 men began to lift up the net; with the left hand they seized the ropes to raise it, but with the right hand each firmly grasped his weapon, and Maru-tuahū shouted out, "Lift away, lift away; lift it well up." When they had raised it high in the air, they walked on with it, holding it up as if they were spreading it out, until they got it well over the strangers who were pegging the lower end down, or were seated on the ground looking on. Then Maru-tuahū shouted out, "Let it fall," and they let it fall, and caught in it their guests, nearly a thousand in number. They caught every one of them in the net, so that they could not move to make any effectual resistance; and whilst some of the 140 men of Maru-tuahū held the net down, the rest slew with their weapons the whole thousand. Not one escaped, whilst they lost not a single man themselves. Hence "the feast of rotten wood" is a proverb amongst the descendants of Maru-tuahū to this day. The "feast of rotten wood" was given at a place which was then called Pukeahau, but which was afterwards called Karihitangata (and men were the weights which were attached to the net to sink it), on account of the thousand people who were there slain by treachery in the net of Maru-tuahū, for men were the weights that were attached to the net to sink it. After the death of all these people the country they inhabited became the property of Maru-tuahū, and his heirs dwell there to the present day.



Fig. 65.—Eel-baskets, Wanganui River.

I am indebted to Archdeacon Williams for the following information obtained by him on the Poverty Bay coast. He defines the *kaharoa* (Fig. 77) as a large net, often as much as a mile in length. It is made in sections; as a rule, neighbouring hapus combining in the construction, each hapu taking a section. The middle section (*takapu*) is often up to about 40 *kumi* (*kumi* = 10 fathoms) in length, and 6 or 7 *kumi* in depth at the centre. This part was made with fine meshes (*mata*); on each side was a section (*rapinga* or *waha*) about 10 *kumi* in length, and decreasing in depth from that of the *takapu*, while the meshes increased gradually in size from those of the *takapu* outwards. Outside each *rapinga* was another section (*kauangaroa*) of similar length, constructed in the same way, with gradually increasing meshes and decreasing width,\* fastened finally to a pole (*pourakau*†) about 6 ft. in height. When completed, the sections were securely fastened together, and a rope of harakeke of three strands (*kaharunga*) attached to the top edge, with a similar rope (*kahararo*) on the bottom edge. Ropes were attached to each of the *pourakau*, and joined to a rope several *kumi* in length. Floats (*poito*‡) made of small gourds,

\* The mesh was made on the closed fist or the bunched fingers. Towards the centre, where greater strength was required, the meshes were smaller.

† This name is sometimes applied to the two extreme sections of the net.

‡ In the South Island inflated bags of kelp were used as floats. Some of these were found in a cave at Okain's Bay, Akaroa, and are now in the Canterbury Museum.



or of a light wood called *whau*, were fastened at intervals along the *kaharunga* of the *takapau* and the two *rapinga*, with sinkers (*karihi*) along the *kahararo* corresponding. These *karihi* consisted of small nets or bags containing stones.\* The net was carried by a file of men, and deposited in a large canoe (*taurua*), and one of the end-ropes secured on shore, while the canoe made a wide detour, paying out the net as it moved. The movements of the canoe were directed by a man on an eminence near the shore waving a branch of *rangiora*. When the net was drawn close to the shore, the fish were secured in a landing-net with a round head (*korapa*). The landing-net was similar to those in Fig. 56, but sometimes had a long handle.



Fig. 66. *Hōki*, or eel-trap, Wairarapa Lake.

A smaller seine net, about a *kumi* in length, with *pourakau*, but no floats or sinkers, called *tauuauau*, or *rangatahi*, is worked by two or three men near shore, or in an estuary, carried out into the sea, and returned in a half-circle to shore.

There is a net called *matiratira*, in which poles are placed at the mouth of a river. The net is laid by the poles at low water, with bottom edge secured, and cords are fastened from the upper edge to the top of the poles, whereby the net is drawn up at high water.

The *kaka* is a small net about 2 fathoms in length, with small meshes and sinkers, used for catching *manapa*.

The *tama* is similar to the *kaka*, but without sinkers, and is used for catching *upokoro* during a fresh in a river or stream.

\* *Kapiti*, or *karahi*. My informants were not perfectly clear whether these are synonymous or really separate parts. I am inclined to think that the latter is possibly the case.

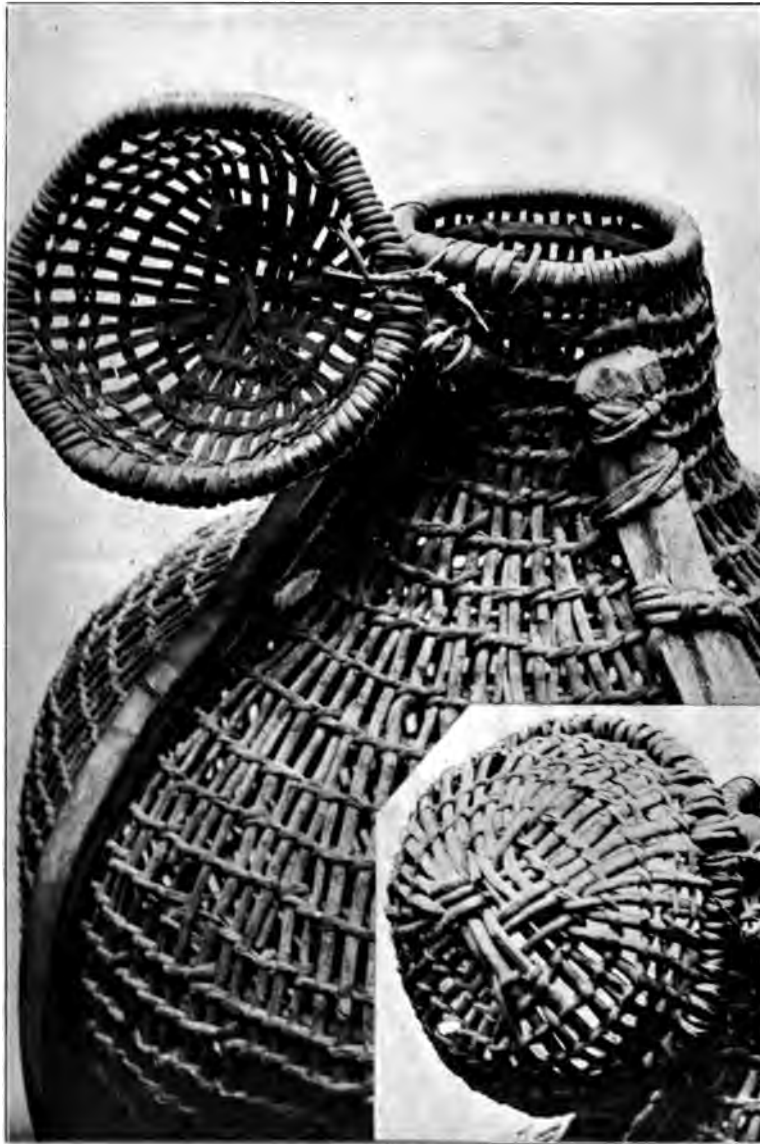


Fig. 67. Fish trap basket, Waiyapa River.

25 ft. apart, and as soon as the tide commenced to ebb, a funnel-shaped flax net about 60 ft. in length was fixed in the opening, the lower edge being pinned to the bottom by long poles forked at the ends. The top edge of the net was fastened to a bar from one set of stakes to the other. The fish, if the tide be favourable, are taken out about every quarter of an hour. This is done by lifting the long tapering end of the net and emptying the contents into a canoe. As soon as the ebb has ceased and the flood tide comes up, the net is simply turned inside out; and so the process goes on until sufficient fish are caught to occupy all hands with cleaning and drying. Assisted by a Native lad, Captain Mair lifted the net twice in about

three quarters of an hour, with the following results: 581 eels (from 1 ft. to 4 ft. in length, the largest the size of one's arm); 8 dozen flounders, of various sizes; large numbers of *pari*, or *kariki* (mullet); about 60 lb. or 70 lb. weight of pilchard, or *ma'ia'ia*; a few schrapper and *kariki*; hundreds of young red-cod and *pari*; and a number of *kariki*, or *pari*. A very large number of whitebait (*ahanga*) were also caught at the same time. The Paiko River is here about 60 yards wide, and the portion occupied by the net was only 5 or 6 yards. The tide comes up beyond the point.

The eel traps, shown in Figs. 65 and 66, varied very much in size and shape, and were constructed with much ingenuity, the usual material being creeping shoots and roots of a number of plants. The material bears the general name of



Fig. 69. Net-float, Lake Taupo.



Fig. 70.—Net-float, Lake Rotorua.

twiggy, and inside the bundle is placed the bait, consisting of a weka or some offal from a pig. A long line is then fastened to the bundle, and it is let down to the bottom of the lake, the position being marked by a float at the end of the line. After some hours the lines are visited, and raised slowly and carefully till they reach the surface, when they are jerked into the canoe, and knocked on the side or thwart.

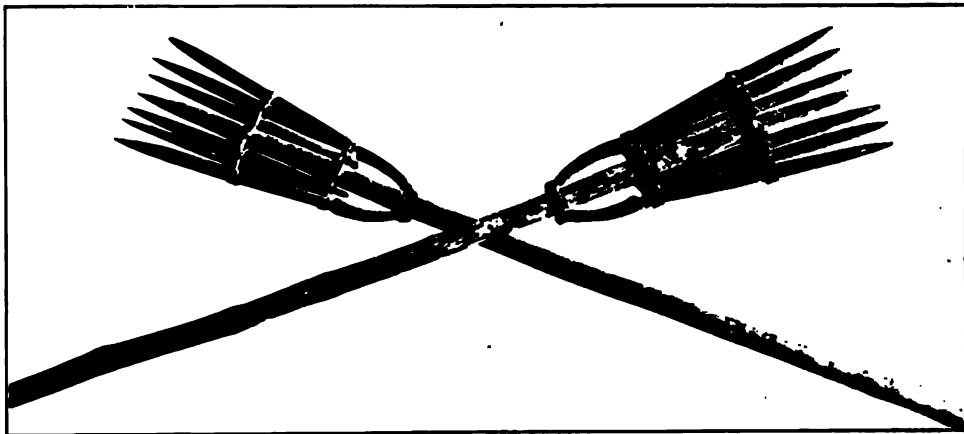


Fig. 71.—Eel-spears, Otago.

The *koura* then tumble out of the twigs into the canoe, and the bundle is again set. Sometimes a number of the bundles are set, attached each by its cord to a long line kept on the surface by floats.

Fig. 58 shows two handles for the small hand-nets. One is carved elaborately. The groove in which the supplejack which forms the ring fits is seen in the other. Both these are from Poverty Bay. They are in my collection in the Dominion Museum.

Fig. 59 represents a basket-trap set in the Tongariro River, near Tokaano, for eels and small fish. The form and structure of the trap is to be seen in the plate and in Fig. 61.

#### EELS.

One of the most important foods in the daily life of the inland Native was the flesh of the fresh-water eels (*tuna\**), which abounded in nearly every river and stream. In the deep narrow streams in the bush districts eels grew to a great size, and the great lakes, with the exception of Taupo and Rotorua, were well stocked with them. The Natives recognised at least a hundred varieties or states of growth, and had names for them all. In the evidence taken concerning the use made by the Natives of the Wairarapa Lake about forty names are given.

In the Waikato and some of the northern rivers the *tuna tuoro* was to be found, which was a veritable *taniwha*, and frequently seized men and children.

The flesh of the larger eels was prepared by taking out the backbone and smoking or drying the flesh in the sun. A common sight in all villages at certain times of the year was a stage or rows of poles from which hundreds of small eels were hanging drying in the sun, to be stored for future use.

For the capture of eels in favourable localities, such as the great swamps on the banks of the Waikato, permanent eel-pas were built, with carved posts at the principal points, and with watchers always on the spot, to protect the interests of the owners. Johnston, in "Maoria," points out that in the Maori economy the eel played a most important part. More than every other kind of food it represented fat, the nutriment for which man, whether savage or civilised, universally craves. For the capture of this much-prized food the Maori erected huge works, only excelled in magnitude by his fortifications. He cut canals leading from the lakes, so that he might have watercourses in which to place his elaborate stake-nets, and on these and the natural outlets to the lakes he built eel-weirs of so gigantic a size and of such durable timber that many of them remain to this day. Huge timbers were drawn into the bed of the river, as close together as possible. One that Johnston describes has its right and left wings extending nearly 400 yards into the Rotorua Lake. Towards the end of summer the silver eels, for which the lake is famous, commence to leave the lake, with the autumn floods, for the sea. At the time when the lake is lowest, every

\* The sea-eel, or conger, was called *koriro* in the South, and *koriro* or *ngoiro* in the North. For a story about the conger, see *Anc. Hist. Maori*, ii, p. 91.



Fig. 72. Eel-spear, Otago.

preparation for the coming eel-fishing was completed; every worn post was removed, and divers filled the interstices of the sunken beams with the down of the *raupo* (*punga*). As soon as the eels began to move, the chief in charge of the eel-*pa* had the huge nets put down and the great eel-basket, probably made in that part of the country of the stem of the climbing fern, the *mangemange* (*Lygodium scandens*). This was lifted every hour, and the contents poured into canoes placed ready to receive the catch. The eels, which are usually about 18 in. in length, are then cooked and eaten, or sent away as presents. The eels that escaped the net, or forced their way through the crevices in the training-walls, passed on down the stream to run the gauntlet of other weirs and pole-men further down.

About three miles and a half north of the mouth of the Awatere River there is a large mud flat forming the northern portion of Clifford Bay. Mr. C. W. Adams\* reports that about fourteen miles of canals, about 10 ft. wide, have been made by the Maoris in former times, probably for the purpose of catching eels and other fish.

In the Tutaekuri River I have seen the Natives piercing the muddy banks of the river with a spear tipped with a piece of fencing-wire. When an eel was struck, the spear was kept in its place, and the left hand worked down along the shaft of the spear until the eel was reached. The spears, with wooden barbs (in Fig. 71), have the barbs about 18 in. long, and the total length of the spear is about 7 ft. or 8 ft.

In other parts the holes in the river-banks were well known, and Natives would dive with a hook and cord, and, inserting the hand into the hole, strike the hook into any eel that might be in the hole at the time.

Mr. Percy Smith, in one of his papers,† refers to a *marau tuna*, or eel-rake, as having been used at Te-rotota-tara, in Hawke's Bay, a swampy lake near Te Aute, long famous for its eels.

Sword-shaped wooden clubs are frequently found in the swamps of the North Island, which have been used as eel-clubs to kill the eels taken in the traps and shallow places at the edge of the swamps. Usually they are made of hard wood, as in Fig. 73. They are thick on the back, and sharp-edged on the other side. Small ones are sometimes seen made of bone.

\* C. W. Adams: Poly. Soc. Journ., i, p. 169.

† S. Percy Smith: "Wars of the Nineteenth Century."

+

1769. "At 8 o'clock," he says, "the ship had more fish on board than all her people could eat in three days; and before night the quantity was so increased that every man who could get salt cured as many as would last him a month."\*

The method of preserving *koura*, the small fresh-water crayfish, was most interesting and novel. In November this crustacean would be caught in great numbers, and taken on shore near to a stream of fresh-running water. Into this water they

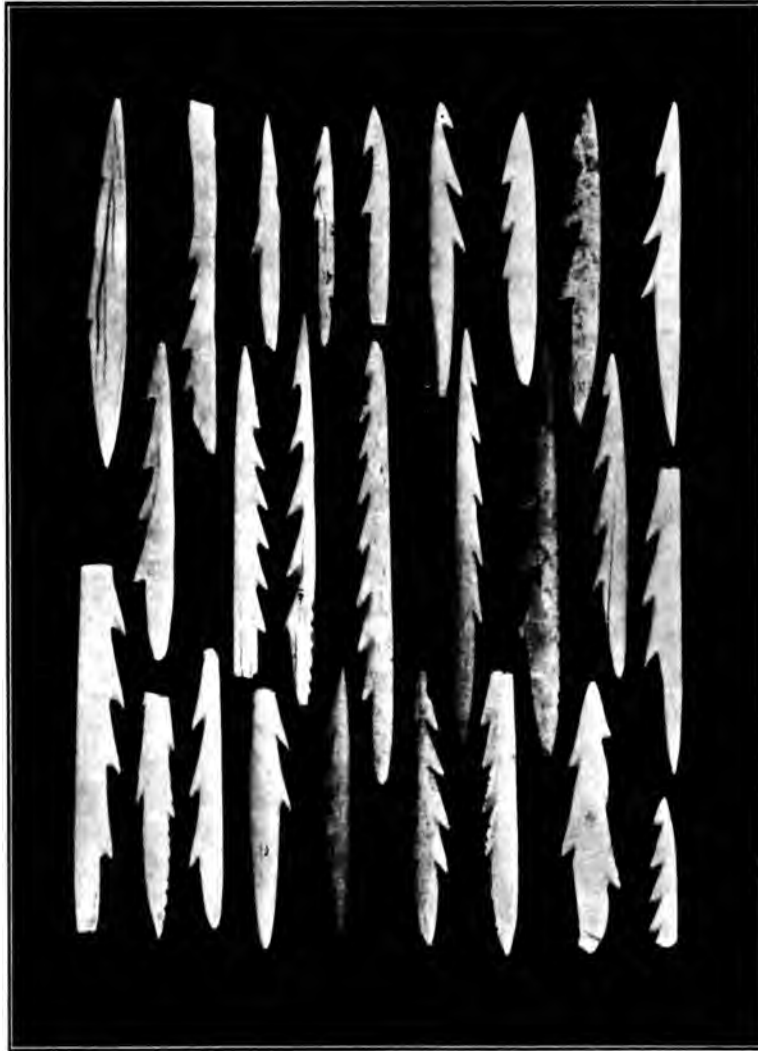


Fig. 74. --Bone spear-heads.

would be securely and closely packed in rows across the stream, like tiles on a house-top, and kept down with stones placed on them. When dead they were taken out, and their shells stripped off. These came off very easily, and the whole body of the fish, with its legs and feelers, came out from the shell in one piece, unbroken. These were quickly prepared, flattened, with their legs, &c., confined and pressed on their

\* "Voyage," vol. ii, pp. 335 and 440.

bodies, and hung up high in tiers on erected stages in the sun and wind to dry, and when dry were securely packed into flax baskets. Each *koura* when dry presented a most curious appearance—small, thin, light in weight, and whitish—just a small cake of dried fish, much appreciated by the Natives, and often sent to inland friends or relations as presents.

The shark most prized by the Maoris was called *mako*. It was not eaten like the other kinds—the *karaerae*, the *piako*, the *ururoa*, the *tuatini*, the *tahapounamu*, the *taiari*, the *tatere*, the *mangopare*, the *mango-ureroa* or *mango-ururoa*, the *mangotara*, and the *kapeta*. Of the *mango-ururoa* it is said, in honour of his gameness when hooked, “*Kia mate a ururoa.*” It was about 12 ft. long, and when caught at sea its head would be cut off and preserved for the teeth. The head would be cut off with a sharp-toothed knife—that is, the teeth of the *tatere* or *tuatini* shark set in and tied tightly to a wooden handle. Native tradition says that it could not be captured with hook or line, but when seen they would let a tempting bait down in front of it, and, as the shark followed the bait down, its tail would rise out of the water. At this moment a strong noosed rope would be thrown over the tail, and after a long struggle it would be captured. The *kapeta*, a small shark or dog-fish, was formerly taken in great numbers by the Maoris, and dried on long stages or racks in the sun for winter use. In an article which Mr. Stowell has kindly written for me on Maori fishing, he says, “Despite its disagreeable odour, the flesh was extremely delicate and nutritious. In large villages of harbours where the *kapeta* annually swarmed, such as Rangaunu, north of Doubtless Bay, *kapeta* staging, in three tiers, exceeded a quarter of a mile in length, and the smell thereof could be smelled eight miles away. They were left for a month or more to dry. The young of the *kapeta* is known as the *pioke.*” The article also deals with the *piharau*, or lamprey, and the method employed by the Maori in capturing the shoals as they ascend the rivers; also with the blind sea-eel (the *tuere*), much esteemed for its fatness.



Fig. 75.—Sea-goddess (*maraki hau*).

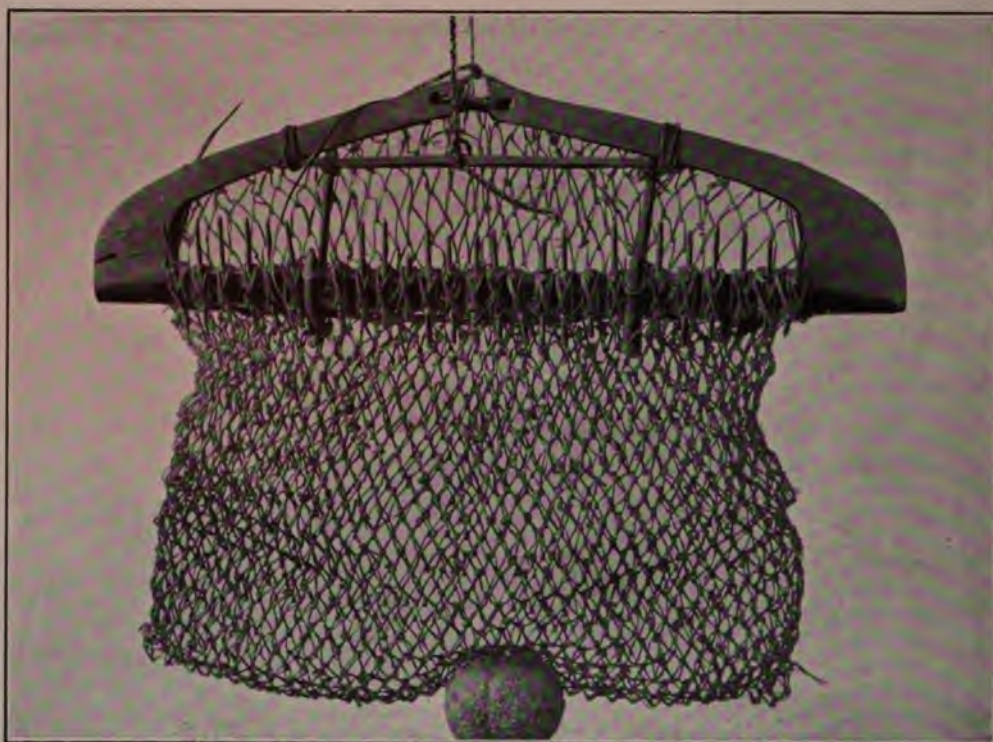


Fig. 76.—*Roukakahi*, or dredge-rake, from Rotorua.

A great number of beautifully worked bone barbs with from three to eight or nine teeth are found in the coastal sandhills on the site of old settlements (Fig. 74). A number of these were no doubt used for spearing flat-fish on the tidal flats; the larger were probably for bird-spears, but I do not know any method of distinguishing them. The specimens given were collected on the coast of Otago, between Shag Point and the Otago Heads. They are now in the Dominion Museum. The length of the largest specimen is 90 mm.

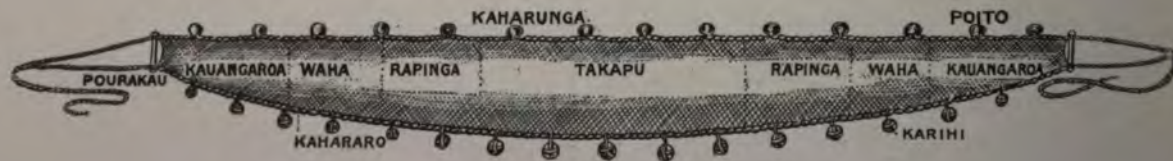


Fig. 77.—Diagram of the parts of a seine net.

*Roukakahi*, or dredge rakes, for scraping the fresh-water mussels from the bed of the lakes are used at Taupo and Rotorua. They are worked by means of a long pole, and raked backwards and forwards from a canoe. A figure is given of a *roukakahi* with the flax net attached at Fig. 76. A larger form intended to be used as a dredge, which is not common, is given in Fig. 78, and a diagram,



with measurements, in Fig. 64. Figures of carved specimens of *roukakahi* are given in Bulletin No. 1, Figs. *Lb* and *Lc*.

The fresh-water mussels (*kakahi*) are obtained from the mud of old lagoons or ponds by the Natives groping in the mud with their feet, and picking the shell up with their toes. Mr. Elsdon Best has an excellent account of the fresh foods of the Urewera Natives in one of his contributions to the "Transactions of the New Zealand Institute" (Vol. xxxv, pp. 65-80). He gives an immense amount of local



Fig. 78.—*Roukoura*, or dredge-net, from Rotorua.

folk-lore concerning eels and the methods of capture, proverbs, sayings, and charms relating to them. The Maori method of constructing the small hand-nets used for catching *kokopu* (*galaxias*) at night, known as *kupenga* and *kape*, is given in detail, and many interesting facts about the *inanga*, the *upokororo*, and the *korokoro* or lamprey.

The name of the dredge-rake used at Roto-iti is given as *heki* by Mr. Best.

4 cm



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