

122<sup>1.</sup>

## Canoe-building

Ceremonies observed at launching a new canoe,  
Abaiang.

At the point of dawn, the new canoe is carried from its shed by the builder and his helpers, and laid out on the shoal, pointing East and West, with outriggers to the windward side.

If the tide is out, the keel of the canoe is supported on several green, unhusked coconuts: if tide is high, she merely floats.

The fan-shaped ends of coconut leaves are then laid (one each) on the stem, stern and outrigger of the craft, so that their tips are pointing outwards and overhang the water. These are to frighten away the evil spirits and fish that might do her harm. Upon the leaves are laid green coconuts, baba, and any other sorts of native food available, in small quantities. These constitute the food of the evil spirits, (a sort of sop to Cerberus) to divert their attention from the canoe itself.

While these various objects are being laid on the craft, incantations of the usual sort are muttered, the performers of the ceremony facing eastward.

This done, the canoe is left to lie until just before sunset of the same

day. At this hour, the same company proceeds to the canoe, and throws all the food placed thereon into the sea; the coconut leaves are also cast away. These are supposed to drift away into the mouths of the various spirits and fishes that might do the craft injury; they act as a peace offering.

The canoe is then lifted out of the water and carried ashore.

She is set down pointing East and West in a space prepared for her by the lagoon shore.

A large fire is then built near her stem which points to the lagoon — or if her orientation happens to bring her parallel to the lagoon shore, it is lit at her Western end, i.e. the end nearest the setting sun. Coconuts and food are placed, while the fire is burning, inside her hull: at both stems and amidships, under the outrigger booms. The food is to placate, and the fire to frighten away the unfriendly spirits that inhabit the canoe. "Tania-ni-Kabi" (the Frequenter of the Keel) and other such names are attributed to these spirits. The idea in the native mind is explicitly that the canoe is, as it were, "born in sin": it is the natural home of evil spirits and must be purged of these by

fire before it is fit to do its work, or safe for human use.

While the fire is burning itself out, a feast is started, of which not only the builders, but also their relations partake. The canoe is then left overnight, with its food inside.

Next morning, at sunrise, the builders again carry the craft to water. Her mast is set up to one charm; her sail is hoisted to another; her steering oar is ~~set~~ lashed into place to a third; her fore and aft mast stays are adjusted to a fourth; and so on.

The canoe is then ready for its work.

## Navigation

Certain terms were used to describe the appearance of the land from a canoe. The general term for landfall was Te Mwi. There were four sorts of Mwi:—

- (a) Te Bono, i.e. the closed: descriptive of the trees, which when seen from close inshore form an unbroken line;
- (b) Te Rawarawa, the interspaced: when more distant, the smaller trees disappear, leaving gaps between those still visible.
- (c) Te Burabura, the similitude: when just visible, sitting on canoe;
- (d) Te Eko-mauna, the disappearing: when only visible from the crest of a wave.

## Navigation.

There were certain traditional signs by which navigators judged their distance westward of the land. The safety limit to leeward (i.e. westward in the Trade season) was called the "fish wall of Kabaki". (See story of Kabaki in the tale of Ni Māngarubuka). It consisted of a line of leaves and rubbish scattered over the sea from Makin to Samoa, far to westward of the land. This is possibly quite true, the rubbish being carried by some current.

The sea was said to slope sharply down to westward (tateterio) beyond this limit, and return was difficult. If a craft fell away farther to leeward, it came eventually to the second limit (toki), which was a region of āriki, a dead calm. The frequenter of these waters was a gigantic fish called Ti Uu, which sucked canoes and occupants into its mouth & swallowed them whole.

The third toki, farther west again, was called Wenei-n-anti (shooting star-of-spirits). In this place a man had two shadows. If he looked at his sail, his shadow was there and if he looked at the water his shadow was there too.

The fourth toki was recognised by the appearance of a bird whose cry was continually "I a Kaawa, I a Kaawa." (I am unfortunate, I am unfortunate). And in this place it was hopeless to think of a return, for the sea sloped sharper still to westward and the waves rushed like a river (Parānua) downhill.

The fifth and last toki was called Ts. Habuki-tore  
(the somersault), Any craft coming so far was  
then doomed. The water rose in confused  
waves, with no direction, all around it  
and it was sucked down into the depths.

## Navigation.

In reckoning his daily position at sea, while travelling from island to island the navigator had certain betia, or sea marks, which helped him to find his bearings. The knowledge of these betia was no doubt the cumulative result of many years of travelling. I have been able to find out 19 recognised betia.

1. If the navigator came to a place where 27 waves in succession seemed to rise as if from under the sea and travel past him from North to South, no matter what was the general direction of the swell, he knew that he was half a day's sail due north of Makin.
2. Farther north than this he would find that the prevailing wind was N.E. instead of S.E. (in the season of Trades) and would know that to reach Makin he must return on his tracks.
3. If the N.E. wind failed to warn him, he knew that farther still to northward there lay a belt of maabubu, mist or low visibility, to tell him that he had overshot his landfall.
4. If in trying to make Butaritari he hauled his wind too close (in S.E. Trades) the betia known as the Kainiman would warn him that he was too eastward of his landfall. The Kainiman

was recognized by its numerous sharks, and especially by the shark known as Ngare'i, which has but one row of teeth in each jaw.

Another name for this betia was O-mi-bakea (enclosure of sharks).

5. To eastward of Makin also lay a Rainiman or O-mi-bakea and an additional guide to the navigator was the presence of large numbers of Tropic Birds (Red Tailed)

6. A sign that a man was to N.E. of Makin by a day's sail was the appearance of many sharks of the variety called Baiburebure (spotted-fin). The tips of this shark's fins are touched with a yellowish white.

7. South west of Makin lay the betia where flying fish were observed to leap frequently in pairs from the sea, and fly one just under the other.

8. Due east of a middle point between Marakei and Makin was known to lie the islet named Bike-mi-Karakara. This islet is uninhabited and uncharted, but it is known by European navigators to lie some sixty miles to eastward of these two islands.

9. To westward of Abayang, half a day's sail, was a betia recognized by the presence of numerous jelly fish called "Wa-n Na'arean" (Land of Na'Arean).



10. A man knew he was nearly in sight of the north end of Abaiang, but fallen away to leeward (westward) when he saw a species of sea-gull which flies in pairs, the birds continually revolving one about the other.

11. Farther to westward of Abaiang & Tarawa, a navigator would know that he was a day's sail from land by meeting with a very large variety of porpoise, said to be 4 fathoms long.

12. West of Tamana was the beta called Te Arabungea. It is said that this was known by the presence of oily streaks on the sea's surface, having two arms, thus  $\text{>}$ . One of these arms invariably pointed to Tamana, the other to Tabitua.

12. Just out of sight of land, to south of Marakei was Mi Rōbā: a large wave, or series of large waves travelling northwards with curling crests, as if ready to break.

13. Due south of Mi Roba was Te Kia, a series of large waves travelling northward, not breaking but with troubled flanks.

14. North-east of Tarawa, half a day's sail, was known to be a series of waves, similar to Mi Roba (12) but travelling always across the swell eastward. This

beta was called Trakaatara.

15. Between Tarawa & Maiana were porpoises in pairs, whose heads always pointed in the direction of the passage into Tarawa lagoon at the place called Bairiki. (It is quite probable that these porpoises would be feeding on some sort of food swept out of Bairiki passage by the tide race of the lagoon at falling water).

16. A beta to the West of Maiana, just out of sight of land was a submerged reef, some six fathoms below the surface. This reef is said by old navigators to stretch S.W. to the southern point of Aranuka, some 60 miles away. It is a haunt of porpoise.

17. Far to westward of Abemama, half a day's sail from Banaba (Ocean Island) is the beta named Kaibābā: there, the waves are seen to sweep from N. to S. across the prevailing swell.

18. Eastward of Kusaie (Kurae, Gill.) is the fish called Make-ni-Karawa (sp. garfish) which leaps in great numbers from the sea. Farther to eastward still, two days' sail from land are seen turtles in pairs, one of which jumps from the sea when approached, while the other dives.

19. "Beyond all lands" is the bird called Mataaba.

9.1

Terms for Landfall

Certain terms were used to describe the appearance of the land from a canoe. The general term for landfall was te Mwi. There were four kinds of mwi:

ec

- (a) Te Bono (the closed): descriptive of the trees, which, when seen from close inshore, form an unbroken line.
- (b) Te Rawarawa (the interspaced): when more distant, the smaller trees disappear, leaving gaps between those still visible.
- (c) Te Burabura (the similitude): when just visible, sitting on a canoe.
- (d) Te Eko-mauna (the disappearing): when only visible from the crest of a wave.

ts

Seamarks (betia)

← As Europeans use landmarks, so the Gilbertese ancestors relied upon seamarks (betia) to check their daily position. These sign-posts in mid-ocean consisted of swarms of fish, flocks of birds, groups of driftwood, or conditions of wave and sky, discovered - and once discovered never forgotten - to be peculiar to certain zones of the sea. Hundreds of such traditional betia were stored up in the race memory as a result of the cumulative experience of generations. It is difficult for us to appreciate how very concrete and significant to the native mariner were the signs of sea and sky which to us seem so precarious. The people had, in fact, a sea<sup>#</sup>-sense which we do not possess in anything like the same degree, and it was obviously this gift more than any other agency which guided their migrant ancestors safe to land across a vast and strange ocean where their star<sup>#</sup>lore could no longer serve them.

listed below are

The ~~following tabulated list of betia bears mostly~~ relevant to ~~upon conditions of~~ travel between island<sup>s</sup> and island of the Gilbert Group, and should be read from the viewpoint of a navigator whose home port was Butaritari, in the extreme North Gilberts; ~~but~~ <sup>Although</sup> though thus local in their application, they do serve to suggest the bold technique, the shrewd observation, <sup>which</sup> ~~that~~ enabled the ancestors to undertake voyages of immensely greater duration.

Designation of betia

Sailing directions

Nao aika uabwi na itua (The twenty-seven waves)

If the navigator, Northward bound during the season of S.E. trade-winds, overshoots Butaritari or Little Makin, he will come to a zone of ocean where a series of 27 waves rises from time to time "as if from under the sea" and travels past him from N. to S. across any prevailing swell. From this, he will know that Little Makin is half a day's sail to Southward.

Te tan-n-ang (The change of wind)

Farther North than the 27 waves, the trade-wind will be found to change from S.E. to N.E. This warns the mariner that he is not less than two days' sail to North of Little Makin.

Te ma-kubu (The mist or low visibility)

Farther still to Northward, the voyager runs into a belt of low visibility which indicates that he is in the latitude of Taaruti - i.e., Jaluit Island, E. Marshalls, about 250 miles N.W. of Little Makin - and must run West for two or three days before he can make land.

Te kai-ni-man (The swarming of beasts)

This betia is a zone of the sea to Eastward of Butaritari, a day's sail down wind to land; it is recognized by the presence of extraordinary numbers of the shark called te nearei - a much dreaded variety of the Grey Nurse family. Another name for the region is Te o-ni-bakoa (The enclosure of sharks).

Te o-ni-bakoa (The enclosure of sharks)

A second o-ni-bakoa is recognized by the sailor to Eastward of Little Makin, half a day's sail offshore. This betia is distinguished from the preceding one by its numerous Red-Tailed Tropic-Birds (Phaeton rubricaudus).

Te bai-burebure (The mottled fin)

To N.E. of Little Makin, a day's sail from land, is a zone of sea teeming with the species of shark called bai-burebure, the tips of whose fins are touched with ivory-white markings.

Te kiba-n-onauti (The leaping of flying fish)

S.W. of Little Makin, due W. of Abaiang, and N.W. of Maiana, the navigator recognizes a region where the flying fish habitually leap in pairs from the sea, flying one just below the other and ultimately plunging together back into the waves.

Bike-ni-karakara (The growing islet)

Due East of a middle point between Marakei and Little Makin the navigator knows of a small, sandy islet, which he calls Bike-ni-karakara. (The existence of this tiny uncharted island, about 60 miles to Eastward of the two islands named, is confirmed by European master-mariners.)

Wa-n Na Areau (The canoe of Na Areau)

A betia to Westward of Abaiang, half a day's sail, is a zone frequented by innumerable jelly-fish of the sort called wa-n Na Areau.

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more

③ take in on previous page

~~Kusaie~~ Eastward of <sup>Kosrae</sup> ~~Kusaie~~ (called Kurae in the Gilberts) is the fish called Make ni Karawa (<sup>species of</sup> ~~sp.~~ garfish), which leaps in great numbers from the sea. Farther to eastward still, two days sail from land, are seen turtles in pairs, one of which jumps from the sea when approached while the other dives.

Unnamed betia of birds

The traveller knows that he is nearly in sight of the North end of Abaiang, but has fallen away to Westward, when he sees numerous terns flying in pairs, of which one bird continually revolves about the other.

Unnamed betia of porpoise

Farther to Westward than the sea-birds, a day's beat away from land, is recognized a region frequented by schools of a very large variety of porpoise (possibly Blackfish), each one four fathoms long.

Nei Roba (a kind of wave)

Due South of Marakei, just out of sight of land, is encountered Nei Roba - a large periodical wave, travelling due North, across any prevailing swell, with curling crest as if ready to break.

Te kia (a kind of wave)

and NE of Tarawa

Half a day's sail farther South than Nei Roba, the traveller runs into Te kia - a series of large waves also passing North across the swell. These waves are not crested, but have troubled flanks.

Te kai-baaba (cross-seas)

Far to Westward of Abemama, half a day's sail downwind to Ocean Island (Banaba), is found Te kai-baaba - a frequent succession of large waves sweeping from North to South across the swell. (This betia is estimated to lie about 300 miles distant from the Butaritari navigator's home).

Te ara-bungca (a condition of the sea's surface)

The sea-mark known as Te ara-bungca lies far to Westward of Tamana; Southern Gilberts; it is described as a succession of shining streaks upon the sea's surface forming a great V-shaped figure. One arm of the V is said to point towards Tamana, the other towards Tabiteuea. The season of trade winds is here postulated as elsewhere. (The island of Tamana lies about 350 miles distant from Butaritari).

Matni Kabaki (The fish-trap of Kabaki)

south-easterly

This betia consists of a scattered line of leaves and other drift far to Westward of Ocean Island (Banaba), which stretches from the line of Northern islands (Carolines) in a S.E. direction towards Tamoa. It is said that by following this line a navigator could reach as far South as Tamoa, but would find great difficulty in beating up to land from the point where the drift began to fail him.

For purposes of local navigation, the Matni Kabaki is called the toki, or safety limit, to Westward.

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Unnamed Betia



<sup>the voyager's encounters</sup>  
(15) Between Tarawa and Maiana ~~were~~<sup>are</sup> porpoises<sup>S</sup> in pairs, whose heads <sup>are</sup> always pointed in the direction of the passage into Tarawa lagoon at the place called Bairiki. (It is quite possible that these porpoises would be feeding on some sort of food swept out of Bairiki passage by the tide race of the lagoon at falling water).<sup>h</sup>

Unnamed Betia

(17) A betia to the west of Maiana, just out of sight of land, was a submerged reef, some six fathoms below the surface. This reef is said by old navigators to stretch ~~south-west~~<sup>SW</sup> to the southern point of Aranuka, some sixty miles away. It is a haunt of porpoises<sup>S</sup><sup>a</sup>.

<sup>2</sup> For comments on Gilbertese betia see Lewis 1972: 114, 215, 249, 319-20.

Corrected to see  
10.4.87 midday



9.3

Safety limit (toki)  
toki to westward

There were certain traditional signs by which navigators judged their distance westward of the land. The safety limit to leeward (i.e. westward in the season of the Trades) winds was ~~called~~ the 'fish-<sup>hook</sup> ~~hook~~ of Kabaki' (see the story of Kabaki in the tradition of Nei Manganibuka). It consisted of a line of leaves and rubbish scattered over the sea from Makin to Samoa, far to the westward of the land. This <sup>was</sup> ~~is~~ possibly quite true, the rubbish being carried by some current.

The sea was said to slope sharply down to westward (bateterio) beyond this limit, and return was difficult. If a craft fell away farther to leeward it came eventually to a second limit (toki), which was a region of ariki, or dead calm. The frequenter of these waters was a gigantic fish called <sup>e</sup> Te Uu, which sucked canoes and their occupants into its mouth and swallowed them whole.

The third toki, farther west again, was called Wenei n Anti (shooting star of spirits). In this place a man had two shadows. If he looked at his sail his shadow was there, and if he looked at the water his shadow was there too.

<sup>te mataba</sup> The fourth toki was recognized by the appearance of a bird, whose cry was continually 'I a kawa, I a kawa' (I am <sup>unhappy</sup> ~~unfortunate~~, I am <sup>unhappy</sup> ~~unfortunate~~). And in this place it was hopeless to think of a return, for the sea sloped sharper still to westward and the waves rushed like a river (karanga) down<sup>r</sup> hill.

The fifth and last toki was called Te Uabuki te re (the <sup>capsize</sup> ~~overhaul~~). Any craft coming so far was then doomed. The water rose in confused waves, with no direction, all around it, and it was sucked down into the depths.

*See p. ... and the story of Kabaki in the tradition of Nei Manganibuka.*  
*See the story of Kabaki in the tradition of Nei Manganibuka.*

9.4

Changes in canoe types

~~Canoes~~

The ancestors made their wonderful migrations in canoes.  
I have described elsewhere the canoes of the modern Gilbertese: it was presumably in craft of <sup>presumably</sup> similar construction (i.e., having hulls built up of planks lashed together with string) that the ancestors of the race performed their wonderful migrations. The examination of evidence from the field of material culture lies outside the scope of this paper: <sup>note</sup> as for the evidence of tradition, <sup>When we seek evidence from traditional tales (rather than from material culture)</sup> the account of the building of the "Kaburoro" canoe exhibited in section 3 of the Little Makin series leaves small room for doubt that, during their sojourn in the Southern land called Tancoa, the Gilbertese ancestors used the built-up type of vessel having a single outrigger and float.<sup>4</sup> That a craft composed of two hulls was once known to the race is implied by the name bauria (Ellice Islands foulua - double canoe) given to deep-water vessels of the type pictured in <sup>my</sup> the paper <sup>of 1924.</sup> which I have quoted.<sup>5</sup> It is significant to note in this connection that, until quite recently, the Gilbertese were in the habit of removing the float of a large canoe and replacing it by the hull of a smaller craft, for the purpose of giving the outrigger a greater carrying capacity whenever necessary.

A very characteristic feature of the Gilbertese hull-form is its intentional asymmetry, ingeniously designed with a view to counteracting the drag of the float.<sup>6</sup> An apparently similar asymmetry has been noted in reports from other areas, but I

<sup>3</sup> Described in Grunle 1924: 101-39

<sup>4</sup> Grunle 1934<sup>3-34</sup>: 87-9

<sup>5</sup> Kennedy 1931: 98; Grunle 1924: Plate XXI-1.

<sup>6</sup> Kennedy (1931: 78) records a similar 'bulge' in the hull of Vaitupu canoes. The possibility of Gilbertese influence emanating from here should be considered in the connection - see Kennedy 1931: 71.

Grunle 1924: 107-8.

believe myself to have been the first ~~XXXX~~ to discover and explain its mechanical significance. This feature of construction deserves further research, inasmuch as it involves a fundamental mechanical principle which would tend to survive all material changes dictated by accident or environment.

As far as general form is concerned, a multitude of varying conditions (especially those connected with the quality and size of available timbers) may have caused profound local modifications of the original hull-construction since the race scattered to different groups from Tamoia. A splendid example of the changes that environment can effect is afforded in the canoes of the Gilbertese-speaking population of Nui, in the Ellice Group. Fugitives from the Gilbert Islands of Tabiteuea, Beru and Nonouti, some <sup>ten</sup> ~~10~~ generations ago, <sup>were</sup> ~~and~~ forced to find a new home upon Nui, <sup>and</sup> these people (though preserving their original speech, traditions and social organization remarkably intact) have, for the <sup>P</sup> ~~last~~ four generations at least, entirely abandoned the built-up type of canoe and adopted the dug-out form. I am indebted to ~~Dr.~~ <sup>H.</sup> H.E. Maude, <sup>a</sup> ~~of~~ the Cambridge <sup>University</sup> school of anthropology, <sup>ist</sup> for confirmation of my observation of this fact, and for the extremely important additional information that the Nui folk have not even preserved that most typical, effective and easily made adjunct of Gilbertese canoes - the Y-shaped stick attachment between outrigger and float.

So much for the durability of material forms, when ordinary common-<sup>#</sup>sense dictates their abandonment. The obvious reason for the radical change effected at Nui was that the dug-out type of craft seen in the Ellice Islands (with its strength of hull and compact outrigger and float) was better suited to local reef conditions than the Gilbertese vessel and its appurtenances - and much more easily

built, owing to the plentiful supply of fairly soft and moderately large timber. Such ready response by Oceanic races to local exigencies, and such eagerness to embrace new ideas - involving the wholesale replacement of one form by another - are too <sup>seldom</sup> ~~scarcely~~ recognised by students of material culture.

There can be no doubt whatever that the size, weight, material, and general composition of a canoe, adze or any other article of utility manufactured by natives are in many cases determined by physical conditions of a purely local kind. The receptiveness of Oceanic peoples to new ideas, from whatever source they may emanate, introduces a psychological element ~~hitherto~~ <sup>hitherto</sup> most surprisingly ignored by students - into the question of the build-up of local cultures on the material side. Local conditions must be known, and local history examined, before any safe generalisation based upon material evidence can be made.

Fundamental mechanical principles, once discovered, would indeed tend to stand fast through all changes of external fashion, for they would represent an elixir of utility which no craftsman would willingly discard. For this reason, I venture with some confidence the conjecture that the <sup>deliberate</sup> ~~reasoned~~ asymmetry of the built-up Gilbertese canoe has been carried over by the Nui people into the hulls of their dug-out craft. ~~Mr. H. E. Maude proposes to investigate this question at a fitting opportunity.~~

In making the following recantation, I shall not only correct a piece of bad ethnography which I heartily deplore, but shall also afford an excellent illustration of the manner in which important features of material <sup>culture</sup> can be obliterated. In 1924 I stated that both hulls and float attachments on the island of Banaba (where the population is Gilbertese) assimilated closely to those pictured by Hedley from

Funafuti. The notes and sketches upon which I based this report were made early in 1920, in two of the island's four villages. Further research has shown that the craft <sup>that</sup> which I observed were not of Banaban construction at all, having been the imported canoes of Ellice Island labourers employed in the local phosphate industry. The Banaban population learned in the course of twenty years to appreciate the value of Ellice Island canoes for reef-work, and acquired the habit of buying such craft from their owners when the latter completed their indentures and went home. In this manner, the true Banaban canoe was ousted from the two villages nearest to the settlement of the Ellice Islanders. In 1922, however, Ellice labourers ceased to be employed at Banaba, and the supply of new canoes consequently failed at its source. The local timber being extremely hard, and so unsuitable for the easy manufacture of dug-outs, the Bababans never learned to make these craft for themselves: when the purchased canoes wore out, they were therefore replaced by vessels of the built-up type (boards being easy to buy), and the island reverted to its own methods of construction. When the example of Nui is considered, no reasonable doubt can exist that, had there grown upon Banaba a timber from which Ellice Island canoes could have been easily made, the Banabans would have adopted the new form in favour of their own, because of its superior utility under the conditions set by their lagoonless island.

~~In leaving the matter of the Gilbertese canoe now in the hands of experts upon material culture, I must participate by general deductions from traditional evidence and state that the <sup>Gilbertese</sup> canoe appears to have migrated into the Pacific from Indonesia. It therefore seems very significant that the portion of Indonesia plotted out by Haddon as the present~~

7. ~~See~~ <sup>See</sup> ~~report in Note 1, page 123.~~ Grunble 1924: 123; Hedley 1897: Plate xv.  
8. ~~Haddon, op. cit. in Note 2, page 71.~~

focus of outrigger canoes is almost exactly the area to which local tradition points as the pre-Oceanic fatherland. Haddon's commentary upon the evidence examined by him is worth quoting in full: ~~.....~~...it is legitimate to suppose that from Indonesia, if not actually from the Moluccas, migrations took place at various times, each with its special type of canoe or with some partial modification. As a general rule one might expect to find that the earlier types of canoes or of outriggers were those that went furthest, and those that started last would have a more limited distribution; but we must also remember that the later swarms would be more civilised and have a better technical equipment, and thus some of them may have passed over earlier layers and have reached a far destination".

Indent  
quote

7 Haddon 1920:71.

## 2. Traditions connected with navigation.

Whatever may have been the craft in which the voyages of the Gilbertese ancestors were performed, it is clear that a high degree of seamanship was needed to bring them safe to their destinations. Despite the unfortunate meagreness of the facts recently collected concerning the astronomy and meteorology of the modern Gilbertese, they do, I think, warrant a presumption that the ancestors of the race came into Oceania with a system of navigation based mainly upon the observation of the heavenly bodies. Some few of the facts recorded in connection with the movements of the sun suggest, indeed, the further possibility that the elements of Gilbertese astronomy may have been learned from a people possessed of a mathematical system.

A short account was given in Part V of my paper on Gilbertese canoes of the method by which a Gilbertese boy was taught to observe the heavens: the list of 63 heavenly bodies thereto appended represents but a fraction of the

6. Haddon 1920:71.

8. Grimble, A - Gilbertese astronomy and astronomical observances, JPS,

8. Opunt. Note 1, Page 135.

9.5 Canoe Ceremonies observed at launching a new canoe Abaiang

At the point of dawn the new canoe was carried from its shed by the builder and his helpers and laid out on the shoal, pointing east and west, with its outrigger to the windward side.

If the tide was out, the keel of the canoe would be supported on several green, unhusked coconuts; if the tide was high, it would merely float.

The fan-shaped ends of coconut leaves were then laid (one each) on the stem, stern and outrigger of the craft, so that their tips were pointed outwards and overhung the water. These ~~are~~<sup>were</sup> to frighten away the evil spirits and fish that might do it harm.

Upon the leaves were laid green coconuts, babai and any other sort of food available, in small quantities. These constitute the food of the evil spirits, to divert their attention from the canoe itself.

While these various objects were being laid on the craft, incantations of the usual sort were muttered, the performers of the ceremony facing eastward.

This done, the canoe was left to lie until just before sunset on the same day. At this hour the same company proceeded to the canoe and threw all the food thereon into the sea; the coconut leaves being also cast away. These were supposed to drift away into the mouths of the various spirits and fishes that might do the craft injury, thus acting as a peace offering.

The canoe was then lifted out of the water and carried ashore. It was set down pointing east and west in a space prepared for it by the lagoon shore.

A large fire was ~~then~~ built near its stem, which pointed towards the lagoon; but if its orientation had happened to bring it parallel to the lagoon shore, ~~it~~<sup>the fire</sup> would have been lit at its western end, i.e. the end nearest the setting sun.

Coconuts and <sup>other</sup> food were placed, while the fire was burning, inside <sup>the</sup> its hull; at both stems and amidships, under the out-rigger booms. The food was to placate, and the fire to frighten away, the unfriendly spirits that might inhabit the canoe. 'Tania ni kabi' (the frequenter of the keel) and other such names were attributed to these spirits. The idea ~~in mind~~ was that <sup>a</sup> the canoe is, ~~as it were,~~ 'born in sin', <sup>(to use the terminology of another culture)</sup> and is the natural home of evil spirits which must be purged by fire before it is fit to do its work or safe for human use.

While the fire was burning itself out, a feast was started, of which not only the builders but also their relations partook. The canoe was then left overnight, with its food inside.

Next morning, at sunrise, the builders again carried the craft to water. The mast was set up to one charm; its sail was hoisted to another; its steering oar was lashed into place to a third; its fore and aft mast stays were adjusted to a fourth; and so on.

The canoe was then ready for its work.



## Notes

- 1 In the sixty years during which I have been associated with the Gilbert Islands I have never succeeded in authenticating a sighting of Bikeni Karakara, nor have I seen it myself though I have searched the area around its supposed location ~~XXXXXX~~ on schooner passages from Butaritari to the southern islands. During World War II, furthermore, innumerable U.S. planes must have flown over the area without, so far as I have been able to ascertain, anyone reporting a reef in the vicinity. Hence I conclude that the atoll is now submerged. See also Heyen 1937:1.
- 2 For comments on Gilbertese betia see Lewis 1972:114, 215, 249, 319-20.
- 3 Described in Grimble 1924:101-39.
- 4 Grimble 1933-34:87-9.
- 5 Kennedy 1931:98; Grimble 1924:Plate XXI.
- 6 Grimble 1924:107-8. Kennedy (1931:78) records a similar 'bulge' in the hull of Vaitupan canoes. The possibility of Gilbertese influence emanating from Nui should be considered in this connexion - see Kennedy 1931:107-8.
- 7 Grimble 1924:123; Hedley 1897:Plate XV.
- 8 Haddon 1920:71.

into four zones, of which two are named and two merely described. In the first zone beyond the Fish-trap of Kabaki, the sea is said to take a downward slope away from home, and a mariner's return becomes increasingly difficult as he progresses towards the second zone. The second is a region of dead calms, where the downward slope of the sea becomes sharper still, and wherein dwells the monstrous uu-fish. This dreadful creature is said to be able with one suck (uu) to engulf and swallow a canoe "together with all its crew". The third zone, wherein the strayed voyager abandons all hope of life, is called Te wenei-n-anti - the shooting star (or wake) of spirits - and is described as the region where a man has two shadows. In the words of my informants: "If the voyager looks at the sail his shadow is there, and if he looks upon the water his shadow is upon the water". The fourth zone is called Te-ua-buki-te-re - The-capsize-the-somersault - and is haunted by a strange, lonely bird who cries continually, "I a kaava, I a kaava (I am unhappy, I am unhappy)". Here, the doomed canoe is seized in a resistless current which sweeps it West for a day and a night until it reaches the edge of a tremendous maelstrom, where it is sucked into the depths.

### 3. Other Geographical traditions

The above theory of the Western seas seems to have taken shape since the immigration of the ancestors from Tamoa. This does not necessarily imply that the myth material involved is of modern origin, but the manner in which possibly ancient elements have been adapted to local use appears to reflect the attitude of a race which had begun to feel that Micronesia was its final home, and that further adventuring in the direction of Melanesia would be unprofitable. I read the traditions descriptive of the Western zones as a warning to young navigators against voyages of discovery beyond the "Fish wall of Kabaki": as such they are definitely regarded by the old men of today.

The real geographical lore of the people, pertaining to lands outside the Gilbert Group, is no longer in the mouths of the navigators, but must be sought in myths and travel-stories of the kind exhibited in the preceding chapters. Some twenty or thirty distant places are named in the texts which have been produced, and one or two more can be added from other sources; these are to be gathered together in the present section for the further discussion, wherever possible, of their local or Polynesian associations.

## Seamarks

In reckoning his daily position at sea, while travelling from island to island, the navigator had certain betia, or seamarks, which helped him to find his bearings. The knowledge of these betia was no doubt the cumulative result of many years of travelling. I have been able to find out ~~19~~<sup>20</sup> recognised betia.

(1) If the navigator came to a place where 27 waves in succession seemed to rise as if from under the sea and travel past him from north to south, no matter what was the general direction of the swell, he knew that he was half a day's sail due north of Makin.

(2) Farther north than this he would find that the prevailing wind was north-east instead of south-east (in the season of the Trades) and would know that to reach Makin he must return on his tracks.

(3) If the north-east wind failed to warn him, he knew that farther still to northward there lay a belt of mabubu, mist or low visibility, to tell him that he had overshot his landfall.


(4) If in trying to make Butaritari he hauled his wind too close (during the season of the south-east Trades) the betia known as the kainiman<sup>k</sup> would warn him that he was to the eastward of his landfall. The kainiman<sup>k</sup> was recognised by its numerous sharks, and especially by the shark known as Ngarei, which has but one row of teeth in each jaw. Another name for this betia was o-ni-bakoa<sup>o</sup> (the enclosure of sharks).

(5) To eastward of Makin also lay a kainiman<sup>k</sup> or o-ni-bakoa<sup>o</sup>, and an additional guide to the navigator was the presence of large numbers of Tropic Birds (Red Tailed).

(6) A sign that a man was to north-east of Makin by a day's sail was the appearance of many sharks of the variety known Baiburebure (spotted-fin). The tips of shark's fins are touched with a yellowish white.

(7) South-west of Makin lay the betia where flying-fish were observed to leap frequently in pairs from the sea, and fly one just under the other.

(8) Due east of a middle point between Marakei and Makin was known <sup>to lie</sup> the islet named Bike ni Karakara. This islet is uninhabited and uncharted, but it is known by European navigators to lie some sixty miles to the eastward of these two islands. X

- ✓ (9) To westward of Abaiang, half a day's sail, was a betia recognized by the presence of numerous jelly-fish called Wan Na Areau (canoe of Na Areau).
- ✓ (10) A man knew that he was nearly in sight of the north end of Abaiang, but fallen away to leeward (westward), when he saw a species of sea-gull which flies in pairs, the birds continually revolving one about the other.
- ✓ (11) Farther to westward of Abaiang and Tarawa a navigator would know that he was a day's sail from land by meeting with a very large variety of porpoise, said to be four fathoms long.
- ✓ (12) West of Tamana was the betia called Te Arabungea. It is said that this was known by the presence of oily streaks on the sea's surface, having two arms thus . One of these arms invariably pointed to Tamana, the other to Tabiteuea.
- ✓ (13) Just out of sight of land, to the south of Marakei, was Nei Roba: a large wave, or series of large waves, travelling northwards with curling crests, as if ready to break.
- ✓ (14) Due south of Nei Roba was Te Kia, a series of large waves travelling northward, not breaking but with troubled flanks.
- (15) North-east of Tarawa, half a day's sail, there was known to be a series of waves similar to Nei Roba but travelling always across the swell. This betia was called Te Akatara.

## Canoes and Navigation

### Terms for Landfall

Certain terms were used to describe the appearance of the land from a canoe. The general term for landfall was te Mwi. There were four kinds of mwi:

- (a) Te Bono (the closed): descriptive of the trees, which when seen from close inshore form an unbroken line.
- (b) Te Rawarawa (the interspaced): when more distant, the smaller trees disappear, leaving gaps between those still visible.
- (c) Te Burabura (the similitude): when just visible, sitting on a canoe.
- (d) Te Eko-mauna (the disappearing): when only visible from the crest of a wave.

← As Europeans use landmarks, so the Gilbertese ancestors relied upon seemarks (betia) to check their daily position. These sign-posts in mid-ocean consisted of swarms of fish, flocks of birds, groups of driftwood, or conditions of wave and sky, discovered - and once discovered never forgotten - to be peculiar to certain zones of the sea. Hundreds of such traditional betia were stored up in the race memory as a result of the cumulative experience of generations. It is difficult for us to appreciate how very concrete and significant to the native mariner were the signs of sea and sky which to us seem so precarious. The people had, in fact, a sea-sense which we do not possess in anything like the same degree, and it was obviously this gift more than any other agency which guided their migrant ancestors safe to land across a vast and strange ocean where their star-lore could no longer serve them.

The following tabulated list of betia bears mostly upon conditions of travel between island and island of the Gilbert Group, and should be read from the viewpoint of a navigator whose home port was Butaritari, in the extreme North Gilberts; but though thus local in their application they do serve to suggest the bold technique, the shrewd observation that enabled the ancestors to undertake voyages of immensely greater duration.

Bring out  
to margin

Designation of betia

Sailing directions

Neo aika uabwi+na+itau (The twenty-seven waves)

If the navigator, Northward bound during the season of S.E. trade-winds, overshoots Butaritari or Little Makin, he will come to a zone of ocean where a series of 27 waves rises from time to time "as if from under the sea" and travels past him from N. to S. across any prevailing swell: from this he will know that Little Makin is half a day's sail to Southward.

Te tan+n+ang (The change of wind)

Farther North than the 27 waves, the trade-wind will be found to change from S.E. to N.E. This warns the mariner that he is not less than two days' sail to North of Little Makin.

Te maabubu (The mist or low visibility)

Farther still to Northward, the voyager runs into a belt of low visibility which indicates that he is in the latitude of Taaruti - i.e., Jaluit Island, E. Marshalls, about 250 miles N.W. of Little Makin, and

Te Make ni Karawa  
(the garfish)

Eastward of Kusaie (called Kurae in the Gilberts) is the fish called Make ni Karawa (sp. garfish), which leaps in great numbers from the sea. Forther to eastward still, two day's sail from land are seen turtles in pairs, one of which jumps from the sea when approached while the other dives.

Te o+ni+bakoa (The enclosure of sharks)

region is Te o+ni+bakoa (The enclosure of sharks).

A second o+ni+bakoa is recognised by the sailor to Eastward of Little Makin, half a day's sail offshore. This betia is distinguished from the preceding one by its numerous Red Tailed Tropic Birds (*Phaeton rubricaudus*).

Te bai+burebure (The mottled fin)

To N.E. of Little Makin, a day's sail from land, is a zone of sea teeming with the species of shark called bai+burebure, the tips of whose fins are touched with ivory-white markings.

Se kiba+n+onanti (The leaping of flying fish)

S.W. of Little Makin, due W. of Abaiang, and N.W. of Maiana the navigator recognises a region where the flying fish habitually leap in pairs from the sea, flying one just below the other and ultimately plunging together back into the waves.

Bike+ni+karakara (The growing islet)

Due East of a middle point between Marakei and Little Makin the navigator knows of a small, sandy islet, which he calls Bike+ni+karakara. (The existence of this tiny uncharted island, about 60 miles to Eastward of the two islands named, is confirmed by European master-mariners).

Wa+n Na Areau (The canoe of Na Areau)

A betia to Westward of Abaiang, half a day's sail, is a zone frequented by innumerable jelly-fish of the sort called wa+n Na Areau.



Unnamed betia of birds

The traveller knows that he is nearly in sight of the North end of Abaiang, but fallen away to Westward, when he sees numerous terns flying in pairs, of which one bird continually revolves about the other.

Unnamed betia of porpoise

Farther to Westward than the sea-birds, a day's beat away from land, is recognised a region frequented by schools of a very large variety of porpoise (possibly black-fish), each one four fathoms long.

✓ Nei Roba (a kind of wave)

Due South of Marakei, just out of sight of land, is encountered Nei Roba - a large periodical wave, travelling due North, across any prevailing swell, with curling crest as if ready to break.

✓ Te Kia (a kind of wave)

Half a day's sail farther South than Nei Roba, the traveller runs into Te Kia - a

*the voyager encounters*

Unnamed betia

(15) Between Tarawa and Maiana were porpoises in pairs, whose heads always pointed in the direction of the passage into Tarawa lagoon at the place called Bairiki. (It is quite possible that these porpoises would be feeding on some sort or food swept out of Bairiki passage by the tide race of the lagoon at falling water).

Unnamed betia

(16) A betia to the west of Maiana, just out of sight of land, was a submerged reef, some six fathoms below the surface. This reef is said by old navigators to stretch south-west to the southern point of Aranuka, some sixty miles away. It is a haunt of porpoises.

winds is here postulated as elsewhere. (The island of Tamana lies about 350 miles distant from Butaritari).

This betia consists of a scattered line of leaves and other drift far to Westward of Ocean Island (Banaba), which stretches from "the line of Northern Islands" (Carolines) in a S.E.'ly direction towards Tamana. It is said that by following this line a navigator could reach as far South as Tamana, but would find great difficulty in beating up to land from the point where the drift began to fail him.

For purposes of local navigation, the Ma-ni Kabaki is called the toki, or safety limit, to Westward.

add (15)-(17) and (19)

Beyond the Fish-trap of Kabaki the Gilbertese of the last fifteen to twenty generations seem to have avoided venturing in a Westerly direction: their geography of the seas farther over towards Melanesia has therefore taken on a mythical character. The Western ocean is theoretically plotted out

## 'Toki' to westward

There were certain traditional signs by which navigators judged their distance westward of the land. The safety limit to leeward (i.e. westward in the season of the Trades) was ~~called~~ the 'fish-wall of Kabaki' <sup>trah</sup> (see the story of Kabaki in the tradition of Nei Manganibuka). It consisted of a line of leaves and rubbish scattered over the sea from Makin to Samoa, far to the westward of the land. This is possibly quite true, the rubbish being carried by some current. <sup>2</sup>

The sea was said to slope sharply down to westward (bateterio) beyond this limit, and return was difficult. If a craft fell away farther to leeward it came eventually to a second limit (toki), which was a region of ariki, or dead calm. The frequenter of these waters was a gigantic fish called <sup>t</sup>Te Uu, which sucked canoes and their occupants into its mouth and swallowed them whole.

The third toki, farther west again, was called Wenei n Anti (shooting star of spirits). In this place a man had two shadows. If he looked at his sail his shadow was there, and if he looked at the water his shadow was there too.

The fourth toki was recognised by the appearance of a bird, whose cry was continually 'I a kawa, I a kawa' (I am <sup>unhappy</sup> ~~unfortunate~~, I am <sup>unhappy</sup> ~~unfortunate~~). And in this place it was hopeless to think of a return, for the sea sloped sharper still to westward and the waves rushed like a river (karanga) downhill.

The fifth and last toki was called Te Uabuki te re (the <sup>capsizing</sup> ~~overhaul~~). Any craft coming so far was then doomed. The water rose in confused waves, with no direction, all around it, and it was sucked down into the depths.

<sup>1</sup> see p. ... and the story of Kabaki in the tradition of Nei Manganibuka

<sup>2</sup> see Kitzelme (?)

Changes in canoe type preferences1. Canoes

I have described elsewhere the canoes of the modern Gilbertese: it was presumably in craft of similar construction (i.e., having hulls built up of planks lashed together with string) that the ancestors of the race performed their wonderful migrations. The examination of evidence from the field of material culture lies outside the scope of this paper: <sup>note:</sup> as for the evidence of tradition, the account of the building of the "Kaburoro" canoe ~~exhibited in section 2 of~~ the Little Makin series leaves small room for doubt that, during their sojourn in the Southern Land called Tamea, the Gilbertese ancestors used the built-up type of vessel having a single outrigger and float.<sup>2</sup> That a craft composed of two hulls was once known to the race is implied by the name haurua (Ellice Islands fouluu - double canoe) given to deep-water vessels of the type pictured in the paper which I have quoted.<sup>3</sup> It is significant to note in this connection that, until quite recently, the Gilbertese were in the habit of removing the float of a large canoe and replacing it by the hull of a smaller craft, for the purpose of giving the outrigger a greater carrying capacity whenever necessary.

A very characteristic feature of the Gilbertese hull-form is its intentional asymmetry, ingeniously designed with a view to counteracting the drag of the float.<sup>4</sup> An apparently similar asymmetry has been noted in reports from other areas, but I

1. Grunble 1924: 101-39

2. Grunble 1934: 87-9

3. Kennedy 1931: 98; Grunble 1924: Plate XXI-1.

4. Kennedy (1931: 78) records a similar 'bulge' in the hull of Vaitupu canoes. The possibility of Gilbertese influence emanating from here should be considered in this connection: see Kennedy 1931: 71.

Grunble 1924: 107-8.

believe myself to have been the first ~~to~~ to discover and explain its mechanical significance. This feature of construction deserves further research, inasmuch as it involves a fundamental mechanical principle which would tend to survive all material changes dictated by accident or environment.

As far as general form is concerned - a multitude of varying conditions (especially those connected with the quality and size of available timbers) may have caused profound local modifications of the original hull-construction since the race scattered to different groups from Tamoia. A splendid example of the changes that environment can effect is afforded in the canoes of the Gilbertese-speaking population of Nui, in the Ellice Group. Fugitives from the Gilbert Islands of Tabiteuea, Beru and Nonouti, some 10 generations ago, ~~and~~ <sup>were</sup> forced to find a new home upon Nui, and these people (though preserving their original speech, traditions and social organisation remarkably intact) have, for the last four generations at least, entirely abandoned the built-up type of canoe and adopted the dug-out form. I am indebted to ~~Mr.~~ H.E. Maude, of the Cambridge school of anthropology, for confirmation of my observation of this fact, and for the extremely important additional information that the Nui folk have not even preserved that most typical, effective and easily made adjunct of Gilbertese canoes - the *Y-shaped stick attachment between outrigger and float.*

So much for the durability of material forms when ordinary common-sense dictates their abandonment. The obvious reason for the radical change effected at Nui was that the dug-out type of craft seen in the Ellice Islands (with its strength of hull and compact outrigger and float) was better suited to local reef conditions than the Gilbertese vessel and its appurtenances - and much more easily

built, owing to the plentiful supply of fairly soft and moderately large timber. Such ready response by Oceanic races to local exigencies, and such eagerness to embrace new ideas - involving the wholesale replacement of one form by another - are too <sup>seldom</sup> ~~scarcely~~ recognised by students of material culture.

There can be no doubt whatever that the size, weight, material, and general composition of a canoe, adze or any other article of utility manufactured by natives are in many cases determined by physical conditions of a purely local kind. The receptiveness of Oceanic peoples to new ideas, from whatever source they may emanate, introduces a psychological element - hitherto most surprisingly ignored by students - into the question of the build-up of local cultures on the material side. Local conditions must be known, and local history examined, before any safe generalisation based upon material evidence can be made.

Fundamental mechanical principles, once discovered, would indeed tend to stand fast through all changes of external fashion, for they would represent an elixir of utility which no craftsman would willingly discard. For this reason, I venture with some confidence the conjecture that the <sup>deliberate</sup> ~~reasoned~~ asymmetry of the built-up Gilbertese canoe has been carried over by the Nui people into the hulls of their dug-out craft.

~~Mr. H. E. Moude proposes to investigate this question at a future opportunity.~~

In making the following recantation, I shall not only correct a piece of bad ethnography which I heartily deplore, but shall also afford an excellent illustration of the manner in which important features of material <sup>culture</sup> can be obliterated. In 1924 I stated that both hulls and float attachments on the island of Banaba (where the population is Gilbertese) assimilated closely to those pictured by Hedley from

Funafuti. The notes and sketches upon which I based this report were made early in 1920, in two of the island's four villages. Further research has shown that the craft which I observed were not of Banaban construction at all, having been the imported canoes of Ellice Island labourers employed in the local phosphate industry. The Banaban population learned in the course of twenty years to appreciate the value of Ellice Island canoes for reef-work, and acquired the habit of buying such craft from their owners when the latter completed their indentures and went home. In this manner, the true Banaban canoe was ousted from the two villages nearest to the settlement of the Ellice Islanders. In 1922, however, Ellice labourers ceased to be employed at Banaba, and the supply of new canoes consequently failed at its source. The local timber being extremely hard, and so unsuitable for the easy manufacture of dug-outs, the Bababans never learned to make these craft for themselves: when the purchased canoes wore out, they were therefore replaced by vessels of the built-up type (boards being easy to buy), and the island reverted to its own methods of construction. When the example of Nui is considered, no reasonable doubt can exist that, had there grown upon Banaba a timber from which Ellice Island canoes could have been easily made, the Banabans would have adopted the new form in favour of their own, because of its superior utility under the conditions set by their lagoonless island.

In leaving the matter of the Gilbertese canoe now in the hands of experts upon material culture, I must anticipate my general deductions from traditional evidence and state that the race appears to have migrated into the Pacific from Indonesia. It therefore seems very significant that the portion of Indonesia plotted out by Haddon as the present

5. ~~See~~ *in* Note 1, page 123. *Grinble* 1924: 123.  
 6. ~~Haddon~~, *op. cit.* in Note 2, page 71.

focus of outrigger canoes is almost exactly the area to which local tradition points as the pre-Oceanic fatherland. Haddon's commentary upon the evidence examined by him is worth quoting in full: <sup>1</sup>.....it is legitimate to suppose that from Indonesia, if not actually from the Moluccas, migrations took place at various times, each with its special type of canoe or with some partial modification. As a general rule one might expect to find that the earlier types of canoes or of outriggers were those that went furthest, and those that started last would have a more limited distribution; but we must also remember that the later swarms would be more civilised and have a better technical equipment, and thus some of them may have passed over earlier layers and have reached a far destination<sup>6</sup>.

Indent quote

6. Haddon 1920:71.

2. Traditions connected with navigation.

Whatever may have been the craft in which the voyages of the Gilbertese ancestors were performed, it is clear that a high degree of seamanship was needed to bring them safe to their destinations. Despite the unfortunate meagreness of the facts recently collected concerning the astronomy and meteorology of the modern Gilbertese, they do, I think, warrant a presumption that the ancestors of the race came into Oceania with a system of navigation based mainly upon the observation of the heavenly bodies. Some few of the facts recorded in connection with the movements of the sun suggest, indeed, the further possibility that the elements of Gilbertese astronomy may have been learned from a people possessed of a mathematical system.

A short account was given in Part V of my paper on Gilbertese canoes of the method by which a Gilbertese boy was taught to observe the heavens: the list of 63 heavenly bodies thereto appended represents but a fraction of the

6. Haddon 1920:71.

P. Gribble, A - Gilbertese astronomy and astronomical observances, JPS.

8. Op. cit. Note 1, page 135.

Canoe, Ceremonies observed at launching a new Canoe Abaiang

At the point of dawn the new canoe was carried from its shed by the builder and his helpers and laid out on the shoal, pointing east and west, with its outrigger to the windward side.

If the tide was out the keel of the canoe would be supported on several green, unhusked coconuts; if the tide was high it would merely float.

The fan-shaped ends of coconut leaves were then laid (one each) on the stem, stern and outrigger of the craft, so that their tips were pointed outwards and overhung the water. These are to frighten away the evil spirits and fish that might do it harm.

Upon the leaves were laid green coconuts, babai and any other sort of food available, in small quantities. These constitute the food of the evil spirits, to divert their attention from the canoe itself.

While these various objects were being laid on the craft, incantations of the usual sort were muttered, the performers of the ceremony facing eastward.

This done the canoe was left to lie until just before sunset on the same day. At this hour the same company proceeded to the canoe and threw all the food thereon into the sea; the coconut leaves being also cast away. These were supposed to drift away into the mouths of the various spirits and fishes that might do the craft injury; thus acting as a peace offering.

The canoe was then lifted out of the water and carried ashore. It was set down pointing east and west in a space prepared for it by the lagoon shore.

A large fire was then built near its stem, which pointed towards the lagoon; but if its orientation had happened to bring it parallel to the lagoon shore it would have been lit at its western end, i.e. the end nearest the setting sun.



Coconuts and food were placed, while the fire was burning, inside its hull: at both stems and amidships, under the outrigger booms. The food was to placate, and the fire to frighten away, the unfriendly spirits that might inhabit the canoe. 'Tania ni kabi' (the frequenter of the keel) and other such names were attributed to these spirits. The idea in mind was that the canoe is, as it were, 'born in sin', and is the natural home of evil spirits which must be purged by fire before it is fit to do its work or safe for human use.

While the fire was burning itself out a feast was started, of which not only the builders but also their relations partook. The canoe was then left overnight, with its food inside.

Next morning, at sunrise, the builders again carried the craft to water. The mast was set up to one charm, its sail was hoisted to another; its steering oar was lashed into place to a third; its fore and aft mast stays were adjusted to a fourth; and so on.

The canoe was then ready for its work.