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REPORTS
OF THE
CAMBRIDGE ANTHROPOLOGICAL EXPEDITION
TO
TORRES STRAITS

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REPORTS
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CAMBRIDGE ANTHROPOLOGICAL EXPEDITION
TO
TORRES STRAITS

VOLUME IV
ARTS AND CRAFTS

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PREFACE

THE present volume deals with the arts of life in Torres Straits, including those actions and objects which are connected with its material and æsthetic aspects. The social and magico-religious observances have been fully treated in Volumes v. and vi., and the objects (or artifacts as it is convenient to term them) relating to the various ceremonies have been described in their appropriate places. In order however to render more complete the survey of the material life of the Islanders, these artifacts have sometimes been referred to in the present volume, more particularly when the objects in question are also worn or employed on other than ceremonial occasions. As I have mentioned elsewhere, the Islanders have such close relations with the neighbouring inhabitants of New Guinea (including the islands of the Fly River delta) that it has often been impossible to distinguish between their several artifacts: I have not hesitated then to describe many objects which I know to have been imported from New Guinea¹. In only a few instances, such for example as the section on Houses, is reference made to Papuan artifacts which do not occur on the islands.

As the essential character of this monograph is to be purely descriptive, I have avoided adding parallels from elsewhere, except in a very few cases where reference is made to what occurs in the neighbouring parts of New Guinea or Australia. Most of these instances will be found to illustrate more fully those actions of which the account from Torres Straits is imperfect, for it may be there reasonably assumed that the method

¹ The following note of warning by Prof. H. N. Moseley (*Notes by a Naturalist on the "Challenger,"* 1879, p. 361) is worth repeating: "Cape York is a sort of emporium of savage weapons and ornaments. Pearl shell-gathering vessels (Pearl shellers as they are called) come to Somerset with crews which they have picked up at all the islands in the neighbourhood, from New Guinea, and from all over the Pacific, and they bring weapons and ornaments from all these places with them. Moreover, the Murray Islanders visit the port [Somerset] in their canoes, and bring bows and arrows, drums, and such things for barter. The water police stationed at Somerset deal in these curiosities, buying them up and selling them to passengers in the passing steamers, or to other visitors. Hence all kinds of savage weapons have found their way into English collections, with the label 'Cape York,' and the Northern Australians have got credit for having learnt the use of the bow-and-arrow. I believe that no Australian natives use the bow at all...Accurate determination of locality is of course essential to the interest of savage weapons." What was characteristic of Somerset at the time of the "Challenger's" visit in September 1874 applied to Thursday Island after the seat of Government had been transferred thither in 1877. Even in such remote islands as Mabuia and Mer I have obtained wooden clubs made by Loyalty Islanders, the occurrence of which would be difficult to explain if the particular circumstances were not known. While the passing traveller is liable to be deceived with regard to the real origin of the objects which he collects, the investigator on the spot can readily distinguish between native objects and those which have been casually imported, directly or indirectly, through the agency of the white man. It should not be forgotten that natives frequently collect "curios," and where trade is carried on between distant peoples, one sometimes finds objects which are not used by their possessors but are kept for some sentimental reason.

of procedure of the Islanders was essentially similar to that of their neighbours. A discussion of the racial and cultural affinities of the Torres Straits Islanders will be found in Volume I.

The bulk of the information in this volume is the result of observations made during my two visits to Torres Straits, but I have supplemented this with facts drawn from earlier writers, more especially Jukes and Macgillivray, and I believe that every one of their statements is recorded here; I have, indeed, quoted from earlier authors certain facts which I have myself noted, as the priority of the observations belongs to them. I think there is no need for students to consult these earlier writers for facts here dealt with, though their works are well worth reading for the historical point of view and for general impressions, as they describe conditions which had passed away even at the time of my first visit in 1888—so rapid has been the change due directly and indirectly to the coming of the white man.

Most of the illustrations of artifacts have been taken from specimens in the Cambridge University Museum of Archæology and Ethnology collected by myself in 1888-89 and 1898, others are from objects in the British Museum, many of which I gave to that institution in 1889, but I have not hesitated to illustrate specimens in other collections; except when otherwise stated, the originals of the illustrations are in the Cambridge Museum. Numbers which follow the name of the museum are the catalogue number of the specimen in question. In some cases I have referred to illustrations published by other authors, more particularly to those in the extremely valuable *Album of the weapons, tools, ornaments, articles of dress, etc. of the Natives of the Pacific Islands* drawn and described by James Edge-Partington; it was issued for Private Circulation by J. Edge-Partington and Charles Heape, and is referred to as the *Album* of which the First Series was published in 1890 and the Second in 1895, the Third Series does not concern us here.

When possible I have indicated the painted decoration of an object by the conventional signs used in heraldry, red by perpendicular lines, blue by horizontal, black by cross-hatching, and yellow by dots.

Occasionally a number in a bracket is placed after the name of a native, this refers to the genealogical tables in Volumes v. (Western Islanders) and vi. (Eastern Islanders).

When no intimation is given to the contrary, the statements refer to the Islanders as a whole. If there is any doubt whether a detail is common to them all, the name of the island or people is specified, though in such cases it does not necessarily follow, unless so stated, that the object or action is confined to that island or people. Native names have been freely interspersed, the Western name is indicated by (W.) and the Eastern by (E.), where no distinction is made it may be taken for granted that the word is used by all the Islanders.

It is my pleasant duty to thank those who have helped me in numerous ways in the compilation of this volume. Mr James Edge-Partington gave me quotations from the volumes of Jukes and Macgillivray and references to a large number of specimens in the British Museum, these latter combined with the illustrations in his *Album* have saved me a good deal of time. The Directors or Curators of various museums have

not only afforded me every facility in the examination of the specimens under their charge, but they have frequently had photographs taken for me or supplied me with information; I hope I have acknowledged their help in all cases in the body of the text, but I would like to refer specially to the late Dr A. B. Meyer of Dresden, Dr H. O. Forbes, formerly Director of the Free Public Museum of Liverpool, Mr T. A. Joyce of the British Museum, and Mr J. MacNaught Campbell of the Glasgow Art Gallery and Museum (Kelvingrove). I must also thank several friends who made photographs for me of numerous specimens, more particularly Mrs A. Hingston Quiggin and Dr W. H. Bansall of Cambridge. Mr S. H. Ray has given me continuous help in regard to linguistic matters. To Mr John Bruce of Murray Island my hearty thanks are due for the great trouble he has taken in answering questions and in writing detailed information on various subjects, I believe his help has been acknowledged in every instance. Finally I cannot conclude without acknowledging my indebtedness to Miss L. Whitehouse who has given me great assistance by reading my MS. and in helping me to correct the proofs.

The following is the system of spelling which has been adopted:

<i>a</i> as in "father"	<i>ö</i> as German <i>ö</i> in "schön"
<i>ā</i> as in "at"	<i>ò</i> as <i>aw</i> in "saw"
<i>e</i> as <i>a</i> in "date"	<i>u</i> as <i>oo</i> in "soon"
<i>ē</i> as in "let"	<i>ŭ</i> as in "up"
<i>è</i> as <i>ai</i> in "air"	<i>ai</i> as in "aisle"
<i>i</i> as <i>ee</i> in "feet"	<i>au</i> as <i>ow</i> in "cow"
<i>ī</i> as in "it"	<i>ei</i> as <i>ay</i> in "may"
<i>o</i> as in "own"	<i>oi</i> as <i>oy</i> in "boy"
<i>ō</i> as in "on"	

The consonants are sounded as in English:

<i>ng</i> as in "sing"		<i>ngg</i> as in "finger"
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A. C. HADDON.

April 1912.

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CORRIGENDA AND ADDENDA

- p. 12. Line 7, for 'IX.' read 'X.'
- p. 21. Line 3 from bottom, for 'III.' read 'IV.'
- p. 25. Line 4, after 'Museum' add '(pl. XXXV. fig. 1).'
- p. 31. Line 6, for 'J.' read 'G.'
- p. 35. Line 17, add 'pl. XXIX. fig. 1.'
- p. 35. Line 18, for 'gagai' read 'gaigai.'
- p. 36. Line 20, for 'fig. 2' read 'fig. 1.'
- p. 43. Line 5, for 'Rhinobatis' read 'Rhinobatus.'
- p. 52. Line 5 from bottom, after 'Dendrobium' add 'baingan (W).'
- p. 61. Line 10, delete 'as in.'
- p. 61. Line 11, for 'fig. 1' read 'figs. 1, 2, 4.'
- p. 68. Line 25, after 'New Guinea' add '(fig. 70 and pl. IV. fig. 4).'
- p. 72. Line 12, before 'epci' add 'aipus or.'
- p. 72. Line 19, after 'walsi' add 'or walsi li' and delete 'wasili (Tutu).'
- p. 77. Line 2 of explanation of fig. 105, for 'covered' read 'unfinished.'
- p. 104. Line 1, add 'XIX. fig. 4.'
- p. 108. Line 14, for 'XXIII.' read 'XXVIII.' and add '(see also pl. XXXIII. figs. 1, 2).'
- p. 109. Line 9, for 'XXIII.' read 'XXXIII.'
- p. 111. Line 13 from bottom, after 'fig. 144,' add 'pl. XXI. fig. 2, see also pl. XXXIX. fig. 2.'
- p. 112. Line 15, for 'nipa palm' read 'trunks of a palm. The trunk is split, the pith removed, and the surface flattened out.'
- p. 119. Line 7, after 'ones,' add 'A long house at Madiri is shewn in pl. XXXIX. fig. 2.'
- p. 120. Line 17, add 'I was informed that the use of the coco-nut palm leaf broom, *büi rid* (coco-palm leaf bone), was introduced into Mabuiag, and before then they used the dried inflorescence, *maupas*, as a broom.'
- p. 138. Line 1, add 'and fig. 372.'
- p. 142. Line 7 from bottom, for 'ris' read 'nis.'
- p. 156. Line 5, add 'pl. XXXVII. fig. 3.'
- p. 166. Line 2, add 'A carved wooden model of a turtle which was fastened to the bow of a canoe in Tutu to constrain the turtle to come and be caught is shewn on pl. XL. fig. 6, and the carved head of a sucker-fish from Nagir (pl. XL. fig. 5) was probably used for an analogous purpose.'
- p. 169. Line 19 from bottom, for '367—370' read '365—368' and for '366 A, 371' read '364 A, 369.'
- p. 171. Line 13, between 'see also' and 'Album' add 'pl. XL. figs. 7—10 and.'
- p. 217. Line 1, for '255' read '254.'
- p. 292. Line at end of the third paragraph, add 'Various dancing positions are shewn in pl. XXXIII. figs. 1, 2.'
- p. 299. Line 21, for '299 A' read '300 A.'
- p. 358. Fig. 358 delete 'from Saibai.'

INTRODUCTION

IN this volume, which deals mainly with the daily life of the Torres Straits Islanders, the various occupations are naturally dealt with separately; but as this gives a disconnected view of their ordinary life, I have thought it desirable to preface it with a more general account.

The natives rise at dawn and the men and women (the latter taking their children with them) separately saunter off to different portions of the scrub that is left near the village. On these occasions perfect propriety is observed, the two sexes always remaining apart.

There are two main meals in the day, one in the early morning and the other at sunset, but in addition they eat at all times of the day; the Miriam children especially are rarely about for many minutes together without finding a piece of sugar-cane to chew or a banana to munch. Whilst the women are occupied in their gardens they fill in part of their time in roasting food, and they eat or work and idle as they feel inclined. There is an old saying attributed to Meidu (vi. p. 14), "Miriam and Dauar men you begin food to eat small daylight and at night (are) finishing," in other words, owing to the abundance of food, the Murray Islanders eat from sunrise to sunset or even later. A Murray Islander informed Dr C. S. Myers, "Sun he come up, sun he go down, eat and drink all day before missionary come. Missionary he make him eat, breakfast sun there, dinner sun up there, and supper sun down there¹." Coco-nut milk and water are the universal beverages. Alcoholic drinks are scarcely ever brought to the islands. These two statements refer more particularly to the Murray Islands, the more immediate contact with Europeans of the Western Islanders has considerably modified their food and drink. Certainly in the old days all the natives drank nothing but water and coco-nut milk. Tobacco-smoking is very general, but by no means universal, among the adults, male and female; children do not smoke.

The natives go to sleep at all hours of the night, but rise at daybreak. A Miriam man said to Dr Myers, "We go sleep midnight. We get up along sun. We go sleep sometime two, sometime three hours, sun up high. Suppose we tired, we sleep longer¹."

Perhaps bathing is less common since the enforced wearing of European attire. The women wear a hideous long loose-fitting gown; the men's dress varies from a mere loincloth to a complete European suit of clothes. The men rarely, and the women never, dream of changing their clothes before or after bathing¹.

The Western Islanders are essentially a settled people, but in certain islands more or less nomadic habits prevailed until recently. The Muralug people had their head-quarters at

¹ *St Bartholomew's Hospital Reports*, xxxv. p. 92.

Port Lihou, but wandered about the island in communities in quest of food; this they did to a certain extent as late as 1888, and probably later still. As they can scarcely be said to have cultivated the soil, they were more dependent upon wild fruit for food than the other islanders. The Island of Yam being the garden of Tutu, there would necessarily be a good deal of going backwards and forwards between the two islands, especially at the planting season and at harvest time. There was a good deal of "flitting" of the population of the smaller islands in the central region of Torres Straits; for example, Macgillivray found most of the Nagir people temporarily settled at Warabar, and often the whole of the population, or nearly so, of such islands as Aurid, Masig, etc., would be located on some outlying sand-bank for weeks together, mainly for the purpose of catching turtle and feeding on them and their eggs. The unexhausted reefs would supply any amount of shell-fish and other food.

The migratory existence of the Central Islanders is well illustrated in an account in the *Naut. Mag.* (vi. p. 659) of the natives who massacred the crew¹ of the *Charles Eaton* in 1834. About sixty natives resided on Pullan during the fishing season, feeding chiefly on "turtle and small fish, which they caught with hook and line; and shell-fish, which abound on the reefs. The island also produces a small fruit 'like a plum with a stone in it,' probably a species of eugenia. The fish is broiled over the ashes of the fire, or boiled in the basin of a large volute.... The island is covered with low trees and underwood, and the soil is sandy. In the centre is a spring.... After remaining here two months the Indians separated. One party...after half a day's sail reached another islet to the northward, where they remained a day and a night on a sandy beach; and the next morning...reached another island similar to Pullan..., where they remained a fortnight. They then proceeded to the northward, calling on their way at different islands, and remaining as long as they supplied food, until they reached one [probably near Aurid] where they remained a month; and then they went on a visit to Darnley's Island, which they called Aroob, where, for the first time, Ireland says he met with kind treatment. After a fortnight they again embarked, and returned by the way they came to an island called Sir-reb [Sirreb or Marsden Island lies three miles N.W. of Massied (Masig)]...where their voyage ended, and they remained until purchased by Duppar, the Murray Islander," who "learning that there were two white boys in captivity at Aureed embarked in a canoe with his wife, Pamoy; and went for the express purpose of obtaining them...the price of their ransom was a bunch of bananas for each. They returned by way of Darnley's Island, where they stopped a few days, and then reached Murray's Island, where they remained ever since most kindly treated.... When at Aureed the Indians had named Ireland, Wak, and little D'Oyly they called Uass." The latitudes of Pullan and Erub are about two degrees (120 nautical miles) apart. We thus have evidence that the Central Islanders voyaged to the islands and sand-banks within the Great Barrier Reef to a distance of over a hundred miles.

Wyatt Gill (pp. 200, 201) says of the Badu people in 1872, that they, "like the aborigines of Australia, build no houses, and have no fixed place of abode. The cause of this bird-like mode of existence seems to be that the Bātu [*sic*] people never

¹ Some of the crew were murdered on Boydān, one of the Hannibal Islands near the Australian coast and due west of Raine Island entrance, where the natives had evidently gone to fish. The rest of the crew were murdered on Pullan, a neighbouring island.

cultivate anything, living on fruits and roots growing spontaneously; so, like tramps, they are compelled to be continually on the move." I suspect this usually very trustworthy observer has confused the Badu with the Moa people, for, according to the folk-tale (v. p. 36), Yawar of Badu was a very successful gardener, and we know that the natives of Badu and Mabuiag have long been intimately connected; the latter certainly cultivated the ground, and thanks to Dr Landtman I am enabled to give an account of horticulture in Badu. The Moa people, on the other hand, had close relations with the inhabitants of Muralug. A few years before my visit to Dauan in 1888 the natives of Boigu had migrated to and settled in the former island on account of the ravages caused by the periodical descent of the Tugeri pirates on their island; and I saw in Saibai a number of Dauan natives who were living there for the same reason. As the Tugeri men only came down during the north-west monsoon, some of the Boigu people paid occasional visits to their old home to make their gardens or to bring away the produce.

The Eastern Islanders were permanently fixed to the soil, but in the Murray Islands considerable bodies of people from Mer visited Waier to attend the Walet *zogo* (vi. p. 278), or when there was a taboo on Dauar the natives camped at Keauk on Mer (vi. pp. 170, 172).

At certain seasons of the year a considerable amount of time is spent by the Miriam in preparing their gardens, and nearly every day the women had to go there to procure their daily supplies of food. The men do all the heavy work in horticulture; they cut down the bush and clear the ground when new gardens are required, or clear the overgrowth in those about to be replanted, and make the fences. On the whole they may be said to take their fair share of the work.

A little fishing is indulged in by both sexes when they feel inclined for a change of diet; but at certain periods fishing becomes more of a general occupation. At low tide men, women and children may be seen searching the reef for shell-fish and fish which have become imprisoned in rock-pools, but as a rule this simple collecting is done more by the women and children. Although serious fishing is more particularly men's work the women also take a part, but definite fishing expeditions and the quest of dugong and turtle are confined to the men. Practically the fishing of the women is limited to that which they can undertake on the fringing reef of their home island.

The building of a new house is a noteworthy event. It takes some time gradually to collect all the materials for its construction. In former days, however, it must have been much less arduous work to build the simple huts characteristic of most of the Western Islanders than to erect the round houses of the Eastern Islanders; the modern South Sea type of house is a relatively elaborate affair. Feasts are given to those who assist. An Eastern round house had to be renewed about every six years, and the Western huts were probably less durable. The houses are little used in the daytime except in wet weather. The people often sit under a high framework which is roofed with palm leaves.

The digging and clearing of water-holes, or wells, was not an easy task, with the imperfect tools at their command, and it required the help of friends, who were repaid by a feast.

The men sometimes went considerable distances to hunt dugong or turtle, and to seek for turtles' and terns' eggs on sand-banks, or to hunt on distant reefs at low spring

tides for shells to be employed in domestic use or for the making of ornaments. Many objects, especially the elaborate masks, were made of turtle-shell (tortoise-shell) for which the hawksbill turtle had to be caught. It appears from J. Lane Stokes (*Discoveries in Australia*, II. 1846, p. 257) that the Miriam or other Torres Straits Islanders on these expeditions went far down the Great Barrier Reef, as he met with them at Restoration Island, near Cape Weymouth, 165 nautical miles S.E. of Mer. The whole area of Torres Straits from the Great Barrier Reef on the east to the deeper water in the west, and from the mouths of the Fly river to Boigu on the north to the northern point of Cape York on the south, was more or less known to the islanders; probably the Western and Eastern Islanders kept mainly to their respective halves of this area, but may have overlapped to some extent in the central islands and reefs. There is no doubt that practically every man had a very extensive and at the same time sufficiently precise knowledge of a large area, being acquainted not only with the special products of various islands, but with the position of sand-banks and reefs that are exposed only at low tides, and with the seasons for collecting the marine fauna of which they were in need. In this and in their gardening operations they were assisted by their knowledge of the movements of the stars, many of which they had grouped into named constellations. For these voyages they must have had a considerable amount of weather-lore and a knowledge of tides and currents.

The trading voyages, too, gave them a wider outlook and brought them into contact not only with other islanders, but with Papuans on the one hand and, more rarely, with Australians on the other. One result of trading voyages, of friendly visits, and probably sometimes of war (v. p. 234) was occasional intermarriage; for example, Melville, who was on the "Fly," mentions meeting a New Guinea woman in Erub (see explanation of pl. III. fig. 3). It is recorded in the Miriam genealogies (VI. pp. 67—91) that two men married Fly river women, and thirty-nine marriages have taken place between Murray Islanders and the natives of Erub and Ugar. Dr Rivers states that, "Erub women have a great reputation among the Murray Islanders as hard workers, and the comparatively small number of Miriam women outside their island suggests that they have not an equal reputation with respect to this first requisite in a wife" (VI. p. 120). Only four marriages are recorded between the Miriam and Central Islanders. There is no record of any intermarriage between the Miriam and Western Islanders, except of late years since the breaking down of the old division between the two groups. In recent years two Miriam men have married Australian women. The most typical of the Western Islanders, the Gumulaig (natives of Mabuiag and Badu), in former days married, with few exceptions, among themselves (v. p. 233). There is evidence that intermarriages between the Saibailaig (Boigu, Dauan, and Saibai) and the inhabitants of Daudai were not infrequent, and probably the same occurred among the Kauralaig (Prince of Wales Islanders, etc.) and the Australians of Cape York. On the whole one must admit, however, that intermarriage could not have had any appreciable effect in the interchange of culture.

In both the Western and the Eastern folk-tales there are several instances of a cultural drift from New Guinea to the islands and among the islands mainly from west to east. Certain tales tell of the spread of improved methods of horticulture or fishing, while others record the introduction of new cults. This subject is discussed more fully in the first volume; it is mentioned here to prove that the cultural life of the people, from their own shewing, has

not been stationary from time immemorial, but that outside influences have come in from time to time in the different islands, and the natives have adopted new methods and ideas (vi. p. 2). Nor should the influence of foreigners be ignored, for during the past forty years this has been constantly increasing. The object of the expedition, however, has been mainly to record purely native conditions rather than to describe the present modified conditions. The main effect of this influence has been to eliminate individuality; the distinctive houses, canoes, implements, ornaments, customs and ceremonies have either passed away or are rapidly becoming obsolete. In 1886 Dr Otto Finsch wrote, "Auf den Inseln der Torres-Strasse ist nichts mehr zu haben, da der rege Verkehr der Perlfischereien alle Eigenthümlichkeiten ausgelöscht hat. Noch vor wenigen Jahren verfertigten die Eingebornen sehr originelle und kunstreiche Masken aus Schildpatt, jetzt machen sie dieselben aus Blech von weggeworfenen Conservebüchsen!" It must be borne in mind that he was only a short time in Torres Straits in 1882 and visited but few islands. He was essentially on a collecting expedition and had no time to study the social and magico-religious life of the people. Had his statement been strictly true the present volumes could not have been written.

A great deal of the time of the Miriam was taken up in preparing and performing the many ceremonies connected with their *zogo*, several of which are described in Vol. vi. pp. 192—280. The Bomai-Malu cult (vi. pp. 281—313) one way and another absorbed a considerable amount of time and energy. The elaborate death ceremonies (vi. pp. 126—162) not only took up a great deal of time, for the natives were very punctilious in carrying them out, but gave rise to increased activity in the gardens, as large quantities of food had to be provided for the accompanying feasts. Indeed had not the very old and the very young dead been exempted from the full funeral rites, the living would have been perpetually occupied with funeral celebrations. Our knowledge of the Western Islanders is less complete than that of the Miriam, but from the data we have published and other information which has been too fragmentary to publish it is evident that in their case also religions and other ceremonies must have taken up a good deal of time.

There were many social events of the Miriam in which feasting and the exchange of food were prominent features; this necessitated the carrying of large quantities of food-stuff from their gardens to the places where the feasting occurred; some of these social ceremonies took from two to three weeks from first to last.

The making and decoration of weapons, implements, ornaments, and dance and ceremonial paraphernalia necessitated much labour, especially when we remember the primitive character of the tools at their command.

When all these circumstances are taken into account it will be evident that in the olden days these savages were by no means lazy. Time, energy, thought, ingenuity were employed not only in material existence but for social customs and ceremonies, and one is apt to overlook or underrate the very important part which the latter play in the existence of savages. Pride, fear of ridicule, the religious sentiment, and the stimulus of competition which was keenly felt all served to keep them up to the mark.

The Miriam and probably the other Eastern Islanders of Erub and Uga must have spent happy lives. They were not liable to attack from enemies, there was an abundance of food and they could do as little routine work and indulge in as much amusement as they chose. The

fishing operations were also largely of the nature of a recreation, as were the very numerous ceremonies.

Life was certainly not so easy for the Western Islanders. The islands are less fertile and the inhabitants had to depend to a larger extent than the Eastern Islanders on the spontaneous produce of the soil (which was not of much account) and on fishing. Fighting was also more frequent.

The women appear to have had a good deal to say on most questions and were by no means downtrodden or ill-used. Macgillivray (Vol. II, p. 9) states that the Eastern Islanders "always appeared to me to treat their females with much consideration and kindness." I should say that this was characteristic of the islanders as a whole, but an exception must be made in the case of the inhabitants of the Prince of Wales Group, for according to Macgillivray (whom I have quoted in Vol. V, p. 229) the Muralug often beat their women and inflicted savage acts of cruelty on them.

I. THE DECORATION OF THE PERSON

IN this section I deal with the treatment that is applied to the form and surfaces of the head, body and limbs, and also with the implements used in artificial deformation of the nose and ears. Objects which are attached to the person are described in the next section.

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ARTIFICIAL DEFORMATION OF THE HEAD¹.

In Mabuiag, and doubtless in other western islands, a head had to be low in the forehead, *atad paru*, flat at the back and not too well developed above, in order to be considered beautiful.

To obtain this ideal of beauty the mothers of Mabuiag resorted to two devices.

In the first instance a handsome man was called in before the birth of the child, to sit behind the mother. Such a custom presupposes a very strong belief in the efficacy of pre-natal influences.

In the second place there was the practice of artificial deformation, *paru luaian*, of the infant's head by skilful manipulation. The mother placed her left hand on the occipital protuberance, *kote*, (in general but slightly marked among the islanders), her right being kept free to smooth down the forehead, *paru*, bregma or region of the frontal fontanelle, *si*, or vertex, *guai*. The head was also firmly stroked from the outer margin of the orbits backwards along its lateral surface, and from the same point forwards and downwards along the side of the face, following roughly the direction of the jaws. The process was continued whenever the mother felt so inclined, either by night or by day, until the portion of the skull about the bregma ceased to bend under the pressure. My friend, Dr O. Finsch, has kindly permitted me to reproduce drawings (pl. I. figs. 1, 2) made by him in Mabuiag in November, 1882, which illustrate the method and result of this manual pressure.

¹ I am indebted to Mr Wilkin and to Dr Seligmann for some of the observations in this section.

It is said at Mabuag that the people of Boigu, Dauan, Saibai, Mabuig, Badu, Moa, Waiben, Muralug and of Mowata and Tureture have a similar custom of head deformation, but that the Masingara bushmen do not practise it, though it is thought to be done at Parama, Kiwai, etc.

The inhabitants of the mainland of Australia, with whom the people of Mabuig occasionally came in contact, were despised on account of their bulging foreheads, high crowns and prominent occipital protuberances, whence they have been called half contemptuously, half jestingly, *koiisar kwikulnga*, i.e. too many heads. In Vol. v. p. 81, it is pointed out that Kwoiam, the great hero of Mabuig, had a head of this kind; he in common with the Australians is also said to have had a long narrow head, *saked kwik*, as contrasted with the *atad kwik*, or flat, broad head, resembling the plastron (ventral shield), *ata*, of a turtle.

Dr C. S. Myers has published in the *St Bartholomew's Hospital Reports*, Vol. xxxv. p. 95, the following information: "As to post-natal deformity, a native [of Mer] informed me, 'When piccaninny born, him head too long, too wide, too round. Woman she lay hand on sides of head or on front and back. She press sometime onc hour, sometime more. That old-time fashion, that no longer'."

It has been questioned whether temporary and discontinuous manual pressure of an infant's head could permanently affect its shape. The evidence from Torres Straits is as follows. Various travellers, myself among the number, have seen mothers so engaged. No mechanical method of pressure was adopted, either by means of bands or boards. Some of the skulls afford indication of artificial deformation; this is mentioned in vol. I., where it is also pointed out that there has been an immigration of a brachycephalic people into the western islands. It would seem that there was a desire on the part of the Western Islanders to exaggerate the normal low brachycephalism of a part of the population, and also to minimise the dolichocephaly of the remaining portion.

The following is all the previous information that I have been able to gather on the subject.

"A peculiar form of head, which both the Kowrarega [Kauralag = Prince of Wales Group] and Gúdang [Cape York] blacks consider as the beau ideal of beauty, is produced by artificial compression during infancy. Pressure is made by the mother with her hands—as I have seen practised on more than one occasion at Cape York—one being applied to the forehead and the other to the occiput, both of which are thereby flattened, while the skull is rendered proportionally broader and longer than it would naturally have been" (Macgillivray, II. p. 12).

In a paper entitled "Cranial deformation of new-born children at the Island of Mabiak, and other islands of Torres Straits, and of women of the S.E. Peninsula of New Guinea¹" (*Proc. Linn. Soc., New South Wales*, vi., 1882, p. 627) Baron N. de Miklouho-Maclay writes:

"In April, 1880, visiting the islands of Torres Straits, I had the opportunity of seeing, at Mabiak, an interesting operation performed on the heads of new-born children. During

¹ The latter part of this short paper refers to a transverse depression, a little behind the sutura coronalis, in the skulls of the women, which is due to the practice of carrying heavy burdens in large bags, the handles of which are suspended from the crown of the head. D'Albertis noticed something similar amongst the women of Daudai.

the first weeks after the birth of the child the mothers are accustomed to spend many hours of the day compressing the heads of their infants in a certain direction, with the object of giving them a quite conical shape. I have seen it performed daily and on many children, and have convinced myself that the deformation, which is perceivable in the adults, is the result of this *manual* deformation only. This observation was specially interesting to me, remembering having read, many years before, the opinion of the celebrated biologist and anthropologist K. E. de Baer, member of the Imperial Academy of Sciences of St Petersburg, who would not believe that a manual pressure could have such an effect on the skull (*vide* K. E. de Baer, 'Ueber Papuas und Alfuren,' *Mémoires de l'Acad. Imp. des Sciences de St Petersburg*, 6 série, t. VIII., 1859, p. 331). K. E. de Baer expresses the opinion, analysing the information given by J. Macgillivray [see above], that the observations of Macgillivray, who has seen the same above-mentioned manual deformation performed on children at Cape York, are not exact enough. Remembering this contradiction, I was careful to decide the contested point, and now, after careful examination, measurements and inquiries, I believe the question may be regarded as settled, and that the information given by Macgillivray about the head deformation at Cape York was not too hasty, and was correct. As far as I know, it will be the only well authenticated example of cranial deformation by means of *manual* pressure."

Dr A. B. Meyer, in his monograph entitled "Ueber künstlich deformirte Schädel von Bórneo und Mindanáó im königl. anthrop. Mus. zu Dresden nebst Bemerkungen über die Verbreitung der Sitte der künstlichen Schädeldeformirung" (*Gratulationsschrift an Rudolf Virchow*, Leipzig, 1881), refers to cranial deformation being common in New Caledonia, and Malekula; it is also very frequent in northern New Guinea (Geelvink Bay, Waigeti, Rawak and Boni), and deformed skulls have come from other islands in this part of the world. Reference is also made to this custom in *Crania ethnica* (1877, p. 207) where de Quatrefages and Hamy describe a deformed skull of a woman from Toud (Tutu) which is figured in figs. 220, 221; the same authors give a wood-cut (fig. 222) of a cast of a Tutu native's head in profile in which the antero-posterior flattening is well shewn. This deformation appears to occur to a variable extent in the skulls from that island examined by these French savants.

NOSE AND EAR PIERCING.

A man with a small nose, *magi mawa*, is not regarded in Mabuig as being handsome, but a prominent nose, *koi mawa maiiu*, is greatly admired. Dr Seligmann was informed that if the child's nose has been flattened during birth, the midwife gently presses it into shape with her teeth.

The artificial deformation of the nose is confined to two kinds of perforations.

(i) By far the most general, and at one time probably universal, is the piercing of the nasal septum (pl. I. fig. 4; pl. II. figs. 1, 2; pl. V. fig. 9), but this custom is now dying out. It was done merely for decorative purposes, in order that a nose-stick, *gub*, occasionally called *gigub* (W.), *kirkub* (E.) might be inserted (pl. VIII.).

I was informed in Mabuig that the piercing was done when the child could crawl. Dr Seligmann was told that it was when the child first smiled. Macgillivray (II. p. 12) says

that in Muralug the nose was pierced when the infant was about a fortnight old. We were told in Mabuiaig that the child was placed lying face uppermost on the back of one of his *wadwam* (v. p. 147), and various people held down his head, arms and legs. Any man (but not a woman) might make the hole, and for this a turtle-shell bodkin was generally used. First a stem of *umi* grass, *bok*, or of *kawipa*, was inserted in the orifice, and later a grass with a thicker stem. In order to prevent interference on the part of the infant with the proper healing of the hole, its hands were tied with a slack soft cord to the legs just above the knees.

In Mer the nose is pierced a few days or weeks after birth; it has nothing to do with mourning.

(ii) For information respecting the second kind of nose perforation in Mer, I am indebted to Mr J. Bruce. Two small holes, *pit neb*, may be bored in the tip of the nose of youths at about the age of fifteen. They have no significance, but are merely used as a means of decoration. The holes are bored right through into the nostrils with a very fine pointed piece of hard wood, and pieces of the midrib of the coco-nut palm leaf, *be lid*, are inserted in the holes until the wounds are healed. I was informed in Mabuiaig that formerly the men of the *Tabu* clan had two small holes bored in the tip of the nose which were evidently intended to represent the nostrils of the snake. If the Miriam in their old totemic days followed a similar custom, assuming them also to have had a snake clan, it is only to be expected that on the lapse of totemism the custom would have no significance and its origin would be forgotten.

The bodkins or awls, *ter* or *luper* (E.), used for piercing the nasal septum of infants, are made of turtle-shell. They vary considerably in length, the average sizes are from about 24—28 cm. (9½—11 ins.). Figs. 11 to 17 of pl. XI sufficiently illustrate the variation in form of these implements; they may be plain or decorated with simple patterns of incised lines or of fine wavy lines.

The favourite method of treating the ears is to produce a fleshy pendant¹, *muti* (W.), *luip sak* (E.), at its lower end (pl. I. figs. 1, 5; pl. II. figs. 2, 4, 6; pl. III. fig. 2; pl. V. fig. 9), and to puncture the margin of the helix, but these perforations nearly always become torn, so that the rim of the helix becomes notched (pl. I. fig. 5; pl. II. figs. 1, 4, 6). Among the younger people the deformation of the ear is decreasingly practised. The lobe is rarely cut without previous elongation (as in pl. V. figs. 6, 8), but a small perforation may be made for an earring. The margin is not now perforated.

In Mabuiaig the lobes of the ears are pierced at the same time and in the same manner as the septum of the nose. One informant said that the implement used was a needle-like wing bone of a flying fox², but doubtless the *ter* was more generally employed or even a sharp-pointed piece of wood. An *aubau* leaf was greased with turtle or dugong fat, and the rolled-up leaf inserted in the greased orifice. Later a needle of *uraka* wood (*Hibiscus tiliaceus*) was inserted, as it has a saponaceous juice.

When the hole, *nabatiiazinga* or *kaura terta*, was healed a pendent weight of *ubar* wood

¹ "The lower lobe of the ear is slit, and hangs very low, some being three inches long," Mer, *Naut. Mag.* vi. p. 753.

² *Sapur kimus* is the name for the implement, but the name of the bone before it is removed from the bat (*Pteropus*) is *sapur pat*.

(*Mimusops browniana*) was suspended in the lobe in order to distend it. The process of distension must have extended over a number of years as the weights employed for this purpose are of considerable size and the process was probably not completed till puberty. Sometimes two weights were used in one ear. When the lobe was fully distended, a ligature of strong fibre, *muti*, was wound round the part of the loop nearest the face, and fresh ligatures were subsequently tightly tied. I was informed that "the fibre eats" (*muti kaikai*), the end of the lobe, which swells up and festers. Eventually there was only a small strand of flesh left which was cut with a bamboo knife. The free cut end of the lobe was then rolled up in leaves which were made fast with a piece of fibre till the wound was healed.

The small holes, *kaura tira*, round the margin of the ear were all made at the same time for one ear, and when that one was well the other was similarly perforated. I was informed that the marginal holes were pierced later than the lobe. Dr Seligmann was told that when the child had become tolerant of the *gub* (p. 9) a series of holes was made round the periphery of the helix, and that commonly the lobule was not bored till the child was eight or ten years old.

In Mer, when the child was quite young (one informant said six days old), the lobe of the ear was pierced by means of a thin sharp-pointed awl, *tol* (fig. 1 A), of hard wood, or with a *ter* (p. 10). Then grasses of increasing calibre were inserted as the hole, *laip neb*, became larger, till it was of sufficient size to receive a blunt, narrow cone of wood, *laip tut*, which was the name also given to the dumb-bell-shaped weights used for the distension of the lobe (fig. 1).

We have definite information that the Miriam sever the end of the distended lobe where it joins the face as a sign of mourning, and probably this was also the case for the Western Islanders. The operation and the reasons for it are described in Vol. VI. p. 154. Mr Bruce says: "The ear piercing is a separate ceremony performed on them at an earlier age, but not in connection with death."

The ear-weights, *ubar* (W.), *laip tut* (E.), vary so much in form that only a few characteristic examples can be figured (figs. 1—3; pl. X. figs. 1—4, 13). Other illustrations will be found in the *Album*, I. pl. 334, Nos. 6, 7; 335, No. 12.

All the good specimens are made of a hard heavy wood; I believe that of the *Mimusops browniana* tree, *ubar* (W.), *wagai* (E.), was the best for this purpose, but I have occasionally heard them called *ubar* in Mer. They consist essentially of two lobes connected by a narrow bar; the latter may be straight or bent, and the lobes vary extremely in size, weight, form and

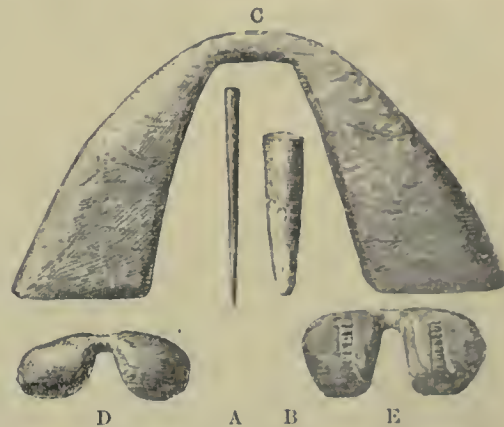


FIG. 1. Implements for distending ears. A, *Tol*, wooden awl for piercing the lobe of the ear, Mer, 82 mm. long. B, *Laip tut*, cone of light wood, probably Hibiscus, for dilating the hole, Mer, 65 mm. long. C, *Ubar*, ear-weight, Mabuag, 20 cm. wide, one of the pair weighs $7\frac{1}{2}$ oz., and the other $8\frac{1}{2}$ oz. D, *Laip tut*, ear-weight, Mer, 67 mm. wide, weight a little less than 1 oz. E, 65—70 mm. wide, weight nearly 1 oz.

workmanship. To take two extreme types, each lobe of the ear-weight shewn in fig. 1 c, is a thick flattened triangle; while that of fig. 3 is plum-shaped and very neatly worked. Some are quite plain, others, as figs. 1 E, 2, are slightly carved with simple designs; occasionally a face is carved on the upper surface of the lobes. The weight may be as low as half an ounce, but from 1 to 2 oz. is the average weight; one specimen in the Glasgow Museum weighs $4\frac{1}{2}$ oz., another $9\frac{1}{2}$ oz., and one in the Liverpool Museum (5.8.80.10.) 11 oz.; the last has a height of 11 cm. and a width of 175 mm. (pl. IX. fig. 13).



FIG. 2. Ear-weight, *laip tut*, Mer. 10 × 11 cm.; weight $3\frac{1}{4}$ oz. (A. C. H. Col.).

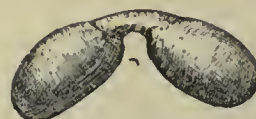


FIG. 3. Neatly carved ear-weight, probably from Mer; width 104 mm., weight $2\frac{3}{4}$ oz.

Perfectly similar ear-weights are employed at the mouth of the Fly river; in a MS. catalogue, Chalmers calls them *ouou* (? *oriou*), and says that they are worn by boys and girls and made by their fathers. Some of these are figured in the *Album*, II. pl. 190, figs. 1—4.

OTHER FORMS OF DEFORMATION.

With the exception of the treatment of the head and of the nose and ears described above, no other deformation of the head was practised; front teeth were not knocked out as is so commonly done in North Queensland. No alteration was made in the contour of trunk or limbs, nor were they treated in any way, except by scarification.

I did not personally hear of a case of circumcision nor of any other mutilation of the sexual organs of either sex. Mr J. Bruce has, however, given me the following information concerning the Miriam, and possibly it may apply to other Islanders.

“The males practise circumcision in some cases, when they arrive at the age of puberty, the foreskin being cut with a piece of glass, but the custom is by no means universal. Women when quarrelling with men sometimes taunt them by saying that their penis is dirty under the foreskin, *puipe eb*. This is regarded as a great insult by the men, and all those present hang down their heads in shame when one of their number is accused thus by a woman. One case of this sort has been brought into court, and on another occasion the parties were advised to apologise and be friends; but no doubt formerly the woman who taunted a man in that manner would suffer all the pains and penalties that could be brought to bear upon her. Possibly the fear of this disgrace may induce young men to circumcise in order to keep clean, but I have never heard that reason given.”

PERMANENT DECORATION OF THE SKIN.

Being a dark-skinned people, scarification was employed for the permanent ornamentation of the skin, and so far as our evidence goes tattooing was formerly unknown. At the present time a number of the younger men have casual tattoo markings, but this practice has been copied from Polynesians and others, numbers of whom have frequented Torres Straits for the last fifty years.

Scars were made in many cases only deep enough to produce a cicatrix, but when raised cicatrices were desired other means were employed. According to Macgillivray (Vol. II. p. 13) the latter were formed in Muralug by cutting the skin with a piece of glass, then a chewed leaf of a certain plant was introduced into the wound to prevent the edges from uniting, and a daub of wet clay was placed over all and kept there until the necessary effect had been produced. Dr Seligmann was informed in Mabuig that the patterns of the deeper scars were traced in red ochre, then, when possible, ligatures were applied above and below the marking, and the pattern was cut with a sharp fragment of quartz or shell. The juice of *gruat* (*Sesuvium portulacastrum*) was instilled into the wound to prevent healing by first intention and to produce suppuration, the amount of which ensured a more or less raised scar¹. According to Dr Seligmann, small, scarcely noticeable, circular scars resembling those left by old sores were common on the flexor surface of the forearms of the Saibai people; they were produced by a *inoxa* made of a small splinter of the midrib of a coco-nut palm leaflet, which was stuck into the skin. Scars somewhat similar in appearance, but less durable, were effected in Mabuig by rapidly rotating between the thumb and forefinger a length of the midrib of a coco-nut leaflet, one end of which was pressed firmly against the skin.

Mr J. Bruce informed me that in Mer the design chosen was drawn upon the skin in red paint (*māier*), and was then incised by means of a small shell (*kaip*, or *us*). Those who were expert in the process were called *koima tonar le*. Women generally operated on the girls, and men on the youths. Whilst the incisions were being made the young people were held down by their elders, as they often took fright and tried to run away; sometimes they fainted under the ordeal. The cutting of several of the *koima* designs was especially painful, particularly of those on the shoulder and breast. The cuts healed slowly, and until the healing was complete the patients were exempt from labour and wore their arms in a sling. In cutting the *koima* shewn in fig. 33 a piece of skin was excised so that a large wale might result. I have heard that large scars were cut with a bamboo.

In the following account of the practically extinct custom of scarification of the Torres Straits Islanders I have not hesitated to give illustrations of some of the cicatrices that occur in Daudai (the most convenient term for the neighbouring coast of New Guinea), in the adjacent islands, and in Kiwai island at the mouth of the Fly river. The reason for including these districts is that their inhabitants have an intimate relationship with the Torres Straits Islanders, and when the former are thoroughly investigated we may expect to have light thrown upon practices which are no longer observed among the latter.

¹ Macfarlane (*Among the Cannibals*, etc., 1888, p. 126) says that the tribes of the Papuan Gulf make these scars by "cutting and inserting into the wound powdered shell, which gives it when healed a swollen, rib-like appearance."

Some of the designs I collected myself, but others are taken from a long series of tracings which Mr R. Bruce kindly sent me in 1894.

Cicatrices were made for various purposes, but they must not be confounded with the scars that were incidental to scarifications made for therapeutic purposes, which were usually irregular scratches or short simple cuts incised on the forehead, back or elsewhere. The objects for which definite cicatrices were made may be classed as (1) social, (2) commemorative, (3) mourning, (4) magical, (5) therapeutic, and (6) decorative.

1. **Social.** Among the totemic Western Islanders some of the cicatrices represented the totem of the individual, either by a realistic figure or by a conventional design, as for example the *kibu minar* of the women (p. 21), and other marks on men and women to which reference will be made in the appropriate places (cf. also Vol. v. pp. 158, 159, 163—169). Owing to the absence of totemism among the Miriam (vi. p. 254) these designs do not occur in Mer.

2. **Commemorative.** The *baga minar* (p. 15), *susu minar* (p. 16), and the *kibu minar* were said to be cut when the girls reached puberty and consequently they would indicate nubility, as did thigh marks (fig. 38). The *piti tonar* (p. 26) was a record of the length of the nose of a deceased brother; it may also have been a sign of mourning.

3. **Mourning.** As mentioned in Vol. vi. p. 154, the young Miriam adults had cicatrices cut as a token of mourning for a parent or near relative. The blood flowing from the *koima* wounds cut on the back, and, according to some, from those cut on the breast, was allowed to drop over the corpse. The first *koima* design (figs. 19, 40 D) was of a simpler character than those which were made on subsequent occasions of mourning; it was cut on the calf, forearm, or loins. A few years later, in the event of another death, this lesser *koima* (*kebi makerem a kebi neurra koima*, youth and small girl's *koima*) was succeeded by other larger *koima*, *au koima*, which differed in form according to the sex of the mourner. Figs. 13, 15, 33 represent those cut on young women; the loin and cheek designs were cut only at the death of a relative.

4. **Magical.** The only one direct statement concerning the "magical" significance of scarification is given on p. 28, but doubtless there were other instances. Possibly the cutting of centipedes on the legs of Daudai women (fig. 42) and similar scars on Miriam women (fig. 15) were charms to prevent their being bitten by these creatures; see also description of fig. 6.

5. **Therapeutic.** Besides casual scratchings, cuts were frequently made in a determinate manner to relieve pain and as a counter-irritant in various cases of sickness. Instances of this are noted on pp. 20, 21.

6. **Decorative.** The *koimai* or *koima* of the men appear to have been purely ornamental, and the breast *koima* (fig. 13) and sometimes the large shoulder *koima* (fig. 33) might be cut on Miriam young women merely for purposes of decoration, and not only as a sign of mourning. But for whatever object the scars were made there is no doubt that they were considered as ornamental and that the people took great pride in them. I do not know whether it is really significant, but it is worth noting, that the word *koimai* (W.) may be derived from *koi*, great, *mai*, mourning or grief; if so it may have originated as a token of mourning, whatever its later development may have been.

It is stated on p. 16, that in the western islands and New Guinea the breast scarification was made to prevent the breast from becoming too pendulous and in order that the women

might look "flash." I have heard that this is done by the North Queensland aborigines for the same purpose; the young Miriam women however have theirs cut as a sign of mourning or merely as a means of decoration. Mr J. Bruce definitely asserts that the Miriam women did not have bars cut across the breasts to assist in keeping them up; they rather gloried in their extension, as it made the design on them more effective by displaying it to greater advantage.

In former days the Western women were frequently ornamented with two main kinds of cicatrices, the *usal* and the *minar*. At Saibai scars corresponding to the Mabuiag *usal* are called *wuz*. *Us* or *wuz* (Saibai) is also the name for quartz, and the scars received their name from the fragments of quartz with which they were cut; in Saibai the same name, according to Dr Seligmann, was applied to the irregular scars produced by medicinal scarification. The ordinary *usal* were small simple cuts, whereas the word *minar* signifies a pattern or mark.

Scarifications were called *user* and *koima* in Mer, here the word *us* means a thin, sharp shell used for carving; perhaps the shell in the east replaced the quartz of the west.

The *usal* consist of a series of small, generally parallel scars often covering a considerable area of the face and breast. The commonest forms are a series of small, closely set, linear scars, about one centimetre long and roughly parallel with each other except where they follow the curve of a bone or the outline of some prominent feature. They are produced after puberty and may be added to indefinitely, and they are often arranged symmetrically on the two sides of the body. Rarely a double row of *usal* may be arranged convergently $\setminus /$, the pattern then consists of a number of such marks in series. The names given to the various lines of *usal* are derived from the part of the body which they decorate.

Scarifications on the face.

The following facial scarifications occurred among the Western women. The *para usal*, forehead *usal*, starts above the root of the nose, crosses the forehead above and roughly parallel with the eyebrow, and descends behind the outer margin of the orbit to terminate at a point behind the most prominent part of the malar bone. The *baga minar*, or *mausa* (or *masa*) *usal*¹ extends from the angle of the mouth, up the cheek and round the cheek-bone. The *baga minar* of Kausa of Mabuiag (pl. II. fig. 6) consists of a series of short, paired, vertical lines. At Mabuiag a modification of the *baga minar*, called *bulil* (flies), was met with. It consists of a number of inverted V-shaped marks arranged in series. These commonly run from the most prominent part of the cheek-bone vertically downwards as far as, or a little lower than, the level of the angle of the mouth. According to information given me by Mr R. Bruce, a girl in Saibai (fig. 4) is decorated with two leaf-like markings, *danamon*, on the left cheek only.



FIG. 4. Scarification on the face of a Saibai girl; the scars are 8 cm. and 4.5 cm. long; after R. Bruce.

¹ *Baga* is "cheek"; I do not know the meaning of *mausa*, perhaps the term has been introduced from New Guinea.

The *koima* on the face, *neurra bag war* or *neurra tole dub* (girl's cheek pattern or girl's scar, *dub*, that resembles the feathers of a certain bird *tole*, perhaps a snipe), was cut as a sign of mourning only on young Miriam women, or on newly married women if it had not been cut previously to their marriage, which, however, was rarely the case. The design shewn in fig. 5 was generally cut on both sides of the face. The upper curve followed the line of the cheek-bone about 25 mm. below the orbit, starting about 13 mm. from the nose. One end of the lower curve was close to the nostril. The size of the pattern was approximately 3 cm. square. There was a star, *wer*, in the centre. One simple face *koima* was a cut which started about 13 mm. from the nose and proceeded backwards along the cheek-bone, curving round it and running forwards again to terminate about 13 mm. from the mouth. Another variety extended from the centre of the ear to the most prominent point of the cheek-bone, when it curved downwards and backwards past the corner of the mouth, ending at the angle of the jaw; or, according to another account, it passed forwards and downwards past the mouth to the chin. It is stated in the *Nautical Magazine* (vi. 1837, p. 753) that both sexes in Mer "have a figure resembling a banana tree, or a cocoa-nut tree, on each side of the head."



FIG. 5. *Neurra tole dub*, nat. size, after J. Bruce.

Scarifications on the Body.

The *susu usal* of the Western women consists of one, two, or more parallel lines of vertically arranged *usal* stretching horizontally or obliquely across each mamma (fig. 11). The *mitau usal* consists of two lines of convergent scars, which, beginning above at the fold where the mamma joins the chest wall, in a line corresponding pretty nearly with the outer edge of the rectus muscle, run down in this line to curve inwards and meet in the middle line at a point about two inches below the umbilicus. A single or double row of scars, *zugu usal*, may stretch from high up on the anterior axillary fold across the swell of the deltoid muscle on to the back of the arm. Doubtless other variations occurred, as for example the markings on Pauna, wife of Maino of Tutu (fig. 6), herself originally a native of Mawata, New Guinea; those *usal* forming an oblong patch on the breast were called *sedau* or *sedor*, and those forming a loop on chest and arm were called *eheri*, centipede; perhaps these represent the track of a centipede.



FIG. 6. Scarifications of Pauna of Mawata.

The Λ -shaped breast scarifications of the women (*susu minar*, breast mark (W.), *nano user*, breast scarification or *nano dub koima*, breast scar *koima* (E.)), were probably frequent everywhere, as they still are on the neighbouring coast of New Guinea and the adjoining islands. I was informed in the western islands that these scarifications were made when the subjects were girls for the purpose of holding up the breasts so that they should not

become pendulous¹. Mr R. Bruce informs me that in Saibai, Daudai and the Fly river district all the women who are scarified in this way have short breasts and not long pendulous breasts like other women. They told him that they were scarified when they were young so as to look "flash" (smart) and also in order that when they had suckled children their breasts would not hang down.

A good example of a *susu minar* is seen in pl. III. fig. 2, which is drawn from a tracing made by Mr R. Bruce of the scarification, *susu guda-mulam*, on Bonel of Saibai. Mr Bruce adds that the flesh of this scarification is raised up in a round, smooth wale as in the case of the Australian blacks.

When I was at Saibai I enquired about this particular scar, and was informed that it was a *kabu minar*, chest mark, that *guda-mulam* (mouth open) referred to the space between the upper limbs of the marking, and that the design represented a *dëri*, or headdress of white feathers (pl. VI.). Its extreme breadth measures 11.5 cm. This scarification is very similar to that indicated by Melville in the standing girl of pl. III. fig. 3; the sitting woman to left in the same group appears to have breast scarifications. The scarification of Kurubat of Tutu (fig. 7) was similarly described as a *dëri*. I am unable to say in either case whether these markings were intended to represent a *dëri*, or whether they were so called because the traditional scar bore some resemblance to the headdress.

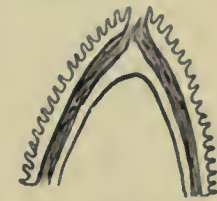


FIG. 7. *Kabu minar* of Kurubat of Tutu.

The two wooden images of girls described in Vol. VI. p. 222 are incised with breast scars (pl. III. fig. 4 and fig. 20 A, D). One (A) was obtained at Mer, and the other (B) at Erub, though it was stated to have come from Masig: they were employed in erotic magic. On plate XVII. of his *Sketches*, Melville figures two women with a similar design, one was a native of Erub, the other came from Daudai (pl. III. fig. 3).

Somewhat similar is the chest scarification on Tag (fig. 8), the widow of Marau of Mer (5), herself a native of Parana, an island off Daudai. That of Nisoma of Mawata (fig. 9), as might be expected, is more like the *dëri* design of the western islands. The chest scarification (fig. 10) of Magina of Saguane, Kiwai island, is not very unlike that of a woman (fig. 11) whom I sketched at Iasa, in the same island; it is called *amo iwi*, breast scar.

Of a somewhat different character are the breast scarifications of two Saibai women, Kaubi and Maipi (fig. 12), tracings of which were sent to me by Mr R. Bruce. Kaubi however originally came from Sui, at the mouth of the Fly river. Mr Bruce calls these scars *sedaua* or *sedau*, which is the general name for a mark.

The large *koima* marks on the Miriam girls' breasts (*au neurra nano dub koima*, big girl's breast scar *koima*; or *nano user*, breast scarification) were of various designs. One of them (fig. 13) was usually cut at the age of sixteen or eighteen years. It consisted of two upper scrolls incised upon the sternum at the level of the upper margin of the

¹ Dr Seligmann found that among the Otati, an Australian tribe on the east coast of the Cape York peninsula, a less elaborate scar was made with this object, and at Old Mawata, in Daudai, we saw a number of women with scars which were better calculated to attain this end than those in use in Torres Straits. Two broad cicatricial bands starting above the right and left breasts, crossed each other, and ran obliquely downwards and outwards on the left and right breasts respectively. Fig. 10 illustrates a nearly similar arrangement.



FIG. 8. Scarification of Tag, from Parama.

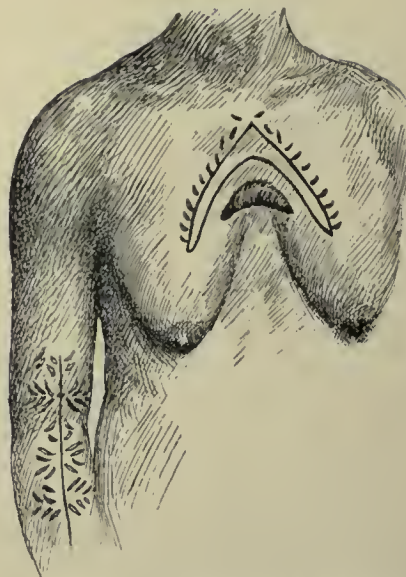


FIG. 9. Scarification of Nisoma of Mawata; oblique length of chest scar, 12.5 cm.; crescentic scar, 6 by 2.5 cm.; length of arm scar, 16 cm.; after R. Bruce.



FIG. 10. Scarification of Magina of Saguane; oblique length of chest scar, 13.5 cm.; total length of breast scar, 14 cm.; after R. Bruce.

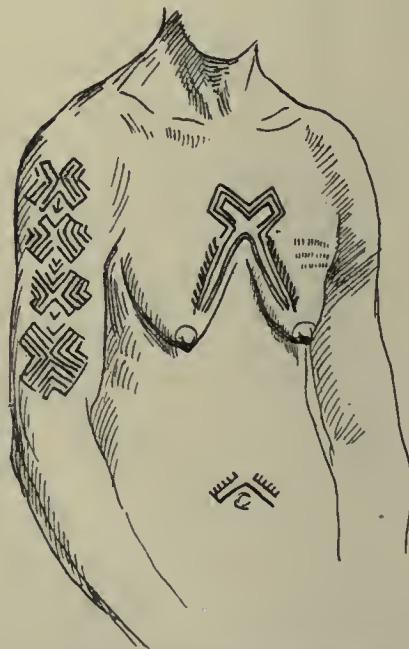


FIG. 11. Scarification of a woman from Iasa, Kiwai.

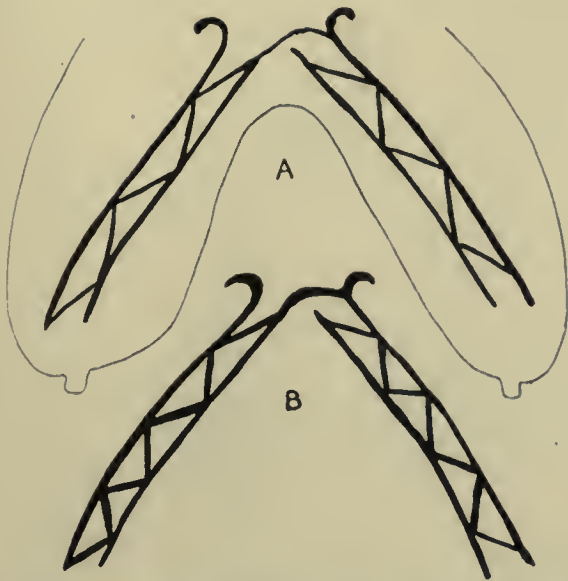


FIG. 12. Breast scarifications of Kaubi (A), and Maipi (B), both of Saibai; $\frac{1}{2}$ nat. size; after R. Bruce.

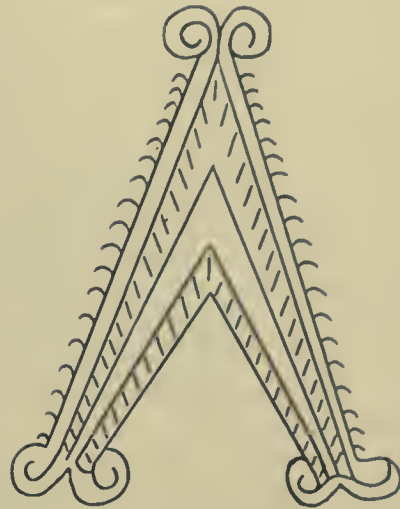


FIG. 13. *Au neurra nano dub kotima*; after J. Bruce.



FIG. 14. Scarification of Kaubi of Sui, Dandai; breast scar, 11 by 7.2 cm.; arm scar, 15.5 by 6 cm.; after R. Bruce.

breasts. From these scrolls a fringed pattern diverged to cover the inner side of the two breasts. This fringe was called *nano dubara pem*, the fingers of the breast scar. The inner markings were solely decorative, *no teir*. As the breasts grew larger and pendulous, the *koima* increased correspondingly in size (*a nano dub ekasehi*).

Attention should be called to the very broad cicatrices at the junction of the mammae in fig. 9, or somewhat higher up in fig. 18. This kind of scar is rather common in Daudai, where it, as well as the Λ -shaped chest scar, is called *dāra*; this is probably the same word as *dēri*, or it may be the *da* of Boigu and Saibai, or the *dāra* of Muralug, both of which mean breast or mamma.

Another variety of breast scar, *sedau*, is seen in Kaubi of Sui¹, now living in Saibai (fig. 14), and in Magina of Saguane (fig. 10).

The three rows of small scars on the left breast of a Kiwai woman (fig. 11) were cut on an occasion when she was sick; they therefore have a therapeutic significance. I do not know whether those of Pauna (fig. 6) belong to the same category.

Another Miriam breast *koima* represented the backbone and side-bones of the *ubar* fish, a kind of sole.

A centipede, *isi*, was a favourite design, cut either on each breast, *nano isi*, or on the upper arm near the shoulder, *tugar isi*. It was cut only on women. The centipede was represented crawling upwards (fig. 15). It was about 125 mm. in length. The islanders distinguished A, the "teeth," *tereg*; B, the "curling hair," *pis mus*; C, the "head," *kerem*; D, the "feet" or "hands," *teter* or *tag*; E, the "extensile body," *buber gem*; and F, the "tail teeth," *upi tereg*, as they suppose the centipede to bite with its tail. No reason could be discovered for the adoption of this design other than that it was effective and easy to draw.

These three Miriam designs were signs of mourning, though the first might also be made for the sole purpose of decoration.

There is no evidence that abdominal scarifications were at all frequent in Torres Straits, although they are common in the neighbouring districts of New Guinea. The abdomen of Abaka of Boigu (fig. 16) is ornamented with scars (fig. 17) which I was informed represent the scutes of a crocodile's tail; they were called *pata minar*, cut mark. Dr Seligmann was told that they are called *kodalau tar*, crocodile's claws. Mr Bruce was told that the scars represent "the leaves of a water-lily that grows in the fresh-water lakes of Boigu."

Transverse parallel cuts on each side of the umbilicus occur on the love charm from Masig (pl. III. fig. 4B), and a raised star surrounds the umbilicus of a stone effigy of a woman on Dauar (VI. pl. V. fig. 3). A *bopuro iwi*, navel scar, is shewn in fig. 11.

The extreme case of abdominal scarification known to me from this region is that of Babaura of Pomogora, Daudai (fig. 18), for which I am indebted to Mr R. Bruce.

So far as I am aware, the upper part of the back was only occasionally scarified and then only with the small *usal* scars. Dr Seligmann noted in Saibai *kolami wuz*.



FIG. 15. *Isi koima neur*, $\frac{1}{2}$ nat. size; after J. Bruce.

¹ There appear, from Mr R. Bruce's notes, to have been two Sui women named Kaubi living in Saibai.

scapula scars, consisting of two bilaterally symmetrical series of cicatrices which, starting on each side from low down on the posterior axillary fold, skirt or cross the inferior

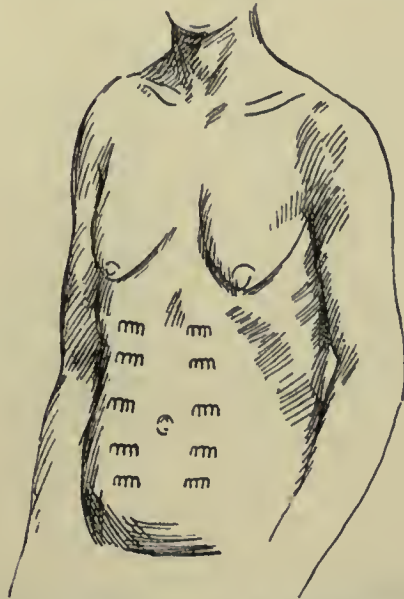


FIG. 16. Abaka of Boigu; after R. Bruce.

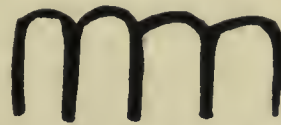


FIG. 17. Cicatrice, natural size, representing the scutes of a crocodile's tail.

angle of the scapula, whence they run up the vertebral border of that bone to end opposite its spine or superior angle. I noticed that over the upper border of each scapula of the Kiwai woman shewn in fig. 11 there were three horizontal rows of small vertical scars (resembling those on her left breast and cut for the same purpose); there were also two horizontal rows below the right scapula. Probably all these *usal* scars are therapeutic.

The *kibu minar*, loin mark, was perhaps the most important scarification of the western women. During my expedition in 1888—89 I saw only four *kibu minar*, and as they were on elderly women they were not very distinct; repeated enquiries failed to elicit other examples. Owing to the present custom of wearing calico gowns the marks are not ordinarily visible, but in former days they would readily be seen above the waistband of the petticoat. Patagam (5 A) and Wagud (5) both belong to the *Tabu, Dangal* (snake, dugong) clan of Mabuiag, but the former has the *Tabu augud* (totem) on her back (pl. IV. fig. 2), while the latter has the *Dangal* (pl. III. fig. 4). Wagud married a Tutu man and was living in that island in 1888. Ado of Badu has a *Dangal* cut on her

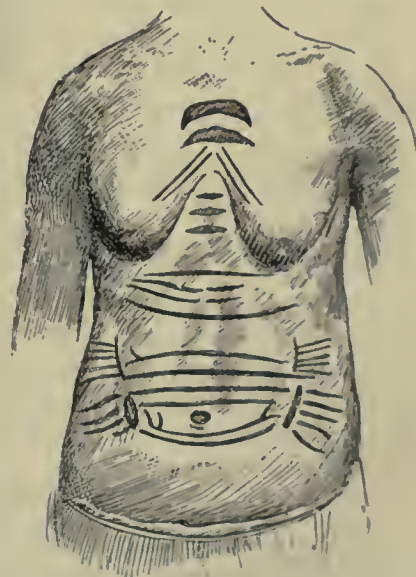


FIG. 18. Scarification of Babaura of Pomogora, Daudai; uppermost chest scar, 9 cm. by 17 mm.; after R. Bruce.

back (pl. IV. fig. 3). There was considerable difficulty in determining the significance of the *augud* cut on Mēke of Tutu (pl. IV. fig. 1). It was said to represent the serrated spine of a sting-ray, the tail of a crocodile, or the mark of a centipede, but Maino, the chief of Tutu, said that she had *Baibesam*, which belonged to Sigai (or *Kursi*), as her chief *augud* and *Waru* (turtle) as her little *augud*; the cicatrice would thus represent the *baibesam*, a crescentic object decorated with cassowary feathers, which had a magical significance (v. p. 374, cf. pp. 371, 373). Thus all the *kibu minar* known to me were representations of totems, and probably in former days it was a frequent practice to have totemic designs scarified on the loin in this way. I was told at Mabuiag that this was done by the women of most of the clans (v. pp. 163—169).

A corresponding scarification in Mer is the *kip sor koima*, back *koima*, or *kip user*, back searification, which was cut on a girl's back above the level of the belt as a sign of mourning (fig. 19). The two scrolls are called *pis mus* (a term for anything that curls over), the fringe round the design is called *koimara pem* or *koimara war*, marks of the *koima*; Mr J. Bruce says that they are spoken of as "the fingers of the *koima*."

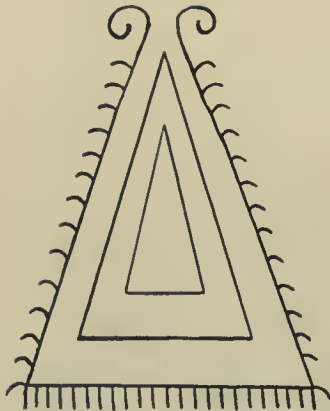


FIG. 19. Youth and small girl's *koima*; about $\frac{1}{2}$ nat. size; after J. Bruce.



FIG. 20. Rubbing of part of the mouth of a *gama* drum, Mer; $\frac{1}{2}$ nat. size.

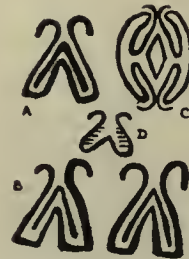


FIG. 21. Scarifications of the wooden images of girls (pl. III. fig. 4). A, B, Breast and loin marks on A; C, D, Shoulder and breast marks of B; nat. size.

A coeo-nut water vessel in the Horniman Museum, Forest Hill, London, has engraved on it the same design (pl. III. fig. 1), doubtless it came from Mer; and it occurs also on a drum of the Kiwai *gama* type, with three jaws, made by Baton of Las, Mer (fig. 20).

The wooden figure of a girl from Mer has two somewhat similar marks cut on the loins (fig. 21 B).

Scarifications on the Arms.

The shoulder was the part of the body that was most frequently decorated by scarification, especially in the case of men. This cicatrice has been noted by most voyagers to Torres Straits. Dumont-D'Urville (*Voy. au Pole sud*, ix. 1846, p. 236) says: "They [the natives of Tutu] execute a tattooing in relief, which marks their shoulders

with fleshy pads or swellings [bourrelets charnus] arranged like the fringe of an epaulette." Macgillivray says: "The Torres Strait Islanders are distinguished by a large complicated oval scar, only slightly raised, and of neat construction. This, which I have been told has some connection with a turtle, occupies the right shoulder, and is occasionally repeated on the left" (Macgillivray, II. 13). It is probable that a young man was not allowed to bear a cicatrice until he had killed his first turtle or dugong. Jukes gives figures of three men, in which it is very indistinctly seen; these are "Mammoos" of Masig (I. p. 159) [which I have reproduced in pl. I. fig. 3], "Old Duppa" of Mer (II. p. 236) and "Manoo" of Erub (II. p. 237). These are also reproduced in *Sketches in Australia and the adjacent Islands* (pls. XVI. and XX.), by Harden S. Melville, the artist who was on board the *Fly*; the former I have copied in pl. XXIV. fig. 2. Gill (*Life in the Southern Isles*) also gives a sketch (p. 241), and states that a "symmetrical scar is made on the shoulder of all males in Mauat [Mawata] and in the Straits." Dr Gill's sketch is very similar to fig. 31 A. In a small book by W. E. Brockett, entitled *Narrative of a Voyage from Sydney to Torres Straits*, five sketches of "marks cut on the natives' shoulders" are given on his pl. II. All the illustrations in the pamphlet are very rough, so that too much stress must not be laid on their accuracy, but as the work is rare I reproduced the figures in my original paper (*Journ. Anth. Inst.* XIX. 1890, p. 366, pl. VII. figs. 1—5).

The *koimai* (W.), *koima* (E.), as this scar is called, was cut either on one or on both shoulders. I gathered in 1888 that among the Western Islanders its presence, either single or double, or its absence, had no special significance, and I was informed that if a man had a fine shoulder and wanted to look "flash" he would have it cut on one or both shoulders. Some said it was cut on "big men." In Mer it was more particularly called *kimiarra tugar koima* (man's shoulder *koima*), and was described as "*kab koima teir*" (dance *koima* decoration), "*nole bud kak*" (not mourning at all). It was cut on young men, generally on one shoulder only as few could bear the pain of having both done. The young women were greatly captivated by this device, and considered the man who had it as "*au tetor le*" (a "proper flash man"). On festive occasions they painted it red or white (*debe teirem*, well decorated). This *koima* was not confined to the *Beizam le* (VI. p. 169), although it was characteristically their decoration. Young women did not wear this device, as they had their own (p. 25). In the *Nautical Magazine* (VI. 1837, p. 753) we are told that the Miriam "do not scarify the body so much as the New Hollanders do, but the men generally have a scarred figure representing a shell on each shoulder, and the women are marked with the same figure on the breasts."

I have quite failed to discover the meaning of the design itself. I was informed in 1888 that it represents the coils of the intestines of the *karmiu* fish, but this is so improbable that it may be ignored; that the design looks like intestines is quite another matter. As similar designs occur on the men of the neighbouring coasts of New Guinea the explanation will very likely be found there.

Even in 1888 not a single man of the Western Islanders, so far as I could learn, had a *koimai*, although I made repeated enquiries about it on every possible occasion, and in Mer only three old men had a *koima*.

The general character of the shoulder scars can best be judged from the accompanying illustrations. Fig. 22 is from a sketch made by me in 1888 of the left shoulder of Bauba (4 F), and fig. 23 is the *koima* on the right shoulder of another Miriam man.



FIG. 22. *Koima* of Bauba of Mer.

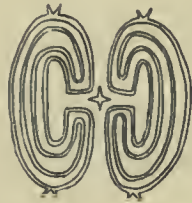


FIG. 23. *Koima* of a Miriam man.



FIG. 24. *Koima* of Bina of Mer.



FIG. 25. *Koima* engraved on Bauba's coco-nut water vessel.

Fig. 24 is the ill-made *koima* on the right shoulder of Bina (13 A). Fig. 25 is from an engraved design on Bauba's coco-nut water vessel. Wanu of Mer made the drawing

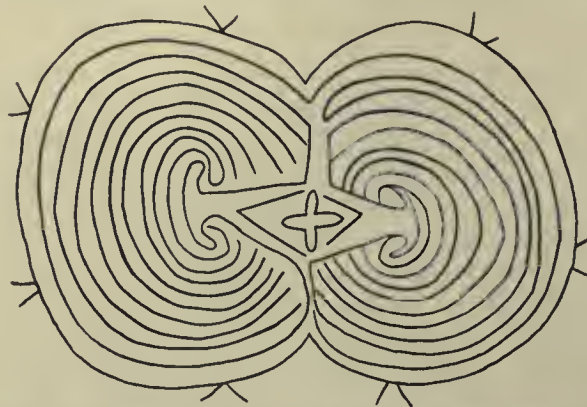


FIG. 26. *Kab koima teir*; about $\frac{1}{2}$ nat. size; drawn by Wanu of Mer.



FIG. 27. Rubbing of the back of a mask from Nagir. Brit. Mus. $\frac{1}{3}$ nat. size.



FIG. 28. Rubbing of a *koima* on a tobacco pipe. Brit. Mus. Nat. size.

shewn in fig. 26; he said that the *pis mus* (p. 22) in this instance represent fishes' tails, V; the cross in the centre is a star, *koimara wer*.

I have very little evidence as to the form of the *koimai* prevalent among the Western Islanders. Fig. 27 is a rubbing from the engraved and painted back of a square mask that I obtained in Nagir in 1888 and gave to the British Museum. Fig. 28 is a copy of a similar design which occurs on a bamboo tobacco pipe in the same museum, which is said to have come from Cape York; there is no doubt that the pipe was made and decorated in Torres Straits. A *koimai* design, fig. 29, forms part of the decoration of a carved dance *wap*.

This completes all the information that I have been able to gather concerning this peculiar scarification in Torres Straits; but as it also occurs in the neighbouring part of New Guinea I have thought it advisable to give, for comparative purposes, some of the designs I have collected there.

Mr R. Bruce sent me a tracing (fig. 30) of a scarification, called *gas-awari*, which occurred on the right arm of a man on Parama (Bampton Island); the design measures 19 by 13.5 cm. Fig. 31 is from sketches which I made of the shoulder scarifications of Daidu of Iasa, Kiwai; the marks are called *tigiri parara*, shoulder scarification.

It is also interesting to observe that the fashion has spread to North Queensland, as fig. 32 represents the shoulder marks of Aira, a native of Somerset, Cape York, and a member of the Kokiari (?) tribe. The design has now become formless.

I was informed in Mabuiag that the men of the *Dangal* (dugong) and *Kaigas* (shovel-nosed skate) clans had a representation of their totem on the right shoulder, but I have no corroborative evidence to adduce.



FIG. 29. Rubbing of the carved decoration of a dance *wap*.
 ½ nat. size.



FIG. 30. Scarification on the shoulder of a man in Parama; after R. Bruce.

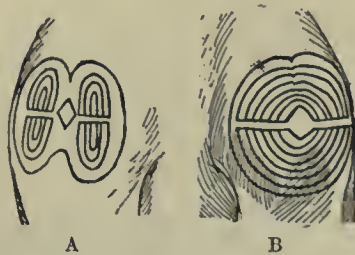


FIG. 31. Shoulder scarifications of Daidu of Iasa, Kiwai.

A. right, B. left shoulder.

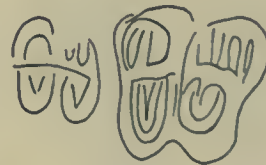


FIG. 32. Shoulder scarifications of an Australian native at Cape York.

When between seventeen and twenty years old, the young Miriam women were cut with the large shoulder *koima* (*au neurra tugar koima*, big girl's shoulder *koima*), which extended down the arm, measuring about 14 cm. by 9 cm. (fig. 33). If they could bear

the pain, it was cut on both arms. In the cutting of this *koima* a piece of skin was excised, so that a large wale might result. Though usually made as a sign of mourning, it might be cut for the sole purpose of decoration. The four scrolls of the design are called *pis mus*; the fringe, *koimara pem*; and the cross, *neur koimara wer* (cf. p. 22).

The wooden figure of a girl (pl. III. fig. 4 B and fig. 21 C) has a peculiar *koima* engraved on each shoulder.

Another type of *koima* is that borne by Tag (fig. 8), but as she came from Parama (Bampton Island) it is probably not a design that was current in Mer. The scarification *tu parara* or *tu paara* (arm scar) of a Kiwai woman (fig. 11) represents her *oi nurumara* (coco-nut palm totem). An analogous decoration of Kaubi of Sui (fig. 14) represents a *ngata*, an edible shell-fish that lives in crevices of rocks, but I was informed that she had *Umai*, dog, as her chief totem; she is married to Gabia of Saibai (v. p. 159). The New Guinea woman shewn in pl. III. fig. 3 has a scarification on the right upper arm which may represent a lizard or crocodile.

The centipede, as already stated (p. 20), was often cut on the upper arm of Miriam women.

It was the custom in Saibai and Dauan, and possibly elsewhere, for a sister to have a *piti tonar*, nose sign, cut on the left shoulder on the death of a brother, and occasionally one would be cut on the right shoulder to commemorate the death of a sister. The length of the scar was made to equal the length of the nose of the deceased.

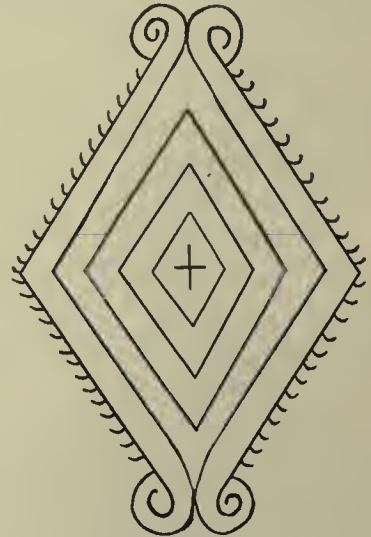


FIG. 33. Big girl's shoulder *koima*; $\frac{1}{2}$ nat. size; after J. Bruce.

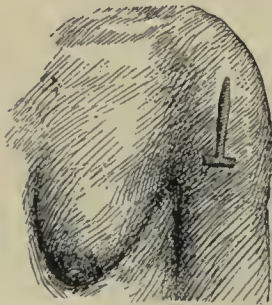


FIG. 34. *Piti tonar*; after R. Bruce.

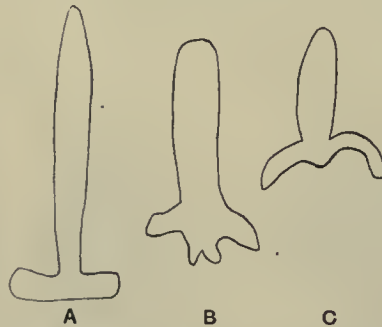


FIG. 35. Outlines of scars on the left shoulders of three women of Dauan and Saibai, representing the noses of deceased brothers; $\frac{1}{2}$ nat. size; after R. Bruce.



FIG. 36. Scar on right shoulder of a Saibai woman; $\frac{1}{2}$ nat. size; after R. Bruce.

Fig. 34 represents this scarification on the shoulder of Siba of Dauan; her brother was a very tall man and had a very fine long nose, so that the scarification measures 12 cm. in length.

The three *piti tonar* of fig. 35 represent: A, the same scar as fig. 34; B, that on

a Dauan woman, it is 9 em. long; and c, that on Dawa of Saibai, wife of Aki, it is 5.5 em. long. In the two latter figures the transverse curved bar represents a shell nose-stick.

I do not know the significance of the shoulder scar (fig. 36) of Gemana, a woman of the Snake clan of Saibai; it is 8.5 em. long.

Mr R. Bruce sent me sketches of designs on the right forearm of Maipi of Saibai and of a Boigu woman (fig. 37). He said that they were called *sedau*, but this is merely the Daudai (New Guinea) name for a mark. I was informed at Saibai that they were *augataman* or *augud taman*, that is totemic (*augud* or *augud*, totem). Probably in both cases the design was intended to represent a couple of zigzags, each composed of two parallel lines, and these would seem to indicate two snakes; as a matter of fact they were recognised as such when I shewed the drawings to some Saibai people, and the women were said to belong to the *Tabu augud*. The arm scarification of Nisoma (fig. 9) is a clan mark; according to Mr R. Bruce her sister has a similar one.

Dr Seligmann noted in Saibai round sears on the forearm (p. 13) which were commonly so arranged as to occupy the angular points of an imaginary diamond-shaped area, the long axis of which started immediately above the wrist in the mid line of the limb and ran parallel with the axis of the forearm.

Young Miriam people of both sexes sometimes had the design shewn in fig. 19 cut on the outer side of the forearm as a sign of mourning; it was then called *tag meròd koima*.



FIG. 37. Scarification on the right forearm: (A) of a Saibai, and (B) of a Boigu woman; (A) measures 10 cm. in length, (B) 8.5; after J. Bruce.

Scarifications on the Legs.

Scarifications on the legs do not appear to have been very frequent among the Torres Straits women, as I am aware of only one or two instances, but they seem to be more frequent in New Guinea. Bonel of Saibai (fig. 38) has a zigzag line of scars down the outside of the right thigh, which represent pelicans, *awai*, flying or floating in a sinuous line; the design was termed *awariau ita labai* (of pelican these cuts). These marks are cut by the father on the right thigh of the girl as a mark of puberty, and serve as a sign that she is ready to be married.

Fig. 39 is a similar scarification, *parara*, on a fine, strapping woman (about 30 years of age) of Mawata, New Guinea; it is stated by Mr R. Bruce to be a clan mark; it probably indicates that she belongs to the coconut totem (cf. fig. 11 and p. 26).

The women of the Cassowary clan of Mabuia are said to have had a V-shaped scar on each calf, which represented the foot, or footprint, of that bird.

The young Miriam adults of both sexes sometimes had the device shewn in fig. 19 cut on the calf as a sign of mourning, *teter meròd koima*.

I noticed in 1889 the following scarifications on Miriam men shewn in fig. 40: A on the right calf of Marizet of Dauar, B on the right calf of Ulai (*meròd user*), C on the left leg of Bina, and D on his left buttock (*kip user*) which he said had been cut on the death of a relative. Duai (28), a Dauar man, had a representation of a hammer-headed shark, called *iruapap tarim* (described as "the greatest of the hammer-headed sharks"), cut on the front of the thigh as a charm against sickness. He was the only man then alive who had one of these.

I was told at Mabuia that men would often cut a long feather-like mark on the calf of each leg, *madu usal*, for the purpose of drawing the attention of women to their fine legs and their activity in dancing. The same custom obtained at Yam.



FIG. 38. Scarifications on the right thigh of Bonel of Saibai; direct length of these scars, 20 cm.; after R. Bruce.



FIG. 39. Scarification on the right thigh of a Mawata woman; the total length of the scar is 30.5 cm.; after R. Bruce.

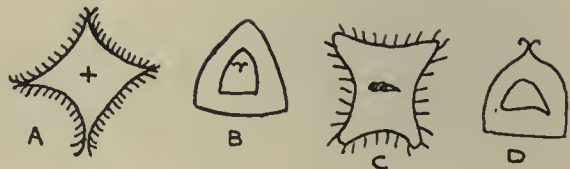


FIG. 40. Scarifications on the legs of Miriam men.

The men of the *Tabu* clan of Mabuia were said to have a coiled snake cut on the calf of each leg.

The scarification of the calf of the leg is also practised in Daudai. Two examples

must suffice, both of which were cut on the calves of women's legs. Fig. 41 was said to be a Torres Straits pigeon (*Carpophaga*), *gimai*. Fig. 42 is a centipede, *cheri* or *gera*, and more closely resembles the original animal.



FIG. 41. Scarification on the calf of Sauana, of Mobobo, Daudai; length 183 mm.; after R. Bruce.



FIG. 42. Scarification on the calf of Sauana (?); length 123 mm.; after R. Bruce.

TEMPORARY DECORATION OF THE SKIN.

The face and the body were partially or wholly ornamented with pigment on various occasions. The ceremonial painting, which probably was always definite and traditional in character, is dealt with in the descriptions of the several ceremonies. Yam and Tutu girls had their whole body blackened at puberty (v. 202), and this was also done to lads during the initiation ceremonies in Tutu, Nagir and Mabuiag (v. 209, 212, 213); face-painting occurred at Saibai (v. 215) and Mer (vi. 292), and other parts of the body were also painted red in Mer. In Mabuiag men who represented ghosts in the death-dances (v. 253, 254) painted themselves with charcoal. Mourners who were not related to the deceased were marked with charcoal on the shoulder in Mer (vi. 146) during one part of the funeral ceremonies, and the relatives were similarly marked on another occasion (vi. 157); near relatives were smeared with a greyish earth (vi. 153). Certain *zogo le* painted themselves before officiating at the *zogo* (vi. 203, 219, 268, 274). The painting of the participants in the Bomai-Malu ceremonies is fully described elsewhere (vi. 289—294). A round spot of red paint on the chest was said to be the distinguishing mark of a male member of the Crocodile clan in Mabuiag (v. 165).

Warriors on the war-path were generally painted red all over (v. 299), and in a war-dance in Mer the performers were decorated in the same way (vi. 275), but in war-dances witnessed by me in the western islands (v. 302, 304) the painting was usually of a more varied character.

In the secular dances, or on other occasions when a man wanted to make himself "flash," the painting on body and face was unconventional, and that of the latter was

generally limited only by the resources and ingenuity of the individual. I have seen young men and girls with the two sides of the face painted in different colours, and symmetry in lines or dots was rarely adhered to. The people were always very proud of their decoration and behaved in a serious manner, though the effect was generally ludicrous to the European.

TREATMENT OF THE HAIR.

The hair was, I believe, never allowed to grow indefinitely, nor was it left entirely undressed. Formerly it was worn long by the men (pls. I. fig. 3, XXIV. fig. 2) and short by the women (pl. I. fig. 1, pl. II. figs. 1—4). I do not know that the latter ever wore their hair long, but in the story of Gelam it is stated that his mother rolled her hair into long ringlets, *ialai* (v. p. 38). When the hair was cut short, *ial bup*, it was occasionally combed; probably every woman had her comb, which she kept in her basket. If the hair is cut very short it has, owing to its frizzly nature, the appearance of growing in little tufts, which somewhat resemble the so-called "peppercorn" hair of the Bushmen of South Africa.

The young men now frequently cut their hair in various styles (pl. V. figs. 1—9). I noticed in Mabuag in 1888 that one favourite method was to cut it in such a way that it sloped backwards from the forehead so as to carry on, as it were, the slant of the forehead, while it was trimmed behind to form a fairly straight vertical line. This fashion appears to have had some connection with the antero-posterior cranial deformation formerly practised, as it emphasised the local conception of a well-shaped head. Macgillivray (II. p. 13) says that at Cape York and Muralug the hair is almost always kept short; the Muralug natives are however affected by their Australian neighbours. "Sometimes the head is shaved, leaving a transverse crest, a practice seldom seen among the men, but not uncommon among women and children from Darnley Island down to Cape York" (*l.c.* p. 13). Jukes saw two Masig women who "had their frizzled hair closely cropped all over, except a ridge about half an inch high, running from one ear to the other, over the crown of the head" (I. p. 166). Through the kindness of my friend Dr Otto Finsch, I am able to shew the photograph of a Mabuag girl (pl. II. figs. 3, 4) whose hair is dressed in this style. Cutting the hair is a sign of mourning among all the islanders (v. p. 249). In Mer (vi. p. 153) the relatives and friends helped one another to shave their hair, and the men removed all hair from their faces. The men left a transverse ridge of hair across the head in front of the plane of the two ears. This ridge, about 5 cm. (2 in.) broad was called *kaisu* or *mus dari* from its resemblance to the headdress, *dari*, worn at dances. The man in the centre of fig. 1, pl. XXVIII. has his hair cut in a similar manner. The female relatives and friends left a similar ridge running from ear to ear (i.e. a little further back than that of the men), or, if they preferred it, a small tuft of hair at the vertex; this was called *kuk* from its fancied resemblance to a shell (*Nerita*, or other shells). The women now frequently part their hair in the middle (pl. II. fig. 5).

A characteristic mode of dressing the hair, now quite obsolete, was to twist it up into long pipe-like ringlets by rolling it between the hands and saturating it with mud;

this was termed *ialai* (W.), *ed* (E.), (pl. I. fig. 3; pl. XXIV. fig. 2). Frequently in Mabuig a small triangular slab, *kuruai*, was placed against the nape of the neck on which the hair was rolled in mud; it was made of turtle-shell, or of *uraka*, *naiwa*, *mipa*, or *kusub* wood. I suspect that the triangular decorated turtle-shell object (pl. VII. fig. 4) in the Truro Museum is a *kuruai*; it is described as a "neck ornament from Murray's Island." It was collected by Lieut. J. B. Kempthorne during 1840—41, and measures 192 by 170 mm. In a Miriam folk-tale (vi. 31) a youth was laid face downwards on the ground and mud, *bud*, rubbed into his hair; after a few hours the mud was taken off and the hair rolled into rope-like ringlets with oil and red earth. In Mer at the end of mourning the hair of men, which by this time had grown long again, was freed from ashes and trimmed; the men then worked it into ringlets, *ed*, employing at the same time charcoal made of burnt coco-nut shells, *keg*, mixed with coco-nut oil (vi. 160). I have also a note that in Mer hair is blackened with coco-nut oil and coco-nut charcoal, *u mesur keg* (*u*, coco-nut; *mes*, coco-nut husk). Jukes (i. 159) saw some Masig ("Masseed") islanders whose "hair was dressed into long, narrow, pipe-like curls, smeared with red-ochre and grease" (pl. I. fig. 3) and in Erub the pipe-like ringlets were sometimes left in their natural black colour (i. 171).

The hair was and is still often reddened by the use of lime; I never heard that the lime was employed for altering the colour of the hair, but only to get rid of lice. On certain occasions, as at the end of a girl's puberty ceremony in Yam and Tutu (v. 202), the hair was ruddled with red-ochre, *parama*.

There is a fair amount of hair on the face, but it could not be described as luxuriant, and it is certainly trimmed. The face is now frequently shaved, a moustache being left.

Brockett says of the Miriam: "For shaving, they sharpen a piece of bamboo, bend it nearly double, and then draw it down the face" (1836, p. 27). Glass bottles were eagerly sought for from passing sailors, the splinters of which were employed as razors.

Wigs, *adazi-ial* (W.), were occasionally worn in all the islands: they were made of human hair from live men, which was always dressed in long ringlets. I do not know how wigs were made before the introduction of calico. Those which I collected were made on a foundation of foreign material. In one which I collected in Muralug in 1888, the hair is twisted into cords or ringlets 16 to 24 cm. in length, each cord is doubled on itself and is sewn at the bend on to a foundation of some European textile; the inside is lined. At the vertex is a strip of red flannel which forms a tassel. The forehead band, *kusad uru*, of the wig is decorated with firmly sewn beadwork in dark blue, red and white (pl. I. fig. 6).

We collected in Mer some hair fringes which were worn as a kind of wig. Each lock of hair is treated in the same way as a bunch of fibre in the petticoat shown in fig. 123 A, but with a single weft. In one specimen, with reddened hair, in addition to the cord which passes through the loop of the lock, a second cord passes between the long and the short ends below the lashing. The fringes are decorated along the top border by a row of overlaid twining of a black and a yellow strip which conceals the method of construction. The longer strands range from about 15—20 cm. in length.

Jukes says that the wigs were "not to be distinguished from the natural hair, till

closely examined" (i. 171); this entirely coincides with my experience in 1888. He says (p. 159), "Garia had a black wig dressed like their hair, but his beard and whiskers were nearly all grey" (pl. I. fig. 4). D'Albertis states that in Erub (1875) "The men also wear wigs, which the women make for them. These wigs consist of a number of curls attached to a kind of cap; the length of the curls varies from four to six inches. The cap is kept on the head by a strip of bark which passes under the chin" (*New Guinea*, i. p. 239).

TOILET.

The natives frequently bathe in the sea, but never in fresh water; indeed the supply of fresh water is extremely scanty, and there are no pools in the great majority of the islands where bathing would be possible. The skin was sometimes anointed with coco-nut oil, which was expressed from the scraped kernel.

Most of the slight amount of attention paid to the toilet was spent on the hair, and probably every adult person possessed a comb which was used for combing the hair and not as an article of adornment.

Combs, *sak*, *ial sak*, *ial pat*¹ (W.), *kerem seker*² (E.), are usually made of bamboo or wood, I know of but one made of turtle-shell (pl. X. fig. 5), which I collected at Mabuiag; it measures about 75 mm. each way. The handle is either quadrangular or of a domed or conical contour (pl. X. figs. 5—12), the curved tops being characteristic of those made of bamboo. The teeth are strong and usually long, and vary from six to eleven in number. Out of sixteen combs in various collections, all but two have some pattern or other carved or engraved on the handle. The nature of the decoration of various forms of combs is dealt with in the section on decorative art. The general appearance of the combs is shewn in fig. 43 and pl. X. figs. 5—12. Combs vary in length from about 133 mm. (5¼ in.) to 216 mm. (8½ in.). I was informed in Mabuiag in 1888 that the combs with a square handle were a new fashion introduced by South Sea men; they were called *säl sak*, but I am not certain that this was the case. The comb, *ial sak*, formerly in use, was said to have had a very slender T-shaped handle.

In the vocabulary occurs the word *pai* (W.), for a fan. I do not know whether a regular fan was made before the coming of the South Sea men. In the fanning game, *totuam*, described later, the Miriam used the leaves of the *abal* tree, Pandanus.

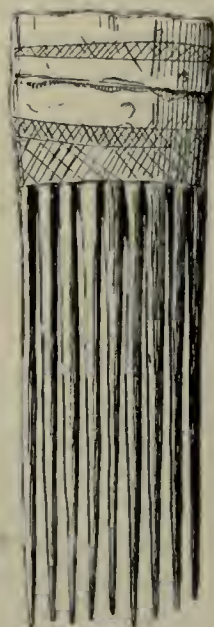


FIG. 43. Bamboo comb, Mabuiag; length 18 cm. (A. C. H. Coll.).

¹ *ial*, hair; *pat*, a sharply pointed stick; *pai*, to go into or enter; *sak*, comb.

² *kerem*, head; *seker*, anything long, thin and sharp, a comb.

II. PERSONAL ORNAMENTS AND CLOTHING

ORNAMENTS worn on the person may be classed under two headings:—(1) those which are worn in every-day life or on festive occasions, and (2) those which have a ceremonial significance. With the exception of a few objects worn by the senior members of the Bomai-Malu fraternity of Mer (vi. p. 295) no objects were worn, so far as I am aware, as symbols of rank or status, but certain ornaments such as a particular ear-pendant (p. 40) were worn by "big men," probably because they were objects of value or beauty which would naturally tend to come into the possession of important men.

For every ceremonial occasion a special form of decoration, *zamiak* (W.), *peror* (E.), was employed. In some cases, even if masks were worn, the costume was not elaborate, the performers wearing a petticoat, baldrics, armlets and leglets made of young coco-nut leaves, *tu* (v. pl. XVIII. fig. 2); in these instances the mask was the distinguishing feature. In the majority of cases, however, the painting of the body and the particular costume or decoration were distinctive and were not employed for other occasions. These are dealt with in Vols. v. and vi. when describing the ceremonies themselves, and need not be here repeated.

HEAD ORNAMENTS.

Brightly coloured flowers, of which the scarlet hibiscus is the favourite, are frequently worn in the hair; occasionally brightly coloured leaves might also be thus utilised, but I never saw combs used for ornamental purposes, these being always kept in baskets; an Erub man, however, is drawn by Melville (Jukes, II. p. 237) with a comb in his hair. The decorative treatment of the hair has already been described (p. 30). The wigs alluded to on p. 31 were purely ornamental in character.

I believe that feathers were worn in the hair only on ceremonial occasions, indeed the single record I have of them is in connection with the Bomai-Malu cult (vi. pp. 288—294). The essential feathers are the black-tipped white wing-feathers of the Torres Straits pigeon. The *daumer lub*, as it is called, may be a single feather (fig. 44), the quill of which is stuck on the sharpened point of the denuded shaft of another feather, so as to increase its flexibility; or may be composed of several feathers (fig. 45). The more complete *daumer lub* consist of a black-tipped feather inserted on a split ruddled quill, the object being to keep the feather in a constant state of quivering. The shafts of two white feathers are split in a zigzag manner, and one half of each is bent round to form a ring. These are tied to the base of the supporting quill, to which are also

lashed two wooden spikes to serve as a comb. The total length of such specimens is from 35 to 40 cm.

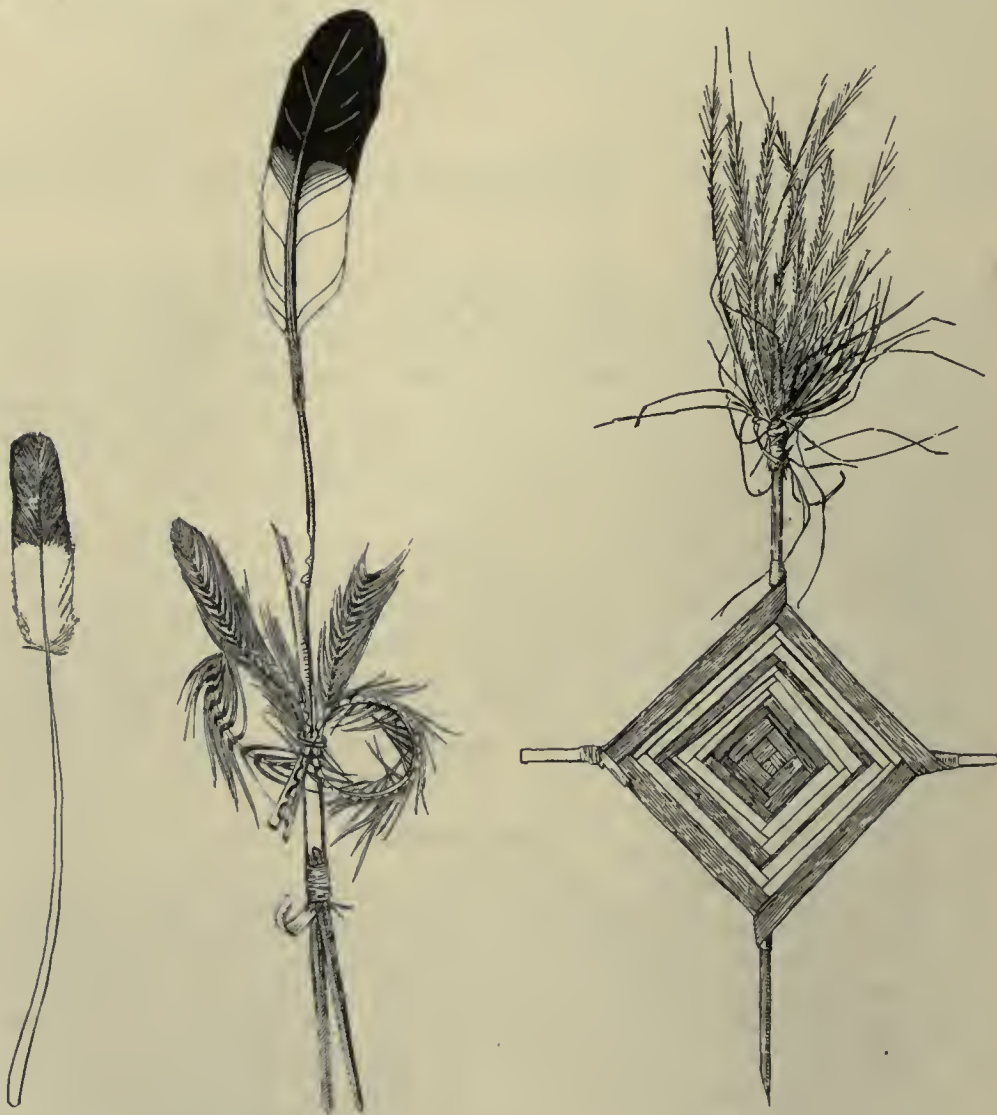


FIG. 44. *Daumer lub.*

FIG. 45. *Daumer lub.*

FIG. 46. *Tituititui.*

A head ornament (fig. 46) formerly worn in the hair by the young men of Mabuiag was called *tituititui* (*titui* = star). It consists of a diamond-shaped object made of strips of Pandanus leaf supported on a short horizontal and a long vertical stick, the upper end of the latter is decorated with a tuft of cassowary feathers and a bunch of *bisi* (shredded sago-palm leaf) dyed russet. The centre of the diamond is black and there is a marginal and intermediate black band. The sticks are reddened and vary in length, in the four specimens made for me, from 21 to 35 cm. The diamonds average

12 cm. in diameter. An ornament of this kind, the free ends of which were variously decorated with feathers, was occasionally held in the hand when dancing in Muralug, and probably elsewhere. Similar objects are made in New Guinea, at Mawata, and by the Motu of Port Moresby and Hula, where they are said to be stuck in houses for play (*Head Hunters*, p. 225 and fig. 26). "We look at hill, and make him all the same," said a Mawata man to me; but the only hill in that part of New Guinea is Mabudauan, which is a long way off. One is figured in the *Album* (II. pl. 199, No. 2) where it is described as a "charm, *pipifoa*, used in adorning a new house, made of banana fibre and coloured red and buff, Port Moresby."

Frontlets, *kuik uru* (W.), *mat lager* (E.), of various kinds were occasionally worn. Coronets made of several rows of dogs' teeth (pl. IX. fig. 4) were called by the same name as the dogs' teeth necklaces (p. 41), all of which were I believe imported from New Guinea. I obtained a coronet, *pik uru*, at Mabuiag (pl. IX. fig. 5) which was made from kangaroos' teeth, which also was necessarily imported.

Frontlets, *kwokata* (W.), made of the yellow sprouting leaf of the coco-nut palm, *tu* (W.), *su*, *u kupi*, *ura kupi* (E.) were commonly worn; these were tied in various ways (fig. 47; pl. V. fig. 10), usually a single or double ring was made (*gagai dan*, "eye of the king-fish" (W.), *irkep*, "eye ball" (E.), cf. Vol. v. p. 249, Vol. vi. pp. 16, 132), sometimes with long ends projecting beyond the head. A similar frontlet, *kausadoi* (W.), was made of the leaves of the *Pandanus pedunculatus*, *kausa*.



FIG. 47. Three palm-leaf frontlets, Muralug.

The *kusad-uru*, or *kusad-ul* (W.), is a fillet decorated with *Coix* seeds, *kus*; it was bound round the head of the Mabuiag *kernge*, or young men during the period of initiation (v. p. 213) to keep the long ringlets of hair, *ial*, off the forehead; an elaborate one from Tutu is shewn in pl. IX. fig. 1, where it may have been used on similar occasions, but doubtless was not confined to them. The band measures 265 x 50 mm.; it is composed of a narrow encircling plaited band and a central broader plaited band on which the oblique seeds are sewn, the two rows of vertical seeds bridge the interval between these rows, the empty spaces between the vertical seeds give a light appearance to the band; the central tassel consists of *Coix* seeds. A similar fillet was obtained at Mer (fig. 48), it consists of a simple plaited band about 37 by 2 cm., on the face of which strips of yellow orchid skin are applied and a double row of *Coix* seeds; there is also a central tassel of seeds and violet wool.



FIG. 48. Fillet decorated with *Coix* seeds, Mer.

I obtained in 1888 at Tutu a fillet made of cuscus fur, *barit* (*Phalanger maculatus*), which came from New Guinea (*Album*, I. pl. 339, No. 12). It is in the British Museum.

A row of oblong, oval, circular or diamond-shaped pieces of nautilus nacre, *kaura* (W.), *piau* (E.), strung on two strings, was worn across the forehead on festive occasions (fig. 49; pls. VIII. fig. 2, IX. figs. 2, 3). In Mer it was called *piau mat lager*, or *idaid* (nautilus) *mat* (forehead) *lager* (rope or cord). I obtained one at Muralug in 1888 made of large irregular oval pieces of nacre, it was called *kaura dan*, nautilus' eyes; the name at Mabuia is *kaura kwik uru*.

The *saurisauri piau* of Mer is a star-shaped ornament (fig. 50) 68 × 35 mm., made of nautilus nacre. It is perforated with five star-like holes and two small simple holes by which it was attached to a band which passed over the forehead. *Saurisauri* is the name of a common blue starfish (*Linckia lævigata*) which frequently has four arms instead of the customary five.

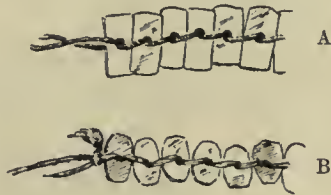


FIG. 49. *Piau mat lager*, Mer, about $\frac{2}{3}$ nat. size. The length of the nacreous portion is 16.5 cm. in A, and 25 cm. in B, each piece being 18 mm. long in A, and 10 mm. in B.

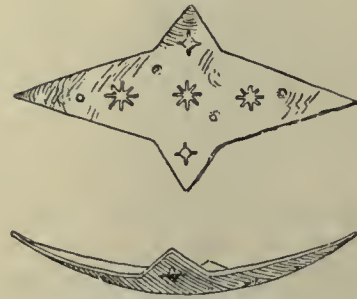


FIG. 50. *Saurisauri piau*, Mer.

The most common head-dress (pls. VII. fig. 1, VIII. figs. 2, 5) is that made of black cassowary feathers, *sam*; it is called *dagui* (*dagori*, *dagoi*) or *samera* (W.), and *sam* or *dagui* (E.). In some specimens the feathers are long and curve backwards over the head and usually at the same time away from the middle line; rarely they curve over in front. In others they are short, in which case they have a tendency to stand erect, and are frequently brownish in colour; rarely they are cut to form a straight upper edge. A headdress of short feathers is called in Mer *kerkar sam* (*kerger sam*) or young *sam* and also *wer sam*. Sometimes a tuft of the plumes of the paradise bird (*Paradisea raggiana*) is inserted in the centre (pl. VII. fig. 2), and occasionally small white feathers are fastened to the ends of many of the cassowary feathers with beeswax.

The head-dress is made in the following manner. About 8 quills (each of which bears two feathers) are bound together by fibre for about 25 mm. from the end. A large number of these bundles are fastened together: two longitudinal strings are placed close together near the upper and two others near the lower end of the wrapped-up portions of the bundles of feathers at the back of the head-dress; a string is twisted round each bundle so as to include the longitudinal string and passes in front over the next bundle as well, round which it is twisted, and so on. Thus looked at from behind each bundle is encircled by a string which encloses the longitudinal string, and in front each loop of the string passes over two bundles¹;

¹ This is called "wrapped weaving" by O. T. Mason ("Aborig. Am. Basketry," *Rep. U.S. Nat. Mus.* for 1902 (1904), p. 231), but the employment of the longitudinal string causes it to approximate to wrapped twined weaving, p. 235.

as the front strings are arranged obliquely, the two upper and the two lower strings form an upper and lower herring-bone design. The longitudinal strings extend far beyond the forehead-band thus formed, and are plaited together, with the weaving strings, to form a cord for tying the head-dress on the head. Sometimes each pair of weaving strings is a single string doubled on itself, in which case the longitudinal strings are passed through them at the end where the doubling occurs.

The bound up portion of the feathers usually appears as a broad forehead-band which is generally painted white, while the string-work above and below is reddened. Rarely the band is decorated with Coix seeds; in pl. VII. fig. 1 the seeds are threaded on red wool which projects beyond each convergent pair of seeds in a vertical tassel. The band may vary from 14 to 40 cm. ($5\frac{1}{2}$ — $15\frac{3}{4}$ in.) and the length of the feathers may reach 43 cm. (17 in.).

Usually a supplemental forehead-band is placed in front of the original one, this is composed of several strips of ratan or some flexible strand over and under which a string is tightly laced. The "stroke" (see section on Basketry) is a plain check, but the technique is essentially wickerwork. This forms a very firm and durable band, which, in our specimens, is variously painted red and white, a string cloison being attached at the junction of the colours.

Melville drew an Erub man wearing a head-dress composed of the black-tipped white feathers of the Torres Straits pigeon (pl. III. fig. 3). This is the only record we have of a very effective ornament.

Very rarely one finds a head-dress of simple construction entirely composed of the plumes of the common bird-of-paradise (*Paradisea raggiana*); it is called by the same name as the bird itself, *dăgam* (W.), *degem* (E.). The specimen figured on pl. VII. fig. 2 was obtained at Saibai, and was said to have come originally from the Tugeri.

A *waipat* (W.) is a head-dress consisting of a single plume.

The finest head-dress is that called *děri* or *dri* (W.), *dari* (E.) (pls. VI., VIII., figs. 1, 3). It consists of a \cap -shaped framework, *bume* (W.), either open or covered, from which projects a fan-shaped arrangement of the large feathers of the white variety of the reef-heron (*Demiegretta sacra*), *karbai* (W.), *sir* (E.).

In those with an open-work frame (pl. VI.) the \cap -shaped frame consists of several bars of split cane or ratan, which are fastened together with soft string by wickerwork technique (fig. 51). A peripheral one is separated from the outer bar of the conjoint group by a gap which is crossed by a slip of cane sewn to these two bars in such a way as to form a zigzag: it also is covered with string (fig. 51). Two strips of cane served round with string in the usual manner to form a single bar are fastened centripetally to the lower portion of the frame: about its middle they span the open space in an M-shaped manner¹. A vertical band consisting of several bars passes down the median line from the apex of the \cap to the centre of the bent bar. Usually a transverse band composed of



FIG. 51. Detail of the construction of a *dëri* head-dress.

¹ In the specimen shewn in pl. VI. fig. 1 there are two of these.

two or three bars passes from one side of the frame to the other, and is fastened to the lower end of the vertical band and the apex of the M-shaped bar. The spaces between the vertical band and the frame above the M-shaped bar are crossed by crescentic bars served with string. The framework is variously painted in red, white and blue. The quills of the white feathers, which form the characteristic feature of the ornament, are fastened between a split cane or two strips of ratan in the manner shewn in fig. 51. This structure is fastened at intervals to the outermost bar of the frame. A strand of black cassowary feathers, closely bound to a strip of cane, is fastened to the front of the support that carries the white feathers, thus concealing their mode of insertion, but frequently it also conceals the space crossed by the zigzag. The feathers at the free ends of this strand project to form a kind of tassel. The white feathers forming the fan-shaped arrangement are cut in the characteristic way shewn in the illustrations. A V-shaped gap is always left in the centre; occasionally the free vanes of the two feathers bounding this gap are notched as in a specimen from Tutu which I gave to the British Museum (pl. VI. fig. 1). A long white feather projects horizontally beyond each base. A tuft of bird-of-paradise plumes or a single long feather of some sea-bird is generally inserted in the central gap. The apex of the framework may be decorated in front with tufts of feathers, a seed, or other object.

It is unnecessary to go into minor variations, but one point is worth mentioning. There is considerable variation in the disposition of the symmetrically disposed bent bars, and I was at a loss to understand their significance till I saw a specimen which belonged to Mr Frank Summers, then resident in Torres Straits (fig. 52). It is obvious that the median bar represents a nose, and the curved line above the eyes eyebrows, while that below is probably intended for a nose-stick, below this is a mouth. The eye discs are made of pearl-shell with a pupil of black beeswax. There is, of course, no evidence that this specimen retains the original motif, it may be the last of a series, but I am inclined to regard the simple examples as degenerations from a face design. This conclusion at which I arrived in 1889 is strengthened by the fact that we obtained at Mer a *dri* (pl. VI. fig. 2) having two large eyes and a characteristic wooden nose. A red *wadai* bean is tied above the nose. It measures 50 × 37 cm.



FIG. 52. Sketch of the framework of a *dēri* with human face design. (For whole head-dress, see *Journ. Anth. Inst.* XIX. pl. VIII. fig. 7.)

Specimens average in length from about 48 to 54 cm. and in breadth from 37 to 43 cm.

In the other type of *dēri* the framework is covered (fig. 53; pl. VIII. figs. 3, 6; *Album*, I. pl. 334, No. 1 from Mer, II. pl. 191, no. 5 from Debiri, delta of Fly river). The forehead portion consists of a stiff triangular, semi-ovoid or rarely diamond-shaped structure which is composed of horizontal strips or bars of ratan or similar material bound in the same manner as the forehead-band of the cassowary head-dresses (p. 37) or the framework of the other kind of *dēri* (fig. 51). The free ends of this wickerwork on the converging sides are kept rigid by two stiff bent strips of ratan, which are served with string in the usual manner. In those specimens in which the lower margin is not straight (i.e. formed by a continuous strip) the free ends of the strips are strengthened by an additional continuous bent strip. The central vertical line of the

structure is strengthened by two stiff slips, which are usually a folded strip of ratan, the bent end of which forms a loop projecting beyond the lower margin. A strong loop is worked into the lateral angles for the attachment of the cord by which the head-dress is fastened on the head. The convergent sides are finally furnished with an open-work zigzag and fan of white feathers.

The body of the frame is painted white and there is usually a central design in red and black, margined by a string cloison, which is variable in form (fig. 53), the significance of which has not been elucidated. The circumference is usually reddened.

I believe all these head-dresses are imported from New Guinea, and I am under the impression that they are definitely war accoutrements in the districts where they are made.

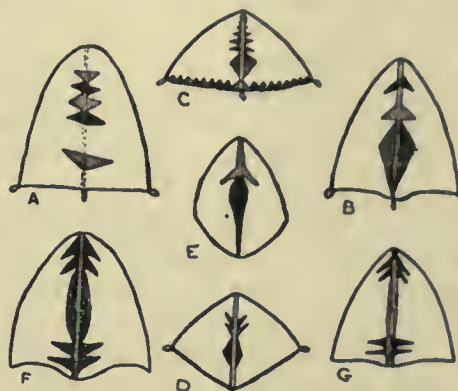


FIG. 53. Designs painted on certain head-dresses. A—D, Camb. Mus.; E, Oxford; F, G, Glasgow.

NOSE AND EAR ORNAMENTS.

The septum of the nose is pierced (p. 9) in all the old and in most of the middle-aged people, but, like the distension of the lobe of the ear, this custom has now fallen into desuetude. Into the orifice, *piti tarte* (W.), *au pit neb* (E.), was inserted a long or short shell rod or plug, *gub, guba, or gigub* (W.), *kirkub*¹ (E.) (pl. VIII.). The long forms probably were worn only on festive occasions, but the short may have been in more general use; none are now worn. The alæ nasi, lips or cheeks, were never pierced, but two small holes are sometimes bored in the tip of the nose of some Miriam men (p. 10). Mr J. Bruce informs me, that "when the men wish to be particularly fascinating in their appearance, they insert into each hole a shoot of young grass or piece of the young shoot of the coco-nut palm leaf. The shoots are held in position by pressure only, and being a pretty pea-green in colour look very effective against the black ground. This is also used as a dance decoration, together with the *kirkub*."

The nose-sticks vary greatly in size and form (pl. IX. figs. 6—12). Occasionally they are columnar with square ends, more often fusiform with blunt or sharpened points, and either straight or curved.

They fall into several groups:

(1) Short, thick and more or less cylindrical, but usually oval in section, the ends are generally squared. They may be so short as to be little more than a plug for the hole in the septum nasi. The length varies from about 2 to 5 cm. They appear to be generally made of the shell of the giant clam (*Tridacna gigas*), *maiwa* (W.), *miskor* (E.), but some are made from the columella of a large *Conus millepunctatus*, *wauri*.

¹ The prefixes *gi* (W.) and *kir* (E.) [probably a modification of *gir* (E.)], "boar's tusk," suggest that formerly, perhaps before the natives had migrated to the islands, the nose ornament was actually a boar's tusk.

(2) One short variety is shaped like a narrow, sharply-pointed spindle, 47—81 mm. in length, and is generally made of *as*, *Cassis cornuta*. Our specimens came from Mer.

(3) Long, thick, straight or but slightly curved, and more or less circular in section. The Cambridge specimens came from Mer and were said to be made of *as* shell; one which was broken at one end measures 225 mm. in length. They are made from the shells of *Tridacna*, *Conus*, *Cassis*, *Megalatrachus aruanus*, *bu* (W.), *maber* (E.), and *Melo diadema*, *alup* (W.), *ezer* (E.). They vary in length. One made from a *maiwa* shell is flattened and much curved, and measures 212 mm. in length. Those made from cone shells are usually the shortest.

(4) A more curved variety of the long nose-sticks is oval or flattened in section. These seem to be usually made from the outer whorl of the *maber* or *ezer* shells. One specimen of *maber* shell from Mer measures 27 cm. along the curve and 188 mm. from point to point, and the longest (broken) specimen of *ezer* shell is over 20 cm. in length.

In the *Nautical Magazine* (VI. 1837, p. 753) it is recorded that in Mer, "the *septum narium* is perforated in which, at times, they wear a circular hook of tortoise shell"; I think this must be a mistake, as no mention is made of the shell nose-stick.

Ear ornaments and pendants were of frequent occurrence, but I have never seen or heard of actual ear-rings that could be directly fastened in the ear. The piercing of the lobe of the ear is described on p. 10, the distended lobe, *tautil* (W.), being reduced to a ring of flesh, but most frequently it was severed on the side nearer the face, thus forming a pendulous, fleshy cord, *muti* (W.), *laip sak* (E.), which was a very remarkable feature in the appearance of these natives. The outer margin of the ear, *leb* (E.), was usually pierced in a consecutive series of small holes and I believe these were sometimes continued down the pendulous lobe (pl. I. fig. 4).

Small pieces of grass, small flowers, seeds, *uta kursai* (W.), bits of worsted, or other objects are even now occasionally inserted in these marginal orifices. The fully decorated ear of an ancient native must have presented a striking appearance. This was known as *muti* (W.), *leb* (E.), names which also apply to ear pendants of seeds, *kus leb* (E.), and other ear ornaments. It is this which is alluded to in the folk-tale narrating the parthenogenetic birth of Kusa Kap (v. p. 24). The seeds worn in this case, and indeed practically universally, were those of the *kus*, *Coix lachrymæ*, "Job's tears."

Definite ear ornaments made of shell were occasionally tied on to the end of the pendulous lobe, *laip*; characteristic examples are shewn in pls. IX. figs. 13—16; VIII. figs. 2, 5; those made of pearl-shell are called *gagi mai* (W.), *mai leb* (or *laip*) (E.), they vary from about 50 to 75 mm. across. I suspect that the ear pendants were suggested by small examples of the crescentic breast ornament. They are provided with a central shank, which is perforated above, and usually with a pair of spurs below. I was informed that those, *idaid laip* or *laip piau*, made of the nacre (*piau*) of the nautilus (*idaid*) were worn by the "big men." One beautiful little pendant, 19 mm. wide (pl. IX. fig. 17) is made from the septum of a nautilus. A ring, *godegode* (E.) (fig. 54), made from the top of a cone shell (*wauri*) was worn in Mer; it was tied on to the lobe by

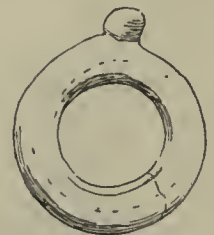


FIG. 54. *Godegode*, Mer.
39 mm. in diameter.

means of a fibre attached to the projecting knob. They vary from 32 to 53 mm. in diameter.

Leaves or flowers were sometimes carried between the ear and the head, indeed this space often serves as a pocket.

NECKLACES.

Necklaces, *tabo kaubkaub* (E.) "neck spheres" (perhaps it should be *gogob*, a ring of rope), were commonly worn and were generally made of plaited strips of ratan, bamboo rind, or similar material, or of twisted or braided coco-nut fibre (pl. I. fig. 4). Seeds and shells were strung for necklaces or sewn on plaited bands. In later times strips of European stuffs, turkey-red twill and the like, were employed. Very frequently the necklace was employed merely to carry a pendant.

A necklace of the canine teeth of dogs, *umai-dangal* (W.), *seserig* or *susueri* (E.), was a much-prized object, probably due to the fact that a dog could supply only four teeth so that a long necklace would represent a large number of dogs. Each tooth is perforated near its base and it is sewn through this hole between two braids (pl. XI. fig. 18). It was worn only by women and girls.



FIG. 55. Portion of a *waraz* necklace, Mer.



FIG. 56. Portion of a cowry necklace, Mer; about $\frac{1}{2}$ nat. size.

Small olive shells, *uraz* or *waraz* (W.), *waraz* (E.), were of considerable value especially when made up into a necklace. A good one was equal to the highest unit of value (a canoe, etc., p. 44). When fresh this olive shell is of a grey colour, but I was informed that "cook him and he come white." I obtained one fine specimen in 1889 at Mer which is about 91 cm. (36 in.) long, the shells of which are fastened to a cord of plaited coco-nut fibre; it is now in the British Museum (pl. IX. fig. 18). The longest specimen obtained in Mer in 1898 is 282 cm. (9 ft. 3 in.), it is composed of buff and a few grey olive shells and two or three *Dentalium* shells, all strung lengthways on fine twine (fig. 55). A short one is shewn in fig. 67.

One roughly made necklace from Mer (fig. 56) is composed of small white cowries with a *Dolium* shell in the centre. Another one from Mer, 73 cm. long (fig. 57), is made of *Cantharidus torresi*, interspersed among which are solitary specimens of *Liotia varicosa*, *Euchelus altratus* and *Trochus fenestratus*, it bears a tassel of coloured wools and a pendant.

The only seeds that were employed for necklaces were the hard grey fruits of the grass, *Coix lachrymæ* (Job's tears), *kus* or *kusa* (W.), *kusu* (E.), which were perforated through their long axis and were either used entire or halved transversely; usually they were threaded in a single series but in one old specimen (fig. 58) they are in threes. I collected one specimen of halved seeds, about 68 cm. (27 in.) in length, at Muralug, but it was said to have been made in Moa; it is now in the British Museum. In the western islands these necklaces are called *kusal* and a tassel of the same seeds is called *kus*.



FIG. 57. Shell necklace with pendant; Mer.

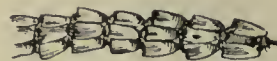


FIG. 58. Necklace of seeds; $\frac{1}{2}$ nat. size.

The *iapar* (W.) is a temporary necklace made of the scented leaves of the *wamadai* plant and worn by women; it was also worn by *ipikamarkai* during the death-dances in Mabuiag (v. 254). A necklace was made for amusement of the scarlet flowers of the Indian coral tree (*Erythrina indica*), *piner* (W.), *naur* (E.).

PENDANTS.

Various objects were employed as chest pendants¹. A simple one is an old Cyrena shell, 85 mm. long, which was fastened to a strip of red calico (fig. 59). Other shells, such as *id*, are worn. In the British Museum is a trimmed pearl-shell from Nagir²

¹ In the Vocabulary *kaubkaub* (E.) is given as the term for a pendant and for a European bead, primarily it signifies a ball or sphere; *kaubkaub neb* is a ring, *neb*=a hole.

² In describing his visit to Sue Island (Waraber) Macgillivray says: "These blacks belonged to the Kulkalega or Kulaklaig tribe...their head-quarters are at Mount Ernest [Nagir]... The only ornaments worn were the large round pearl-shell on the breast" (II. p. 40). Melville has drawn an Erub mau wearing one (pl. III. fig. 3). D'Alberty (I. p. 305) figures a "mother-of-pearl breastplate—Fly River, Moatta, and Hall Sound," judging from the suspending band, which is fastened to two perforations in the upper third of the shell, the specimen figured came from one of the two former localities.

(pl. IX. fig. 23) which was used for this purpose. Similar pearl-shells were worn by some of the Western warriors when on the war path (v. p. 311), and, according to a MS. note of Mr Wilkin's, "many were inscribed by sharks' teeth with the owner's *augud*" (totem). A shell (fig. 60) in the Oxford Museum is inscribed with a *kaigas*, the shovel-nosed skate (*Rhinobatis*), which is a common Western totem (v. pp. 154—5, 164).



FIG. 59. Cyrena shell pendant.



FIG. 60. Engraved pearl-shell pendant; $\frac{1}{3}$ nat. size.

Crescentic chest ornaments made of pearl-shell are in common use throughout British New Guinea; by all the Torres Straits Islanders they are termed *mai*, which is the same name by which the pearl-shell itself (*Meleagrina margaritifera*) is called. Frequently the Western Islanders call the ornament *danga mai* (*danga mari*, in Muralug and Moa) or "pearl-shell tooth," from which term it may be suspected that the shell was originally carved to represent a boar's tusk, or perhaps two tusks fastened together by their bases.

The crescent is generally broad, *kemerkemer mai* (E.), "filled up *mai*," but may be quite narrow (pl. IX. figs. 20—22). I was informed in Mer that the *kemerkemer mai* was worn when fighting and that a small one, *pek mai*, was worn in the dance, *kab*. Usually the contour is regular, but there may be a slight projection in the centre of the concavity and convexity (pl. IX. fig. 22) or two divergent spurs on the latter (pl. I. fig. 6). Sometimes they are quite plain, but usually the margins are incised with closely set fine lines, the concavity in one or two specimens is marked by a row of small pits, or these may occur all round the object. Very rarely there is a central design. There are generally two, rarely three, holes bored near the concavity at a variable distance apart, by means of which the ornament is suspended, the smaller specimens may have but one hole. The largest one I have seen measures 173 mm. ($6\frac{7}{8}$ in.) in direct length (pl. I. fig. 6). They usually vary from 140 to 158 mm. ($5\frac{1}{2}$ to $6\frac{1}{4}$ in.).

The most characteristic chest pendant is the *dibidibi*¹ (pl. VIII. figs. 1, 3; fig. 61), a circular polished disc made from the flat end of the large cone shell, *wauri* (*Conus litteratus* var. *millepunctatus*). The whole of the flattened spire of the shell is chipped off from the outer whorl as a thick disc. The upper and under surfaces are then ground down to form a thin disc, the upper surface of which is generally slightly convex and

¹ Many of the Western Islanders called it *dibidib* or *dibadib*.

the flattened under surface retains the spiral of the whorls. The ornament is subsequently polished. In some specimens the grinding is continued until both surfaces are planes, but these are not so handsome as those of which the upper surface is slightly convex. A well-made *dibidibi* is a beautiful object. The margin is usually left entire but occasionally it is nicked as in pl. IX. fig. 19; in this specimen there was evidently an imperfection on the upper surface and this has been rectified by inserting a small disc of pearl-shell. Occasionally one or two small *dibidibi* are fastened to a necklace, as in fig. 67. The discs vary in size, usually running from 60 to 80 mm. in diameter, a very fine specimen may have a diameter of 95 mm. ($3\frac{3}{4}$ in.).

The *dibidibi*, even more than most ornaments, except the *waiwi* or *wauri* (p. 56), served also as a kind of currency. They varied much in size and finish and had a corresponding value, thus no table of equable exchange can be drawn up. I gathered that ten or twelve *dibidibi* of fair size would be equal in value to a large shell armband, *waiwi* (W.), *wauri* (E.), to a canoe, to a dugong harpoon, or to a wife. Three or four *dibidibi* would constitute an annual instalment for a canoe (see section on Currency and v. p. 296).

When I was in Mer in 1889, I obtained a pendant chest ornament which was usually made from pearl-shell, *mai weapu*, but sometimes from the black shell of a Pinna, *maub weapu*. These were worn by both sexes. After a great deal of trouble I found that *weapu* was the name of the larva of the ant-lion (Myrmelion)¹; this then gave me the clue as to the meaning of the ornament. One or two of those that I collected were of better workmanship than the others; they were made of pearl-shell, and were similar to that drawn in fig. 62 B; others were roughly cut and carelessly finished off. It is permissible to regard the former as being more or less original designs, and the latter as unintelligent copies of them, which is the usual fate of copies. Now, the former may very well be conventionalized representations of the larva of an ant-lion, as may be seen on comparing A and B, fig. 62. The long jaws, the three pairs of legs, and oval body are indicated; the latter, too, has transverse lines suggestive of segments. In some of the pendants the body and appendages are completely margined with short lines, which are evidently meant for the hairs of the insect. I have sketched four examples of degeneration which require no further comment except the last, which is doubled, and in this respect I believe is unique. Another specimen, 64 mm. long, is shewn in fig. 57. It is made of pearl-shell and has a lateral spur on each side of the orifice for suspension.

The history of this ornament is not less interesting, as it offers a good lesson of the caution that is necessary in dealing with such subjects now that facility of transport

¹ This larva is very hairy and possesses an immense pair of jaws (fig. 62 A). They are common on the sand-beach of Mer where they make furrow-like pit-falls, at the bottom of which they bury themselves, with but the tips of their jaws projecting above the sand. Unwary ants tumble into the pits and are promptly seized in the jaws, and sucked dry by the voracious larva. *We-apu* means sand-mother; there are other examples of this use of the word *apu*, thus a bee is *isau-apu*, wax or honey-mother; a shrimp is *meg-apu*, tide-mother.



FIG. 61. *Dibidibi* from Muralug, 85 mm. in greatest diameter. The necklace consists of a simple plait with appliqué zig-zags of yellow orchid skin (1888, A. C. H. Col.).

has led to intercourse between peoples who a few years previously had never heard of one another. Owing to the interest which I took in these objects I elicited the information that they were first made by a native of Tanna, one of the New Hebrides, who was shipwrecked on Mer several years before my first visit to that island, and that the Miriam had copied his original design.

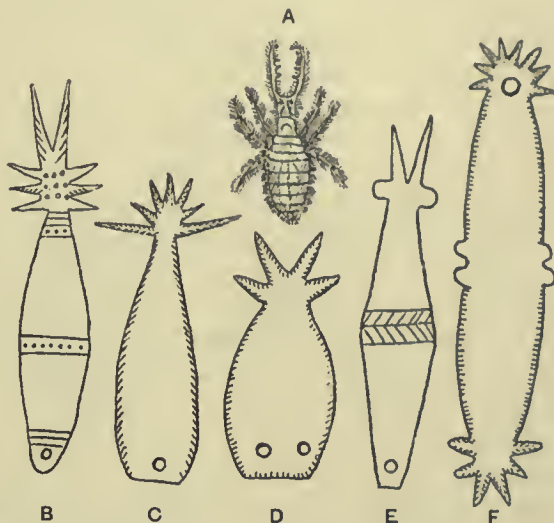


FIG. 62. Series of pendants in the British Museum, collected by the author in Mer. In all cases the ornament is worn with the perforated end uppermost. Above (A) is a sketch of the larva of an ant-lion, about natural size. The pendants are all of pearl-shell, except E, which is made of the black shell of the Pinna; two-thirds of the natural size.

Other pendants of animal forms were commonly worn, those in the western islands were totem badges (v. pp. 164—169, pl. XI. figs. 4—7), while those in the eastern islands probably had the same significance originally, though totemism has for some time been obsolete in these islands (vi. p. 256, pl. XXIV. figs. 4, 6, 7).

I cannot say whether the pearl-shell pendant in the form of a tree-frog, *goai* (pl. IX. fig. 24), or the turtle-shell fish, *totoam* (*Platax vespertilio*, Sea-bat), 74 mm. long, shewn in the *Album*, i. pl. 335, No. 8, had any special significance. I collected them in Mer in 1889 and they are now in the British Museum.

Sometimes part of the totem animal itself was worn, as in the case of the crocodile scutes which we obtained at Saibai (v. p. 165, fig. 14).

Among various pendants that were worn may be noted two pearl-shell objects* (pl. IX. figs. 25, 26) from Mer, and in the same island a *gerer moder* (Pandanus mat), a small square of plaited *gerar*, was sometimes fastened to a necklacc.

The red beans of the *Mueuna*, *wadai* (W.), *wada* (E.), were frequently attached to necklaces or used in conjunction with pendants; a ceremonial pendant of these beans is described in Vol. vi. p. 292. Tassels of whole or more usually halved *Coix* seeds, *kus* or *kusa* (W.), *kusu* (E.), were frequently employed.

A raequet-shaped chest ornament (179 mm. × 97 mm.) was obtained in Mer which is made of kerosene tin, thickly coated with beeswax, on which are crowded as many

erabs'-eyes seeds (*Abrus preeatorius*) as can be placed on both sides. The broad part is perforated in an irregular manner, the main idea being a central bar from which cross bars proceed to the rim. It was suspended round the neck by a piece of calico, and a small white cowry is placed above the pendant.

The most beautiful of the personal ornaments are the remarkable perforated pearl-shell discs which were the distinctive badge of the *Geregere le* of the Malu fraternity of Mer (vi. p. 295). I know of only three specimens. One (pl. X. fig. 16) presented by Mr R. Bruce to the Kelvingrove Museum, Glasgow, is about 120 mm. in diameter, another (pl. X. fig. 17), obtained long ago by the London Missionary Society and acquired by the British Museum, is about 115 mm. in diameter, and the third (pl. X. fig. 15), collected by ourselves in Mer and now in the Cambridge Museum, is 110 to 117 mm. in diameter. Although these objects differ from each other, it is evident that the designs are essentially similar. In fig. 16 there is a central star (but in figs. 15 and 17 there is a perforated disc, from which radiate a series of tridents), this is succeeded by a ring of tridents, which is followed by a ring of circular perforations; in figs. 15 and 17 there is another ring of tridents and a marginal one of circular perforations. Concentric bars or rings delimit each series of patterns. Figs. 16 and 17 have a symmetry of eight, while fig. 15 has a symmetry of six.

In fig. 16 the 8 rays of the central star are continued as 8 tridents, intermediate to which are 8 Y-shaped bars, making 16 elements in the ring; the next ring contains eight groups of 3 tridents, the bases of which practically spring from the forks of the inner tridents, each set of 3 being separated by a single bar, making a total of 32 elements in this ring; there are 48 perforations in the marginal ring, each of which corresponds to a space between the forks of the outer ring of tridents.

Fig. 17 contains 8 tridents in the first row, and 16 in the second; the next ring contains 32 perforations, and is followed by 30 tridents (the number should be 32, to be symmetrical); there appear to have been 46 marginal perforations.

In fig. 15 there appear to have been 6 tridents in the first row and 12 in the second; the next ring contained 24 perforations, followed by 24 tridents; the marginal perforations were probably 48 in number.

I have given this analysis of the arrangement of the elements as it is of some interest to determine how accurately a somewhat complicated design can be carried out by natives in a low stage of culture.

I do not know of ornaments similar to these from any other locality, and they do not appear to me to be very characteristic of the decorative art of the Torres Straits Islanders as there are no other examples of the technique of nacre fretwork. Fretwork in turtle-shell is characteristic of masks from this region, but the trident motive, so far as I am aware, occurs only in a turtle-shell fret pattern (fig. 63) on the side of a human face on a crocodile-mask in the Vienna Museum (No. 53387). This mask is also provided with a band and is surmounted by a made-up bird. On the whole I am inclined to look upon these objects

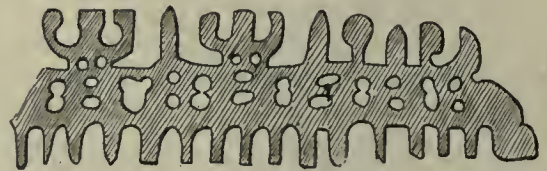


FIG. 63. Fret pattern on a mask; Vienna Mus.

as importations, but I cannot at present suggest from which of the neighbouring districts of New Guinea they might have come, for they certainly did not come from Australia. According to tradition (vi. p. 282) the *Geregere le* are said to have come from Tuger: the *geregere* is a small migratory bird (vi. p. 287).

The following pendants formed part of a bride's decoration in Mer (cf. Vol. vi. p. 114), the number and variety depending upon the wealth of her parents. They were worn for one or two months before the wedding feast. The older married women also wore many of these objects on special occasions, but never during widowhood.



FIG. 64. *O* shell pendants worn by brides. No. 1 is 113 mm. long, 2 is 67 mm., 3 is 97 mm., and 6 is 65 mm. The *sabagorar* of no. 2 is 100 mm. long. Nos. 4 (95 mm.) and 5 (107 mm.) are in the British Museum, the others are in the Cambridge Museum.

Triangular pieces from the outer whorl of the *wauri* shell are called *o*, *wauri o*, or *o kaukau* (hanging or suspended *o*) in Mer (fig. 64). They are worn only by married women, no single girl or woman may wear them. Most are triangular in form, and are suspended by means of a single orifice in the base, very occasionally the hole is at the apex. They vary greatly in finish, some being excellently made, while others are very rude; some very rough ones are more or less quadrangular in outline. Occasionally

they are slightly decorated with simple patterns. Two, or at most three, could be made from a large *wauri* shell; a cone shell from which one has been made is shewn in the section on Currency. There is great variation in size, but they may be considered as averaging about 8—9 cm. in length and about 5—6 cm. in breadth.

The fish-bone pendants (fig. 65), *naged lid* or *lar lid* (*naged* bones or fish bones), worn by brides and married women (vi. pp. xii, 114), are in some cases the remarkably modified interneurals and interhæmals of *Platax arthriticus*. Those shewn in fig. 65 A are said to be the bones of the *ab*, a large blue fish.

The most interesting and varied pendant was that known as *gagi* (W.), *sabagorar* (E.). Of late years well-made examples have been very rare, the few specimens we were able to obtain in 1898 are of very rude workmanship and many are undecorated. The largest and finest specimens consist of a crescent of turtle-shell with the horns produced into an incipient helicoid spiral and a central shank perforated at the end for suspension (pls. X. fig. 14, XI. fig. 9). There is usually a second hole near the base of the shank, and a third in the middle line of the convexity of the crescent. At this point is a pair of divergent spurs, and another pair occurs on each side. Incised patterns forming a band traverse the crescent opposite the three pairs of spurs, and there may be a little ornamentation on the shank just below the uppermost perforation. The four finest and best decorated specimens known to me are in the Liverpool (l. 10. 85. 16 and 17), Glasgow (89. 67. ck) and British Museums; the first three have respectively a total length and breadth of 146 × 119 mm. (pl. X. fig. 14), 143 × 179 mm., and 170 × 173 mm. The shank in the last specimen is very long; it was obtained at Mer by Mr R. Bruce. The example which I obtained at Mer in 1889 (pl. XI. fig. 9) and gave to the British Museum, measures 146 × 138 mm.; it was made by Gadodo's father. I obtained at the same time a somewhat smaller specimen (pl. XI. fig. 10) in which the horns are continuous with the shank (128 by 140 mm.). In smaller specimens the horns, as in the last mentioned, are in the same plane as the rest of the ornament, and they exhibit greater diversity of form. The specimen collected by me in Mer in 1888 (pl. XI. fig. 7) is shaped like an anchor, but it is evidently connected with the former type. In a specimen figured in the *Album* (i. pl. 338, No. 1) two hooks appear to spring from a common shank, and this is more evident in the rather rough specimen shewn in fig. 66.

The great majority of specimens are hook-like objects, decorated or quite plain, and frequently with single or double spurs. Some are narrow and may be quite flat or slightly rounded, others again are broad, sometimes extremely so. The hook may



FIG. 65. Fish-bone pendants worn by married women; Mer. A and B are $\frac{1}{2}$ nat. size and are in the Cambridge Museum. C is in the British Museum.

be a simple bend of the shank, or it may form a large recurved loop. The workmanship may be of fine quality, or the object may be coarsely fashioned, of uncouth form, and without ornamentation. The variations are so great and individual that nothing can be gained by a more detailed description.

As was previously mentioned, various objects were worn by girls in Mer as part of their marriage outfit; I am not sure how far this custom extended in the Straits, but I think we can safely say that it reached its maximum in the Murray Islands. A complete set of a Miriam girl's betrothal outfit, besides such trinkets as *dibidibi*, nose-sticks, small cowrie and ovulum shells, strings of *kus* (Coix seeds), necklaces of shells and especially of dogs' teeth and so forth, would include triangular pieces of polished cone-shells, *o*, turtle-shell bodkins, *ter* (pl. XI. figs. 11—17), turtle-shell fish-hooks, *mekek*, and *sabagorar*. Some of these objects are purely decorative in character; others such as the bodkins and fish-hooks are useful. The fish-hooks were used in pairs, each being fastened to the end of a thin string; as they are slender (pl. XI. fig. 1) they admit of very little decoration. One would suppose that if it were attempted to ornament them, they would have to be so much broadened in order to take a pattern as to render them of little use as fish-hooks, the object shewn on pl. XI. fig. 3 may however be a decorated fish-hook. The desire for decoration, combined with the traditional wearing of fish-hooks, led, according to this view, to the adoption of a purely ornamental-hook. Once this step was gained the further development into a large and handsome ornament could be readily accomplished. Analogous examples of the evolution of the forms of objects are everywhere to hand. The duplication of the hook to form the anchor-like variety is also a perfectly natural development. Two fish-hooks lying back to back, as they often would do when hanging down a girl's back, would suggest the apposition of the ornament; and two similarly placed simple *sabagorar* (127 mm. in length) are seen in pl. XI. fig. 8. It is only a short stage to make one ornament instead of two fastened together. The specimens shewn in fig. 66 and pl. XI. fig. 7 are very suggestive of this supposed transition. I do not know what is the significance of the spurs. The specimen of fig. 10, pl. XI. is clearly a degradation of such a form as fig. 9. If my hypothesis be correct, we have here a primitive form (the fish-hook), intermediate types, the highest specialised derivative and its degenerate modification, all being worn at the same time¹.

In 1889 I obtained at Mer a necklace (fig. 67) of ten *waraz*, two *dibidibi*, and



FIG. 66. *Sabagorar*, Mer; 82 mm. long.



FIG. 67. Necklace of *waraz*, *dibidibi* and turtle-shell, Mer; Brit. Mus. Total length 345 mm.; length of turtle-shell 97 mm.

¹ This hypothesis was first published in my *Decorative Art of British New Guinea*, 1894, p. 35.

four marginal plates of turtle-shell to which last the name of *sabagorar* was given, although they differ entirely from the manufactured ornaments of that name. It formed part of the marriage decoration of a bride, but doubtless was worn at later festivals.



FIG. 68. *Sauad*, an artificially deformed boar's tusk worn as an ornament, with two pigs' tails, Mer.



FIG. 69. *Sauad*, with tally notches, and two pigs' tails, Mer.

The *sauad*, which were worn at the conclusion of the initiation ceremonies by the important men of the Bomai-Malu fraternity of Mer, were very valued objects. They are tusks from the lower jaw of a boar, whose upper tusks have been knocked out; the lower tusks, thus having nothing to grind against, keep on growing, and in time would grow into a complete circle. The animal is killed when, or just before, this has taken place and the tusks extracted; the base is then pierced and they are suspended from a thin necklace made of twisted coco-nut fibre. Two *sauad* that we collected had attached to them a couple of pigs' tails and one had three; it is possible that these

were originally always present. One of our specimens (fig. 68) forms a complete circle 10 cm. in diameter. Another is a larger tusk, 10.7 cm. in diameter (fig. 69), but the circle is incomplete, its chief interest lies in eight short incised lines near the point, which are tallies memorialising amatory adventures (Vol. VI. pp. 251, 283).

The *sauad* were of great value as their production was not an easy matter and they had to be imported from New Guinea. Perhaps it was for this reason that imitation ones, *nasir sauad*, were made locally out of large *Trochus* shells, *nasir*. One very fine specimen (pl. VII. fig. 5), now in the British Museum, was collected by me in 1889, it is 126 mm. (5 ins.) in diameter. There is one specimen in our collection in process of manufacture which is 129 mm. in greatest diameter.



FIG. 70. Back view of a widow in mourning costume, and wearing an *ome nagar*, Mer. For full description see Vol. VI. p. 157.



FIG. 71. *Bud lu*, consisting of a *pit tonar* and boar's tusk, Mer.

Artificially deformed boars' tusks are greatly prized throughout New Guinea and Melanesia generally¹, and imitation ones are cut out of the giant clam (*Tridacna*) in the south-east archipelago of New Guinea.

¹ O. Finsch, "Abnorme Eberhauer, Pretiosen im Schmuck der Südsee-Völker," *Mitt., Anth., Gesell. Wien*, xvii. 1887.

Other pendants of boars' tusks are described in the section dealing with war accoutrements.

Also connected with the same ceremonies (vi. 294) was the custom of wearing a human lower jaw; one specimen (vi. pl. XVII. fig. 8) collected by us was provided with a thick fringe of Coix seeds, with some small shells intermingled among the seeds, and a loop of cord for suspension round the neck.

A Miriam widow, when in mourning, wore many objects, *bud lu*, suspended from necklets, these are described in Vol. vi. pp. 157, 158. They consisted of tallics of the length of the nose, and models of certain fingers and limb bones of the deceased, these models may have been substituted for the actual objects, but the dried tongue, palms of his hands¹ and soles of his feet were actually worn (fig. 70), in addition to various objects (such as armlets, leglets, groin shell, or ornaments) worn by him, or implements or materials which he had recently employed. Fig. 71 illustrates a *pit tonar* (nose fashion) or *pit autare* (nose measure), 95 mm. long, filled with shreds of the deceased husband's clothing, instead of the usual hair, and decorated with bead tassels, *lamar kërur* or *tarpur kërur*, together with a boar's tusk which the husband used as a scraper.

BELTS.

Crossed shoulder-belts or baldrics were worn as part of the accoutrements for war and for dancing. The simplest were merely strips of coco-nut leaf, *tu* (W.), *su* (E.) (pls. I. fig. 6, V. fig. 10), or of pandanus leaf, others were like ordinary belts, but with the two ends joined. They are called *kamadi* or *naga* (Muralug), *maiei* or *moie* (Tutu), *naga* (Mabuiag), *wagogob* = *wak*, belt, *gogob*, ring of rope or string (Mer). The Miriam mourning *wagogob* (fig. 70) was made from the bark of the *sem* tree (*Hibiscus tiliaceus*). Some *naga* from Mabuiag in the British Museum have a length of about 1 m., the plaited band being covered with two or more rows of Coix seeds. Coloured wool or yellow orchid skin may be sewn in as chevrons as in ordinary belts, and tassels of Coix seeds may be added (*Album*, i. pl. 341, No. 4).

Belts, *wakau* (W.), *wak* (E.), are worn by both sexes, but much more frequently by the men. The narrower kinds are of local manufacture, but the broad belts, which consist of a plain check foundation with designs in appliqué picked out in colours and furnished with a fringe, are imported from New Guinea. The technique of the various kinds of belts is dealt with in the section on Textiles.

The following descriptions refer to the first type of belt. Frequently they are decorated by overlaid wefts made of the bright yellow skin of an orchid (*Dendrobium*) (fig. 72 D, E). To some Coix seeds are attached, but this is more usual in the baldrics. We collected several to which were fastened the mouths of cowries (*Cypræa annulus*, etc.), *uza* (W.), *pet* (E.), hence these are termed *pet wak* by the Miriam. A fringe of shells, usually *Barbatia*, to serve as a rattle was often added to the dance belt, *tepe wakau* (W.),

¹ Brockett in his *Narrative of a Voyage*, etc., 1836, says: "In some of the huts [of Mer], we saw skins of hands which were hanging up; these the natives wear as ornaments on the days of rejoicing" (p. 26). In the *Naut. Mag.* vi. 1837, p. 754, it is stated that the skins of the hands of departed friends are worn by the Miriam women "on festive or funeral occasions." It was only when in mourning that a Miriam widow wore these objects, they were not worn by anyone else, moreover mourners did not attend festive gatherings.

serpa wak (E). I was informed that *serpa* was the general name and *tik* or *tig* the special name for these shells. These belts vary in length from about 80 cm. to a little over 1 m., but about 90 cm. is a common length.

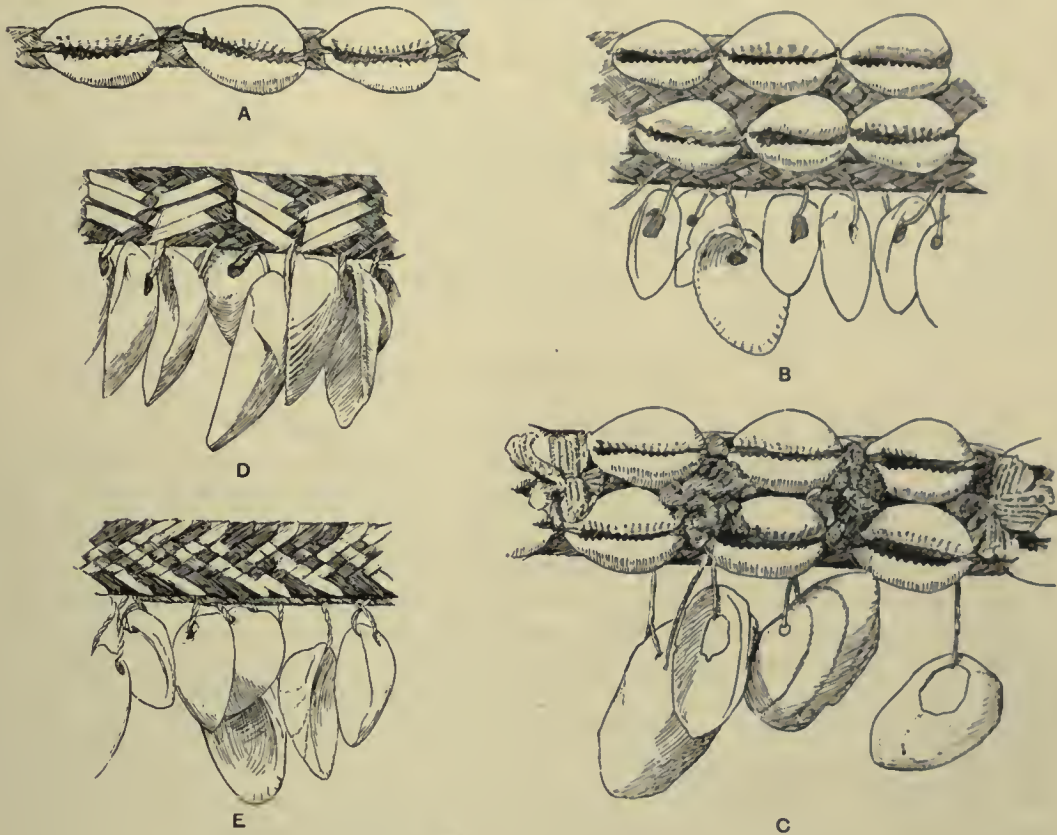


FIG. 72. Shell belts, Mer. A—C, *pet wak*; D, E, *serpa wak*.

The width of the bands with one row of cowries (fig. 72 A) varies from 9 to 20 mm.; those with two rows of cowries (figs. 72 B, C, 88) from 23 to 35 mm.; the one with three rows is 55 mm. In some cases the fringe of shells is attached to a narrow band, *serpa wak*, which is fastened on to the *pet wak* (fig. 72 B, E). Occasionally the plaited band is covered with some European stuff, probably originally of a bright colour, on to which the cowries are fastened. In one belt (fig. 72 C) the spaces between the shells are filled with tufts or rosettes of red or black wool.

All these belts are worn by the Miriam men in the ordinary dance, *kab*; the *serpa wak* making an agreeable rattling noise when the wearer is dancing.

In a folk-tale written down by Pasi (VI. p. 52) a *poto wak* is mentioned, which, from its name, may be a belt decorated with opercula, but it may be intended for *pet wak*, as I have not seen a belt so decorated.

The *kus wak* was a belt (fig. 73) that was worn by the *kèsi* (or lads during initiation) at the Bomai-Malu ceremony (VI. p. 292). It was composed of whole Coix

seeds, between every dozen or so of which was threaded a portion of the antenna of a crayfish, *kaier* (*Palinurus*). In one of the specimens made for us the antenna-beads



FIG. 73. Strand of a *kus wak*, Mer.

are replaced by tubes of the organ-pipe coral (*Tubipora musica*). A belt was composed of several of these strands, and there was a side tassel composed of loops of the strand and five *wada* beans. A similar strand composed of *Coix* seeds and antenna-beads, about 2.5 m. (8 ft.) in length, is in the British Museum (Kennett Coll. C.C. 6931). It is called a "necklace" (which is improbable), and is said to have been used at Cape York and Mount Ernest (Nagir).

OBJECTS ATTACHED TO BELTS.

The groin shield was worn when fighting (it is fully described in the section on Warfare) or when dancing (pl. VIII. fig. 2) but not on ordinary occasions. Macgillivray says (II. p. 15) that at initiation the lads among the Kowraregas [natives of the Muralug group] are "decorated with a profusion of ornaments which are worn until they drop off, and wearing in front a small triangular piece of shell as a distinguishing mark" (cf. Vol. v. p. 217). I regret that I have not confirmed this statement, but I think I should have heard of it, had this custom occurred elsewhere; at all events at Mer I obtained two small specimens, 121 × 82 and 115 × 63 mm., which are labelled as "boy's *ebeneaup*," and also one imperforate one of the shape of an isosceles triangle, 144 × 50 mm., the upper portion of which is decorated with crab's-eye seeds; it was probably a toy. It is possible Macgillivray alludes to the ordinary groin shield, but it seems probable that the objects of which Gi'om informed him were smaller and in that case would resemble the *o* described on p. 47. There is no reason to believe that women ever wore any object similar to a groin shield as a covering, certainly they have never done so since they came under the notice of Europeans.

There is in the Museum für Völkerkunde a belt (fig. 74) consisting of six pearlshells fastened to a double chord which evidently was worn round the waist. One of these shells has an engraving of a sucker fish, *gapu*, and another has a turtle and two sharks. There is little doubt that this came from one of the western islands, and it was probably worn ceremonially.

When dancing, there was inserted at the back of the belt a large tuft of cassowary feathers, *nadua*, *kaba-nadua*, *samera* or *sauma* (W.), *kolber kolber* (E.) (pls. VIII. fig. 5; XXIX. fig. 1 and Vol. vi. pl. XXVI. fig. 1) or a bunch of leaves, those of the croton, *wez* (E.), or other brightly coloured leaves being in most favour.

I obtained in Tutu in 1888 a large *kaba-nadua* which consists of a narrow mat, over which is placed a thick bundle of the "grass" of which the Mawata petticoats are made, both are tied together to form a stem which is wrapped round with calico (*Album*, I. pl. 343, No. 3). The free portion of the mat measures 11 × 40 cm., it is

a simple plait and its outer face is completely covered with a series of horizontal fringes of shredded banana leaves. The total length of the specimen is 685 mm. (27 in.).



FIG. 74. Belt of pearl-shells, Berlin Museum (vi. 657).

ARMLETS AND LEGLETS.

A band, *musur* (W.), *put* (E. and occasionally in the W.), encircling the upper arm was formerly constantly worn by both sexes, but more frequently by the men (pls. I., II., III., V., VIII.; *Album*, i. pl. 341, Nos. 7, 8, 14); there was usually one on each arm. Small objects were carried in them, and sprigs of scented plants, brightly coloured leaves, and flowers were frequently inserted therein. They are narrow plaited strips of ratan, bamboo rind or similar material (pl. XIV. fig. 4), or narrow or broad plaited bands (figs. 92—97; pl. XIV. figs. 2, 5—8) which in Mer are made from the fine mid-rib, *be lid*, of the coco-nut leaf. Mr Bruce says that the Western Islanders make armlets from a fibre or vine, *tereq*, which they get from New Guinea; the same material is used by the Miriam for making the *kadik* worn in dancing.

The broad flexible armlets were often ornamented with Coix seeds or the mouths of cowries; under European influence beads, brightly coloured worsted, bits of calico and the like were frequently added (pl. XIV. figs. 3, 6—8).

I collected in Mer one or two armlets, *gir put*, made of boars' tusks, *gir*. Fig. 75 represents one, obtained from Mamai, made of two tusks fastened together at each end by turkey-red twill with five nicks near the apex of one tusk which are *tonar eruam neur emeret* (fashion steal girl olden time) (vi. pp. 251, 295). An artificially deformed boar's tusk that I gave to the British Museum has a wrapping which unites the two ends, and it is probable that it was converted into an armlet from being a pendant.

Arm-rings were sometimes constructed out of the large top shells, *nasi* or *nasir* (*Trochus niloticus*), they were called *nasir*.

In the British Museum (6529) is a "bracelet" made of a human lower jaw, the articular ends are connected by a stiff string cord and are decorated with cassowary



FIG. 75. Armlet made of two boars' tusks with tally notches; 12 cm. broad, Mer.

feathers, to the symphysis are tied a feather and an ovulum shell. A decorated staff was "used with the jawbone braeplet," which indicates that the latter was employed ceremonially. They came from Bobo (Bristow Island) which lies close to New Guinea.

The most precious arm-ring (fig. 76) was that made from the large cone-shell, *wauri* (*Conus litteratus* var. *millepunctatus*). It was called *waiwi* by the Western Islanders and *wauri* by the Eastern. Even small specimens were of value, but one large enough to go on the arm was the highest unit of exchange in Torres Straits (p. 44 and Vol. v. pp. 230, 293; Vol. vi. pp. 185, 186). These objects are also greatly prized in various parts of New Guinea and are sometimes ornamented with seeds of the wild banana, or in other ways, but so far as my experience goes the Torres Straits specimens were quite plain. I was informed in 1889 that only one man in Mer made *wauri*.

A wristlet, *perta urukam* (W.), was sometimes worn, as in the initiation of lads at Saibai. The *tiapuru* (wrist string) was a special string wristlet which was plaited by a young Mabuig man and sent to the girl whom he desired to marry (v. p. 223).

The arm-guard or bracer, *kadig* (W.), *kadik* (E.), was worn on the left forearm exclusively by men, it formed an essential accoutrement in war and was almost invariably worn when dancing (pls. V. fig. 10, VIII. fig. 1, XXIX. fig. 1). As is stated in the section on Textiles, there are two kinds of bracers: (1) of strong, rigid, coarse plaitwork, apparently made of ratan; this is the ordinary form (pl. XIV. figs. 9, 10) which was used in fighting and was also worn when dancing; (2) a rare type only worn in dances, of which I saw two specimens in Tutu, one old specimen imported from Daudai is in the British Museum, the other is shown in pl. V. fig. 10, and we collected one or two, *isip kadik*, in Mer (pl. XIV. figs. 11, 12). It consists of a continuous series of long splints bound together by twined weaving. Mr J. Bruce informs me that the *kadik* is made from the *tereg* vine, and from *boz*, *Flagellaria Indica*. Those made from *be lid*, mid-ribs of coco-nut leaves, were the most pliant, and the *tereg* vine makes a more pliant *kadik* than the *boz* and is used in preference to the latter when procurable. The *kadik* are made by men only. The Miriam *zogo kadik* (fig. 77, sec vi. p. 295), which was purely ceremonial, was constructed in a similar manner. It is made from the stem of the *puar* or *poar*, an epiphytic aroid (Vocab.), a parasitic vine that grows on coco-nut

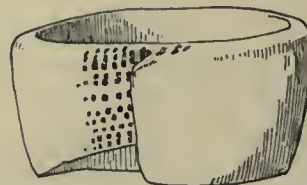


FIG. 76. Cone-shell arm-ring.



FIG. 77. Zogo kadik, Mer.

palms and other trees, like an orchid with a white flower (J. Bruce). This kind of arm-guard is also found in the Fly river district of New Guinea.

On festive occasions a plume of cassowary feathers, *paupusa* (W.), *tagelu* (E.), was frequently inserted into the bracer (pl. VIII. fig. 1). It consisted of a stick on to which were tied numerous cassowary feathers; the total length in one specimen is 69 cm. (27 in.).



FIG. 78. Four *tage lu* from Mer.

A remarkable ornament called *kadig tam*, arm-guard branch, or sometimes *kadig tang* (W.), *tage lu*, forearm thing (E.), is inserted in the arm-guard for the war- and other dances. In its simplest form it consists of a single or a double loop of a strip of rattan or bamboo rind, the free ends of which are tied together and bound round

with string or strips of calico, thus forming a handle or shaft, which is inserted into the arm-guard, the loops projecting far beyond the elbow of the wearer (pls. V. fig. 10, XXIX. fig. 1). Two strips are also usually added to the loops, the ends of which are often bent round and twisted round themselves and then back again so that the free ends are once more terminal, the double twist forming a fairly regular series of over-crossings on the central strip. The loops are usually ornamented with feathers or shreds of calico; not unfrequently the free ends of the two strips are tipped with a bunch of cassowary feathers. The decoration may be even more lavish.

On first seeing these objects in 1888 I was puzzled for a long time as to what they could signify, till one day, on re-reading d'Albertis' book on New Guinea, I came upon the following passage relating to some "men of the coast near Kataw" of the Mawata district on the mainland of New Guinea: "I remarked no ornaments, except the bracelet worn to protect the arm from the bow-string. They use this also as a bag or purse, and put tobacco or a spare string for their bow, and other little things in it" (II. p. 173). On re-examining the specimens I had collected I came to the conclusion that the *kadig tam* represents a spare bow-string, which has been modified into a functionless dance ornament. The two loops and the two free ends were originally one doubled-up bow-string, but the ornament is now built up of several elements.

In 1898 I found that this ornament had undergone further modification. The four examples from Mer (fig. 78) will suffice to illustrate some of these variations. Most of the *tage lu* which we collected in Mer are bound with coloured wools. A belonged to the Mamoose of Mer, it has a total length of 77 cm.; the four diamonds threaded on the loops are a new feature; the black rod consists of cassowary feathers tightly bound together. In C there is an addition of two small loops, the single rod is deflected in the drawing; it is 53 cm. long. B consists of four loops and four rods; it is 68 cm. long. D more nearly reverts to the original type as it consists of two loops and two rods, which however are not all in one piece, as they should be; it is 56 cm. long.

Finger rings, *getau gugabi* (W.), *tag makamak* (E.) (fig. 79), were plaited from the surface roots of the coco-nut palm, which were prepared and plaited by both sexes. The rings were worn as a decoration without distinction of age or sex, on any or all of the fingers, but not on the thumbs; as many as five rings might be worn on a finger. People might wear them on any occasion, but they took them off when working in the gardens or going out to fish or swim. Rings were handed down as heirlooms in a family. This is the Miriam custom and doubtless it was general throughout the islands, but, as I said in 1890 (*J. A. I. XIX. p. 370*), I never saw any in the western islands, and no one had previously mentioned them. Finger rings are now sometimes made from turtle-shell; they may have been introduced by South Sea men, at all events the Samoan teacher on Mer gave me some which he had made.



FIG. 79. Finger rings. Av. diam. 25—30 mm. Mer.

Fringes, *bisuab* or *biswab* (W.), *bisiwam* (E.), of shredded sago leaves usually dyed red were worn on the arms and legs when in mourning (fig. 70, see also v. p. 262, VI. pp. 157, 158). The long fringes on the upper arms and below the knees were called

by the Miriam *tag put* and *teter put* respectively, and the shorter fringes on the wrists and ankles *tag mus* and *teter mus*. The *bisiwam* shewn in fig. 80 is a fringe worn on the leg by Miriam men when dancing. Each fringe consists of a string 74 cm. (29 in.) long and doubled round at one end, in the middle of which for a distance of 215 mm. (8½ in.) is a row of tufts, alternately red and brown, forming a fringe 40 mm. deep. These are all imported from New Guinea.



FIG. 80. *Bisiwam*, Mer.

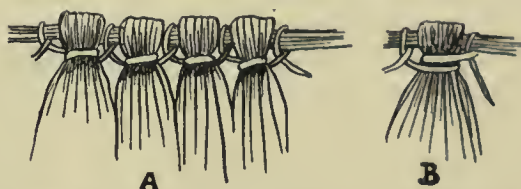


FIG. 81. A, front view, and B, back view of method of tying on the tufts of a *bisiwam*.

The legs of the natives were but simply decorated. The *makamak* was the universal leg ornament; it consisted of a bundle of thin plaited rings worn above the calf and below the knee (pls. III. fig. 3, V. fig. 10, XXIX. fig. 1); sometimes a very large number would be worn, 130 have been counted on the legs of one man¹. They were worn on all occasions and at any time by the men but only when dancing by the women. They are made of the same material and in the same way as the *tag makamak*, and like them were handed down from generation to generation.

Leglets and anklets, *būrua* or *brua* (W.), are made of the sprouting leaf of the coco-nut palm, *tu* (W.), *su* (E.), for temporary use in the dance (pls. V. fig. 10, VIII. figs. 4—6).

The *dani kuk* or *dani kukur* and *dani makamak* (W.) are anklets and leglets made of *dan(i)* fibre (Ficus).

CLOTHING.

Except for the ornaments they wore, or the special costumes for war and for ceremonial occasions, the men went entirely nude. I believe that in the secular dances the men wore an extemporised petticoat made from the yellow immature leaves of the coco-nut palm, at all events I have frequently seen this done (pl. VIII.).

At the present day they wear a variety of clothes, the simplest costume being a waistcloth of white or coloured calico; this is usually combined with a thin cotton vest or singlet. Increasingly the men take to trousers, shirt, and coat. When they wish

¹ A precisely similar ornament is worn in the same manner by many of the interior tribes of Borneo; it is called *unus* and is made from a wild palm, *aping* (Sea Dayak), *limak* (Kayan).

to appear "flash," *noidi* or *zamiak* (W.), *peror* (E.), they wear a fancy shirt with turned-down collar and a brightly coloured necktie, a pair of trousers, a jacket, and often a belt or a gaily coloured eummerbund, a straw or felt hat, and occasionally boots or shoes.

The war accoutrements and dancing costumes of the men are described under their respective headings. The groin-shell must be regarded as armour though it was frequently worn in dances. The coco-nut palm-leaf petticoats or other leafy coverings worn by men when performing certain ceremonies were merely ceremonial garments and were never worn on ordinary occasions, but I believe they were often worn when dancing; descriptions of or allusions to them will be found in Vol. v. pp. 253—8, 262, 340, 344, 348, 349, pls. XIV., XVIII., XIX., Vol. vi. pp. 156—9, 275, 289, pls. XXIV. fig. 5, XXIX., XXX.

No cloaks were worn by either sex, nor any protection for the head from sun or rain, nor any coverings for the hands or feet.

Formerly the women and elder girls invariably wore a petticoat, *zazi* (W.), *nesur* (E.), made of split leaves or bark fibre. Young girls wore a small petticoat when they were approaching the age of puberty, till then they went nude. Maegillivray (II. p. 19) says: "Not only at Cape York but throughout Torres Strait the males use no clothing or covering of any kind. At Cape York and the Prince of Wales Islands grown up females usually wear a covering in front, consisting of a tuft of long grass, or flag (*Philydrum lanuginosum*), or split pandanus leaves, either hanging loosely or passed between the legs and tied to another behind; over this a short petticoat of fine shreds of pandanus leaf, the ends worked into a waistband, is sometimes put on, especially by the young girls, and when about to engage in dancing. This petticoat, varying only in the materials from which it is made, is in general use among the females of all the Torres Strait tribes, except the Kowrarega [those who inhabit the Prince of Wales group, i.e. Muralug and the neighbouring islands], and much labour is often expended upon its construction."

The petticoats were usually of ample size extending from the waist to about the knee and might be thin or thick, frequently two or three were worn at the same time. The band was generally quite narrow and ended in a loop on the left side of the wearer and in two strings at the other end. In most cases the fringe was continuous but in some of the western islands, more especially Saibai and Dauan, a gap was left in the middle of the petticoat (pl. XVIII. fig. 4), thus a portion of the right thigh of the wearer was exposed. This fashion must be put down to influence from New Guinea, as the typical garment of the women of Daudai and Kiwai consisted of a discontinuous petticoat with two very long fringes, the smaller one being in front; these are tucked up so as to leave the hips exposed (pl. XXI. fig. 2). The *ome nesur* worn by Miriam widows (VI. p. 157) was of the ordinary form, but the other female relatives when in mourning did not tuck the strands of the *ome nesur* between the legs, as the widow did (fig. 70), but cut pieces from it at the sides so as to leave the sides of the thighs bare. By this means it was assimilated to the fore and aft petticoat of New Guinea.

The different kinds of petticoats were named after the material of which they were wholly or mainly composed, thus *teger nesur*, *kiaki nesur*, etc.

The materials most commonly used in the manufacture of petticoats were: the leaves

of a water-wort or flag, *Philydrum lanuginosum*, *tagar* or *tagur* (W.), *teger* (E.) appear to have been simply split and dried. The leaves of this plant were formerly employed in Australia "for the girdles of aboriginal women" (Hooker) (cf. Maiden, *Useful Native Plants of Australia*, p. 629). Jukes (I. p. 171) says that in Erub, "the grown-up woman's petticoat, or 'nessoor,' was formed of the inside part of the large leaves of a bulbous-rooted plant, called by them 'teggær,' of which each strip was an inch broad."

The inner bark or bast of the root of the *dani* (W.), *ome* (E.) tree, a species of *Ficus* (near to *F. Cunninghamii*), was beaten out; it formed a very coarse fringe, the fibres of which were sometimes allowed to remain felted. This rough kind of bark cloth was called *lu gegur*, bark thing. This is probably the western *mae* as in pl. XVIII. fig. 1. It was also employed in making the *nagar*, the long fringe that extended from the neck to the knees and was fastened round the waist by a belt, worn by Miriam widows when in mourning (fig. 70, see VI. p. 157).

The inner bark of the Hibiscus, *urakar* (W.), *kokuam* (E.), was used for a similar purpose in the western islands and also for making the *soge* (v. p. 262). A pounding stone or hammer for making the bark fringe was called *mog lu*, lump thing (E.); I have not seen a specimen as the work is not now done, but evidently it was merely a smooth stone; the board on which the bark was hammered was called *patpat lu*, flat thing.

The finely shredded leaves of the banana, *dawa* (W.), *kaba* (E.), were frequently employed either for entire petticoats (pl. XVIII. fig. 3) or with other material (pl. XVIII. fig. 4). Jukes (I. p. 171) says, "The girls' 'nessoor' was made of much narrower strips from the inside of the leaf of the plantain, which they call 'cabbow.'"

Other materials were: the leaves of the *kiaki* (E.) vine, and of the *teid* (E.) plant (pl. XVIII. fig. 1). The *tabom* (W.) is a long petticoat, probably made of pandanus leaves (*tam*, branch; *bom*, pandanus), perhaps the *tabam* of Muralug is the same word. A pandanus (*abal*) leaf petticoat, *abal nesur*, was also worn in Mer. Pandanus leaves were also employed in making the *nagar* of the Miriam (VI. p. 157). In the Vocabulary petticoats are stated to be made of the leaves of *bameg* tree (but probably this was only a dye, p. 62) and of *isu* (W.).

The finely shredded leaves of the sago palm, *bisi*, were used in making the long fringe, *soge*, pl. *sogeal* (W.), *nagar* (E.), worn on the chest and back when mourning (v. p. 262, VI. p. 157) as well as for the fringed mourning armlets and leglets (p. 59). They were also used in the *bid*, a pendant fringe representing the foetus, worn on the abdomen during pregnancy in Saibai (v. pp. 194, 195).

The three kinds of petticoats worn by the legendary Gawer (VI. p. 26) were said to have been made of *kud*, *ar* and *tamad* (breadfruit tree) leaves, but this is the only record I have of these leaves being employed for this purpose.

The dance petticoat worn by men, *tu zazi* (W.), *su nesur* or *u kupi nesur* (E.) was made of the split pinnules of the pale yellow, sprouting leaves of the coco-nut palm.

Sometimes the materials of which the petticoats were made were left in their natural sear condition, as for example the banana leaves, but frequently they were artificially coloured. A red colour was produced by dyeing the material, usually *dani* or *ome*, with a decoction of the bark of mangrove root, which was pounded and the juice rubbed on the fibre. *Bisi* (p. 58) was also stained in this manner. Dr Seligmann has given

me the following note from Mabuiag: "The roots of *bameg*, *kerikeri* (Zingiber sp.) or *keriker*, *aubau* (Morinda sp.) and *wigir* were all pounded together and mixed with lime, mangrove juice, and salt water" for the red colour; "yellow was made in a similar way but less mangrove juice was used." As a matter of fact *bameg* and *kerikeri* are used in conjunction with the suffix *adgamulnga* as colour names for yellow (II. pp. 59—61). Hibiscus bark was blackened by applying black paint, obtained by rubbing down a stone called *kubibud* (W.) and mixing the powder with water. One method of blackening fibres was to bury them in the black mud of a mangrove swamp. Probably the *tolop*, a petticoat made of blackened leaves worn by the *zogo le* of the *Meket siriam* (VI. p. 274), was coloured in a similar way.

At the present day the women wear self-coloured or figured calico gowns of all colours and diverse patterns.

Sometimes, when in church or on festive occasions, they wear a scarf round the neck. On these occasions also they wear hats, usually made of straw and often gaudily decorated with artificial flowers. These and the calico for their gowns they obtain from storekeepers. They have been taught by the lady missionaries and South Sea teachers' wives how to make their garments, and many now own sewing machines.

Calico or cloth is called *duma waku* in the west, the plural form *duma wakul* signifying clothes; *waku* is a mat, but I do not know the origin of *duma*. The Miriam call calico or cloth and clothes in general *wali*; *am-wali* is a dress from *amile*, v. clothe; *gem-wali*, a shirt or chemise, from *gem*, body; *mog-wali*, a towel, from *mog*, a piece; and paper is *ziau-wali* (or *jau-wali*) from *ziau*, the dura mater, connective tissue or the peritoneum.

III. TEXTILES

BY A. HINGSTON QUIGGIN.

BASKETRY AND PLAITWORK.

BASKETRY and plaitwork are the most important of the native arts of the Torres Straits Islanders, though here also, as is found to be the case with so many other artifacts now in use, importations from New Guinea are met with; these are, however, very exceptional. Owing to the importance of this branch of the textile art it is fitting that it should be dealt with at some length, especially as no adequate account has heretofore been given of this industry in Oceania, with the exception of that by Dr Walter E. Roth (*North Queensland Ethnography: Bulletin No. 1, 1901*).

The basketry and plaitwork may be grouped under the following heads: 1. Mats. 2. Belts and bands. 3. Baskets. 4. Handles of baskets and other objects. 5. Petticoats. 6. Ropes, strings and knots.

Of all these the baskets are the most complex and involve the employment of nearly all the technical processes of the native art. In order to save repetition the "strokes" employed in the simpler objects are described in the section on baskets, and thus the details of technique are kept together.

It is interesting to note that string bags, so widely spread in Australia and in New Guinea, are not made in Torres Straits.

All the specimens referred to are in the Cambridge Museum, except where otherwise stated.

Glossary of the principal terms employed.

One of the difficulties in the description of the technical processes of basketry or plaitwork is the absence of any general term for the essential factors of the technique, which it is here proposed to call "wefts" (cf. glossary below). Since these may consist of such varied materials as a strip of leaf, a splint of wood, a piece of cane, a rigid rod or a wisp of thread, and all may be interwoven either singly, doubly, trebly or in bunches, it is very difficult to find a word that is in all cases at once descriptive, accurate and convenient. In describing an actual specimen it is easy to refer to leaf-strips, lengths of cane, rods and so forth, but concrete applications cannot be used in describing technique.

Writers on the technology of basketry have met the difficulty in various ways, and the perplexities are well illustrated by reference to the standard works of Otis T. Mason¹. In 1901

¹ 1901, "The Technic of Aboriginal American Basketry," *American Anthropologist*, N.S. III. 1902, "Directions for Collectors of American Basketry," *Part P. Bull. 39, U.S. Nat. Mus.*; "Aboriginal American Basketry," *Rep. U.S. Nat. Mus.* (1904). 1908, "Vocabulary of Malaysian Basketwork," *Proc. U.S. Nat. Mus.* XXXV.

the wefts are referred to as "warp elements" and "weft elements," or (when the distinction fails as happens at the outset, p. 110) merely as "elements." In 1902 "strand" is given in the glossary as the general term. In 1908 "strand" has a special meaning, and in complicated descriptions the "warp and weft elements" are distinguished as "horizontal," "vertical," "sinistral" and "dextral," and are referred to as "horizontals," "verticals," and so on.

"Weaving element," "weaver" or "strand," the general terms used by other writers, are all open to objection, and since in elucidating an intricate process it is of great importance to have a word which by its literal interpretation, either popular or scholarly, can mean nothing but what it is required to mean, it is here proposed to use the term "wefts" for the technical factors in woven basketry, i.e. for rod, stake, splint, or strip of any material, single or compound, interwoven in the construction.

Braid. Synonymous with *Plait*.

Broken nines. Fig. 95.

Check. Each weft passes alternately over and under each consecutive crossing weft, p. 79. See pl. XV. fig. 1.

Coiled basketry. The coiled foundation is sewn together by some flexible material, each stitch crossing two coils and interlocking with the one immediately below it. See fig. 117, and pl. XVII. fig. 4.

Cord. Two or more wefts twisted together in the same direction.

Decoration. The addition of elements, which are not essential to the construction, for the purpose of ornament.

Design. The general effect derived from the pattern or conjunction of patterns.

Dextral. (Wefts) leaning towards the right.

**Fitch.* Two wefts twisted together in the same direction one under the other, enclosing a crossing weft at each half-turn.

Oblique threes, etc., fig. 112.

Overlaid weaving, twining, etc. Wefts not essential to the construction, inserted for decorative purposes, figs. 89 and 120—2.

**Pair.* Two wefts twisted together in the same direction one over the other, enclosing a crossing weft at each half-turn.

Patterns. The surface effects produced by various strokes. See *Check, Twill, etc.*

Plait. The regular interlacing of not less than three wefts to form a continuous band or surface. A plait, cord or twine is described as three-ply, four-ply, etc., according to the number of wefts.

**Rand.* The interweaving of single wefts over and under more or less rigid uprights. The term is used in wickerwork instead of *Check*.

**Rods.* The horizontal wefts in wickerwork.

Sinistral. (Wefts) leaning towards the left.

**Stakes.* The uprights in wickerwork.

Stitch. A completed movement in coiled basketwork, corresponding with stroke in plaited work.

**Stroke.* A completed movement in plaited basketwork corresponding with stitch in needlework.

Three-ply cord, plait, etc. See *Plait*.

Twilld twos, threes, etc. Each weft passes over or under more than one crossing weft, p. 79, figs. 108 to 113.

Twine. Two or more wefts twisted together in the same direction enclosing crossing wefts at each half-turn, fig. 116.

**Wale*. Three or more wefts twined in the same direction enclosing a crossing weft at each half-turn, fig. 116.

Warp. A vertical rod forming a passive element in wickerwork.

Weft. A technical factor in woven or plaited basketry, corresponding to strand, rod, splint, etc. A weft may consist of a single strip of material or of a number of strips.

Zigzag threes, fig. 113.

Zigzag nines, fig. 96.

It may be noted that the terms are mostly unknown to the basket-maker's craft, which possesses a peculiar vocabulary of its own. For the true basket-making terms, marked with an asterisk, I am indebted to Mr Thomas Okey who has most generously answered numerous queries on the difficult subject of terminology; for illustrations of the strokes see his article "Basket" in the *Encyclopædia Britannica*, 11th ed., 1910—11.

MATS.

The plaited mats, *waku* (W.), *moder* (E.), of Torres Straits are simple in construction and serve a variety of purposes. They are convenient for sitting on, for sleeping on or under, and for various other domestic uses. Formerly large mats, measuring about 3.66 m. (12 ft.) by 1.52 m. (5 ft.), were used as canoe sails. Smaller and finer mats are used to wrap things in, and as mats for babies (pl. XIII. figs. 5, 6). Such are the *Miriam kuri*, the Malu name for which was *wakoi* (III. p. 51) which is the Western word *waku*.

A ceremonial mat made by interplaiting the pinnules of a coco-nut palm leaf, *bei*, was employed in the Bomai-Malu ceremonies (VI. p. 294, p. 301, n. 6, and p. 35), but it was never in common use. A similar technique is seen in the screens *deiar* or *baz mueni* or *baz moiaini*, used in the rain-making ceremony on Mer (VI. p. 199, pl. VIII.).

In the Vocabulary *papek* (E.) is a mat made of *enau* leaves (*Mimusops*). In a Western folk-tale (v. p. 79) the following mats are referred to: *buzur* (probably made of *buzi*, *Flagellaria indica*, see also p. 105), *ub*, made of the straight-grained bark of the Tea tree *ubu* (*Melaleuca leucadendron*), *minilai* (*minarlai*) and *pot* (see below, p. 66), and in the Vocabulary a kind of mat is called *tobai*. The process of plaiting is called *umai* (W.).

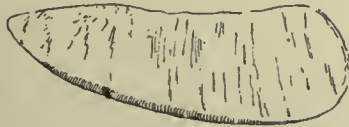


FIG. 82. Pearl-shell scraper, Mabuia.

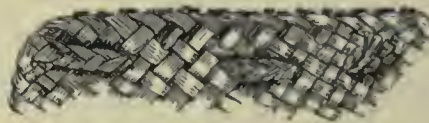


FIG. 83. Shewing method of finishing large plaited mat, Mabuia.

The leaf-strips used in the making of mats and baskets are rendered supple by being scraped with simple implements, *wakabi* (W.). These are usually semilunar pieces of pearl-shell of which the convex edge is blunt and smooth through use (fig. 82); their length varies from about 10—16 cm.

The large plaited mats are made of leaf-strips, *tuamdn* (W.), and are worked all over in plain check or twilled twos¹; some of the twilled examples have lines of twilled fives at intervals, suggesting a *gapu* design (see p. 66). The method of finishing off differs in the larger and smaller mats. In the former the sinistral wefts¹ are bent over

¹ For technical terms, see Glossary, p. 64.

downwards, doubled back, and interlaced up again under one crossing weft, thus coinciding with the corresponding dextral wefts; all the ends are then cut off together at the edge. The method is indicated in fig. 83, but it is practically imperceptible in the actual specimen without close scrutiny. A further point shown in the same illustration is the method of finishing off the group of wefts left at the corner of the mat. The bunch of loose ends is plaited together and the plait is threaded through the mat once or twice and fastened in a knot.

The *kuri* mats vary in size from 66.5 cm. (26½ in.) in length by 38 cm. (15 in.) in width, to 48 cm. (19 in.) by 20 cm. (8 in.). The plaiting begins at one end and is finished off at the other, the wefts being interlaced under and over a few crossing wefts and left to form a fringe on the outside. Sometimes the fringe is on the inside, and occasionally the ends are all cut off short so that no fringe appears. The method of construction is seen in the sampler, fig. 84.

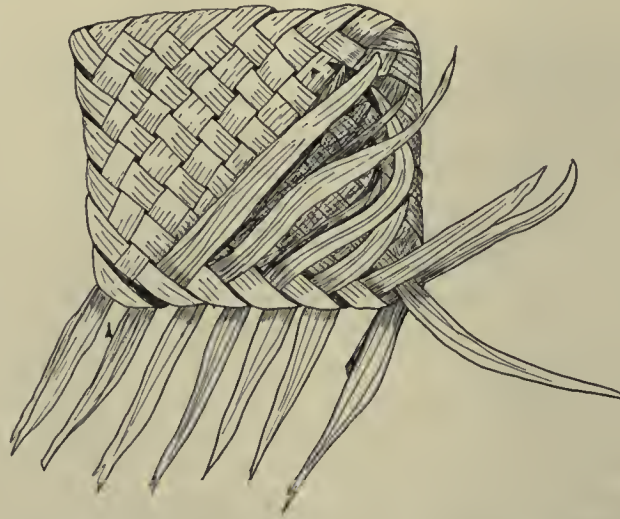


FIG. 84. Sampler showing construction of *saramud* mat, Mabuig.

The mats are divided into two groups. *Saramud* are worked all over in plain check and this admits of no design. The sampler seen in the figure is a *saramud*. One of these worked with very broad strips of leaf is called *pot*. The other group, *minarlai* (having patterns, from *minar*, pattern), shows more diversity, as these are all worked in twilled strokes. Some are worked all over in simple twilled twos, but usually the surface is broken up into rectangular areas by lines of twilled twos running in horizontal and vertical directions.

Dr C. G. Seligmann collected some of the native names for the designs which are illustrated on pl. XIII. Thus a twilled pattern with a somewhat irregular appearance is *gitalai sanalunga*, crabs' footprints, pl. XIII. fig. 1. An effective chevron design is obtained by the use of double or treble wefts (pl. XIII. fig. 2). The under ones are worked in plain check, but the uppermost ones in twilled threes or fives, which thus stand out prominently on the surface. It represents an Isopod which is parasitic on sharks and is called *baidamau ipi*, shark's wife (see Section on Decorative Art). A similar design

is seen in fig. 7 on the same plate. The zigzag shewn in fig. 3 has the name *tidai maril* (*maril*), bending spirits (cf. v. p. 359). Another design, pl. XIII. fig. 4, is *buiulunga*, like a glass bottle, it represents a square bottle with a short neck.

Decoration is added by means of emphasising the varieties of the patterns with dots or lines of blue, red or white paint, and by fringes of loose ends left projecting on the surface of the mat. In the mat illustrated on pl. XIII. fig. 5 the vertical lines of twilled twos are picked out in red and white paint, and red and white lines or dots run all round the border. Decorative fringes are seen in the mat illustrated on pl. XIII. fig. 6. Here the pattern consists of two strips of twilled twos separated by a median vertical line of the same stroke. Short horizontal lines of frayed ends of wefts project on the surface of the mat (for detail see fig. 85), and are coloured red and blue. Lines of red and blue dots also run down the centre of the mat and down the sides. As two or three wefts are used in the plaiting the number of loose ends does not interfere with the solid consistency of the whole.

Another effective mat is the one whose lower half is illustrated on pl. XIII. fig. 7. This is worked in double or treble wefts, and the greater part of the surface is in plain check. The whole area is divided by vertical rows of twilled twos into four strips and these are crossed at intervals by rows of twilled threes, made more conspicuous by being worked with the upper wefts only, and also by being bisected longitudinally by a line of blue paint and outlined with red, the colours being occasionally reversed. This is the same design as the *gapu* or *baidamai ipilnga* design, referred to above. As only the upper wefts are used to make the design the mat is not reversible and only four strips of plain check shew on the back.

Another entirely different type of mat used in Torres Straits, *kai* (W.), *ka* or *ker* (E.)¹, is made of strips of pandanus leaf, *abal* (E.), sewn together, fig. 86. It is an importation from New Guinea and is² in only occasional use. When employed as a tent during the initiation ceremony at Tutu (v. p. 209) it is called *sobera*.

The technique is simple and effective, though difficult to describe. First pandanus

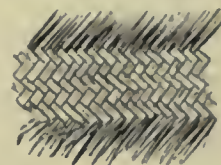


FIG. 85. Detail of decoration in *kuri* mat, Mer.



FIG. 86. Folded mat made of pandanus leaves sewn together, *kai* (W.), *ka* (E.), imported from New Guinea. Total length 2.53 m. (8 ft. 3½ in.), breadth 1.88 m. (6 ft. 2 in.).

¹ vi. pp. 35 sq.

leaves are split longitudinally into long strips. Two of these are laid back to back, with their shiny surfaces outside, and the two edges are stitched together all down one side. These may be called the *A* strips. Two more strips, *B*, are taken and laid above and below the first pair, with their dull surfaces outside, and all four strips are stitched together down the hitherto unstitched edge. The free edges of the *B* strips are then folded together, as if one were to bend back the covers of a book until the edges met, and now their shiny surfaces are outside, and the row of stitching is hidden. Another pair, *C*, is next sewn on to the free edges of *B*, just as *B* had been attached to *A*, and so on until the mat is complete. The result is that the shiny surfaces are all on the outside and none of the lines of stitching are visible. The sketch (fig. 86) shews how the mat is finished off with stitched vandykes along the upper and lower edges, which, in the specimen illustrated, are decorated with tufts of wool. In the figure the mat is doubled in two and the horizontal insertions shew how weak places in the surface can be repaired.

BELTS AND BANDS.

The belts, *wakau* (W.), *wak* (E.), fall naturally into two groups, which differ, however, more in effect than in construction.

One group contains the belts consisting of a narrow plaited band, decorated and sometimes entirely covered with patterns of overlaid wefts and ornaments of shells or seeds (figs. 72, 88, 89).

In the second group the belts are wider and the plain check foundation is hidden under diagonal patterns in overlaid weaving, the ends of the decorative wefts usually forming a fringe all along the lower edge (pl. XIV. fig. 1). These are probably all imported from New Guinea.

1. The belts in the first group measure 7 cm. to 9 cm. ($27\frac{1}{2}$ to $35\frac{1}{2}$ in.) in length, and 2 cm. to 5 cm. (1 to 2 in.) in breadth. The foundation consists in a strip of plaitwork, the wefts varying in number from 9 to 29, terminating in two three-ply plaits at each end; occasionally instead of terminal plaits the ends are twined into a two-ply cord, one end is passed through between the wefts of the other, and both are knotted separately (fig. 87). Over this foundation are patterns usually composed of



FIG. 87. Twist and knots at the end of a belt, Muralug.

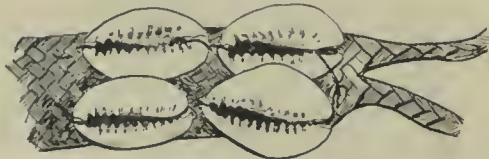


FIG. 88. Part of a belt decorated with two rows of cowries, Mer.



FIG. 89. Pattern of overlaid wefts on belts and basket handles.

overlaid wefts of contrasting colours, caught under the foundation wefts at intervals, forming zigzag or other designs (fig. 89). Another example is seen in the belt illustrated on pl. XII. fig. 1, and the coco-nut water vessel handles (fig. 122) shew the same technique. In one example the zigzag is worked partly in yellow orchid stem, partly in strips

of a species of pandanus, partly with red wool and strips of scarlet twill. Sometimes the decoration consists of shells or Coix seeds sewn on to the foundation (fig. 88).

Crossed shoulder-belts or baldrics, *naga*, *kamadi*, *maiei* or *moie* (W.), *wagogob* (E.), differ from the other plaited belts in being joined at the end to form a ring about 80 cm. to 1 m. (31½—39½ in.) long. The ends may either be fastened one above the other making a continuous band, or, when a loop of a sufficient size has been made, they may be joined back to back and both sets of wefts then plaited on together, terminating in a tassel. In construction, patterns, and decoration they shew the same characters as the other plaited belts, the foundation being a plain plait, with overlaid wefts forming zigzag patterns, as in fig. 89. Some are decorated with Coix seeds, either sewn on thickly and forming a flat surface, or threaded on strings and attached at intervals round the belt, and many are ornamented with various shells. See also p. 52.

II. All the belts in the second group shew the same methods of construction and vary but slightly in appearance.

The foundation consists of a band, usually about 5 to 10 cm. (2 to 4 in.) broad, in plain check (pl. XIV. fig. 1). The length varies from 5·6 m. (about 6 yards) to 43 cm. (17 in.), the average being about 1 m.; the former are carrying-bands and the latter are belts.

The foundation surface is almost entirely hidden under patterns in overlaid twining and plaiting (fig. 119) in alternate dark and light wefts. In the smaller belts the ends of these wefts form a fringe all along the lower edge. The design usually consists of rhomboid shaped areas, two sides of which are parallel with the margin of the belt. Each area is outlined with overlaid twining, and filled in with parallel rows of overlaid plaiting. These rhomboids may cover the whole belt, or they may occur in groups separated by various zigzag or fret designs (fig. 90).



FIG. 90. Rubbing of a belt collected by d'Albertis at Mawata in 1876. Rome (2813). Each group of two L-shaped spaces is painted alternately red and black. ¼ nat. size.

In some examples, the whole surface is covered by zigzag designs, sometimes beautifully regular in construction, sometimes very indefinite. In the long fringeless belts, wavy lines run along the whole length.

Whenever the surface of the foundation shews in between the patterns it is coloured red or blue, and these colours are used in outlining the rhomboids and other patterns. Tufts of various coloured wools are occasionally added as decorations. The upper and lower edges of the belts are bordered by rows of overlaid black and yellow twining, which vary in appearance, according to the number of wefts used, their contrasting colours and the length of the stitch.

Bands which encircle the upper arm vary considerably in size and form. They are called *musur*, occasionally *put* (W.), and *put* (E.), see also p. 55.

The narrow armlets usually differ considerably from the broader ones and several

distinct types may be distinguished. The simplest are made of strips of ratan or of a stiff vine plaited in the same manner as the arm-guards (pl. XIV. fig. 4). This type is also made in pliable materials and the ends are left projecting to form a long untidy vertical fringe. This (with the help of some examples of unfinished specimens from New Guinea, fig. 91) serves to show the method of construction. The wefts are first securely knotted to a foundation thread formed by a strip of leaf, and then interwoven together in a loose plait, of 10 to 20 strands. When a plait of sufficient length has been made to form the circle of the armlet, the free ends proceed again round the circlet, being plaited on in and out of the original simple plait, which is thus converted

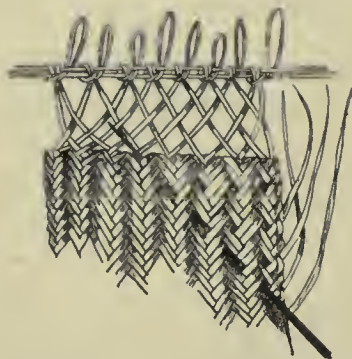


FIG. 91. Method of construction of armlet from Inawi, Mekeo District, British New Guinea.

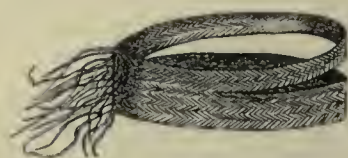


FIG. 92. Plaited armlet, Mer.

into a surface of twilled twos. Having completed a second circuit the wefts are interplaited once more round the armlet, and the final pattern is thus twilled threes. For the second and third interplaitings a bone or wooden skewer is necessary to form the intricate path for the wefts. In one example a further complication is introduced by the division of the plait into two parallel strips half-way round (fig. 92). Other armlets which may be included in this group are woven in various patterns in the same way but with their ends concealed. One shows a zigzag design with yellow orchid skin laid over the foundation wefts (pl. XIV. fig. 2). An exactly similar one comes from the Mekeo district of British New Guinea.



FIG. 93. Detail of armlet, Mabuiag.

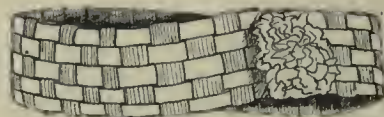


FIG. 94. Armlet from Mer.

A specimen of another type comes from Mabuiag (pl. XIV. fig. 5). The foundation is made of the split mid-rib of the leaf of the banana, and a strip of banana leaf is bound round this and interlaced over and under two narrow strips of the rib on the outside. This is illustrated in detail in fig. 93¹. A broader example of the same type

¹ An example of this pattern, but with three horizontal strips laid over the foundation, is figured by W. E. Roth (*North Queensland Ethnography: Bull. No. 1, Jan. 1901, pl. V. fig. 5, Brisbane*). These "Pandanus compound-armlets" came from "the Embley River, at the Moreton, and on the higher reaches of the Batavia River" (p. 11).

is worn in Mer when dancing, but it was said to have been imported from New Guinea. Over a firm foundation is woven a pattern in oblique rows of twilled fours and threes, the vertical wefts passing over four or five and the horizontal wefts over three crossing wefts. A narrower example is decorated with two interwoven strips of twill, laid over the horizontal wefts, and another, also from Mer, has a decoration of a tuft of coloured wool (fig. 94).

Another type is a *musur* from Mabuiag, which is simply a broad band of manufactured webbing or elastic, decorated with vertical rows of strings of beads, attached at the ends only, two red strings alternating with two blue strings (pl. XIV. fig. 3).

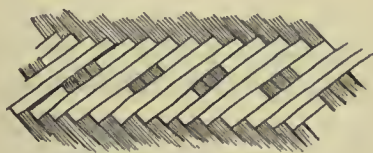


FIG. 95. Broken nines.

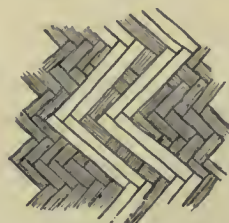


FIG. 96. Zigzag nines.

Of the broad armlets the largest are about 15 cm. (6 in.) deep and 27 cm. (10½ in.) round the upper edge (pl. XIV. figs. 6—8). The pattern of the greater part of the surface is twilled threes in horizontal rows, varied by horizontal bands of broken nines or zigzag nines (figs. 95, 96) which usually occur on each side of the decoration. The decoration forms the distinguishing feature. The ends of the wefts are left fairly long, and they are brought down together in a bundle or ridge and left projecting like a brush at the lower edge of the armlet. In one example the ridge is covered with a row of mouths of cowrie shells (fig. 97; pl. XIV. fig. 7); in another the ridge is covered with red twill, and bordered with two rows of cowrie shells, others are decorated with rows of Coix seeds, rows of beads, and strips of twill; strings of beads or tufts of wool often form a tassel at the larger end. Part of the pattern is occasionally picked out in pigments.

The ordinary arm-guards or braeers, *kadig* (W.), *kadik* (E.), are plain, cylindrical in shape, made of strands of ratan, various vines or coco-nut fibre, and plaited in twilled patterns (pl. XIV. figs. 9 and 10). They vary in length from 20 cm. (8 in.) to 32 cm. (12½ in.), and in circumference from 19.5 cm. (7¾ in.) to 30 cm. (12 in.) at the upper edge. These plain *kadig* are seldom decorated, but one has a pearl button at the upper edge and another, as seen in the illustration, has a small bound handle. See also p. 56.

Two dance *kadig* are figured on pl. XIV. figs. 11, 12. The smaller one is 21 cm. (8¼ in.) in length and 28.5 cm. (11¼ in.) in circumference at the upper edge narrowing down towards the wrist; the other specimen is 29.5 cm. (11¾ in.) by 26.5 cm. (10½ in.). The stroke is a close rand, finished off at either end of the braecer by a row



FIG. 97. Armlet with decoration of cowrie shells, Mer.

of plaiting in fibre. The decoration in the longer *kadig* consists of lines of red and blue paint and a tassel of red beads and a shirt button attached to the upper edge. The shorter *kadig* is ornamented by threads of wools in various red and orange shades. These are laid on alternate foundation rods, and the wefts cross over and under them in consecutive pairs. The *zogo kadik* (fig. 77) is made in a similar manner.

Leglets, or *makamak*, and finger rings, *tag makamak*, are made of the roots of the coco-nut palm, plaited in a continuous (usually five-ply) plait with invisible ends (fig. 79). This is worked with a single weft on the plan of the Turk's head knot. The leglets are often decorated with tufts of wool or beads.

BASKETS.

There is no special difference between the ordinary baskets of the western and eastern islands. The general name in the west is *iana* or *iena*, and in the east, *epei*.

The following names of baskets were collected:

Western Islands:—*balboi*, a woman's basket (fig. 99), *bal*, across, *boi*, young coco-nut leaf; *boi* is also the name given to the temporary baskets made of coco-nut leaf (fig. 98); *li*, a woman's basket made of pandanus leaf (pl. XVI. fig. 3), and *kuta* (pl. XVII. fig. 1), also a woman's basket made of the same material; *mugagud* (Muralug) in Vol. III. p. 112 is equated with *boi*, and is probably connected with *magi*, small, and *gud*, mouth; *walsi* (Muralug), *wasili* (Tutu) (pl. XVII. fig. 6), is the name of a basket made of the rush, *walsi*, Xerotes Banksii. Maiden (*Useful Native Plants of Australia*, p. 634) says "the leaves [of Xerotes spp.] are used for basket work by the aboriginals."

Eastern Islands:—*epei* is the general name for basket in the east, hence we have *gerer epei* (pl. XV. fig. 2), a man's basket, for fishing line, etc. from Mer, made of *gerer*, pandanus leaf; and *buzili epei* (pl. XVII. fig. 2), one made of *Flagellaria indica*; *aipus* (pl. XV. fig. 6) is a basket made of *u lam* (coco-nut leaf).

Before beginning a detailed examination of the baskets of the Torres Straits Islanders it may be well to give a general description of the collection, and to distinguish the chief varieties that occur. All baskets fall naturally into one or other of the two main groups, plaited or coiled, and they can be further classified according to the stitches or strokes used in their construction. (A stitch is a completed movement in coiled work and a stroke is a completed movement in plaited work.)

All the Torres Straits baskets, with one exception, are plaited baskets, and they form three distinct technical groups: plain check, twilled and fitted or twined.

A. Check.

The simplest form is that known as *boi* (W.) (fig. 98). This is very quickly made from the split green leaf of the coco-nut palm, and is used for temporary purposes only. Varieties of this form of basket are widely spread in Oceania. Hedley (*Mem. III. Australian Museum*, 1897, p. 291) figures one from Funafuti. He states that "the pinnule tips, instead of being knotted at both ends of the basket as in New Guinea, are plaited

along the floor and knotted in one bunch inside. A second specimen has the knot outside the basket." According to Mr J. Bruce one form, called *bos epei*, "was introduced by South Sea men to Murray. It is of an oval shape and made in different sizes from a large one, for carrying kumclas and yams from their gardens, to small ones for putting small fruits into." The three examples collected in Torres Straits shew three varieties in the finishing off along the base (for details of which see p. 77), but neither of these is the New Guinea type.

The only other baskets made entirely in plain check are a *kuta* (woman's basket) for carrying yams, collected in Mabuiag, but said to come from New Guinea and Saibai (pl. XVII. fig. 1), and a large basket (pl. XV. fig. 1) of pandanus.

B. Twilled.

The greater number of the Torres Straits baskets belong to this group, and they shew great variety of appearance owing to the different strokes used and decorations added. Among the simpler examples are a coco-nut leaf basket (pl. XV. fig. 3), a pandanus basket (pl. XV. fig. 5) from Mabuiag, a *balboi* (woman's basket) (fig. 99) of coco-nut



FIG. 98. *Boi*, basket made of coco-nut palm leaf, Mabuiag. Height 30 cm., circumference 130 cm.

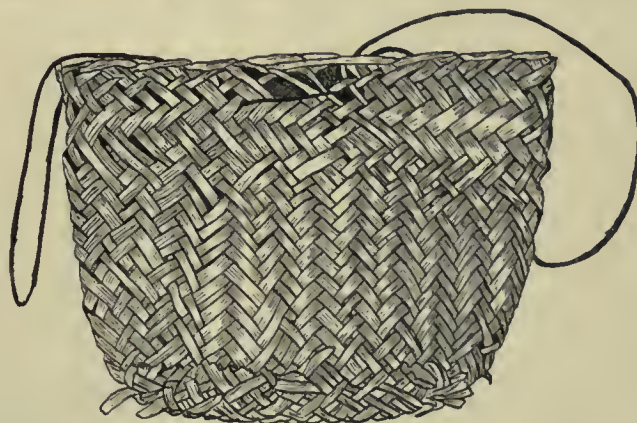


FIG. 99. *Balboi*, woman's fish basket, Mabuiag. Height 21 cm., circumference 62 cm.

leaf, also from Mabuiag, a Mer basket, *gerer epei* (pl. XV. fig. 6) and a stiff saucer-like tray (pl. XVI. fig. 4). Among the more decorative twilled baskets are those with zigzag patterns, such as the little *burua iena*¹ from Mabuiag (pl. XVI. fig. 2), the *gerer epei* from Mer (pl. XVI. fig. 1) and the *li* from Moa, or Banks Island, figured in pl. XVI. fig. 3, shewing a peculiarly bold design. Others, such as the lined basket (pl. XVI. fig. 5), the *buzili-epei*, made, as its name implies, of *Flagellaria indica* (pl. XVII. fig. 2), and a pandanus basket, both from Mer, and the highly decorated one illustrated in pl. XVII. fig. 3 are all included in the twilled group and are noticed severally under Design and Decoration below, pp. 82, 83.

¹ *Burua* from *buru*, dirty, probably refers to the dark wefts. The specimen is new and unused.

C. *Fitched or Twined.*

There are very few of this type and they all come from the western islands. Two examples are illustrated on pl. XVII. figs. 5 and 6. They are made of the rush *Xerotes Banksii*, from which they receive their name of *walsi* (Muralug) or *wasili* (Tutu). The technique is characteristic of many Australian baskets, and it is by no means certain that they have not all been imported from Cape York. They are said not to be made at Mawata. Except that the whole surface is flexible, the technique might be described as wickerwork, for the vertical wefts are parallel or crossed, and are connected at intervals all the way up by rows of pairing or fitching as in ordinary wickerwork.

The baskets will next be reviewed in detail, under the headings *Shape*, *Size*, *Construction*, *Design* and *Decoration*.

Shape.

The Torres Straits baskets are generally oblong with sloping or approximately vertical sides and a slightly curved base (fig. 100, 1, 2 and 5); some have vertical sides and a square base, 4; and one rigid example is shaped like a shallow saucer, 6. Of the two fitched or twined examples, one is bowl-shaped, 3, and the other approximately hemispherical, 7. The coco-nut leaf basket illustrated in fig. 98 is asymmetrical. Mr J. Bruce says that the latter type, as originally made by the Murray people, was of a different shape [approximately fig. 100, 1 inverted, with concave sides] and smaller than the largest sizes of the introduced South Sea examples. Another specimen in the Cambridge collection ([364] not figured) is square in shape, with the same dimensions (104 cm., 41 in.) round the base and the upper edge.

Size.

In size the baskets vary from a large hemispherical specimen (pl. XVII. fig. 5), 1.165 m. (45 $\frac{3}{4}$ in.) in circumference and 37 cm. (14 $\frac{1}{2}$ in.) in depth, to a minute wallet 10 cm. (4 in.) round the upper edge and 6 cm. (2 $\frac{1}{2}$ in.) from top to base. An average size would be represented by an example measuring 63.5 cm. (25 in.) round the upper edge and 22.8 cm. (9 in.) from upper edge to base.

Construction.

All baskets may be placed, according to the method of their construction, in one of two technic groups:—

- I. Plaited or woven basketry, in which the wefts are interplaited.
- II. Coiled or sewed basketry, when a pliable weft is sewn or wound round a rigid coiled foundation.

The examples of baskets from Torres Straits all, with one exception, belong to Group I.

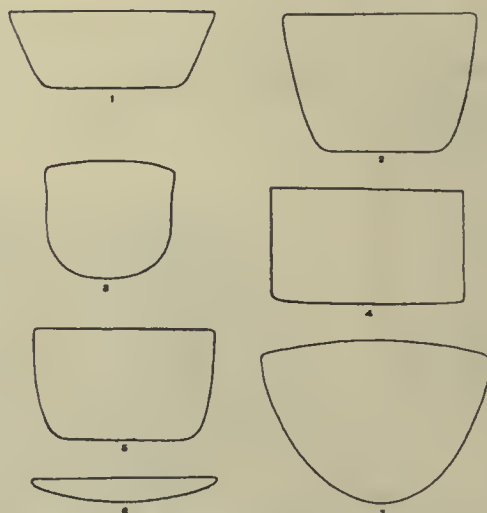
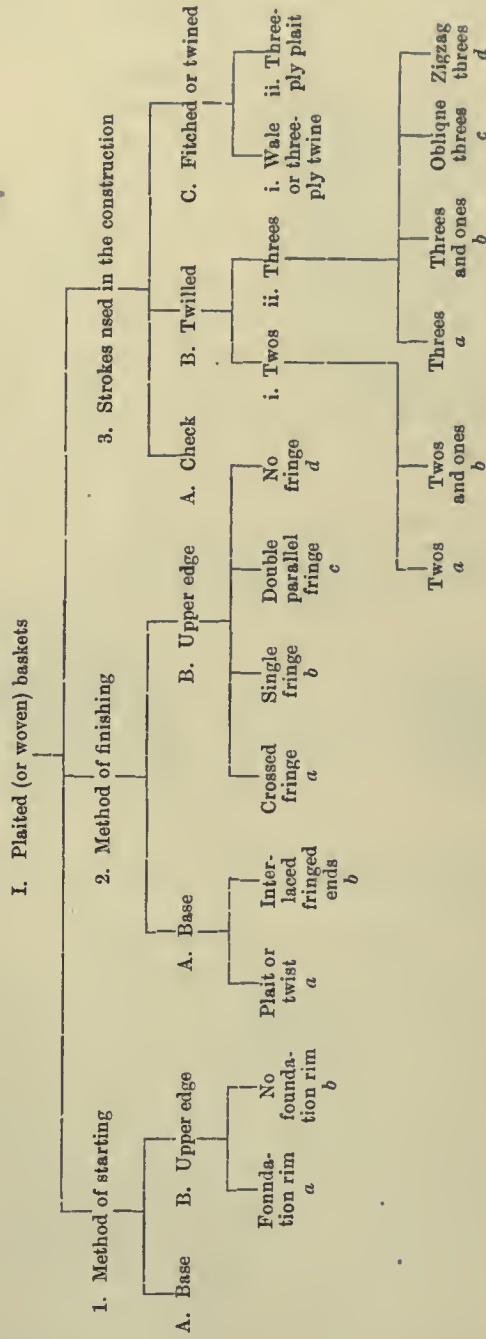


FIG. 100. Diagrams shewing the shapes of Torres Straits baskets.

Classification of baskets from Torres Straits.



I. PLAITED BASKETS.

The plaited baskets may be classified according to their most salient features, which are:—

1. The method of beginning.
2. The method of finishing off.
3. The strokes employed.

1. There are two distinct methods of beginning the basket. A. Beginning at the base. B. Beginning at the upper edge.

A. The simplest baskets are made from the base upwards. The base consists of a number of parallel or crossing or interlaced wefts (pl. XVI. fig. 6), and these are plaited together up the sides of the basket, finishing off in various ways at the upper edge. This apparently is not a native process, but has been introduced from Samoa. It seems probable that it has now superseded method B. (*b*) below. Occasionally this type is begun at one side and the bottom is seamed together.

B. There are at least two methods of beginning at the top. In the simpler of these (*a*), the weaver takes a piece of mid-rib split down the middle, and coils it round to form the rim of the basket; the attached pinnules (fig. 101) or split strips of leaf (fig. 102) form the wefts, which may be supplemented by other strips not attached to



FIG. 101. Inside of upper edge.
Cf. pl. XV. fig. 3.

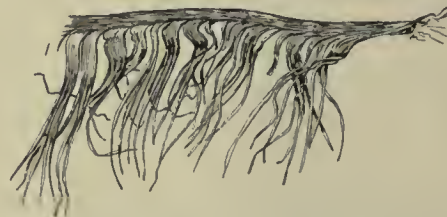


FIG. 102. Frayed out leaf for the beginning of a basket.

the coil. These are all plaited down to the base of the basket where it is finished off in various ways¹. A variety of this method is shewn in fig. 103 representing one side of a finished basket. In this example short lengths of mid-rib with pinnules attached are plaited vertically instead of horizontally.

The other method of beginning (*b*) is less obvious, as it starts with no initial coil. It is impossible to deduce the process from a study of the completed baskets, as they have the appearance of being finished off both at the base and at the upper edge (fig. 104) and no information could be obtained in the islands. Unfinished baskets from the Solomon Islands apparently shewing the same technique were collected in various stages of incompleteness by Dr W. H. R. Rivers, and are described in *Man* (Vol. x. 1910, No. 93), "The Solomon Island Basket." It is possible that the Torres Straits baskets

¹ For the *boi* baskets (fig. 98) a single coil forms the upper rim. The ordinary method for finer baskets is to make two coils which are attached together and loose wefts plaited in where necessary. This can be clearly seen in the completed baskets illustrated on pl. XV. figs. 3 and 6 and pl. XVI. fig. 4.

in this group are made in the same way. Fig. 105 shews the detail of the crossing of the wefts at the upper edge¹. Exactly the same result could be obtained by beginning the basket as in B. (a) above and, after plaiting the body of the basket, cutting off the initial coil and finishing off the ends in one of the methods described below².



FIG. 103. Upper edge of coco-nut leaf basket, *boi*, Mer.



FIG. 104. Soft wallet of banana leaf, Mabuag. Height 10 cm., circumference 29 cm.

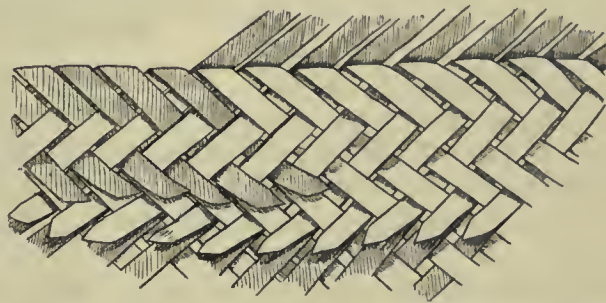


FIG. 105. Detail of upper edge of basket. The dextral wefts are distinguished by diagonal shading; the sinistral wefts are plain. The part to the right in the diagram is left covered to shew the construction.

2. There are two distinct methods of finishing the basket. A. Finishing off at the base. B. Finishing off at the upper edge.

A. Very little variety is seen in the basal terminations, as, except for the *boi* made of coco-nut palm leaves, and one or two others, the same method is employed for all. The appearance is not by any means uniform, on account of the variations in material, but the intention is always the same.

a. In the temporary coco-nut leaf baskets, *boi*, the pinnules are twisted or plaited together when they meet. In the example illustrated in fig. 98 the finishing off consists in a plait on the inside of the basket, running from left to right, turning at the right hand lower corner and continuing back on the outside from right to left, fresh pinnules being caught in all the way along in both directions. The ends are knotted on the

¹ For the purposes of description this fringe is treated as a "finishing off," and dealt with below.

² Dr G. Landtman who procured some unfinished specimens of baskets begun in method B. (a) could obtain no information as to the beginning B. (b). He was told that some old women knew of other kinds of indigenous baskets, "but on closer inquiry nobody seemed to know anything further."

outside and the knot is tucked in between the pinnules a little way up the side. In the two other examples a twist takes the place of the plait, the pinnules being wrapped round each other where they meet. In these the twists are both on the insides of the baskets; in one the knot is also on the inside, in the other the ends are twisted on outside and the knot tucked in, as in fig. 98. The same method of finishing occurs in the basket illustrated on pl. XVII. fig. 3. It terminates very neatly in a five-ply plait all along the base on the inside. The plait continues on the outside on reaching the edge of the base, and passing up the side ends in a knot, concealed under the strip of cane.

b. In all the other baskets, as soon as the base is reached a rapid decrease is made by bunching together several wefts and interlacing together these thick wefts in plain check. When the wefts meet in the median line they cross each other and continue under and over the successive crossing wefts until the opposite sides are reached; they are then cut off on the outside. The result is sometimes rather clumsy and indistinct, but generally it is definitely symmetrical, as is clearly seen in fig. 106, and can be distinguished in the side view of the same basket in pl. XV. fig. 2.

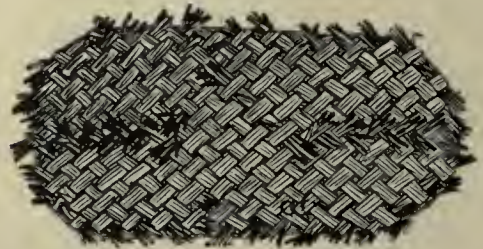


FIG. 106. Base of basket to shew method of finishing. Cf. pl. XV. fig. 2.

B. There are many possibilities of variation and of decoration in finishing off at the upper edge.

a. The wefts are all doubled down diagonally towards the outside, and interlaced under a few rows of crossing wefts. The ends are all cut off and left projecting in a fringe on the outside of the basket, one fringe slanting to the right and the other to the left¹ (fig. 104 and pl. XV. fig. 5).

b. A different effect is obtained when all the wefts running in one direction are cut off, and only those running in the other direction are doubled diagonally down and interlaced. This results in a single fringe, the ends of which all slant in the same direction (pl. XV. fig. 2).

c. In one example each pair of meeting wefts is taken together and doubled back and interlaced in the same direction. This gives a zigzag edge to the upper margin (fig. 107; pl. XV. fig. 1). Here the fringe is on the inside.

d. Occasionally there is no fringe at all; all ends are hidden under the crossing wefts (pl. XV. fig. 4).

Some of the baskets are finished off at the upper edge with a binding formed either of a strip of leaf, or occasionally of cotton stuff; this binding is sewn or button-holed on (pl. XVII. figs. 3 and 5), and as it is rather decorative than constructional it is dealt with under *Decoration* below (p. 83).

3. The distinctive character of each basket is most intimately bound up with its



FIG. 107. Upper edge of a basket shewing method of finishing. Cf. pl. XV. fig. 1.

¹ In the Solomon Islands baskets this fringe occurs on the inside of the basket; in the specimens collected in Torres Straits it is usually on the outside.

weaving pattern, which is, as it were, the expression of its maker's individuality, and the device of her peculiar skill. It is in this domain, more perhaps than in any other, that uncivilised fingers shew their superiority over mechanical science.

Each of the Torres Straits baskets in the collection has a distinct character of its own, and no two are alike, and yet, when their patterns and component strokes are examined, it is seen that they are all included in the three groups: A. Check, B. Twilled, and C. Fitched or Twined, and that by far the greater number fall under the first two of these, which may be considered as the simplest of all technical constructions. But out of these most elementary methods of interlacing, many elaborations have been evolved, some of which are so complicated as to require careful analysis, and the distinctive effects derived from variety in material and varied combinations of contrasting wefts, both in the construction of the baskets and in their ornamentation, give a marked diversity to the collection.

A. Check.

This is the simplest stroke in basketry, each weft passing alternately over and under each consecutive crossing weft. It is generally used for the foundation of the baskets which start from the base, and for the finishing off of the baskets which start at the upper edge. Even with this simple pattern great varieties are obtainable, depending mainly on the material used.

The wefts may consist of whole pinnules (fig. 98) or of narrow strips of leaf only 2 mm. wide (fig. 104); and they may be woven closely as in the latter example, or shew open spaces between the wefts as in the former.

Varieties in effect are also achieved by the number of strips of leaf or other material taken to form each weft.

B. Twilled.

In twilled weaving each weft passes over or under more than one crossing weft. There are so many distinct varieties of this pattern that it is convenient to classify the main types as follows:—

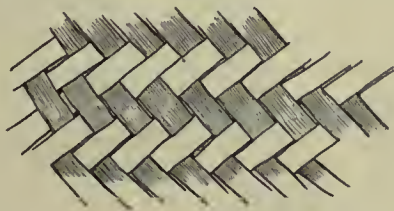


FIG. 108. Twilled twos.



FIG. 109. Twilled twos and ones.

- i. *Twilled twos.* a. *Twos.* b. *Twos and ones.*
 ii. *Twilled threes.* a. *Threes.* b. *Threes and ones.* c. *Oblique threes.* d. *Zigzag threes.*

i. *Twilled twos.* a. Each weft passes alternately over and under two crossing wefts, one of which has been crossed over by the weft above, and the other of which is crossed over by the weft below, thus producing a diagonal effect (fig. 108).

b. Twilled twos and ones. A different effect is obtained by passing all the wefts running in one direction over two and under one of the crossing wefts, while the latter pass over one and under two of the wefts which they encounter (fig. 109).

ii. *Twilled threes.* *a.* This is exactly the same method as i. *a* except that each weft now passes alternately over and under three crossing wefts instead of two (fig. 110).

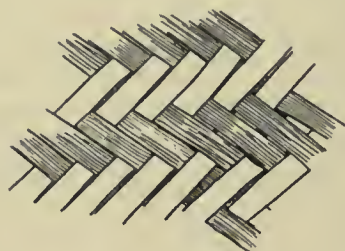


FIG. 110. Twilled threes.



FIG. 111. Twilled threes and ones.

b. Threes and ones. A variety is obtained by passing all the wefts running in one direction over three and under one of the wefts running in the other direction, while the latter pass over one and under three of the crossing wefts (fig. 111).

c. Oblique threes. Another variety results from passing all the wefts running in one direction alternately over and under three crossing wefts, while the alternate wefts running in the other direction pass over one and under two, and under two and over one of the crossing wefts respectively. This produces a line of oblique threes (fig. 112).

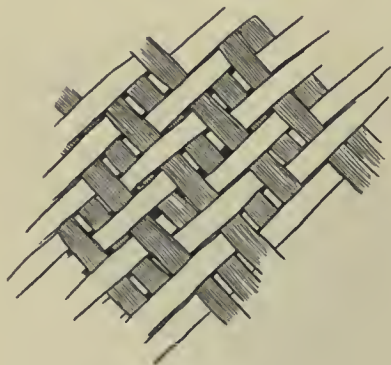


FIG. 112. Twilled oblique threes.

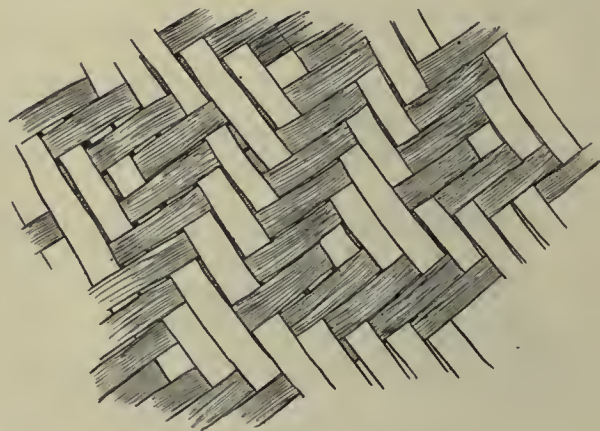


FIG. 113. Twilled zigzag threes.

d. Zigzag threes. Twilled threes may also be worked in zigzag lines (fig. 113). Pl. XVI, fig. 1 shews a basket worked all over in zigzag threes. Fig. 3 on the same plate shews zigzag threes and ones.

These patterns can be made more effective by the use of double wefts, composed of two strips of material. The upper strips are woven in twilled patterns, and the under

ones in check. This causes the twilled pattern to stand out in greater prominence, and the effect is different from that produced by the simple interlacing. This may be seen in the detail of fig. 115. The upper wefts are woven in threes and ones, while only plain check appears on the inside.

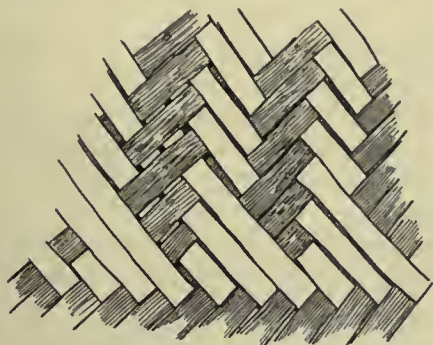


FIG. 114. Horizontal and vertical twilled threes.



FIG. 115. Detail of bands. Cf. pl. XV. fig. 4.

It is seen that various patterns are developed, as it were incidentally, at the junction of lines of different designs, and these junction patterns are sometimes definite enough to merit description. For example, when a vertical patterns row of twilled threes meets a horizontal row of twilled threes the result is the pattern shewn in fig. 114 and pl. XV. fig. 6.

C. *Fitched or Twined.*

This, called by Otis T. Mason¹ "twined weaving," is the ordinary wickerwork technique known to basket makers as fitched work.

In English basketry the materials are rigid; the uprights are called stakes, and the wefts that bind the uprights together, rods. In the examples collected in Torres Straits the materials are pliable rushes, but the technique is the same, the uprights being connected at intervals by horizontal rows of pairing, fitching, waling or plaiting. Pl. XVII. fig. 6 shews a plain fitched basket. It starts at the base with eighteen parallel wefts which are secured by a row of fitching. As the fitching bends back in its elongated spiral, it fastens in a bunch of half a dozen wefts doubled in the middle and radiating out into a dozen additional wefts to form the spread of the sides. Crossing the parallel basal wefts once more a similar bunch is inserted at the opposite end. The fitching then proceeds symmetrically round and round the basket until the rim is reached. More wefts are added as required as the work proceeds; these are doubled and looped over a row of fitching, no attempt being made to conceal the irregularity. The large fitched basket illustrated on pl. XVII. fig. 5 shews more variety. Here the surface is broken up by horizontal rows of crossed fitching, where the uprights are crossed, and held in place above and below by three-ply plaitings, as seen in detail in fig. 116.

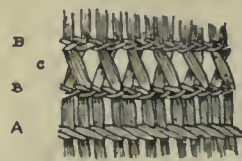


FIG. 116. Detail of fitched work. A, Wale or three-ply twine. B, Three-ply braid. C, Crossed fitch. Cf. pl. XVII. fig. 5.

¹ Otis T. Mason, "The Technic of Aboriginal American Basketry," *American Anthropologist*, N. S. III. 1901, p. 113.

II. COILED BASKETRY.

There is only one example of coiled basketry in the collection. This is the basket belonging to a stone top collected at Mer (pl. XVII. fig. 4). It measures 52.5 cm. (20½ in.) in circumference and 6 cm. (2½ in.) in height.

The stitch is worked clockwise, beginning in the middle of the base, and consists of the following movements. The weft is brought from above downwards over two foundation rods and passes back under the lower one, thus forming a long stitch on the outer surface of the basket. From behind it is brought out between the two foundation rods to the left of its own long stitch which it crosses over horizontally, and, passing behind the upper rod, it is ready to start again. This will be clear on referring to fig. 117 shewing the stitch in detail. The basket was formerly decorated with threads of red and orange wool caught under the horizontal stitches, but almost all traces of this have now disappeared.



FIG. 117. Detail of coiled basket, Mer. Cf. pl. XVII. fig. 4.

Design.

The technique of basketry is essentially restrictive, since, in woven examples, it limits all designs to straight-line effects. Some of the baskets are quite plain, but most of them exhibit some design consisting of either horizontal or vertical bands of a contrasting weave; some have both horizontal and vertical bands, dividing the surface into rectangular areas, and the boldest effect is obtained by a junction of horizontal and vertical lines to form symmetrical zigzags.

There are, in this collection, only a few entirely plain baskets, i.e. those in which the surface is worked all over in the same stroke, unrelieved by lines of different patterns or other variations consequent upon differences in the strokes employed. Here belong the *boi*, described above (fig. 98), made of coco-nut pinnules loosely plaited together, where the simple form is conditioned by the material; also a large basket (pl. XV. fig. 1), made of double strips of pandanus, and a tiny wallet measuring only 112 by 63 mm. In these no design is seen, unless the fringe of split ends, left after finishing off at the top (see p. 78), can be so described. The pandanus *epei* (pl. XVI. fig. 5) may also be grouped with these. It has a double surface, the lining being worked in large plain check, and the exterior in twilled twos. It is entirely plain save for occasional strips of wider material inserted vertically.

Pl. XV. fig. 3 shews the simplest use of horizontal bands. The body of the basket is made with coarse strips of coco-nut palm leaf woven in oblique threes, but it is begun at the top and finished off at the base with lines of twilled twos. The *balboi* (fig. 99) shews the same design, but here the main body of the basket is in rather irregular twilled twos in vertical rows.

Of the two fitted baskets one (pl. XVII. fig. 6) should be classed with the plain examples, as the horizontal rows are essential features of the construction, and can scarcely be regarded as design. In the other (pl. XVII. fig. 5) the surface is varied

by decorative horizontal bands of crossed fitching, and these are picked out in colour to add to the effect.

A simple form of the combining of horizontal and vertical rows is seen in the example in fig. 104, where the fine strips of banana leaf are worked in oblique threes. A little below the centre comes a horizontal band of twilled twos; below that is an area of the same pattern in vertical lines, and this is separated by another horizontal band from the base. The fringe of loose ends all round the outside below the upper rim may also be regarded as part of the design. Another example is seen (pl. XV. fig. 5) where areas of vertical twilled twos are crossed by three horizontal bands of the same pattern, the lowest band being continued to the base. The basket illustrated on pl. XV. fig. 4 starts from a base of plain check and shews externally horizontal bands of twilled weaving varied with areas of plain check up to the top. The bands are worked in twilled threes and ones in vertical rows, but they derive an unusual effect from the fact that the whole basket is worked with double wefts; the inner wefts are plaited in plain check and serve as a foundation for the threes and ones of the outer wefts; thus the latter stand out with greater prominence, while only plain check is seen on the inside. On pl. XV. fig. 6 is seen an example of the effective result to be obtained from the simple combination of horizontal and vertical lines. The whole basket is woven in alternate bands of twilled threes, worked first in one and then in the other direction. The effect is enhanced by the use of lines and dots of red and blue to emphasize the design. In one basket (pl. XV. fig. 2) the alternations of horizontal and vertical rows are so arranged as to form rectangles.

The most effective design is the zigzag which occurs in three baskets of the collection (pl. XVI. figs. 1 to 3). Fig. 1 shews a man's basket for fishing lines, etc. from Mer, and the design, which is very evenly carried out, is outlined in red and blue lines. In the *burua iena* from Mabuig (fig. 2) the design is more or less obscured by the contrast between the brown and the straw-coloured strips of pandanus. The third example, the *li* from Moa, collected by Dr Haddon in 1888, is the most effective basket in the collection; the zigzag design stands out boldly and is emphasised with lines of bright red and black paint.

Decoration.

The decorative impulse shews itself in various ways, but since the Torres Straits baskets were all made for use, a simple ornamentation contented their makers and the greater number are entirely plain. But even in the plain baskets one ornamental feature, which is characteristic of the Torres Straits plaitwork, is rarely absent, and that is the decorative use of frayed out ends of wefts. It is characteristic of civilised basketry and plaitwork generally that the ends of the wefts should be concealed, but in this collection not only are the ends not concealed, but in baskets, mats, belts and armlets, they are utilised for decorative purposes forming fringes on the outer surface of the weaving. Besides this use of frayed ends, decoration is added by means of superficial decorative stitches, contrasting bindings, paint and coloured stuffs.

Frayed ends are found at the upper edge of the baskets, forming a single or double fringe, and also on the edge of the base (figs. 104 and 106). In one example (pl. XVII.

fig. 3) tufts of frayed ends which are stained pink are attached as decorations to the upper rim.

The *buzili epei* illustrated on pl. XVII. fig. 2 is woven in plain check, but diagonal and zigzag decoration is obtained by the use of added wefts of contrasting colours. These are employed in three ways.

1. *Overlaid interlacing*. The decorative wefts are laid over the foundation wefts, and woven with them, or tucked in after the basket is finished, the ends being more or less concealed under the crossing wefts (fig. 118 A).

2. *Overlaid twining*. Two or more decorative wefts are twined diagonally over the foundation wefts (figs. 118 B and 119 A).

3. *Overlaid braiding or plaiting*. Pl. XVII. fig. 1 illustrates a woman's basket for carrying yams, etc. Here the plain check surface is decorated with four horizontal lines of overlaid twining and two of overlaid plaiting (the materials used including strips of cotton stuff). In the latter stroke four or more wefts are plaited diagonally over the foundation wefts (fig. 119 B). This decoration only occurs once in the baskets, but it is very common on belts and bands. It is worked usually with alternate pairs of wefts of contrasting colours or material. The wefts of each pair cross each other over the junction of two foundation wefts, and pass diagonally behind the next two foundation wefts below, these latter being covered by the next pair of decoration wefts.

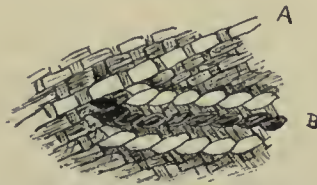


FIG. 118. Detail of basket to shew decorative stitches. A, Overlaid interlacing. B, Overlaid twining. Cf. pl. XVII. fig. 2.

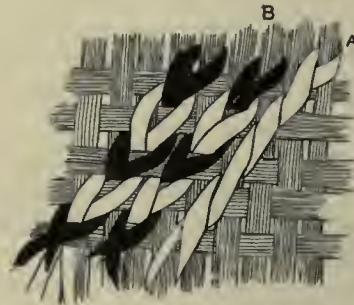


FIG. 119. Diagram to shew decorative stitches. A, Overlaid twining. B, Overlaid braiding or plaiting.

Some of the baskets have decorative bindings round the upper rim. The one illustrated in pl. XVII. fig. 3 has a strip of leaf (stained pink) bound on with native two-ply cord in button-hole stitch. Another (pl. XVI. fig. 5) has a binding of red stuff. The *li* (pl. XVI. fig. 3) is bound round the upper edge with a strip of leaf, button-holed on with black cotton, and the large *walsi* (pl. XVII. fig. 5) is bound with cotton stuffs.

The use of colour has already been mentioned. The designs on the baskets illustrated in pl. XV. figs. 2, 3, 5 and 6, and pl. XVI. figs. 1 and 3 are all accentuated by lines and dots usually in red and blue, and in the last example also in black. In the *walsi* (pl. XVII. fig. 5) the horizontal bands are coloured blue, and the adjoining rows red. In the basket illustrated in pl. XVII. fig. 3 a pink colour is used as decoration. The tufts of frayed ends along the upper edge are stained pink, and the strips of cane

which are sewn on like a belt and outline the base and sides are bound round with broad strips of leaf stained with the same colour.

Coloured stuffs are used not only as wefts in decorative strokes, as mentioned above, but also as binding along the upper edges of the baskets. One of the *walsi* (pl. XVII. fig. 5) has a binding of this description made of pieces of black stuff, red twill and pink spotted print in regular sequence. Shells, seeds and similar objects are not employed in the decoration of baskets.

HANDLES OF BASKETS AND OTHER OBJECTS.

The handles are invariably separate in construction from the baskets, and they are usually very roughly attached. They are commonly made in the same material as that used in weaving the body of the basket, and the most usual type is a simple three-ply plait (pl. XVII. fig. 6). In many cases where the material in which the basket is constructed is unsuitable for a plaited handle, the latter is made of a different and more pliable material. And often a rough handle is made by threading in strips of cotton stuff, or a piece of string; these are interlaced once or twice through the sides of the basket, and are retained by a knot on the inside (pl. XV. fig. 4).

The most ornamental handles are those in which a broad plait of 5—10 or more wefts is used as the foundation for overlaid decorative patterns, usually of wefts of contrasting materials, which are caught in at intervals under the foundation wefts (pl. XVI. figs. 2, 3, 5).

These decorative wefts generally zigzag across the band forming the handle, in parallel lines (figs. 120, 121). The technique is similar to that employed in the belts (p. 68).

The method of attaching the handles to the baskets differs very considerably, and generally it is of the clumsiest description. In many examples the handles are simply interlaced down the sides of the baskets once or twice, and knotted on the inside. Occasionally the knotted ends of the plait which forms the handle are sewn into a small tuck at each corner of the basket (pl. XV. fig. 1).

Sometimes the wefts of which the handle consists are taken separately and stitched over and over the upper edge of the basket, and then knotted together on the inside (pl. XVII. fig. 1). In some examples they are sewn on with string. In one basket a piece of ordinary string serves as a handle. It is threaded horizontally through the sides of the basket, a little below the upper edge, and knotted on the inside. The string is drawn through so that the handles spring from the inside, and on the outside only the horizontal loop of string is seen (fig. 99).

A stronger and more elaborate handle is seen in the basket (pl. XVII. fig. 3). Here a stout bundle of fibres is wound round with string in a button-hole stitch.



FIG. 120. Handle of basket, Ma-buiag. Cf. pl. XVII. fig. 1.

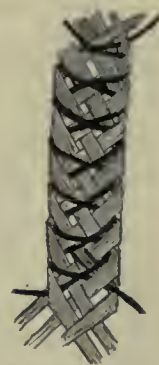


FIG. 121. Handle of basket, Ma-buiag. Cf. pl. XVI. fig. 2.

Designs in overlaid wefts similar to those seen in basket handles, occur also in some of the handles for coco-nut water vessels (pl. III. fig. 1). These may be made in a nine or more ply plait, ornamented with a varied number of decorative wefts. A variation of this design is seen in one of these handles made in an 11-ply plait with eight decorative wefts, which are interwoven with the foundation wefts in the centre of the plait, but pass over two wefts at the margins (fig. 122). This pattern is also found in a seven-ply plait with five decorative wefts. In all cases the foundation is painted blue or red where it is visible between the decorative wefts, with a very effective result.

The handles, *kedelup* (E.), for the coco-nut water vessels are 60—80 cm. (24—31 in.) long and 2—3 mm. broad, divaricating at each end in two plaits of the foundation wefts alone, 13—26 cm. (5—10 in.) long. The same pattern is found in the belt on pl. XII. fig. 1.

Handles were made for carrying the large *Fusus* shells, used as water vessels (fig. 150). One of these is 42 cm. (16½ in.) long, terminating at each end in a loop or ring, 6 cm. (2½ in.) in diameter, to receive the umbo and siphon of the shell respectively. The thick bunch of coco-nut fibre forming the foundation is bound round spirally with a fine two-ply twine of the same material.



FIG. 122. Handle of coco-nut water vessel, Mer.

PETTICOATS.

The petticoats, *zazi* (W.), *nesur* (E.) (pl. XVIII.) of the Torres Straits women form one deep bushy continuous fringe all round the body, fastening on the left hip by means of a loop in front, and a long free end, which is slipped through it. Occasionally a gap of an inch or so occurs on the right side (pl. XVIII. fig. 4). This is probably due to the influence of the Daudai type of petticoat, see below.

The materials are mainly banana leaves, *kaba* (E.), and the bark of the root of *ome*, a species of *Ficus*. Pl. XVIII. fig. 3 shews a petticoat with a fringe made entirely of *kaba*, and fig. 2, one entirely of *ome*. One Miriam petticoat is made of the leaves of a species of flag, *teger* (*Philydrum lanuginosum*), and another (pl. XVIII. fig. 1) is made of *ome* and strips of *teid*. Strips of yarn or of cloth are also used, and one example is made entirely of yarn. The banana leaves are split down the mid-rib, and the surface of the leaf is frayed out, forming a fine curly fringe; occasionally the centre of the leaf texture is frayed into fine strips and the edges are left intact. The *ome* bark is used sometimes as a wide lace-like mass, sometimes it is shredded and forms strings, and it is either left in its natural colour, or stained in various shades of red and brown with a decoction of mangrove root.

In size the *nesur* vary in length round the waist from 88 cm. (34½ in.) to 46 cm. (18 in.), and in depth from 75 cm. (29½ in.) to 33 cm. (13 in.).

The construction is the same in all examples, a continuous fringe being bound on to a foundation consisting of one or more cords.

The stitch by which the fringe is bound on to the foundation cords varies slightly in the different petticoats. To illustrate these variations the groups of material forming

each knot are separated in fig. 123 so that the stitch may be seen, but in the petticoats themselves they are pressed so closely together as entirely to conceal the method of construction. In the simplest type the foundation is a single cord of stout twisted fibre, round which the bunches which form the dependent fringe are doubled and knotted, and kept in place by a series of wefts as seen in the detail (fig. 123 A). Other petticoats are made on a foundation consisting of two cords of twisted fibre, and the variations in knotting may be seen in fig. 123 B—F. The foundation cords continue beyond the fringe on either side, one end forming a loop and the other a free end to pass through it¹.

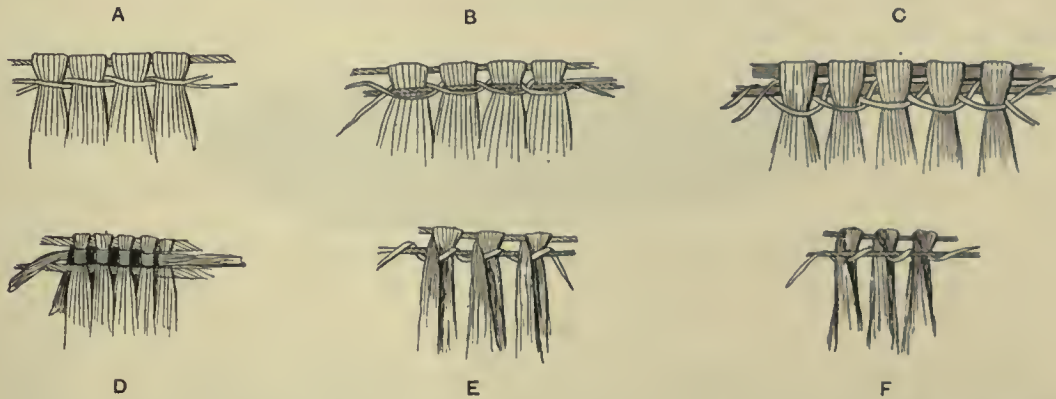


FIG. 123. Details of knotting in fringes of petticoats, Mer. E and F, front and back views of the same specimen.

In Daudai and Kiwai petticoats, *wapa*, of a different type are worn. These consist of two long narrow fringes of *erepupu* leaves, one forming the back and the other the front, leaving the thighs bare (pl. XXI. fig. 2). The small fore part is tucked between the legs in front, then the broader part is brought between the legs from behind, over the front fringe, and is tucked under the front panel from below and the free ends hang down over the panel in a long fringe.

Of the two fringes forming the *wapa* the back piece is the wider, being 17 cm. ($6\frac{1}{2}$ in.) wide, and 1.08 m. ($42\frac{1}{2}$ in.) deep, while the front piece is 10 cm. (4 in.) wide and rather over 1 m. deep. Both fringes are made on the same foundation cords, which, in a plait 21.5 cm. ($8\frac{1}{2}$ in.) long, join the front and back panels across the right hip, and terminate in a loop at one end, and a long free plait about 1 m. long at the other, to fasten on the left hip. The foundation pieces form solid panels, consisting of four or eight rows of twisted fibre, over which the bunches of *erepupu* leaves, which form the fringe, are doubled and knotted round and kept in place by strips of pandanus. The narrower panel, which forms the foundation for the front part of the petticoat, is illustrated in fig. 124 and shews the method of construction. This panel is entirely plain, as when worn it is covered by the back fringe. The broader back panel (fig. 125) is covered with decoration consisting of zigzag and other patterns in overlaid twining,

¹ The loop is on the left hand side of the wearer in front, so that the fastening is from right to left as with Occidental women. There is one example, however (possibly from Mawata), in which the fastening is left over right as with Occidental men.

in alternate dark and light rows, with a row of overlaid plaiting at the upper and lower edge.

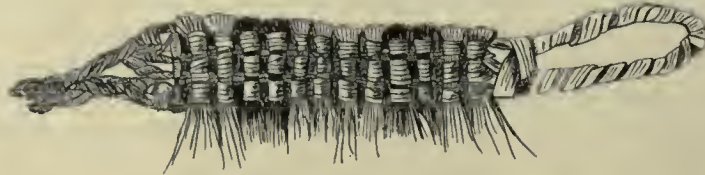


FIG. 124. Front panel of *wapa* petticoat, Daudai.

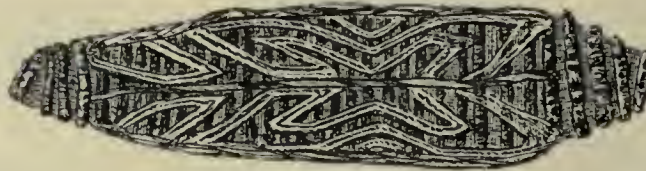


FIG. 125. Worked-up rubbing of back panel of a *wapa* petticoat; $\frac{1}{3}$ nat. size.

Design and Decoration.

Since the *nesur* are all made on the same plan, with slight variations, most of which are only variations in construction invisible in the completed petticoat, there is little scope for originality in design or decoration, and the most striking differentiation lies in the use of contrasting materials.

The *nesur* made of *ome* and *teid*, illustrated on pl. XVIII. fig. 1, shews a variation in technique. The *ome* is knotted over the foundation cords as usual, but the *teid* is differently treated. It is split into narrow strips, about 10 to 15 cm. (4 to 6 in.) long, and six or seven of these are taken to form a bunch. Each bunch is doubled in the middle, and inserted between the strands of a two-ply twine of the same material, so that the ends hang down in a continuous tassel, completely covering the central cord. In fig. 126 the bunches are lifted out of the way to shew the method of construction.

The same technique is seen in a gaudy Miriam sporrán made of cotton strips (pl. XII. fig. 1). The dependent fringe consists of eight strings, about 50 cm. (19½ in.) long attached to the centre of the belt. These are made on a foundation of fibre twined into a two-ply cord. At every third turn, a narrow strip of cotton stuff is inserted with its ends hanging down on each side. These cotton strips form a continuous tassel concealing the central cord, and they are grouped into bands of indigo, white and scarlet alternately, terminating in fancy strips of various colours at the ends.



FIG. 126. Detail of tassels of *teid* petticoat, Mer. Cf. pl. XVIII. fig. 1.

ROPES, STRINGS AND KNOTS.

By A. C. HADDON.

Many of the ropes, *uru*, *urukam*, *kurdai* or *kwodai* (W.), *lager* (E.), and lashings used for various purposes by the Torres Straits Islanders consist of the natural stems of vines or creepers without any artificial preparation. Such are *weskep* (E.) the stem of the vine *Pueraria phascoloides* and *sireb* or *sirip* (E.) the stem of the Queensland bean (*Entada scandens*) which is used as a rope for thatching and for canoe cables (VI. p. 47) when it varies from 6—12 mm. in diameter. At Saibai a species of *Calamus*, *tirenga*, and a smaller cane, *genagen*, which was imported from New Guinea, were split and used for house-building and as cables for the stone anchors. The stem of the *sesepot* (E.), a species of *Clerodendron*, is used as a rope. The stems of the "lawyer vine" (*Flagellaria indica*), *buz* or *buzi* (W.), *boz* (E.), are used in house-building, tying fences, etc. It is generally split into strips, 7—15 mm. in diameter, and forms an extremely tough yet pliable rope.

The husk of a coco-nut is split into lengths which are knotted together at the ends in reef knots (fig. 127), thus forming a rough kind of rope, *ked* (E.), which I have seen used in Mer for tying up bananas (pl. XXI. fig. 1).



FIG. 127. Rope formed of coco-nut husk, Mer.

At Yam and Saibai rushes, *gai* (a sp. of *Juncus*), are dried in the sun and twisted into rough ropes which are used for canoe lashings and especially by the women for tying and carrying loads of firewood. At Mabuiag they were said to be used for lashing the poles of a dugong platform, and I was informed that a *galai gaipapi* was tied round the tail of a dugong after it was harpooned.

The strings most commonly employed are those made of coco-nut fibre, the preparation of which in Mabuiag is thus described by Dr Seligmann. "The husks, *muti* (W. E.), are soaked in water until soft, which generally takes a fortnight. They are then beaten out with a cylindrical piece of hard wood, *buru tut*, after which the individual fibres are pulled out of the softened mass and scraped with an *akul* (Cyrena) shell on the instep of the foot of the squatting operator, the remnants of broken fibre, *buru*, being rejected. This process is known as *muti pudan*, or more commonly *luwaiian*. The prepared fibres, *mutian kunil*, are left to dry in the sun for a short time; they average in length from 30—35 cm. Wood ashes are then smeared on the hands and instep of the squatting operator and the fibres are roughly twisted into strands, *kosar tuman*. The commonest form of fishing line consists of two such strands twisted together, *arigal kupmani*, the strength of the line being determined by the number of fibres used in forming the original strands. The best and strongest strings or cords are made by plaiting, *umai* (W.),

three or more strands, the individual fibres of which are carefully selected and matched, and are not even loosely twisted before being combined into strands. The three-ply braid so made, *mut-umaizinga* (*iga* in Saibai), *ked* (E.), is used for innumerable purposes. *Igal*, or *igalai*, *kupmani* of Saibai, is a four stranded line so plaited as to be round, the others are flat or oval in section." *Igal* is a common Western name for a twisted string made of *muti* which is employed in catching turtle or in fishing. *Ariga* (W.), *ariag* (E.) is a fishing line.

Macgillivray states (II. p. 29) that the fishing line of the natives of Muralug "is neatly made from the tough fibres of the rattan, which are first scraped to the requisite degree of fineness with a sharp edged Cyrena shell, then twisted and laid up in three strands."

Finer and softer strings, *wali* (W.), *wali lager* (E.), are made of the inner bark of the *wali* tree, *Pipturus argenteus*. This is the Queensland grass-cloth plant or native mulberry of Australia; Maiden states that the tree is not endemic in Australia and that it "affords a fibre of fine texture and great strength; it is, however, rather difficult of preparation" (*Useful Native Plants*, p. 630); of *dum*, Apocynacea, others are usually twisted in a two-ply twine. Dr Seligmann noted that "at Mabuiag both *urakar* (*Hibiscus tiliaceus*) and *supodar* (*Dianella ensifolia* and ?*Hæmodorum coccinium*) are used by women for domestic purposes. The cortex of the former is soaked in water for a day or two when its softer internal portion is stripped easily from the harder external layers, it is then twisted into serviceable cord. The stems of *supodar* when shrunken and softened by drying in the sun are used in a similar way. At Saibai roughly plaited ropes were made from *Hibiscus* and from *kausar* (*Pandanus pedunculatus*)." We collected at Saibai a beautifully woven cord made of *urakar* and used by women. It starts at one end in a two-ply cord for a short distance (18 cm.) changing into a three-ply plait for 42 cm., broadening into a five-ply plait which continues for 1.1 m. (41 in.) until the central belt is reached. This is woven in a 13-ply plait and is ornamented with a zigzag pattern of four overlaid decorative strands of *kausar* in the design illustrated in fig. 120, p. 85. The rope then narrows into a five-ply plait, then to a three-ply plait, and then to a two-ply cord, as at the beginning, thus forming a symmetrical whole.



FIG. 128. Dugong rope, Mabuiag.



FIG. 129. Worked cord.

The running line or rope, *am*, *amu* (W.), used in dugong fishing, is made of stems of *ruku* (a creeping and climbing plant, Apocynacea), which is not prepared in any way. It is made of a four-sided, loose, eight-ply plait, 45 mm. in circumference, plaited with sixteen strands (fig. 128). On account of its buoyant nature the *am* is preferred to European rope.

Some of the worked cords, such as are employed in making petticoats, shew a more complicated pattern. Fig. 129 gives the detail of a double cord interlaced with two wefts of contrasting colour.

Mr W. I. Pocock has been so kind as to identify and remark upon the knots, *kabu* (W.), *mukub* (E.) (fig. 130), collected by Mr J. Cowling; they were made by Tom and verified by Waria of Mabuiag. The names obtained with the knots have been placed in inverted commas and their actual or probable signification in brackets; the words do not appear to be the true names of knots, but it seems as if they were given to explain the use of the several knots.

No. 1. "*Ariag*" is a reef knot used to increase the length of a fishing line, *ariag*, by adding another to it.

No. 2. "*Amu*" is the fisherman's or Englishman's knot, and is used to fasten two ropes together, or to mend a dugong rope, *am*. P. N. Hasluek (*Knotting and Splicing Ropes and Cordage*, Cassell & Co., p. 22) and J. Tom Burgess (*Knots, Ties and Splices*, Routledge & Co., p. 41) agree (1) in laying the left-hand end above the right-hand end, and (2) in making either tie by passing the end just over and then under the standing part. In *amu* condition (1) or condition (2) seems to be reversed, but not both.

No. 3. "*Galagipab*" (*galai gaipapi*, see section on Dugong fishing) is the running noose that is tied round a dugong's tail after it has been harpooned.

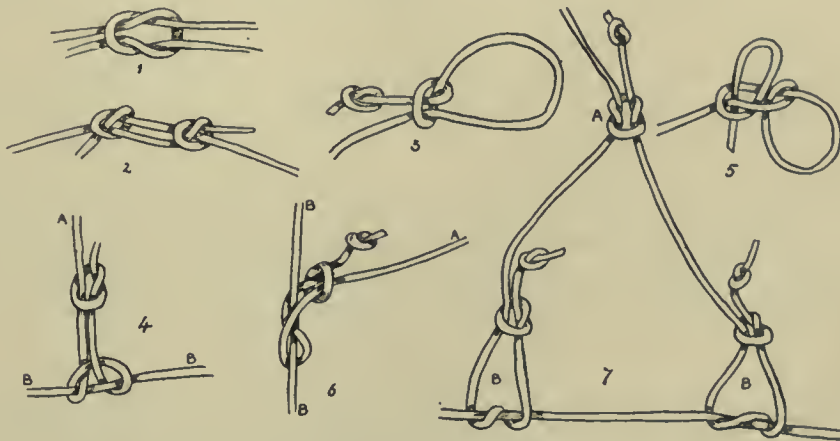


FIG. 130. Knots from Mabuiag.

No. 4. "*Kabwedan*" (*kabu idai*, to fasten, tie a knot), A is fastened to a canoe and B—B is a mangrove stake stuck in the beach (it should have been drawn in a vertical position). This is a lark's head knot crossed and stoppered with overhand knot of free end round standing part.

No. 5. "*Mui ai mukub*" (*mui*, fire; *muku poidai*, fasten, tie) is a knot for tying up a bundle of firewood, or for tying up belongings. It is nothing more or less than the single bow (tied reef-knot fashion), though by the specimen it seems to have been formed by passing the end through a half turn in the standing part, making a reverse half turn round the standing part and passing a bight instead of the end. It may have got into the shape by hauling on different parts of the knot.

No. 6. "*Sur*" (*suru* or *sur* in Daudai, a pole for punting canoes), A is the painter of a canoe, B—B a mangrove stake to stick in the beach. The cord passes twice round

the mangrove stake which gives the idea that it is intended not to slip. Perhaps the simple twist is enough to prevent the cord slipping down the stem or letting the noose run. The slip knot is probably a stoppering as in No. 4; most likely the practice is to draw the slip knot taut against the twist. This would be a good tight fastening, easily undone or removed from the stake.

No. 7. "*Iadi mukabid*" (*iadi*, stone anchor, and ? *muku poidai*, the hawser of a canoe) is fastened by a reef knot like No. 1 at A to the bridle that holds the stone used as an anchor; the knots at B—B are the same as No. 6. The hitches of Nos. 6 and 7 are like simplified rolling hitches. The reef knot, it may be noted, being made on a bight is really a plain lark's head as would appear if the "bridle" were pulled taut at the knot.

The knot used in leashing the sucker-fish is described in the section on Turtle Fishing.

IV. HOUSES

BY A. WILKIN AND A. C. HADDON.

MR WILKIN made a special study of the different types of houses which he saw in his travels in British New Guinea, but, with the exception of those of the Fly River district and Torres Straits, his notes were not written up. His information concerning the older types of houses in the western islands was scanty so I have incorporated my earlier observations. The description of the eastern round houses and of the modern houses is practically entirely his, but I have added some notes of the old Miriam house recently sent to me by Mr J. Bruce. As no satisfactory account has been published of the houses of the Fly River delta and Daudai I have included Mr Wilkin's description of these together with his remarks concerning their relationship to the Torres Straits houses. The descriptions would have been more detailed and lucid had Mr Wilkin lived to see them through the press; all the diagrams were constructed by him. [A. C. H.]

This section deals with: (1) Southern, Central and Northern types of Houses of the Western Islands. (2) The Houses of the Eastern Islands. (3) The Modern Houses of Torres Straits. (4) The Long-house of Kiwai and some Daudai Houses. (5) Notes on Houses in Torres Straits and Western Papua (British New Guinea). (6) Fences.

WESTERN ISLANDS.

It has been noticed by Melville (*Sketches*, pl. 16) that there was a "gradual improvement in the huts and in the general condition of the people towards the northward." He "first noticed at Mount Ernest [Nagir] huts superior to any seen in Australia." In 1888 it was evident that the houses of the Western Islanders improved in quality passing from south to north, and that roughly speaking they fell into three groups which correspond with (1) the Kauralaig, (2) the Malulaig and Kulkalaig, and (3) the Saibailaig (v. p. 2). The first of these peoples inhabit the Prince of Wales group (Muralug, etc. and Moa), the third inhabit Saibai, Dauan and Boigu, while the second belong to all the remaining inhabited islands of the western and central divisions. For the sake of clearness we may speak of the three groups of houses as the southern, central and northern respectively; but it must be remembered that this distinction belongs solely to an order of things now long passed away and that even in the past there was probably no rigid line of demarcation between the construction and distribution of some of the types of houses. A somewhat variable South Sea type of house now prevails everywhere.

Southern type of House.

Maegillivray (II. p. 19) states that "the huts which the Kowraregas and Cape York people put up when the rains commence are usually dome-shaped, four to six feet high, constructed of an arched framework of flexible sticks, one end of each of which is stuck firmly in the ground, and over this sheets of tea-tree (*Melaleuca*) bark—and sometimes an additional thatch of grass—are placed until it is rendered perfectly water-tight." Brockett (p. 37) says of Wednesday Island: "Their houses were not so neatly made as the huts in other parts of the Straits, and they were built in a different shape, somewhat resembling that of a tent."



FIG. 131. Three huts, *mūgi mud*, covered with tea-tree bark, sketched at Aiginisan, Muralug, by A. C. H. in Sept. 1888.

The only houses seen in Muralug in 1888 that had the appearance of being original were of two types. The simpler (fig. 131) consisted of a series of slender poles or rafters surrounding two or three sides of an oblong area about six feet in length, the upper ends were fastened together so as to form a roof-like framework, and in two instances a longitudinal pole served as a ridge-pole. The rafters were strengthened by being lashed to a purlin. In one instance a short pole was tied across the upper end of the entrance to brace the first two poles. Strips of tea-tree bark were slung over the framework, and in one case were tied by rope to keep them in place. The sketches do not show any vertical poles to support the ridge-pole. The other type¹ (fig. 132) consisted of a sleeping platform raised two or three feet above

¹ Dr W. E. Roth ("North Queensland Ethnography, Bulletin 16," *Records of the Australian Museum*, VII. 1910, pp. 55–66) gives an account of North Queensland huts, most of which are circular in plan. The furthest north at which he has observed the composite hut (my second type) "was on the Embley River, in the neighbourhood of the junction of the Palmer and Mitchell Rivers"; but in this case there are two ridge-poles, supported by four forked poles (fig. 42 and pl. XIII. fig. 2). Dr Roth says: "the ridge-pole designs with forked uprights are

the ground and supported on forked poles. Around and above this was erected a roof with a ridge-pole supported by two vertical poles, lateral vertical poles supported the sides of the roof, which consisted of several longitudinal bars or purlins lashed to the rafters; the whole was covered with tea-tree bark.



FIG. 132. Two huts, *kai mud*, on piles, sketched by A. C. H. at Aiginisan, Muralug, in Sept. 1883.

We were informed in 1898 that the old style of house in Muralug consisted of little more than a simple gable roof of the bark of the tea-tree, *ubu* (*Melaleuca leucadendron*), with the gables filled in, resting directly on the ground. Sometimes they were small and intended for one family, in which case they had but a single entrance. Others were larger, about 3.5—4.5 m. (12 to 15 feet) long, and about 2 m. (6 to 7 feet) broad, and the house was so low that a man could not stand upright inside. There were three very low, small entrances on one side only, to these were given the following names, *kala pasa*, hinder door, *dada pasa*, middle door, and *kurubad pasa*, a corner doorway (this was probably similar to that shewn in pl. XIX. fig. 3); inside the house in front of each entrance was a fireplace and along the length of the house was a clear space for the mats on which the people slept. Such a house would serve for three families.

According to the accounts of the Mabuiag people, the houses of the Moa natives were similar to those of Mabuiag, some of them had doors, and the Moa people were always ready to abandon them for a time and live in the bush among the great hills on the eastern side of the island, like their kinsmen of Muralug or the Australians of Cape York.

probably of Papuan introduction; indeed, the latter arrangement is certainly connected with the square framework but met with only in the Peninsula and in the North, but whether connected in the way of progress or retrogression it is impossible to say."

Central type of House.

The only illustration of the ordinary Western type of house (probably at Damut) is one by Melville, the artist who was on the "Fly"; this is reproduced in pl. XXIV. fig. 2. The following descriptions by Jukes explain the drawing.

"The huts on [Yam] had the appearance of a first attempt at a house, having side walls about two feet high, and a gable-shaped roof rising four feet from the ground. They were about ten feet long and six feet wide, made principally of bamboo, and thatched with grass and leaves" (i. p. 155). "The huts [at Damut] were by far the neatest and best erections of the kind we had yet seen. Each one occupied a quadrangular space, six to eight feet wide, and from ten to fifteen feet long. They had gable-shaped roofs, eight feet high in the centre, and sloping on each side nearly to the ground. The frame of the house was made of bamboo, and thickly covered or thatched with grass and palm leaves; the front and back walls were also made of small bamboo sticks, upright and fastened close together, the front wall having a small triangular opening for a door, over which hung loose strips of palm leaf. The door looked into a little court-yard, of about ten feet square, in front of the house, strongly fenced with stout posts and stakes, interlaced with palm leaves and young bamboos, and accessible only by a very narrow opening between two of the strongest posts. In this court-yard was the cooking fire. The different huts and fences¹ were rather irregularly disposed, but placed closely together, so as to leave only narrow winding passages between them. They occupied a space fifty or sixty yards long, by ten or fifteen broad. Behind them was the open place of meeting, on the other side of which, against an old tree, was a semicircular pile or wall of dugongs' skulls about three feet high...in the middle of this was a conical heap of turtles' skulls.... At the south end of the huts we came to a building much superior to, and different from, any of the rest. It was like a Malay house unfinished, or one of their own smaller huts raised on posts to a height of six or seven feet. The point of the gable was at least fifteen feet from the ground, the roof being supported at each end by two stout posts, about a yard apart², having their tops ornamented by carved grotesque faces, painted red, white, and black, with much carving and painting below. The lower part, or ground-floor, of this building was open all round, except at one end, where a broad, rudely-constructed staircase led to a platform, from which went the entrance to the upper story: this was floored with stout sticks, and at this end covered with mats; this part was also partitioned off from the other by a bamboo screen. Under the roof hung old cocoa-nuts, green boughs, and other similar things" (i. pp. 161—3). "About half a mile from the village [on the south side of Masig], we came to a single hut, of a different shape from any we had yet seen. It was just like a great bee-hive, ten or twelve feet in diameter at the base, and the same in height, having a thick thatch of grass. A pole protruded from the summit on which was a large shell (fusus), and a small hole or door, partly covered by a board of wood...At Darnley and Murray Islands almost all the houses are of this form, so that this had either been erected in imitation of them, or by some people of those places when on a visit to Masseed" (i. pp. 167, 168).

¹ The fences have been omitted in Melville's drawing, probably because they would have obscured the huts.

² These lateral posts recall the Kiwai architecture. The term lateral is suggested for those posts which support a roof on each side of the median line, they are separated by a considerable interval from the walls of the house.

Macgillivray found that the village on Nagir "consists of a single line of huts, which probably would furnish accommodation for, probably, 150 people. It is situated on the north-west, or leeward side of the island, immediately behind the beach, and in front of a belt of jungle. The huts are long and low, with an arched roof, and vary in length from ten to twenty feet, with an average height of five feet, and a width of six. They consist of a neat framework of strips of bamboo, thatched with long coarse grass. Each hut is usually situated in a small well-fenced enclosure, and opposite to it on the beach is the cooking place, consisting of a small shed, under which the fire is made" (II. p. 35).

The inhabitants of Tutu live in a small cluster of houses of the South Sea type, more or less surrounded by fences at the southern end of the island, but at the northern end we saw two huts (pl. XIX. fig. 3) which probably were constructed in the olden fashion. One consisted of a simple roof resting on the ground and supported by two central posts, one end being open. The other was better built and had a doorway at one corner.

Macgillivray (II. p. 41) noticed in Waraber, natives "sitting down under temporary sheds made by stretching large mats—the sails of their canoes—over a framework of sticks." Probably this was the usual custom when parties went to uninhabited sand-banks on turtling expeditions.

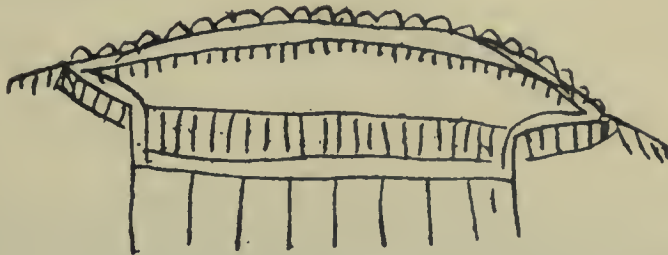


FIG. 133. Head-house, Mabuiag, drawn by Gizu.

Three kinds of houses were seen on Badu in 1888: (1) huts consisting of little more than two sloping walls meeting like a roof, evidently an indigenous structure; (2) a small house on piles, of the New Guinea pattern; (3) a large well-built grass house with neatly thatched walls, and a long verandah raised from the ground, this was erected and inhabited by South Sea men. The Badu people were to all intents and purposes identical with the natives of Mabuiag and had similar dwellings but no head-house of their own. Pulu (v. pp. 3—5) being the common meeting place for the inhabitants of both islands, and the centre of their military and religious life.

Before the arrival of foreigners in Mabuiag the natives say that they lived in houses built on the ground and we have sketches by natives confirming this. From their account the houses varied in length and were generally not more than 1·8 m. (6 ft.) high. The floors were of white sand covered with layers of grass and mats, hence a bed, *toie*, was sometimes called *apa-sik* (*apa*, ground). The roof-walls were composed of grass and tea-tree bark. Some of the largest of them had as many as ten doors which were so low that it was necessary to go in crouching almost on all fours. They were built on a framework like those of old Mawata, and their section was similar

to that of a Gothic arch. Women and children lived in these houses, the men, or at all events the bachelors, sleeping in the *kwikwi-iut* and *kwod*. With regard to the structure of these houses it may be confidently said that it was of the simplest. The median posts, *saru-kag*, were in vogue, not the lateral posts as at Kiwai, at any rate in the ordinary houses; the ridge-pole was called *tòd*.

The name *kwikwi-iut* signifies head-house in both senses of the word. The description of the head-house by Gizu was supplemented by a drawing by him (fig. 133), and one by Tom is reproduced in fig. 134. It appears that the house was very similar to the long houses of Mawata in 1888 and to those of the Fly delta. It was built on piles, and had a door at either end, and reddened skulls and jaws were hung around. (In 1888 one of us saw bunches of skulls hanging underneath houses in Mawata.) Coco-nut palm leaves were placed on the roof, gable ends and eaves, and the posts, *pasi kag*, were painted red. It seems that there were originally two of these houses in Mabuia, one probably belonging to each phratry (v. pp. 172, 306), in them arms were kept and the skulls were those of enemies killed in war. Women and small boys were not allowed to enter them; for further information concerning the use of these houses the reader is referred to Vol. v. p. 306.



FIG. 134. Head-house, Mabuia, after a sketch by Tom.



FIG. 135. *Kwod* at Bau, Mabuia, sketched by A. C. H. in 1888.

A *kwod* (fig. 135) was still to be seen in Mabuia in 1888, it consisted of four walls with one wide entrance and a light flat roof made of coco-nut palm leaves; it was about 7.5 m. (25 ft.) long, 4.5 m. (15 ft.) broad, and 1.8 m. (6 ft.) high. Several authorities declared that the *kwod* served as a place of meeting when the *kwikwi-iut* was too hot or overcrowded, and that the men and boys of a certain age slept in either indifferently. In October, 1888, a number of natives from other islands visited Mabuia, and the bachelors took up their quarters in the *kwod*.

The head-house, so far as our knowledge goes, was confined to the western islands, at Mabuiag we were informed that there was formerly one similar to theirs in Saibai; the house on piles in Damut (p. 96) and the hut on Aurid (v. p. 378) and to a certain extent the much modified totem shrines on Yam (v. p. 373) were probably of a similar nature. The *kwikwi-iut* is unmistakably related to the elub-houses of New Guinea. The *kwod* hut at Bau in Mabuiag was a much less pretentious shelter house for the youths and unmarried men, and may be regarded as being originally a sort of annex to the head-house which survived the destruction of the latter as it served the useful social purpose of a elub-house at which young male visitors could be put up.

For the significance of the Western *kwod* and the use to which they were put the reader is referred to Vol. v. pp. 3—5, 365—7, 370, 373—7.

We had a circumstantial account of an *aimai*¹ or round house, but this was afterwards denied. It may be worth while, however, to repeat what was at first said. The *aimai* were very few in number at Mabuiag, they were constructed, so far as we could understand, on lines similar to those in use at Mer, had a very small low door, were floored like the other houses and had the tops of their centre poles where they projected above the roof carved into figures representing men. Moreover it was asserted that they were the ancestral types of one or two square South Sea houses at present existing. A peculiar St Andrew's cross ornament of bamboo which occurred in two of the old houses at Mer did not so occur, it was said, at Mabuiag. It is just possible, supposing our informants to have invented the *aimai* at Mabuiag on the lines of those which they had had opportunities of seeing at Mer, that these peculiar but conspicuous additions to the inner frame had escaped their notice—but it does not seem probable, and if so they should have appeared in their description of the *aimai*, or, at least, would not have been definitely rejected after a leading question on the subject. Again the centre poles were said to have been carved like a man, and no central pole that we saw or heard of at Mer was ever so carved. Gizu made a drawing of an *aimai* for us which evidently represented a round house on piles and a ladder leading up to it. Altogether, though the existence of the *aimai* was denied by some, we appear to require further proof of its non-existence. On the other hand we have no confirmation from English sources of the presence of round houses on Mabuiag.

Northern type of House.

The old style of house of the most northerly of the western islands, we believe, was invariably built on piles; in 1888 the South Sea type of house was beginning to supplant the other, but some of the older type of pile dwellings are still to be found in Saibai (pl. XX. figs. 1, 2). In 1871 Mr Murray found that on Saibai and Dauan the houses were "built on stakes eight or ten feet high." All the houses which he saw on the islands and on the mainland were built mainly of bamboo, and the roofs were thatched and the sides enclosed with the pandanus leaf (*Forty Years' Mission Work*, 1876, p. 456).

¹ *Aimai* seems to be the plural of *ai*, ancestors. In the Vocabulary *iawad* is a round house.

The general character of the northern houses can be seen from fig. 136 which is a sketch of a house in Saibai, made in Aug. 1888. At that time the natives of Boigu had heard a rumour that the Tugeri pirates were coming on a head-hunting raid, and, knowing that they could not withstand them, fled to Saibai. There was not enough house-room in Saibai for these visitors, and so the under portion of this house was roughly wattled with leaves of the coco-nut palm for the accommodation of some of them. At that time this was the only two-storied house in Torres Straits.

It is very probable that the small house, with the roof coming down to the floor and a door at one end (pl. XX. fig. 2), is the original type; a precisely similar one was seen in Badu in 1888. The larger oblong houses with a side door (fig. 136, pl. XX. fig. 1) rather look as if they were a cross between the old type and the South Sea type of house.

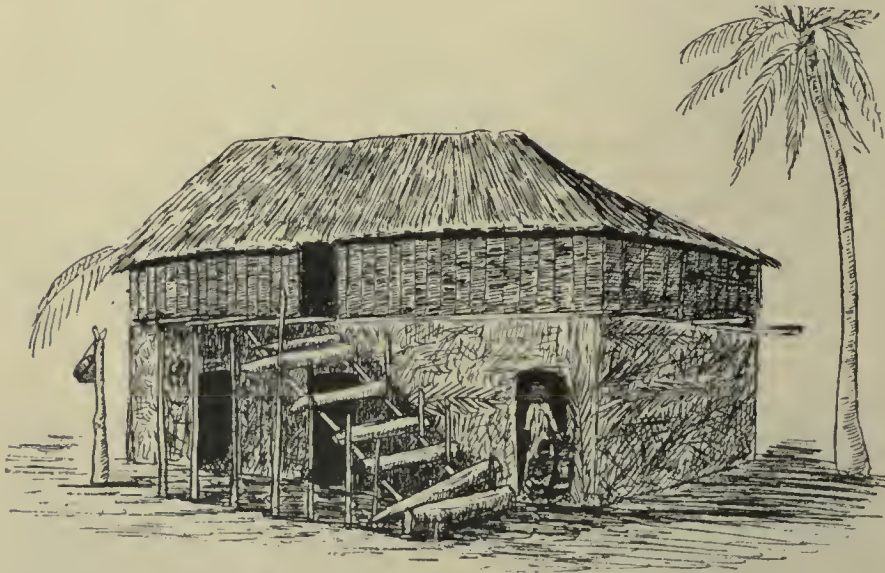


FIG. 136. Pile dwelling at Saibai, with the piles temporarily surrounded by a wattle of palm leaves; sketched by A. C. H. in Aug. 1888.

Two houses of the old type in Saibai had respectively the following measurements: length, 31 ft., 32 ft. 5 in.; breadth, 16 ft. 9 in. each; height of wall, 5 ft. 3 in., 5 ft. 6 in.; height of gable, 16 ft. in one house; width of door, 2 ft. 6 in., 2 ft. 3 in., in each case the door was not quite in the centre of one side; height of piles, 4 ft. 7 in., 6 ft. 8 in.

One house was for the use of unmarried girls, this was described as "mission fashion"; we believe that this was instituted by the missionaries in other islands, and we know that the MacFarlanes had one in Mer. They said at Saibai that in the old days there was a men's house, *iota*, the ordinary word for house is *lag*.

EASTERN ISLANDS.

Among the natives of the eastern islands, Uga, Erub, and the Murray Islands, another form of house, *meta*, was found, confined so far as we know to this particular intermarrying group. Some of the earliest English voyagers in Torres Straits mention and illustrate the bee-hive round houses, *kaubkaub meta*, of these islands, but their descriptions are as a rule too meagre to be worth reprinting¹. At present (about July, 1898) there is a small one at Darnley, and a large one is said to exist on the north or north-west of the island. At Mer there is only one of moderate dimensions and this has recently been vacated by its owner, and probably soon ceased to exist. There is also a small and deserted hut which has features in common with the round house and which may possibly form a connecting link between it and the oblong structures of the western islands.

The dimensions of the round house at Ulag (pl. XX. fig. 3), Mer, are as follows. Circumference outside (at base) about 62 feet. Radius inside 9 ft. 6 in. Height about 12 ft. 6 in. inside; the central pole of wood projecting above the roof to a total height of some 14 ft. 6 in.² Round the top of the centre pole a spiral of slender vine is wound and this forms the only exterior ornament at the present time. Formerly a large Ficus or Cassia shell would be set on the top, and, in some cases at least, the elaborate structure shown in pl. XII. fig. 3 was added. The thatch was composed of dry grass, and the bundles were gathered in together at the top from which the centre post projected about eighteen inches; it was laced on to the laths of the framework by long creepers, one man being inside, another outside, and passing them through by means of an eighteen inch needle of bamboo, *arem lu* or *atwar lu*, notched at one end³. A feast was held in connection with this thatching, and often a number of friends would take part and race side against side.

The first operation in the building of the round house⁴ was the delimitation of

¹ According to Jukes (i. p. 197) "The whole shore here [N.W. side of Mer] was lined with a continuous row of houses, each in a small court-yard of from ten to twenty yards square. The houses were the [p. 198] same as those of Erroob...The houses [are] perhaps larger and more complete than at Erroob. They seemed very clean and neat inside, with raised platforms, covered with mats for bed-places....The tops of the houses, as also the fences of the court-yard, were ornamented by large white shells, and occasionally a skull or two was suspended somewhere near the house, or placed on the stump of a tree and painted red....Here and there between the fences of the huts were left narrow passages, giving access to the land at the back, where there were some small plantations." Bampton saw in Erub a house, 30 × 15 ft., raised on piles 6 ft. from the ground; it "was the sole hut in which there were no skulls or hands" (Flinders, *Voy.* i. p. xxxvi).

² A round house at Las in 1889 had the following dimensions: circumference, 68 ft.; diameter at door, 20 ft. 3 in.; transverse diameter, 18 ft. 6 in.; height, 13 ft.; door, 2 ft. 6 in. high and 2 ft. wide.

³ The bamboo thatching needle which we obtained in 1889 is 94 cm. long and is pierced with a hole (*Album*, i. pl. 323, no. 10).

⁴ Jukes (i. p. 245) gives the following description of the building of a house in Erub: "Eight or ten stout posts about five feet high were driven into the ground at equal distances, forming a circle of fifteen feet in diameter. Round these, at equal heights, were fastened three hoops of bamboo, both inside and outside the posts, but a space in the lower hoops was left between two of the posts, where the low door would come. They afterwards fasten tall poles of bamboo upright to the hoops pretty closely all round, and bringing their ends together, tie them to a stout centre pole, which rises up from the interior and protrudes through the roof. On to this framework, they weave and fasten a very thick thatch of grass, and palm leaves split into

the circumference. This was done by simply making a trail with one foot in the sand. Twenty stout posts, *teter*, were then put in at intervals of about three feet so as to form a circle, they projected above ground five feet. Four split bamboos were fastened round these posts, the uppermost band being near the top. To these *kosker teibur* (fig. 137) were then tied the *pèk* in four sections, each section being done by five men. The general direction of the *pèk* is transverse from side to side rather than from bottom to top. The wooden main-post, *seseri*, was then dragged in through the opening left for the door and set up in the centre. The *pèk* alone, arranged as they were in four groups whose ends overlapped and formed diagonal patterns, gave the house almost the appearance of a rounded quadrangle. There were fifteen *pèk* in all, four a side, the number being reduced to three on the eastern section which formed an arch over the door. The ends of these fifteen split bamboos were tied outside the first two [? the upper two] rows of *kosker teibur* and must have added enormously to the strength of the roof. Next the wooden *lemlem* (which correspond to the rafters

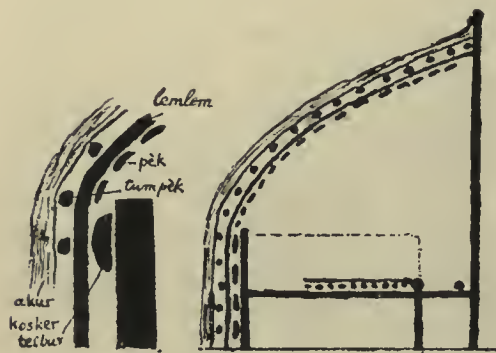


FIG. 137. General and detailed sections of a Miriam round house, by A. W. Scale 8 ft. to 1 in.

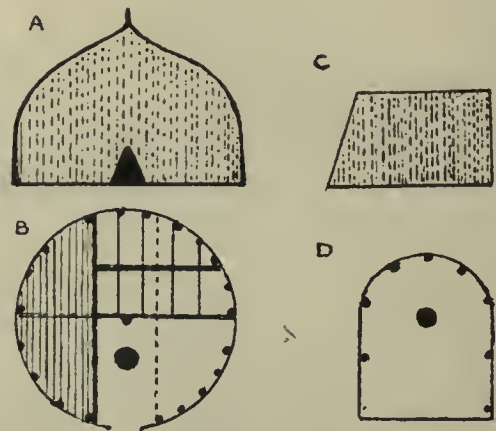


FIG. 138. A and B, Elevation and plan of a Miriam round house; C and D, Elevation and plan of an *eud meta* on Mer, by A. W. Scale, 16 ft. to 1 in.

of the Kiwai house, p. 112) were fastened to all the *kosker teibur* so that the lower ends rested on the ground while the upper converged and were tied to the centre pole at the top. The underlying *pèk* which they crossed served to keep the curve true and symmetrical. Laths (*tum pèk*) of split bamboo were added and the frame was ready to receive the thatch. The door was triangular and faced the sea (which lay to the east). It measured 2 ft. 3 in. high \times 2 ft. 3 in. across the base, and its side posts were neatly bound with grass. Such a doorway could only be entered on all-fours. At the centre of each hemisphere enclosed by the *pèk* was a St Andrew's cross of split bamboo measuring about 3 ft. high \times 1 ft. 6 in. across (between perpendiculars).

thin strips, leaving only one small opening for the door, to enter which they must crouch on the hands and knees."

The circular huts of the North Queensland natives described by Dr Walter E. Roth (*l.c.*) are of much more simple construction.

The thatch at the bottom was called *maisū*, that at the top *akur* (the former term seems to be used for any kind of rough shelter).

This house had originally contained three sleeping platforms, one of which filled in the whole of the western half and was composed of a bamboo tied to two of the side posts and to the centre pole at 2 ft. 6 in. from the floor, with the ends of four transverse bamboos resting on it, their other ends being tied to points in the western wall. These transverse bamboos were further supported by another which, crossing under them at right angles, was tied at one end to a wall post and at the other to the platform which lay to the left on entering. This second platform covered the first in part (see fig. 138 B) and its frame was supported by the same bamboo that carried the latter, and by the side posts. It was thus an inch or two higher than the first platform and was completed for a depth of eighteen inches by a number of slips of bamboo. The second platform did not come up to the central post by about two feet¹, and the remains of a corresponding frame on the right side seemed to shew that it too had been so constructed as to leave an open space in front of the doorway, which thus measured about nine feet long by four broad. In it was the fireplace. The natives said that these houses might contain six platforms for sleeping and storing goods, three being added at a height of about 2 ft. 6 in. above the lower, their frames resting on the tops of the side posts (*teter*) and the highest of the four *kosker teibur*. They added that the round houses were much warmer than the South Sea buildings in which they now live.

The door was closed in this case by a slab of wood. Outside it was a solitary post about 10 ft. high, the survivor of six which had formerly stood three each side (*tera-atatmi-lu*). Groups of these houses were enclosed in an *uteb* or compound and a high fence served to keep out the wind. Formerly a bunch of mottled cowrie shells (*mōkep*) were tied over the door to give notice of the entrance of a visitor.

There is no reason to suppose that the Miriam have materially altered their domestic arrangements simultaneously with their houses, and probably a large round house might have accommodated more than one family just as some of the South Sea houses do now, though the majority were and are the exclusive property of one man and his belongings.

The only other old house at Mer, that of Kopam (8 A) at Sobatir, an area in Kop, had been long deserted and was in a ruinous condition. Fortunately enough of its structure remained to connect it for certain with the Miriam round houses, and possibly with the type found at Mabuig and the western islands. Its ground plan

¹ In the sketch by Professor Huxley of the interior of a house in Erub (Maegillivray, II, p. 47) there is a well-made platform opposite the entrance which extends across the hut and up to the central post, it appears to be raised nearly four feet above the ground. To the left is a much lower one, the bamboo flooring of which extends as far as the level of the central post, but the platform does not come close up to the post, as in fig. 138 B. At a height of about six feet several poles are tied to the central post, the other ends being apparently supported by the framework of the house; from these bags and various objects are suspended.

According to Mr J. Bruce the six beds were in two tiers, the two long ones extended from side to side behind the central pole, and it was on their front supports that the fish-spears were suspended horizontally. On each side of the entrance were two shorter beds. The fireplace was between the central pole and the entrance.

was rectangular with one rounded end (fig. 138 D, and pl. XX. fig. 4). In that end all the structural peculiarities of the round house repeated themselves. For the rest the name *eud meta* or "old house" well described it. The chief measurements were: length 14 ft., breadth 11 ft., height 8 ft. Nine posts 3 ft. 6 in.—4 ft. high supported the main frame, three being in the rounded end, three to each side. There was only one ridge-pole and this was carried on the crossed upper ends of the rafters. A section of the side wall (fig. 139) shewed two courses of *kosker teibur* on which were the rafters (*lemlem*). Three longitudinal *epatired lu* strengthened the rafters between the *kosker teibur* and the ridge-pole. The ends of these were bent down where the curve was reached at the end—its depth being about 2 ft. 6 in.—to meet the *kosker teibur* on their outer edges. The whole of the round end was precisely similar to the round house down to the St Andrew's cross, but a glance at figs. 26—30 will shew that the sides too were not really constructed on a different plan. A shell, *nasir* (*Trochus niloticus*), decorated the intersection of the arms of the St Andrew's cross, the longest of which was just under three feet. Formerly the open front was screened towards the sea by a coco-nut leaf hung on either side of the arch. Behind this house about four feet from the back was a slight platform on posts 4 ft. 8 in. and 5 ft. high. Its length was 5 ft. 6 in.; breadth 2 ft. The long bamboos at the top were fitted into forked posts and projected beyond them a few inches. Five bars across had originally supported six large giant clam, *miskor*, shells disposed in pairs, of which four were left. These big clam shells were used to catch rain and to hold the supplies of fresh water for daily use. The fireplace of the house had been made anywhere, but the freshest ashes were in the middle though slightly nearer the closed than the open end. If the Kop house does not form a connecting link between the dwellings of Daudai and those of Murray and Darnley it certainly has all the appearance of being one.

Mr Ray in the course of his linguistic investigations obtained the following order of procedure in building a house:

Le meta ikeli, man makes a house; *e tonar detar kikem teteru*, he first draws the plan with his foot; *e daiwi a teter ekos*, he digs holes and erects side posts; *e kosker teibur lageru didbar*, he ties on the horizontal bars with rope; *e ditimeda totge bakedida sebge a pèk didbar*, he begins at the top and goes down (arrives) to the bottom and ties on the uprights [arched bamboos]; *e seseri ekos*, he erects the centre post; *e lemlem emir e ditimeda totge*, he puts in the thin upright rafters, beginning at the top; *e tum pèk egawi*, he...the horizontal laths behind; *e akuru derem, e ditimeda sebge*, he laces on the thatch, beginning at the bottom; *e sik bau didbar*, he ties together the framework of the bed; *e marep epat sikem*, he...bamboo for the bed place. *Meta ikerer emetu*, the house is made.

Mr J. Bruce has recently sent the following description of the old type of Miriam house, or *kaubkaub meta*, "round house." The frame was made of bamboos, *marepu darot*, these were fixed in the ground in a circle and bent over and fastened to a



FIG. 139. Section of the rounded end of an *eud meta* on Mer, by A. W. Scale 8 ft. to 1 in.

stout central wooden pole, *seseri*. Laths of split bamboo were lashed horizontally to the bamboo frame to bind it together and for the attachment of the thatch. The lashing used for fixing the bamboo frame to the centre pole was a strong vine, *boz* (*Flagellaria indica*), and dry pandanus leaves, *abal*, were employed for tying the laths to the frame. The thatch was made of a strong grass, *akur*; the men pulled or cut the grass on the grass lands, but only the women tied it into sheaves and carried it to the building site. The stem of *Entada scandens*, *siret* or *sirip*, after being beaten and twisted to make it pliable was used for tying on the thatch. The door, *pao* or *pau*, for closing the entrance was always made from the side of a broken canoe, *pao* or *pau*.

The houses were all built on the ground, and the interior was generally fitted with six or eight bunks for sleeping on or for holding their treasures and implements, thus serving instead of boxes. One bunk was placed above another on each side of and opposite to the door. They were made of bamboo poles, and layers of split bamboos were laid across and spread out like laths, *marep epat* or *sik epat*. The lower bunks, *we sik* (sand bed), were raised about 150 mm. (6 in.) above the ground and the upper ones about 1.2 m. (4 ft.); between the two was a rack, on which spears, bows and arrows, etc. were placed. Dancing gear and other small articles were hung on the walls. Painted trumpet shells, *maber*, were hung on the wall over the entrance, *meta taiier etkoper* (house decoration). After a death the desiccated body, *keber*, was fixed to the central post, facing the entrance (vi. p. 148). The fireplace was situated between the central pole and the doorway.

A dozen or so of saplings, *adige meta etkoper* (outside house decoration), were stuck in the ground, six on each side of the door, and on the top of each a painted trumpet shell was placed. A very large painted trumpet shell was placed on the top of the centre pole, or sometimes one or two large *Cassis* shells, as in the Erub house shewn in pl. III. fig. 3.

The houses were made of various sizes according to the number of families or individuals who would probably occupy them. A small house would be about 4.6 m. (15 ft.) in diameter and about the same in height. A house for occupation of two or more families might be as much as 9.1 m. (30 ft.) in diameter and twenty feet or more in height.

In the Vocabulary there occurs the word *makerem meta*, house for young men. Unfortunately we cannot give any further information on the subject, it may refer to a house in which the young men, *kèsi*, were lodged during the initiation ceremonies.

THE MODERN HOUSES OF TORRES STRAITS.

With regard to the modern houses in which the natives of Mer and Mabuia now live there is no necessity to say much. They are all constructed on models introduced by various Polynesian and Melanesian strangers, and differ fundamentally from the old types in nearly every respect. At Murray there are a few houses built on piles constituting a combination of South Sea and New Guinea architecture, and somewhat resembling houses at Hula and elsewhere in New Guinea where foreign influence has been felt. There is no continuity in the evolution of these houses. A new

type was introduced and immediately accepted—not so much because it was better than the old (for such was not the case in Mer at any rate), as because it was associated with the new order of things that the traders and missionaries brought with them. At Mabuiag the influence of the “teachers” from Mare, Loyalty group, may perhaps be traced in a few square houses with a central post.

The following is a list of the terms¹ employed in house-construction, the Mabuiag word comes first and the Miriam equivalent is in brackets:

Beam of wall, inner horizontal: *bal-iai-pui* (*kerem-teter*),—outer horizontal (*kosker teibur*, *mui pèk*). Cross-beam: *bal kaputai pui*. Purlin of roof: *bal-iai-pui* (*mui pèk*). Door: *pasa* (*pau*). Doorway: *pasa*, *pasa-gud* (*te* or *meta te*). Door-jamb: *pasa-gudau tuda* [or *tòd*] (*te-lu*). Posts outside door: (*tera atatmi lu*). End of house, corner: *kurubad* (*kop*). End of large ridge-pole: *gizu*,—of small: *kut*. Lath supporting thatch: *bera pui* (*tum pèk*). Lean-to house, porch, verandah or eaves: *iut* (*maisü*). Lintel: *pasa-gudau tuda* [or *tòd*]. Median or central post: *saru-kag* (*seseri*). Pile: *pasi kag*. Platform-bed (*sik* or *sik bau*). Posts of inner side of house: *pasi kag* (*teter*),—outer: *pasiu pui* (*teter lemlem*). Rafter: *sau*,—inner: *barbat* or *babado puidai bera pui* (*asis lu*),—outer: *kadaka tra pui* (*lemlem*). Ridge-pole, inner: *tòd* (*tot*). Roof: *toit* or *tòd* (*tot* or *meta tum*). Thatch: *borda* or *burdo*, *kamug*, *mugud* (*akur*, *maisü*),—inner thatch: *bai* or *bôi*,—thatch-bands: *bordau pui* (*marep pèk*). Tie-beam: *bal-iai-pui*. Wall: *pasi* (*bir*). Window: *arkat*.

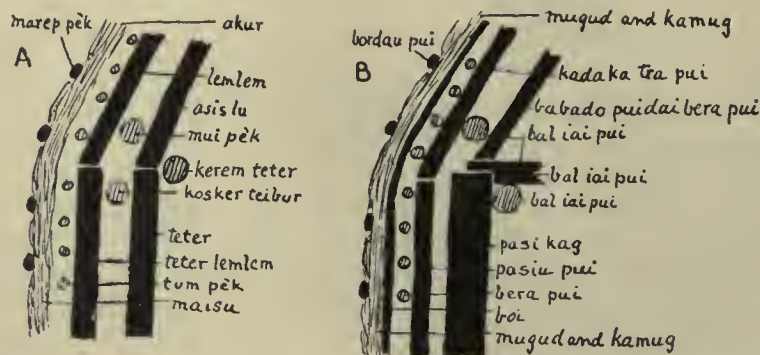


FIG. 140. Details of the construction of modern houses in Torres Straits. A, Mer; B, Mabuiag, by A. W.

The *mui pèk*, which should perhaps have been placed higher up in fig. 140 A, is lashed to the *asis lu* with *neud lager* (*neud* has not been identified); the *kerem teter* is very securely lashed to the *asis lu* with *boz lager*, a strong rope made of the stem of *Flagellaria indica*, it evidently prevented the beams from slipping off the posts, *teter*.

At Mer there was a building with a central post and diamond-shaped ground plan (fig. 141 A, B), but there was no evidence whatever to connect it with the round house,

¹ The following is a translation of some of these words, we have not found a meaning for the others. Mabuiag: *arkat*, hole; *babado*, poss. of *babat*, man's sister or woman's brother, etc.; *bal*, across; *bera*, rib; *bordau*, *barðo*, thatch, u, of; *gud*, mouth; *iai*, lie along; *kadaka*, upward; *kag*, post; *lu*, thing; *pasi*, side; *pui*, stick, pl. *puidai*; *tra*, ridge. Mer: *kerem*, head; *kosker*, woman; *marep*, bamboo; *mui*, inside; *teibur*, inside; *te*, mouth; *teter*, lower leg or foot; *tum*, top.

and it was very likely, what its owner Dick claimed for it, a freak of his imagination. Its greatest length between corners was about 35 ft., and a line connecting them would have lain roughly parallel to the seashore. Its greatest breadth was about 21 feet. Each of the four sides measured 20 ft. and there was an opening in the two which faced the sea about 3 ft. from the extreme ends, 4 ft. 6 in. \times 2 ft., closed by ordinary wooden doors set in frames the height of the side walls. The height of the house to the topmost point would be about 14 ft., and the central pole projected somewhat beyond. Several *marep pèk* bands confined the thatch, and palm stumps had been utilised in the construction. Inside were two platforms (see plan) about 2 ft. 6 in. high.

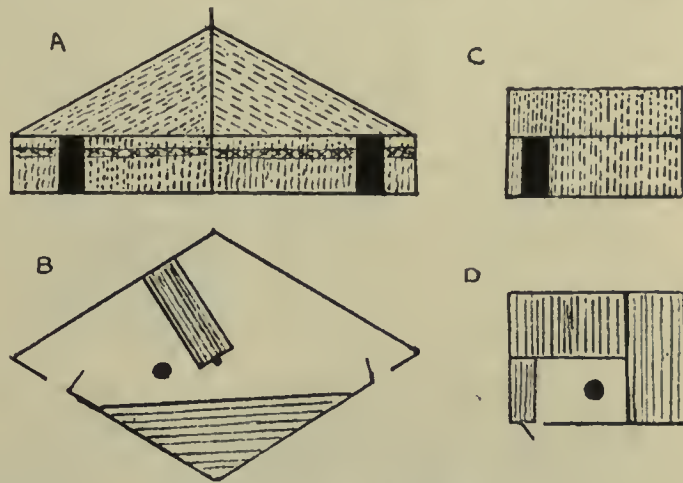


FIG. 141. Elevation and ground plan of two modern Miriam houses, by A. W. Scale 16 ft. to 1 in.

The Miriam house shewn in fig. 141 C, D, measured 15 \times 11 \times 9 ft. and was somewhat peculiar in having the ridge-pole the same length as the side walls so that there was no roof at the two ends, the wall being in one piece. Two median posts as usual carried the roof, and there were *marep pèk* to fasten the thatch. The door was 5 ft. \times 2 ft. and opened outwards leaving a narrow space by which to enter. The three platforms were 18 in. high and the fire about central (fig. 13).

Fig. 142 A represents a Miriam house not yet finished, but the skeleton made it easy to take accurate measurements and to observe the construction which was typical of all the "South Sea" houses of Mer, though the height of the side walls was somewhat abnormal. It measured 28 ft. \times 16 ft. broad. Its height was 14 ft., that of the walls 8 ft. The house was parallel to the sea though some hundred yards from it, and its back was turned to the road. On the sea front was a door 5 ft. 6 in. \times 2 ft. 9 in. at a distance of 11 ft. 9 in. from the north corner. The median posts were three feet in circumference at about a yard from the ground. They stood about 8 ft. 6 in. from the end walls and in the middle line. The main ridge-pole was mortised into their tops and projected 18 in. at either end. The second and exterior ridge-pole rested on the upper ends of the *asis lu* (cf. fig. 140 A), while the *lemlem* converged at the top and were tied to the interior main ridge-pole, flush with the *asis lu*. The

kosker teibur were three aside, and the *mui pèk* two. The end walls were similar in construction. The side posts were hardly inferior in solidity to the median posts and, as this is the rule in Mer houses, the superfluous strength of the side walls would seem to account for the absence of defects consequent on the neglect of tie-beams other than those afforded by the end walls. The construction of the side walls which is far more massive, though hardly more complicated, than that of the round house, is best understood by reference to the section in fig. 140 A. The thatch was laid on in bundles, beginning at the bottom where a different name was applied to it, *maisu*, from that used for the upper portions, *akur*¹. This method did not seem to be due to anything more practical than the dictates of fashion. Windows did not exist before the introduction of "South Sea" architecture, and they do not vary much in size or position from the examples here quoted. The side walls in fig. 142 A are higher than usual; ordinarily doors are of the same height as the walls, and they may or may not have a wooden frame and threshold as in pl. XXIII. fig. 2.

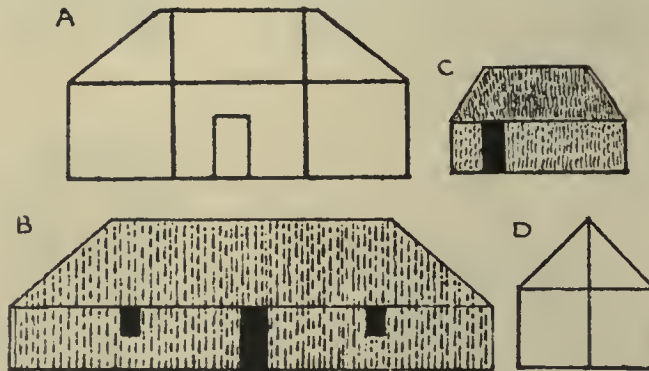


Fig. 142. Elevations of modern Miriam houses, by A. W. Scale 16 ft. to 1 in.

Fig. 142 B is a typical "South Sea" house (that of Jimmy Rice and Debe Wali). Its dimensions were 40 ft. \times 18 ft. \times 13 ft. high. The side and end walls and door were 5 ft. 2 in. high. The doors were in the middle of the sides facing the sea and the road respectively, and were about 2 ft. broad. That facing the road had been temporarily closed up as it was not much used. The walls were of layers of plaited palm leaves which overlapped one another, while the roof was of the ordinary thatch. The ends of the ridge-pole were 9 ft. from the end walls of the house, thus making a hipped roof as in pl. XXVIII. fig. 2, and the thatch over the ridge-pole was finished off neatly with a strong plait. Two windows faced the sea, close under the eaves, 2 ft. \times 18 in., and in the position shewn in the figure. Inside the house was a floor raised 15 inches above the sand. Piles, *bau*, supported cross pieces, *mui bau*, and these transverse planks, *sik bau*, both the latter being of split bamboo. This platform covered the whole floor of the house except a gangway four feet wide from door to door. The two halves of the *bau* where they fronted the gap were finished off with a single bamboo, *bau*, laid crossways. In the

¹ A bamboo scaffold was used in thatching. A single piece 15–20 ft. long is tied to two uprights about 12 ft. high at a height of perhaps 9 ft. The whole leans against the side of the house and the thatcher stands on the horizontal bar.

middle of this central gangway was the fireplace. In most houses the platforms were higher and confined to a more limited area, which seemed to vary entirely according to the taste or the requirements of the inhabitant.

A very similar, but rather larger, house was that of Sisa. As usual it faced the sea and had its back to the road. Dimensions, 44 ft. \times 28 ft. \times 13 ft., side and end walls measured 5 ft. 9 in. high. A door 2 ft. wide and two windows 1 ft. \times 1 ft. 6 in. were on each of the sides, all in wooden frames. Here the windows were placed 6 in. below the eaves. The *marep pèk* band consisted of two horizontal strips of bamboo between which were short strips arranged trellis fashion (pls. XXIII. figs. 1, 2, XXVIII. fig. 2).

A few houses at Mer were built on piles, probably, as the natives themselves explained, in imitation of the New Guinea buildings which many had seen in the course of their voyages in trading schooners or mission boats. Of these, Marau's house, fig. 143, is an example, and one is also seen in pl. XXI. fig. 1, 31 ft. \times 23 ft. broad over all



FIG. 143. Side and end elevation of Marau's pile dwelling on Mer, by A. W. Scale 16 ft. to 1 in.

\times 13 ft. high. The piles were 4 ft. 6 in., and palm tree stumps had been utilised. There were two verandahs, one at the back facing the road, the other at the front which faced the sea. They were 3 ft. 6 in. wide. The doors (that at the back closed up with palm leaves) were in the middle of each long side, 3 ft. wide and 4 ft. 6 in. high. The roofs of both verandahs were added outside the main roof of the house and were obviously an addition to it. Though they doubtless formed part of the original plan, the clumsiness of this overlapping arrangement (which would allow the rain to fall off the main roof into the verandahs) shewed that it was new and unfamiliar. The verandah eaves overhung about 18 inches. The median posts projected 2 ft. 6 in. above the roof and, being of bamboo, were incapable of decoration. The thatch was normal. A six-rung ladder led to the door at the back. Under the eaves ran the usual *marep pèk* band. The floor beams were of bamboo, and the top of the thatch plaited together.

Two other similar houses belonged respectively to Capsize and Sali, and to Beni, Dela and Gisur. They stood on an eminence above the road facing the sea. Neither had a verandah at the back as the hill-side was too steep to admit of it. The median posts projected about 2 ft. and were decorated, so it was said, after the old style (pl. XII. fig. 3). The doors were of split cane fastened in wooden frames and presented a very neat appearance. There were also shutters to the windows. One house had side walls of plaited palm leaves, the other had the usual grass thatch. Both houses were examples of divided tenancy.

Fig. 142 D is an end view of an unfinished house (Komaberi's) 30 ft. 4 in. long \times 11 ft. \times 13 ft. high. The house faced the sea. The side posts were 5 ft. 6 in. high.

The door, 13 ft. from the north corner, was 4 ft. wide. The roof began to fall from the ends of the ridge-pole 5 ft. 6 in. from either end. The median posts were 9 ft. and 9 ft. 6 in. from the end walls. The ridge-pole was thus about 20 ft. long and 3 ft. 6 in. in circumference, mortised into the median posts (2 ft. and 3 ft. 6 in. in circumference).

In Fig. 142 c is shewn a small store-house (of Jimmy Dei) 15 ft. \times 10 ft. \times 9 ft. high. The thatched walls were 4 ft. high and had the usual *marep pèk* band. The door, in a wooden frame facing the sea, was 2 ft. wide and only 2 ft. from the north corner. In front was the *kar*, fence, 2 ft. 6 in. from the front. The ridge-pole ended 2 ft. 6 in. from the end walls, and was carried on a single central post. All the frame and posts were of bamboo and the *teter lemlem* and *lemlem* were absent, as the weight to be supported was small.

Within were three platforms disposed about the end furthest from the door. That on the south-east side (that of the door) was 7 ft. 6 in. long \times 4 ft. broad; the end platform was 10 ft. \times 2 ft. 6 in., and the remaining *sik bau* 2 ft. \times 3 ft. All were a foot above the sandy floor, and were apparently used chiefly to carry firewood. The house was interesting chiefly because of its simplicity of structure and because it was one of the few examples of a specialised out-house. Formerly, in the round house days, a rough lean-to, *eud meta*, sufficed for a similar purpose.

Most of the houses at Murray Island were grouped together in compounds, *uteb*, within a fence, and this arrangement seems always to have prevailed. On the other hand, at Mabuiag, the houses form regular streets and are arranged with a considerable amount of regularity. The old village may have been arranged in a somewhat similar manner, but we know that the missionaries brought practically all the families together to form a single village in the island. *Giam* or *mudau giam* is the name for a house-site and the cleared space or street between the houses is called *sugu*. The *sugu* is common property, when necessary it is cleaned by the women, each woman tidying the space in front of her house as far as the middle line; the coco-nut palms growing in this *sugu* belong to their several planters.

Fig. 142 B is representative of the South Sea houses at Erub and Mabuiag, though on the latter island occur a few examples of houses similar to fig. 141 A, but square, which were said to be descendants of the *aimai* (p. 99).

The above notes on the South Sea houses of Mer are equally applicable to Mabuiag except in so far as the Mabuiag houses have a proper median post roof and tie-beams, which however do not tie the side walls together so much as support the *kag*, posts (cf. fig. 140 B). In all other essentials the framework is really identical. Bed platforms are rare in Mabuiag houses, and the thatch is put on alternately "head up tail up" to avoid leakage. Two kinds of grass, *mugud* and *kamug*, are mixed together to render the fabric more durable, *kamug* being the coarser and stronger of the two. Tea-tree bark is also used in the thatch. The dimensions of a typical house (that of Tom, fig. 140 B) were as follows: length 38 ft., breadth 18 ft., height 14 ft. Walls 5 ft. 6 in. high. Two doors (in the middle of the sides) measured 5 ft. 6 in. \times 2 ft. 6 in. A single window in the end wall was a foot square. Various mats were used to cover the floor. The tie-beams, *bal-iai-pui*, "the wood that stretches across," although they obviated the

necessity for clumsy median posts, threatened the heads of unwary visitors and their structural advantages were not apparent.

The law of succession is the same in Mabuiag for house-sites as for gardens (v. p. 284). Sometimes if a man had two or more houses, an eldest son would get one to himself, but usually the children all kept together. The loaning of houses or house-sites in Mer is described in Vol. VI. p. 166. Mr J. Bruce has recently sent the following information:

Newly married couples in Mer rarely possessed their own house, but had a house lent them or more frequently shared a house with their parents. The reason for this was that formerly marriages were arranged so hurriedly that there was no time to see about a house. When they decided on building, the husband prepared the bamboos and vines, and he and his wife carried them to the building site. When all was ready he gave notice to his friends what day he proposed to erect the frame, but usually his village group or relatives talked it over first. If he was on good terms with his wife's friends they would come to assist. A feast was given when the frame was erected and another on the completion of the thatching; very frequently a third would be given when the house was in order, *meta dilik lewer*. The law is now enforced that a young man must be provided with a house before he is allowed to marry, this was introduced as a sanitary and moral precaution. The Miriam are an extremely sociable people and love to converse in groups, and they were inclined to overcrowd their houses with persons of all ages and belonging to different families.

HOUSES OF KIWAI AND DAUDAI.

The Long-house of Kiwai.

The house, *moto*, at Iasa, of which the following is a fairly detailed description, may probably be considered fairly characteristic. The Kiwaians have been subjected to few outside influences. Their retention, for the most part, of the old native dress and of great bundles of arrows in the houses shews, on the one hand, that the missionaries have hardly touched them; and, on the other, that the government has had no cause to interfere with their affairs. We may therefore dismiss altogether the possibility of Polynesian or European influence in the construction of their dwellings.

The house (fig. 144) in which we stayed was that of the *Soko-korobe* (Nipa-crab; Vol. v. pp. 156—7, 190), clan house at Iasa, and had the following external dimensions:

Length over all (including verandahs), 285 ft. Breadth, 32 ft. Height, 26 ft., tapering to about 20 ft. at the ends. It ran about east and west, the main entrance being at the west, and faced the sea, the "bush" being close to it behind. A high tide would probably reach nearly to the piles on which it was built, and the numerous mangrove bushes growing in thick mud all around attested the unwholesome character of the situation.

There were no less than nine doors, of which one, *barara*, was at each end; of the others, *moto edia*, two were on the north side (not apparently in use), and four towards the beach. To all of these access was had by means of rough staircases, *toto*, some being placed parallel to the main building, but most leading straight to the doors. The stairway at the western entrance was formed as follows. There was practically no verandah unless we reckon the inner compartment, *mote*, for the men as constituting one; from each side of the doorway at a distance apart of

some seven feet a large ten or eleven-foot log stretched to the ground, and as the piles were only some six or seven feet high at this point, the slope of the staircase was gentle. Crossing these two were numerous smaller logs or rungs bound together in four bundles so as to make a fairly easy step, up and down which dingoes ran without difficulty. Piles, tapering as the steps descended, supported the whole structure, and the visitor found a rude handrail on his right carried in the fork of six-foot poles. The top rung did duty for a door-step, the door-posts and lintel being made of split sago palm. The other staircases were similar in construction and all somewhat slippery for booted feet. Those at the side gave access directly to the central gangway of the house.

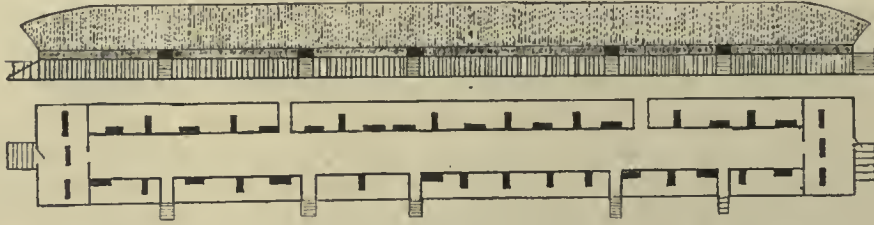


FIG. 144. Elevation and plan of the *Soko-korobe* clan house at Iasa, by A. W. Scale 64 ft. to 1 in.

The piles on which the house rested were from six to eight feet high according to the ground. They were planted in four rows, though somewhat irregularly, and varied in size from 4 in. in diameter to nearly a foot. The top of each had been worked into a concave form so as to give support to longitudinal beams (fig. 145). Transverse joists crossed these at intervals of about two feet, more longitudinal poles, *te dubu*, were tied to these joists and upon them was laid transversely split nipa palm¹, the convex surface being uppermost. The floor, *te-ere* or *te äre*, was thus exceedingly compact and somewhat resilient.

The roof came down to within some two feet of the top of the piles, leaving only a little of the wall, *opokara*, visible. It was a lateral post roof, being carried by two rows of piles, *saro*, set in the ground at a distance of about nine feet from the sides at ten-foot intervals from one another. The top of these piles—they were perhaps on the average 20 ft. high from the ground—was generally forked so as to carry the purlins or longitudinal rafters, *mao*. Upon these purlins rested the rafters, *karasota* or *kararuso*, of the slightly arched roof. The rafters met at the top and were fastened to a ridge-pole, *gimini*, which was supported by them and served in its turn to keep them from springing apart. Another and smaller ridge-pole ran along the top outside, while an additional purlin ran on each side of and close to the inner ridge-pole, serving just to keep the rafters in their proper relative positions. Upon this framework was laid directly the thatch, *were*, of sago palm leaves, the mid-ribs, *pai*, of which were fastened to the rafters at intervals of about a foot. The principle of this form of thatch is precisely similar to that of a tiled roof. A few odd sago leaves were laid on the top of all—probably to cover leaks, while the slight gap between the courses of thatch at the ridge-pole was made good in the same way. The various layers of thatch were sewn together with needle-like pieces of coco-nut leaf ribs, and on the whole it seemed a fairly efficient covering—though by no means to be compared, except in principle, with the beautifully neat thatch we had seen further east.

The wall, *opokara*, of which only a couple of feet are visible under the eaves of the roof, rises perpendicularly on either side for about three feet from the floor. It is then deflected

¹ Sir William Macgregor says the floor is made of the *te* palm, this may be another name for the nipa palm, *soko*.

at an oblique angle and continued into the curve of the roof for about another 2 ft. 9 inches. It was made of sago mid-ribs tied together and fastened to the superincumbent roof above and to a number of posts at the sides of somewhat slenderer proportions than the piles. So far as we could see this side wall and its attachments took the place of the regular rafters which appeared higher up.

On entering by the west door, *barara*, which was 5 ft. 6 in. \times 2 ft. 6 in. and cut in a sago leaf end wall, a vestibule, *mote*, was entered which appeared to be nothing but a verandah converted into a room. It extended the whole breadth of the house, but was cut off from the interior by another partition, *tamokasio*, of sago leaves laid together like the thatch, only in vertical instead of horizontal rows. The depth of this verandah was about 17 feet, that corresponding to it at the other end a foot less.

To the left was a platform of sago 4 ft. 3 in. high \times 7 ft. long \times 2 ft. 6 in. broad, at a distance of 8 ft. 8 in. from the west (outer) wall. This platform covered a fireplace which was oblong and of the same length and breadth. These fireplaces (of which there were three in each vestibule) were formed of pieces of wood covered with matting and so arranged as to be easily dropped through the floor to the ground. A corresponding fireplace was on the right and a third occupied the middle between the two doors. Its dimensions were 4 ft. 6 in. \times 2 ft., and its distance from the inner door 5 ft. 6 in. An open framework 5 ft. 8 in. high and 17 ft. long stood over the right-hand fireplace. The arrangement of the eastern vestibule was almost identical, save that one of the small platforms was wanting over one of the fireplaces. These oblong fireplaces were repeated throughout the house to the total number of 41, their shape being particularly characteristic (cf. Old Mawata). Doors, *ipisu-ruma*, were fitted to the two outside east and west doorways, and like the side walls, were made of sago ribs, held together in this instance by vertical skewers of wood in exactly the same way as are many doors in the Central District of British New Guinea. It may be here noted that the fall of the roof at each end began at the level of the interior partition and amounted to some six feet. The roof projected about five feet more beyond the end exterior walls and was curved back so as to meet the floor. Many instances of this recurving of the roof at the gable ends were met with in the Mekeo District of the Possession, where also occurred very similar cases of verandahs turned into rooms, for there is little doubt that this is the history of the Kiwai vestibule.

On entering the inner door we found ourselves in what was apparently a tunnel 240 feet long. What light there was filtered in through the side doors and the holes in the thatch, conversely the smoke of a score of fires curled its way to the outside air, after having performed the important function of expelling the mosquitoes.

A central aisle, *moto-gabua* or *moto-gabo*, 15 ft. broad was flanked by rows of platforms and partitions only broken by occasional doorways. It was immediately apparent that the whole weight of the roof was carried by the rafters on the lateral posts, and these latter determined

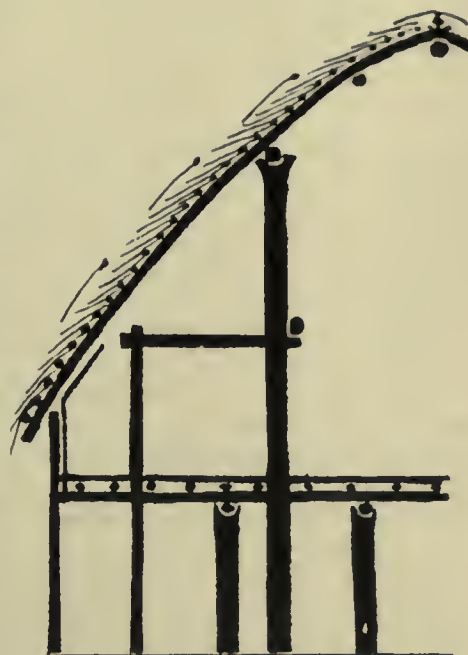


FIG. 145. Section of a Kiwai long-house by A. W. Scale, 8 ft. to 1 in.

the breadth of the aisle, supporting besides much of the framework that divided the family stalls, *mote-pato*. It is perhaps hardly correct to speak of these stalls being divided one from another. They were, rather, marked off by the fireplaces and the framework over the fireplaces. In some cases the presence of a side door sufficiently separated one family from another. Two or three of the five doorways, *moto edia*, on the south side (which was exposed to the S.E. monsoon) were walled off with sago partitions—probably to keep the draught under control. In any case the three entrances to doors on the north side were not so protected, and the doors themselves, being unprovided with external staircases, answered the purpose of windows and ventilators. The breadth of the gangways and doors varied but was in some instances about six feet, the height not exceeding three. The spacing of the doors was very irregular, the groups of stalls dividing them on the south side being respectively (from west to east) 26, 45, 24, 65, 35 and 25 ft. long. On the north (again from west to east) the intervals were 64, 116 and 52 ft.

The arrangement of the fireplaces in the stalls is most easily explained by reference to the plan (fig. 144).

The best instance of a complete compartment or section occurred on the left as the exterior east door was passed. It contained two fireplaces or, as we were informed, places for two men—that is for two families, and it was isolated from the rest of the building by the sago partition, *opokara* (the vertical and horizontal sticks of the partitions are called *tamokau-ota*), and the side door with its gangway. The first of the two fireplaces was separated from the sago partition by a clear space of three feet. It was placed longitudinally and measured about 6 ft. 3 in. \times 3 ft. being flush along its side with the central aisle. At the two nearest corners were posts which supported one end of a platform, the other end of which was borne by piles projecting through the floor some six feet back from the aisle. The platform was triple, consisting of three shelves two feet apart. All manner of food and utensils were piled on these shelves, which were adapted to hold the family property, and had different names according to the nature of the stores that they contained (thus *dovo*, if for wood, but *periperi* if for food). We thus have a series of shelves covering a fireplace over their whole length. The smoke would do much to preserve whatever was placed upon them of a perishable character. A clear space of nine feet intervened between this fire and the next which was placed transversely. This alternation of longitudinal and transverse fireplaces was carried out fairly consistently and, if it had no other object, at least served to economise space and to give a little more privacy than mere darkness and smoke afforded. The dimensions of this second fireplace and platform were about 7 ft. \times 2 ft. 6 in., but, on the whole, their proportions appeared to differ within narrow limits throughout the building. The same series of triple shelves occurred as in the first. At the back of the compartment was another rough platform about six feet or less from the floor and extending the whole length of the nine foot space. It seemed to be intended to carry food. These supplementary platforms were not, however, to be seen in all the compartments. As to the six foot platforms they were practically continuous throughout the house save where the gangways to the side doors interrupted them and their frames doubtless did something towards stiffening and upholding the lateral posts.

Allowing five members to a family this house should be able to accommodate about 180 persons of all sexes and ages, or about 36 families. The provision of six fireplaces in the vestibules would allow one male member of every family to sleep there in tolerable comfort. It is curious that the proportion of men's fireplaces to family fireplaces should be so near that of the numbers of fathers to the numbers of families—one to six and one to five respectively. It would be interesting to know whether these proportions are observed elsewhere.

The lateral post roof we saw in no other district either in New Guinea or Torres Straits, and it seemed much better adapted to the long houses of Kiwai and the Fly Delta than the ordinary median post method of construction. In the short houses of the more eastern and central portions of the Possession, the end walls serve to keep the roof from excessive sagging; but here there is nothing—not even a tie-beam—for 240 feet, save the lateral posts and the weak sago-palm screen which we have been obliged to speak of as a wall. In theory the absence of tie-beams in the roof—and a roof, as will be seen, of rather low pitch—is a grave fault, and would doubtless lead to disaster were English building materials employed; but in practice, in New Guinea, either the floor ties the ribs together, or the weight of the superincumbent thatch is sufficient of itself to force them, elastic as they are, into touch with the sides and piles. The floor itself acts as a tie, and the fact that the roof is supported by the main purlins, which in their turn are supported by the piles, *saro*, would to a very large degree prevent any thrust upon the walls. The stakes, which support the inner sides of the platform, are too slight to render assistance to the roof, and, though they might be carried into it and fastened to the ribs, we did not observe a single case in which this was done. Another grave source of weakness would seem to be the want of diagonal struts and stays between the piles on which the house is built; and we think there is little doubt that the few cases in which we observed houses leaning dangerously out of the perpendicular might have been prevented by their use. But, in general, the piles are so firmly fixed in the ground, so disproportionately stout, and so numerous, in regard to the comparatively light character of the superstructure, that bad results are far from common. One of the Iasa houses had settled a great deal to one side but it was obviously very old and neglected. We had no reliable information as to the time which these long-houses lasted: probably twelve years would be a long life for one of them, as the smaller houses of Torres Straits and Central New Guinea, which are proportionately stronger, are not expected to be habitable for more than ten years.

We noticed no "shrine" like those mentioned by Sir William Macgregor at Odagositia and Parama, and it was by no means certain that any particular individual was recognised as chief except by the government. At all events Iasa did not possess a citizen so important as to require a special compartment walled off from the common house for his use.

The "notched stick" or log which gave access to the long-house of Odagositia was here represented by a regular staircase. Such was also the case at Old Mawata in the solitary instance of a house on piles which the place contained. Bull-roarers were hung on the verandahs, but no carved posts were noticed. Though the Iasa long-house itself was almost immaculate, its environs were not particularly tempting or tidy, and this may perhaps be attributable to the comparative proximity of white men, for in Central New Guinea it was an invariable rule that the further removed was a village from white influence the cleaner and better kept it was.

Some Daudai Houses.

Crossing the main estuary of the Fly River and proceeding inside the island of Parama along the coast of Daudai we found a new type of house at Old Mawata, connected by a single piece of architecture with Iasa on the one hand, and with the Masingara, if not with the western Torres Straits, on the other.

Old Mawata is so called because it was the site of the village from which Gamia and his fellow countrymen went forth to found the new Mawata further to the south and west. The present inhabitants had come across the narrow channel from Parama and were "making

their gardens." They had erected a number of temporary shelters, the most pretentious of which was an almost perfect reproduction on a very small scale of the long-house of Iasa.

This house (fig. 146 A—C; it is also seen in the background of pl. XIX. fig. 2) was built on piles of 6 ft. to 8 ft. according to the ground, and had its back towards the sea and the south-east wind. There was only one door and that faced about north-west. Its external dimensions were: 16 ft. long \times 13 ft. 6 in. broad \times 16 ft. high at the centre of the roof, which fell, like a hog's back, about one foot in front and two behind. It contained one oblong fireplace of the Kiwai type halfway down on the left side of the entrance, and another (moveable) fireplace of matting. As at Iasa the roof was carried on lateral posts. The side walls, 18 inches high, were formed of bundles of grass laid together like the ordinary thatch and not put on tile-fashion as is usual in New Guinea. The ends of the floor-beams were carried forward about a foot in front, and, being covered with cross-strips of bark, constituted a narrow verandah under the shelter of the slightly projecting eaves of the gable. A staircase about nine feet long led to the verandah. It had four composite steps of the Kiwai pattern and was supported by forked posts graded to the required height. The door, in the middle line, measured only 4 ft. high \times 1 ft. 3 in. broad. The roof and end wall at the front were thatched, like the sides, and crossed with numerous bands of light wood which were necessary to keep much of the dry grass from being blown away by the wind. These bands were very commonly used in Torres Straits (on the introduced South Sea houses) for a similar purpose.

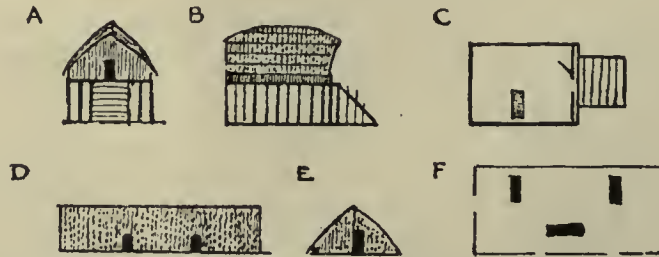


FIG. 146. Elevations and ground plan of houses at Old Mawata. A—C, a house on piles; D—F, a ground hut, by A. W. Scale 32 ft. to 1 in.

The other houses were little more than shelters of sticks, grass, and sago leaf (pl. XIX. figs. 1, 2). They were exceedingly untidy and had obviously been thrown together only to meet the exigencies of the moment. Their occupants slept on the ground which was generously covered, inside, with a coating of dry grass. These shelters, though sufficiently humble as examples of architecture, were at least interesting as being almost exactly like the descriptions contained in the Government Reports of the habitations of bush tribes living further west, and practically identical with the old houses at Mabuiag if the natives were to be believed. All these houses at Old Mawata which possessed doors (some were open at both ends or had only one complete side) had at least two—one at each end, and some had as many as three or four, all placed on the leeward side. Platforms built on piles about six feet high were used for storing food and nets out of the way of rats and other marauders. In some cases the piles had the top beams roughly mortised into them. A few of the houses had side walls and roofs quite distinct. More were simply roofs set upon the ground and slightly arched both in the longitudinal and transverse sections. In nearly all cases, the fires, even when there were no distinct fireplaces, occupied an oblong space.

One house (fig. 146 D—F) measured 33 ft. × 15 ft. × 6—7 ft. high. The roof did not fall at the ends. Five median posts supported a ridge-pole (fig. 147), two of which posts were in the end walls. There were three oblong fireplaces of the Kiwai pattern but no platforms over them. The floor was composed of dry grass. The thatch and the end walls were of grass. The two door-steps were a piece of split nipa palm and a log respectively. The doors at each end were necessarily to one side of the middle line and both on the same side of it. They measured about 4 ft. 6 in. × 2 ft. There was only one ridge-pole.

Another shelter on the ground had end walls of sago palm mid-rib. Another house was 18 ft. × 12 ft. × 5 ft. high. Its front and side were open, but closed towards the north-west so as to escape the wind. The closed end was arched or rather curved and the roof on the open side sloped to within 3 ft. 6 in. of the ground. The ridge was carried by three median posts. The floor was of grass and the arched end projected about a foot beyond the end of a line drawn perpendicularly through the end of the ridge-pole.

A lean-to was 3 ft. 6 in. broad × 4 ft. 6 in. high and 7 ft. long. Its ridge-pole rested on two posts. Its sago leaf covering resembled the Kiwai thatch and, of course, faced the wind. There was a slight grass protection at the windward end.

The framework of these houses was of the simplest (fig. 147). The ridge-pole and median posts have been already mentioned. The usual rafters were then put on, and over them laths to carry the thatch. Confining bands for the thatch have been already mentioned, but they were hardly ever used for the shelters on the ground. Occasionally a slight purlin was added inside the ribs to keep them in position, but it may be said that, simple as was this construction, it was hardly simpler than that of the long-house, for the grass thatch required far more support for the same area than did the neat layers of sago leaves.

There are a few notices in the Government Reports of the houses west of the Fly Delta, of which the following is a summary. It will be observed, from the few details we have, how closely these houses correspond to those just described at Old Mawata. Of New Mawata we cannot say whether there was a special house for the men or not. There was, at any rate, a long-house of the Kiwai pattern. Among the Masingara, a bush tribe in the hinterland of Mawata, and older inhabitants of the country than the coast people, it was found that "their habitations were a sort of compromise between the great houses of the Fly estuary and the small family houses of the east of the Possession." There were houses for the men 50—60 feet long, "without walls or posts." They contained trophies of the chase. There were also many large family houses for the women and children, the sides and ends of which were closed in. The Badu bush tribe had six houses from 30—60 feet long, of the same type as the Masingara. At Dabulai was a temporary settlement of a tribe who were seeking to escape the ravages of the Tugeri pirates. There were four huts 15 ft. × 10 ft., built of bark and boughs and with the ends left open. The "bachelors' hut" was some fifty yards distant from the other three. The total population was estimated at 200 individuals. On the Mai Kusa river were found the shelters of sapling frames and paper bark, erected by the Tugeri pirates themselves. On the Morehead river at the extreme west of the Possession there were a few bad and rough shelters of paper bark.

The bachelors' house of the Masingara, "without walls or posts" (piles?), bears an analogy to the *kwod* of Mabuiag, and the use of bark, the absence of piles, and the separate men's house are worthy of note.



FIG. 147. Structural details of a ground hut at Old Mawata, by A. W. Scale 8 ft. to 1 in.

NOTES ON HOUSES IN TORRES STRAITS AND WESTERN BRITISH NEW GUINEA.

As with the land tenure so too with the houses. Between Kiwai and Old Mawata on the one hand and Mer and Mabuiag on the other there are certain great differences of construction and nomenclature. It is not too much to say that there is hardly a feature or a name of a feature common to the old round house of Mer and the long-house of Kiwai. There is actually more resemblance to the South Sea type of buildings of Mabuiag in the old style habitations than to the long-house. On the other hand, Old Mawata supplies a connecting link in this case which is quite wanting in that of Mer, unless it be that a hint is to be found as to the origin of the round house in the solitary tumble-down hut described on p. 104. Not only is it difficult to trace resemblances of form between the mainland and the islands, but the eastern and western islands themselves differ no less one from another than Kiwai does, say, from Port Moresby.

The data upon which satisfactory comparisons could be based have quite disappeared at Mabuiag and have almost vanished at Mer and Erub. In the former case we have had to rely entirely upon the philological evidence and the memories of men who were mostly mere children when the changes that destroyed these data were already taking place. And the worst of it is that some of the people consulted had seen the very houses with which we were anxious to compare their own, and were proportionately prone to draw upon their imaginations when memory failed them.

Under these circumstances it is possible to do little more than describe houses, pointing out, in a few instances, any marked similarities between the buildings of different localities.

The long-houses of western British New Guinea have attracted the notice of all the travellers who have seen them, from the memorable voyage of the "Fly" onwards. We had, however, no clear description of one until Sir William Macgregor published his Report of the Western Division (*Ann. Report on British New Guinea from 1st July, 1889, to 30th June, 1890*, Brisbane: c.A. 105—1890). In this Report there is a very serviceable account of a long-house at Kiwai-Iasa¹ and of another at Odagositia, besides numerous notes on the dimensions and appearance of the houses throughout the district, in addition to other interesting information.

The low and swampy island of *Kiwai* has a fairly evenly distributed population of probably not far short of 5000 souls, or, say, 50 to 55 to the square mile; the island is about 36 miles long, and about 2½ miles broad, thus containing about 90 square miles. Sir William Macgregor has given a valuable account of the island, and he visited all the villages; the following very brief notes of some of them must suffice. *Saguane*: two houses about 200 ft. long, two smaller, 30 ft. long, population about 250. (There were no long-houses remaining at the time of our visit in Sept. 1898.) *Samari*: chief's house, 50 ft. long, of which he occupied ten feet at one end separated off by a partition, some ten houses, 30—50 ft. long, one over 250 ft. long by 27 ft. broad, population 400. *Mabudamu*: two houses about 120 ft. long. *Iasa*: six houses, 120—150 ft. long, besides six or eight smaller ones, population about 500 (see p. 111, and Vol. v. p. 190). *Kubira*: three houses, 150—200 ft. long, population about 300. *Sumai*: about

¹ According to Sir William the natives say that one-half of the village is called Kiwai and the other Iasa, but cf. Vol. v. p. 190. To prevent ambiguity we adopt the name Iasa for the whole village.

half-a-dozen large houses and a few small ones, population may be over 500. *Auti*: five houses, 150 ft., chief's quarters an apartment of fifteen feet cut off from main hall by a doored partition; fifty grimy skulls on each side of this door, population about 500. *Ipsia*: two villages, half-a-mile apart, southern village contained four or five houses 200 ft. long, the northern, five or six houses, none exceeding 100 ft. in length, population about 1000.

At *Odagositia*, about 51 miles from the mouth of the Fly, all the population of some hundreds live in one house 520 ft. x 30 ft. and two or three small ones. At *Tagota* there were six or eight houses about 100 ft. long.

It appears that the long-house proper is not found above Everill Junction, where the Strickland River joins the Fly.

From Sir William Macgregor's account we are justified in saying that the houses on the Bamu River form a connecting link between the buildings of the Fly Delta and those of the Papuan Gulf.

While the typical long-house of the Fly Delta is inhabited by men, women and children, the long-houses of the Gulf and the Mekeo District are reserved for the men. The first stage in the separation of the men and women and children has already been reached in houses, which, as at Iasa, provide the men with separate quarters in what corresponds to a verandah with a covered end wall. At the same time, the movement towards the substitution of family for communal houses has made progress—perhaps because of missionary influence—both in Parama and Kiwai. At Daru, the seat of government for the district, no long-houses are to be seen. At Old Mawata some of the houses were obviously too small to accommodate more than one family, and the people who built them came from Parama. Mawata itself has or had long-houses, but the Mawata people were strangers and invaders from the Fly River Delta.

In short the communal long-house, so far as we know, is only found among the Delta people and their neighbours. Outside the Delta it loses its communal character and becomes a clubhouse for the men. Inside the Delta itself, it is now rapidly being ousted by family houses.

FENCES.

Sometimes, especially in Mer, gardens are protected by fences, *pa* (W.), *kar* (E.). These are generally made of bamboos stuck closely together in the ground, with cross-bars to strengthen them (pl. XXI. fig. 3). Fences of this kind were frequently put round villages, sometimes perhaps as a protection against enemies, but usually, as in the case of the village of Las on Mer (vi. pls. XXIII., XXV.), the fence serves as a protection against the constant strong south-east wind. In the story of Kwoiam it is stated (v. p. 72) that a village on Boigu was surrounded with a fence of coco-nut palm leaves, and on p. 73 that a New Guinea village also had a fence round it.

Fences are now put round graves (v. pl. XV. fig. 3), and fences were sometimes put round sacred places (v. pl. XXII.). In the story of Bomai we find that fences were frequently but inefficaciously put round that mysterious polymorphous personage (vi. 34—38), in the Murray islands, a *kegar kar*, which was said to be a stone fence, was erected; the only stone fences now made are the fish weirs, *sai* (pl. XXII. fig. 1), the Malu word, *beizar* (iii. p. 51, vi. p. 298), is apparently the equivalent of the *sai*. On Dauar Bomai was enclosed in a rope fence, *beriberi kar*.

The ceremonial screens, *waus*, of the Western Islanders are described in Vol. v. pp. 366, 367 and pl. XIX. fig. 2. A fence of matting is called *motoal* (W.).

The trumpet shell is a very common decoration for fences, both in the villages and in the gardens of Mer (vi. 8). No satisfactory reason could be discovered for this custom.

V. DOMESTIC UTENSILS AND TOOLS

OWING to the elementary nature of the islanders' housekeeping their domestic utensils were few in number and of simple construction. Certain implements, such as scrapers used in mat-making, thatching needles, etc., are described when dealing with the particular industry in which they are employed.

There were no moveable articles of furniture, for the beds of the Eastern Islanders were permanent erections, the only exception being simple plaited mats (p. 65); these were of varying size, and were used as bedding or floor mats and the larger sizes might be used as canoe sails. Mats were not habitually laid upon the earthen floor, but were used to sit upon occasionally, especially when feasts were given, in which case the feeding took place outside the houses. Small mats of finer construction and softer to the touch than the ordinary mats were employed as sleeping-mats for babies, or for wrapping up things (p. 65).

At the present time, at all events, the women keep the houses clean and the space round the house is kept clear of dirt and refuse, for which purposes simple brooms, *piwul* or *piwal* (W.), *bei lid*, *wesker* (E.), are employed. They are made of a bundle of the mid-ribs of the leaflets of the coco-nut palm, the proximal ends of which are tied tightly together. A broom is about 67 cm. (26½ in.) in length. The *kusakusa* (W.), probably *kausakausa*, broom is apparently made of pandanus (*kausa*) leaves.

Torches, *tu* (W.), *bei* or *ne* (E.), are made of the dry leaflets of the coco-nut palm, the object and the material of which it is made having the same name, as is frequently the case. Torches may be employed on the rare occasions when the natives walk by night, or when they spear fish by night.

Tongs, *komazer* (E.), for putting things on or removing them from a fire, were made by bending a strip of bamboo; the rind may be retained or scraped off except at the bend



FIG. 148. Bamboo tongs, Mer.

(fig. 148). The length from the bend to the tips is 23 cm. in one old specimen, others are 24.—30 cm. long.

The ashes of the fire may be prevented from scattering by a framework of four low

boards, a moveable fireplace of this kind with a wooden bottom, *ur memeg* (E.), is taken on board a canoe when going on a long journey.

Stones, *bau* (W.), *irmad* (E.), usually three in number, were placed on the hearth to support the shell cooking-vessel (pl. XXXVII. fig. 3, where four stones are represented).

FIRE-MAKING.

Fire, *mui* (W.), *ur* (E.), was made by twirling with the hands a vertical stick upon one placed horizontally, the latter may be set on a stone to steady it and is held by another person at its ends. A notch is cut for the insertion of the upper stick, and a lateral groove is sometimes cut (fig. 149), but this does not appear to have been



FIG. 149. Fire-stick, Mer; horizontal stick 31.5 cm., vertical stick 49 cm. The horizontal stick has two burnt holes and one cut ready for use with a nick at each side. In one old hole both sides are so burnt through that one cannot tell whether there has been a side nick, and the other is burnt through on one side, but unmistakably has a nick on the other. The tinder used in this case was a piece of coco-nut husk.

always made. The upper stick is held between the outstretched palms and fingers and is made to revolve rapidly by a backward and forward movement of the hands, which at the same time are brought down the stick with a strong downward pressure. On reaching the bottom they are brought rapidly to the top, great care being taken not to allow the stick to rise from the notch. These movements continue until a quantity of wood dust, *goigoi le*, or *pi* (E.), accumulates in the hole, a good deal of smoke accompanying the process. The dust begins to glow from the friction, then some tinder, *pes ur* (E.), is applied, and by gently blowing this a flame bursts forth. The tinder used is often the dried spadix of the coco-nut palm. The whole operation seemed to require great manual dexterity, quickness of movement, and judgment. I have seen three natives engaged in the task, one holding the lower stick, while one of the others relieved his fellow when tired with the exertion of manipulating the upper stick, the change being effected with such deftness that the stick never ceased revolving. So far as I am aware the natives very rarely have recourse to this method of making fire, as matches are now so common, and consequently some of those who made fire for me had very little dexterity. I believe that fire could be produced in less than a minute by this process.

Fire-sticks are called *goigoi*, and the process is *goigoi salgai* (W.), *goigoi drimli* (E.). The Miriam call the vertical stick, *werem*, "child," and the horizontal stick, *apu*, "mother"; it is said of the latter, *apu ur ikwar*, "mother gives fire" (E.). *Sagai* is the Western name for the horizontal stick, and *salgai* is also the collective name for the two sticks.

Wood for making fire is obtained from the following in Mer (cf. VI. 30): *areparep*,
H. Vol. IV.

argerarger (Callicarpa), *gebi*, *ibi*, *kokokoko*, *kozò*, *marep* (bamboo), *sem* (Hibiscus tiliacuss), *sòbe* (Eugenia), *urlagerlager*¹, *ursekerseker*, *warupwarup*, *wadewade*, *zib*.

The variants of the folk-tale narrating the origin of fire are given in Vols. v. p. 17, and vi. p. 29.

Owing to the difficulty of making fire the natives were careful not to let fires go out, indeed in Mer there was a special fire-charm, *bager*, usually a small stone image of female form, which was designed for this purpose (vi. 202). When going out in a canoe, or into the bush, they habitually carry a glowing stick, which can be blown into a flame when required to ignite a fire, and they are careful that the brand is not accidentally extinguished.

A sheath, *iaka* (W.), for protecting the ends of the sticks and keeping them dry was doubtless a necessary adjunct, as at Cape York and elsewhere in Australia.

VESSELS.

Pottery was entirely unknown, as was also the art of carving wooden vessels, recourse had therefore to be had to natural receptacles, such as shells, coco-nuts, gourds and lengths of bamboo.

Although all the articles enumerated below are still used, some are employed but rarely at the present time owing to the introduction of European goods.

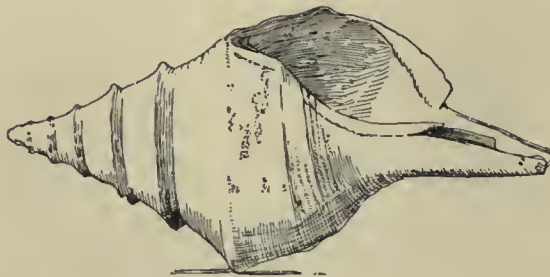


FIG. 150. Giant *Fusus* used as a water vessel. This specimen is 42 cm. long.

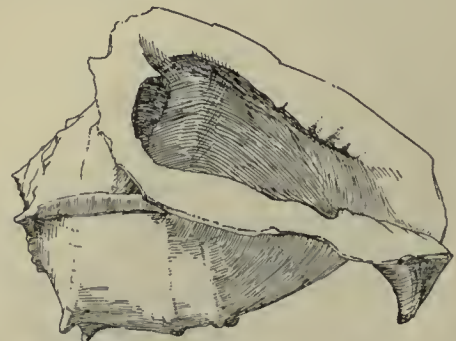


FIG. 151. *Cassis cornuta* used as a water vessel. This specimen is 34 cm. long.

The following large shells are employed as water vessels: the giant *Fusus*, *bu* (W.), *maber* (E.) (fig. 150; pl. XXI. fig. 3); *Triton variegatus*, which I believe received the same name as the foregoing; the helmet shell, *Cassis cornuta*, *as* (E.), fig. 151; the bailer shell, *Melo diadema*, *alup* or *salop* (W.), *ezer* (E.); and a valve of the giant clam, *Tridacna gigas*, *maiwa* (W.), *mi* (E.). Shells used as drinking vessels are called *sor* in Mer.

The bailer shell is everywhere used as a cooking vessel (fig. 152), but the giant *Fusus* was also sometimes used (v. 41). These shells are used as receptacles for the blood, ovarian eggs and viscera of turtles, and for red ochre, etc.

¹ *Udelagerlager* and *walagerlager* in Vocabulary, Vol. III.

Long pieces of the stem of the bamboo, in which all but the lowermost node are pierced, are used for storing water, and shorter sections are employed as water vessels, *kusu morap* (W.), *marep* (E.). In pl. XXIV. fig. 1, a man is seen pouring water from one bamboo tube into another (cf. Vol. VI. p. 3). A narrow tubular receptacle for holding small objects is called *burar* (E.), it is made from a small bamboo (fig. 153).

The universal water vessels are coeo-nut shells, *kusu*, *kusò* (W.), *ni sor* (E.), *ni*, fresh water, *sor*, shell of a molluse or nut; a small form is called *idi sor*, perhaps because oil was kept in it. The husk of the nut is removed and the shell scraped and polished; after having been in use for some time it acquires a beautiful dark brown or black polish. One "eye," *gud* (W.), is perforated, the other two are frequently painted red. These vessels are invariably carried in pairs, generally in one pair, but sometimes in two. The handle consists of simple or complex plaitwork (fig. 122), the ends being thinner than the centre. Each end is tied into a knot, this is inserted into the perforated "eye," and a stopper made of rolled-up leaves makes all secure and enables the coeo-nuts to be carried by the handle (fig. 25; pls. III. fig. 1; XXI. fig. 3).

A coco-nut shell cut in half is also used as a drinking vessel.

Gourds, *kabor* (E.), were occasionally used as vessels, more especially as water vessels, *ni kabor*.

Maegillivray (II. 20) mentions that the Muralug natives make a "water basket from the sheath of the leaf of the *Seaforthia* palm," *Ptychosperma elegans*, *lulko*, which is also the name of the vessel. I was informed that a vessel, *ubu*, shaped like a whale-boat was made in Muralug of the bark of an *Acacia*, *ubu*.

Saucepans and kettles of European make are now in common use, as are cups and saucers, dishes and plates. Instead of the last the natives employed banana leaves, and they frequently do so still.

POUNDING, SCRAPING AND CUTTING IMPLEMENTS.

Very tough food may be pounded with stones. Fig. 154 represents a flattened cylindrical boulder of red granite, both ends of which are bruised with use. It was employed for pounding dugong skin and for other purposes, and was obtained at Tutu but must have been brought from Yam. A pebble, 80 mm. in diameter, is figured in the *Album*, I. pl. 323, No. 6. Similar stones were carried in the hand by Miriam men when they walked about and old men crushed their food with them. They were sometimes used as missiles. I obtained this particular *idid baker* at Mer and gave it to the British Museum.

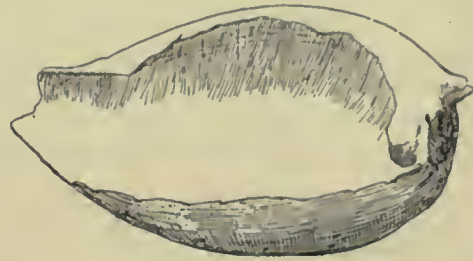


FIG. 152. Shell saucepan. This specimen is 29 cm. long.

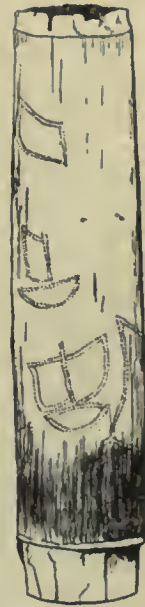


FIG. 153. *Burar*. A small bamboo receptacle, Mer. 156 mm. long, 33 mm. in diam. The rind is engraved in dots with representations of luggers and other boats. Both ends are painted red.

At Mer I obtained an implement for softening food by percussion (fig. 155). It consists of a mallet, *par*, $295 \times 47 \times 48$ mm., of which the head is square and the handle circular in section, and a block on which the food is pounded. This is roughly triangular in form, measuring 285×105 mm. in its greatest diameters and 61 mm. in thickness. They are made of a close-grained heavy wood. This specimen was said to be used by toothless persons. Other objects were employed for this purpose, for example, when I bought the old broken-off butt end of an *omaiter* or *maid wap* (see Section on Decorative Art) in Mer in 1889, it was being used for beating roasted bananas.



FIG. 154. Stone poulder from Tutu.
97 x 62 mm.

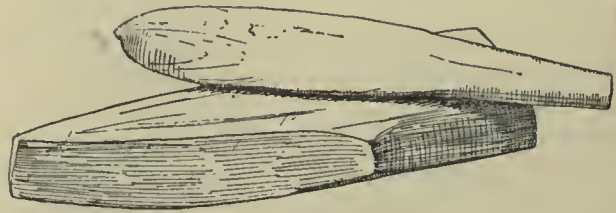


FIG. 155. Mallet and block for pounding food.

The single valves of various bivalved molluscs, such as *akul* (W.), *Cyrena divaricata* or *Batissa corbiculoides*, *id* (W.), *Tellina staurella*, *kaip* (E.), *Asaphis deflorata* and other shells, *sider* (E.), *Tellina dispar*, are used for various purposes, such as cutting, scraping, lading, etc. A supply of shells strung together and ready for immediate use is occasionally found in some houses. For example, I found in Mer that large numbers of unseparated valves of *Asaphis deflorata* and *Tellina dispar* were strung together by two strings, which were simply tied above the ligament of the hinge of each pair of shells. Sometimes shells are carried behind the ear so as to be ready for an emergency (v. p. 89).

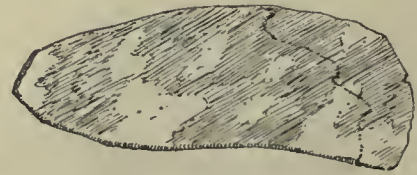


FIG. 156. *Aro-lu*, turtle-shell spoon, Mer.
l. 105 mm.

When used as spoons, the shells are spoken of in Mer under the general name of *aro-lu*, eating thing. A blade-like piece of turtle-shell from Mer (fig. 156) was described as *lever ero karar*, yam eating turtle-shell, but it is strange that the Western and not the Eastern word *kaisu* was given.

Forks were never employed.

A low trestle seat to one end of which is fastened a strip of iron with a toothed end is now generally employed for scraping out the kernel of ripe coco-nuts. This is a common Polynesian implement and has been introduced into Torres Straits. The operator sits on the seat, holds the broken nut in his hand, and scrapes out the kernel. Formerly the natives used a strong valve of a mollusc for this purpose, a piece of pearl-shell or a turtle-shell scraper (figs. 157, 158).

The shells of various bivalved molluscs were habitually employed as knives, such as *id* (W.), *Tellina* (*Album*, i. pl. 323, No. 9), *akul* (W.), *Cyrena*, the thin sharp *us* (E.)

shell was used for carving patterns, etc. (p. 15). The *akul* and not the *upi* was employed in cutting the tough skin of the dugong.

Fragments of quartz, *us* or *wuz* (W.), were used for scarification of the skin (p. 15) and for other cutting purposes, such as renewing the edge of an *upi* (v. p. 71)¹. The islanders were very desirous of obtaining from the early navigators empty glass bottles, which the Miriam called "*turpoor*" (*tapor*, box); these they broke up and used the fragments as knives.

Boars' tusks, *gi* (W.), *gir* (E.), were used as knives and serapers (fig. 71).

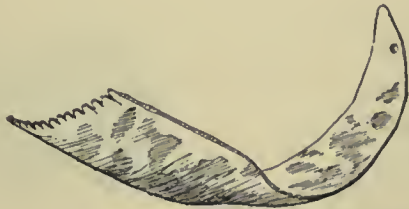


FIG. 157. Turtle-shell scraper, 198 mm. long, 63 mm. widest breadth. Mer.



FIG. 158. Turtle-shell scraper, 12 cm. (4½ in.) long. Mer. B. M.

Knives, *upi* (W.), *kwoier* or *koer* (E.), were made of split bamboo, and were mainly employed in cutting up the flesh of turtle and dugong. I am not aware that any original knives exist, as they have long been replaced by European iron knives. Some may have had the form of the beheading knives (fig. 201), but probably knives were made as needed by simply splitting a bamboo, like the specimen which we collected at Kiwai. The siliceous particles in the rind of the bamboo cause a thin edge to be very efficacious, and a new cutting surface is readily obtained by splitting off the dulled edge.

The only axe, *aga* (W.), *panigob* or *inigob*² (E.) [*tulik* E. (p. 129) is now the general name, *au nei*, for axes], so far as I could learn consisted of a shell or occasionally, it is said, of a stone blade inserted in a stout wooden handle. I have never seen an original specimen and could obtain but two or three shell blades, and these only on Mer. In 1889 and again in 1898 I induced some elderly men to fit blades into handles as they were formerly made. On both occasions the handles were made alike, so that we can confidently assume that fig. 159 represents the old native axe.

The shell blades (fig. 160) vary in length from 83 to 113 mm., in breadth from 43 to 49 mm., and in thickness from 24 to 28 mm. They are made from the shell of the giant clam, *miskor*. The handles, *pes* (E.), are about 60 cm. (23½ in.) long, and

¹ Nageg (vi. p. 18) is said to have cut open a man named Iriam Moris with a stone knife, I do not know what it was like, it may have been a quartz flake.

² Another Miriam name for axe is *deumer* (*daumer*) *ipikeub tulik*, pigeon tail iron.

are made of *zom* (*Thespesia populnea*) or *kid* (?) wood. The handles are straight or slightly curved, with a marked stop below the grip; the latter is circular in section but the handle becomes flattened laterally towards the other end; the flattened tip is painted red, and a red ring surrounds the insertion of the blade. The axes weigh nearly two pounds.



FIG. 159. Miriam shell axe.



FIG. 160. Shell axe blades, Mer; the smallest and largest specimens; $84 \times 43 \times 24$; $113 \times 49 \times 28$ mm.

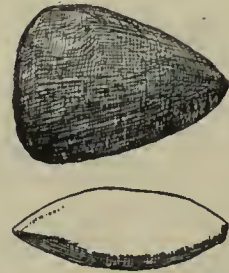


FIG. 161. Stone axe blade from Kivai; $69 \times 52 \times 28$ mm.

I add in fig. 161 an illustration of a small stone axe head, *tapi*, from Kivai. If stone was once used for axe heads in Torres Straits, it would probably have been worked into a similar shape.

Adzes are unknown.

FINISHING TOOLS.

Wooden objects such as dugong harpoons, clubs, coco-nut shells, or other articles which required polishing, were smoothed down by means of boars' tusks, *ngaingai*, *buruma gi*, or simply *gi* (W.), *gir* (E.) (fig. 71, p. 52). Sometimes, to judge from the wearing down of the tusk, these appear to have been held in the left hand. The action of scraping is directed away from the body. A groove is sometimes cut round the tusk near the point, probably for attaching a string.

Rasping was done by means of a piece of skin from the tail of a ray, *taimar*

upi (fig. 162). I did not see a specimen of *taimer* (W.), *taimar* (E.), that was mounted on a piece of wood as is the case in New Guinea, so I suspect that my specimen was really a sample of the skin and not an actual tool. There is, however, in the British Museum, a rasp made of a neatly shaped piece of wood, 32 em. long, to which a piece of shagreen is lashed by a strip of ratan; it was obtained from Moa by H.M.S. "Rattlesnake" (*Album*, I. pl. 291, No. 11). The *taimar* was employed in the making of turtle-shell and other implements.



FIG. 162. Skin of the tail of a ray used as a rasp, Mabuiag. $\frac{1}{3}$ nat. size.

A smoother surface was acquired by friction with pumice, *met* (W.), *zor* (E.); pieces of pumice are extremely abundant on the sandy shores and on the low islands. In Mabuiag we obtained an erect, flat, lobate sponge, *gouga*, which was also employed for polishing dugong harpoons. *Zarzar* or *sarza* leaves were used for a similar purpose in Mabuiag.

VARIOUS IMPLEMENTS.

A handy tool, *sok* (fig. 163), is imported from New Guinea. The lower leg bone (tibia-tarsus) of a cassowary is split longitudinally, and the upper portion cut away and brought to a flat rounded point, the lower articular end being left intact. It is mainly used for husking coco-nuts. Two specimens measure respectively 230 mm. and 295 mm. Occasionally they are decorated with simple patterns. Another specimen is 370 mm. in length, and has plaited cane fastened round the handle end. Sharply pointed specimens are said to be used as daggers in New Guinea and possibly they may have been so employed in Torres Straits, but of this there is no evidence.

When a stiek for husking coco-nuts is made out of *kus* wood in Mer it may receive the same name, but the usual name is *pat*; digging-stieks are also used for this purpose.

The slender awl-like bones that support the flying membrane of the fruit-eating bat or flying-fox (*Pteropus*) were used as borers, and were then called *sapur kimus* (W.) (p. 10).

Needles, *saga* (W.), *atket lu* (E.), sew thing, appear to have been made of bone, but I have never seen a specimen; possibly these were really awls, and when European needles were introduced they received the same name, and the eyes were then termed *sagau gud*, needle's mouth. The bodkin, *arem lu*, used in thatching is described on p. 101.

The employment of sharply-pointed awls of hard wood for piercing the nose and ears of infants has already been described.

Skewers are called *kep*, or *kus keg* in Mer.

Long flattened bodkins or awls, *ter* or *luper* (E.), made of turtle-shell, were used for piercing the septum of the nose and the ears of infants, and for shredding the leaves of which petticoats were made; on pl. XI. are shewn photographs (figs. 11—17) of seven examples which illustrate the usual variations in form of these objects; the upper broad end is frequently ornamented with simple

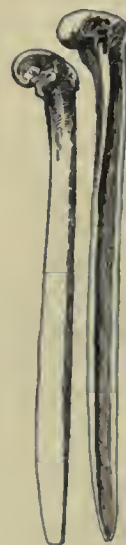


FIG. 163. Bone coco-nut huskers; $\frac{1}{3}$ nat. size.

patterns engraved in plain lines or in the characteristic zigzags, and is usually perforated. They vary in length from 13—27 cm. (5—10 $\frac{3}{4}$ in.). Two *ter* from Mer, 258 and 200 mm. long, are attached in the following manner to a three-ply plaited necklace composed of twisted native string, 68 cm. long: the ends of the cord are tied together in a knot and the free ends frayed out as a fringe. A delicate twisted string is passed through this knot and through a hole in each *ter* (the knot lying between them), then through a half Coix seed in which the string is knotted to prevent its slipping. One of the *ter* has a simple decoration with red colour rubbed in.

One *luper* from Mer is a narrow, slightly crescentic turtle-shell implement, 92 mm. long, used for splitting leaves for petticoats and mats, the lower edge of one end being the cutting portion. The same name was applied to simple straight, sharply-pointed pieces of turtle-shell, 86—115 mm. long, which were used for a similar purpose.

I have not come across any drilling implement though the so-called pump-drill is common in New Guinea, but it is obvious that there must have been an instrument for drilling holes in wood, pearl- and turtle-shell. I was informed in Mabuiag that holes were pierced in pearl-shells by means of sharks' teeth. The anterior long, slender, simple teeth of *Crossorhinus*, *im* (W.), were used as drills when inserted in pieces of wood.

There is a pump-drill in the Kelvingrove Museum, Glasgow (89—67 ea.), which was given by R. Bruce, who stated that it came from Mer, but he gave as its name "*good pegoo*" (*gud pigu*), which is undoubtedly a Western and not a Miriam term (*gud*, mouth, hole; *pigu* is probably a form of *pagai*, to pierce; *gud pamai*, is to enlarge a hole). The rod is 65 cm. long and has a stone point, the cross-bar is 247 mm. long, the two strings suspend it at a distance of 24 cm. from the attachment, the fly-wheel disk is 107 x 90 mm. in diameter and is made of a light coarse-grained wood. It is decorated on both sides with a large central star-like figure and a marginal dog-tooth pattern, the relief is charred black and the alternate triangles are white and red. The technique of burnt relief, the peculiar pink ochre of the reddened parts, and the style of the decoration leave no doubt in my mind that the disk at all events was made in the Papuan Gulf district.

When the fruit of the Pandanus is over-ripe and the succulent part quite dried up, the drupes readily become separated and the fibrous inner portion of each forms an excellent coarse brush (fig. 164) which is used for painting or for other purposes.

Walking sticks, *bogi* (W.), *koket* (E.), are frequently carried by the islanders. One of ratan that I gave to the British Museum is 159 cm. (5 ft. 2 $\frac{1}{2}$ in.) long.

A peg is called *puidaiza*, pl. *puidaizapul* (W.), hang thing. *Ngail* (W.) is given in the Vocabulary as wooden hooks, but it may be the English "nail."

IRON.

The earliest record which we have that the islanders knew of the value of iron is that of Matthew Flinders who served under Captains Bligh and Portlock in the ships "Providence" and "Assistant" in 1792. These navigators discovered Erub and Napean and most of



FIG. 164. Pandanus brush.

the western islands of Torres Straits (Vol. III. p. 1). The Erub (Darnley) islanders vehemently "asked for *toore-tooree!* by which they meant iron" in exchange for "arrows and other weapons."¹ When Flinders revisited the Murray Islands on October 29, 1802, the natives were "holding up coconuts, joints of bamboo filled with water, plantains, bows and arrows, and vociferating *toore! toore!* and *mammoosee!*"² On Aug. 5, 1843, H.M.S. "Fly" reached Mer, and the islanders were "clamorous for *tooree* (iron) and knives. For the latter they used the word 'knipa,' evidently got from passing vessels" (Jukes, I. 133). In his vocabulary (II. 293), Jukes gives the following names for "European articles" (his spelling is preserved). Iron: *toorree*, *toolick* (Erub and Mer), *toolick* (Mer—Lewis³), *toori*, *toodi*, *tooli* (Masig, etc.). Knife: *naipo* (E. and M.), *queer*, *toolick* (M.—L.), *naipo* (Massig, etc.). Hatchet: *sapāra* (E. and M.), *dauma oopy kew* (M.—L.), *sapāra* (Massig, etc.). Maegillivray, in 1849, found that the "Kowrarega" of Muralug called iron *turika*, and the Gudang of Cape York called it *gēre*; the former called a knife *gi-turik* (=iron tusk), and both called an axe *aga* (which was probably their pronunciation of "axe"). *Turik* is now the Western name for iron and *tulik* the Eastern; *turika* is also employed by the Bugi, Mawata and Kiwai natives of New Guinea, the latter also have *kerere*, and the Tugeri *wōkērikē*.

From the foregoing it is evident that before 1792 iron had become known to the islanders through passing ships; but the derivation of the words *turi* and *turik* or *tulik* is unknown.

The natives at first readily named European metal objects by combining the name of the equivalent native object with *tulik*. To quote again from Jukes (II. p. 294), a spoon was "*caip toolick*," iron shell, a carpenter's saw was "*teerick teerick toolick*" (*tereg tereg tulik*, lit. tooth tooth iron or many iron teeth), a spike nail was "*soaf toolick*" (sok p. 127, *tulik*).

Malil is the Western name for the metals they know and the Eastern for iron, an iron plate or sheet iron. Mr Ray (III. 168) suggests that it comes from the Lifu *melele*, thin. A chain is known in Mer as *malil lager*, and in the west as *malil uru*, both meaning an iron rope.

¹ Matthew Flinders, *A Voyage to Terra Australis*, London, 1814, I. p. xxii; in a footnote it is stated that "the name for Iron at Tahiti is *eure-eure*, or *ooree*, or according to Bongainville, *aouri*."

² *Op. cit.* II. p. 109.

³ A vocabulary collected by Capt. C. M. Lewis in 1836 and published by Jukes; cf. *Naut. Mag.* VI. 1837, p. 654.

VI. FOOD AND ITS PREPARATION AND NARCOTICS

ON the whole the dietary is sufficiently varied. Yams and sweet-potatoes are fairly abundant on many of the islands, the former constitute the chief farinaceous food. Nutritious food is generally very scarce at the end of the dry season and the beginning of the wet, at this time the natives often have to rely on anything they can find in the bush that is edible. Some fruit or other, including the banana and coco-nut, is always obtainable on the more fertile islands. Macgillivray, speaking of the Prince of Wales Islanders says, "The food of these blacks varies with the season of the year, and the supply is irregular and often precarious. Shell-fish and fish are alone obtainable all the year round" (II. p. 20). On pp. 1—3 I have drawn attention to the economic status of the different groups of Islanders. The Central Islanders are in a worse position than the Muralug natives. The natives of Badu and Mabuiag are in a better position as regards food, and the Eastern Islanders are the best off; but even in Mer times of scarcity are not unknown. Fish or shell-fish are eaten nearly every day, with occasional meals of turtle and dugong; the two latter are especially "rich" or oily. I believe that fruit is the only article of food which is habitually eaten raw, and in some cases this is cooked. Fruit or vegetables are never preserved with sugar or by pickling, nor is meat salted.

Neither salt, spices nor any condiment are habitually mixed with their food, though the *derb* that was mixed with *biu* (p. 135) was probably of this nature. I was informed that honey was used to sweeten *biu*, but have no knowledge that it was used to improve the flavour of other food although it was greatly appreciated when obtainable. The same holds good for sugar-cane. No whets to the appetite are in use.

As to the quantity of food eaten I should say from what I saw that it is on the whole about equal to that eaten by an average Englishman.

Formerly the father and his sons ate their meals before the mother and girls had theirs, the same applies to groups of adults; but Mr Bruce says that in the Murray Islands the husband, wife and family ate together, the husband however reserved to himself the right of choosing certain tit-bits, and this is still frequently the case. In some of the western islands several families might occupy one house, and even now this sometimes occurs; when this was so each family had its own fireplace, and each provided its own food, but if one man had no fish or other food while another in the same house had some, the latter was bound to give some to him who lacked. The meals are very simple and unceremonious. Banana leaves are frequently used as

plates. Feasts were made on all possible occasions, especially by the Miriam. Owing to the absence of intoxicating liquors there were no drinking festivals.

The chief meal of the day is taken at night, soon after sun-down, the remains are eaten in the morning. The natives continually eat between meals anything that may be handy.

In Mer the following food was considered necessary for the funeral feasts—as a matter of fact feasting in this island was mainly connected with these ceremonies: *pes u*, green young coco-nuts, *gebgeb u* or *au u*, old nuts, *wai u*, germinating nuts, and especially would they strive to make a good show of *sopsop kaba*, wrapped-up bananas, and *usari lewer*, a fine white yam (vi. pp. 135, 138, 159). The food for the great funeral feast, *bud lewer*, was cooked either by roasting in the fire or by baking in an earth-oven, but never by boiling in shells. At one funeral feast (vi. p. 147) pieces of the kernels of ripe coco-nuts were strung on the mid-rib of a palm-leaf alternately with roasted bananas, this was termed *zogo lewer*, sacred food.

On the occasion of a feast in Mer the donors make a number of erections to contain the food about to be distributed (pl. XXII. fig. 3). Each consists of four or more bamboos stuck vertically in the ground to enclose a square; to these cross pieces are lashed four or five feet from the ground to strengthen them, the four posts are further connected by numerous transverse lashings of rope. The whole erection thus forms a kind of quadrangular crate, the sides of which are about two feet or more long and the height ten to twelve feet. In this uncooked food of all kinds is heaped up, there being great emulation to provide a large display (see vi. pl. XV. fig. 3).

THE PREPARATION OF FOOD.

Food is sometimes pounded to make it soft; this is especially necessary with dugong skin (p. 137), or for the use of old toothless people. Stones and wooden mallets used for this purpose are described in the section on Domestic Utensils.

Meat, tubers and roots were formerly boiled, and still are to some extent, in large shells (p. 122); now iron pots are in general use. The shells are supported in the fire on stones (p. 121). Water placed in a large shell was also brought to the boiling point by dropping heated stones into it.

A mash of *ketui* and coco-nuts is called *mabus* in Mer; see also Vol. III. p. 1, footnote.

Cooking is carried on either inside or outside the house, more generally inside, but the earth-oven was always outside. There were no separate kitchens. The cooking is done by the women only, excepting in the existing bachelors' quarters of the Western Islanders (or formerly in the *kwod*) and when the men go expeditions in their canoes or into the bush. The food for the men and women is cooked together. I never heard of any traditions as to the origin of the art of cooking, nor of any ceremonies connected with cooking.

Kitchen-middens are not formed now, nor did I come across traces of ancient refuse heaps. Dugong and turtle skulls and bones were formerly, and often still are, massed in heaps or placed in rows by the Western Islanders; this was done for ceremonial purposes (v. pls. XIII. XV. XXI. and XXII.), or merely to keep count of the number

of animals caught in any one season, in the latter case they were subsequently distributed and soon crumbled away.

The earth-oven, *amai* (W.), *ame*, *netebu* (E.), is universal. It consists of a large shallow hole in the ground (I have only seen it in sandy soil), lined with stones, *iaral* (W.), on which a fire is lighted and kept burning until the stones are red hot. Many of these are removed with tongs, and "native food" of various kinds—yams, sweet potatoes, taro, etc.—wrapped in banana leaves, is placed on the bottom layer of hot stones. Some of the hot stones are placed on the layer of food, and another layer of food placed on that, the number of layers depending upon the amount of food to be cooked. Small pigs are put in whole. The food is then covered over with leaves and sometimes mats (pl. XXII. fig. 4), and earth is heaped over all. A large stone, *ned ame* (E.), is sometimes placed on the top. In an hour or two the food is cooked to perfection. Macgillivray states that in Muralug "the meat is then laid upon the bottom layer [of stones, the size of the first] with some of the heated stones above it, a rim of tea-tree bark banked up with sand or earth is put up all round, with a quantity of bark, leaves, or grass on top, to retain the steam, and the process of baking goes on. This is the favourite mode of cooking turtle and dugong throughout Torres Strait" (II. 25).

The earth-oven is invariably called a *kōpa mauri*, "copper Maori," a term which is as widely spread over Oceania as *kaikai*, "food" or "eat." The word *kopa* is the Maori name for the ordinary earth-oven, or more correctly for the hole in the ground. The similarity of sound between *kopa* and "copper" has led to the current belief that, as the whalers in New Zealand used large coppers for boiling down the blubber, the native method of cooking was called therefrom "copper Maori," that is the copper of the Maoris. W. Churchill (*Beach-la mar*, Carnegie Inst. of Washington, 1911) suggests that the word *maori* is probably the widespread Polynesian term for "native, indigenous."

Hollow trees, termite-hills, or such like are not employed as ovens.

VEGETABLE FOOD.

The vegetable food consisted of the edible portions of numerous wild and cultivated plants, the most important being coco-nuts, bananas and yams.

Fruits.

The soft kernel of the green coco-nut was scraped out of the broken nut with a pearl-shell or turtle-shell scraper—now a knife is frequently employed. The hard kernel of the riper nut is also eaten. Oil is extracted by scraping the ripe kernel and squeezing or straining it through a cloth. The scrapers are described in the section on Domestic Utensils. Coco-nut oil was largely used by the Miriam for ceremonial purposes. A coco-nut shrine is described in Vol. VI. p. 206.

Coco-nut palms are plentiful in the eastern islands and on Saibai and less so on a few of the western islands. They were formerly absent from all the Prince of Wales group, probably a few occurred in Moa or Badu, they were not plentiful in Mabuig. As a rule they are absent on the small islands; some grow on Nagir, Aurid and Paremar (Cocoa-nut Is.). The distribution of the banana was very similar to that of the coco-nut.

The palm and the nut are both called *urab* (W.), or *u* (E.). The importance of the nut is shewn by the following names which are used to describe definite varieties or stages in the growth of the nut.

Western Islands: *baribari*, nut in the stage used for drinking; *gaulonga* (Muralug), green nut used for drinking; *gi*, old dry nut; *gi dub*, kernel; *musu*, sprouting nut; *mutal*, young nut with water but no kernel; *masalgi*, nut when ripening, "little bit dry." **Murray Islands:** *bebe-bebe sor u*, a var. with a deep yellow husk—lit. flame-coloured nut; *beizam u*, var.¹; *gabegab*, old nut; *gad*, green nut; *gomer u*, var.; *guriguri u*, a var. with small fruit; *kirir*, small unripe nut; *kupkup sor u*, a var. with a black shell; *kurab*, a var. with a bitter husk; *med u*, var.; *mes aroaro u*, a var. with edible husk; *pez u* or *pis u*, unripe nut; *u sab*, a very young nut; *wai u*, germinating nut; *wamerwamer u* or *wamiwami sor*, a var. with a brown husk; *zazer u*, a var. with a white skin.

As the banana is so easily cultivated, fruits at all seasons, and the fruit is so highly nutritious, it forms a very important food-stuff in those places where it can be grown. It is most plentiful in the fertile eastern islands. In the western islands *dawa* is the name of the tree and *katama* of the fruit, *kaba* is the eastern name for both. Rituals to increase the crop of bananas are mentioned in Vols. v. pp. 345—7, vi. p. 207.

The Miriam cultivate the following 19 varieties: *awe*, *borom*, *bubuam*, *buruem*, *idaid*, *iwele* (or *iver*), *kud*, *markak katam*, *mauko*, *moar*, *nemepi*, *oruar* (in the vocabulary *oruar* is the sucker of a banana), *pas*, *pekai*, *suskakle* (this var. is not cooked), *tereg*, *wap*, *zaruem* or *zaruam* (this var. has a sweet taste and is not cooked), *zeberzeber* (a large var.). *Keres* is an unripe banana, *neu* a ripe banana and *sumez kaba* the wild, or lit. bush, banana. In addition to these indigenous varieties a Lifu and a Chinese ("Cavendish") variety have been introduced.

Unripe bananas are roasted, as are some ripe varieties. A method of improving the flavour of bananas is given in the section on Horticulture.

Macgillivray refers to the following fruits as being eaten: "The *leära*², a species of Anacardium or cashew-nut (the *lurgala* of Port Essington), which after being well roasted to destroy its acidity, has somewhat the taste of a filbert. The *elari* (a species of Wallrothia), the size of an apricot, soft and mealy, with a nearly insipid, but slightly mawkish taste. *Wobar* [this is the Kauralaig pronunciation, it is elsewhere called *ubar* (W.), *enau* or *enoa*³ (E.)], the small, red, mealy fruit of *Mimusops Kaukii* [M. Browniana]. The *apīga* (a species of *Eugenia*), a red, apple-like fruit, the pericarp of which has a pleasantly acid taste. [This is the Gudang (Cape York) name, in the west it is known as *gabū*, *kuai* (red fruit), *kupar* (white fruit), and in the east *sōbe*, and *ero*.]

"The fruit of two species of *pandanus* yields a sweet mucilage when sucked, and imparts it to water in which it has been soaked, after which it is broken up between two stones, and the kernels are extracted and eaten" (II. 27). The seeds of the *pandanus* are usually roasted before being eaten. Leichhardt (*Overland Journey to Port Essington*,

¹ This may be the same as the red nut, *mair u* (vi. p. 42).

² This is the Muralug name, the cashew (*Semecarpus heterophyllus*) is called *dua* in Mabuag and *iger* in Mer; the fruit is eaten after being cooked.

³ This is called the "date-plum" or "wild plum" by the whites, another name for it is *wangai* (W.), *wagai* (E.). The sweet nutritious fruit "is dried in the sun, and strung for use in seasons of scarcity" (Gill, p. 201). For ceremonies connected with this fruit, see Vols. v. pp. 347—9, vi. pp. 202—6.

p. 406) says, "The natives [Australians], at this season [Sept. 16], seemed to live principally on the seeds of *Pandanus spiralis* and *Cycas*, but they both evidently require much preparation to destroy their deleterious properties....In preparing the [*Pandanus*] fruit, when ripe, for use, it is first baked in hot ashes, then soaked in water to obtain the sweet substance contained between its fibres, after which it is put on the coals and roasted to render it brittle, when it is broken to obtain the kernels." The Western names for the *Pandanus odoratissimus* (*P. spiralis*) are *abal* (*abal-dan*, kernel of fruit), *bom* (cluster of fruit), and *kausa* for *P. pedunculatus*; the Eastern are *abal* (*abal-kerem*, fruit); *gerer*, leaf of pandanus) and *kapeler*. In the Murray Islands there are, according to Mr Bruce, two varieties of *abal*, the fruit of the *mammam abal* has a reddish tinge at its stem, while the *kakekake abal* has a whitish one. There is very little difference to a casual observer between them, but the natives pay great attention to any slight difference in colour between varieties of the same species. The trees have the same habit, the fruit is edible and the leaves are employed in mat-making. Mr Bruce gives *solag* as the name for the very priekly-leaved pandanus of the western islands.

Other edible fruits are: *Aubau* (W.), Morinda, perhaps *M. citrifolia*. *Kalapi*, *kolap*, Queensland Bean, *Entada scandens*; in Muralug I was informed that the *kolap* has to be cooked twice; first it is roasted in the fire, then soaked in water and finally cooked in an earth-oven; the beans are then broken up (probably pounded) and eaten with *biu*; the *kolap* are eaten only in default of better food during the *kuki* season¹. *Kuman* (W.), eaten in the rainy season, v. 325. *Kurubu* (W.), a yellow pungent fruit. *Meke* (W.), *mikir* (E.), native almond, *Terminalia Catappa*. *Tamad*, breadfruit, *Artocarpus incisa*. *Waiwi* (W.), *waiwai* (E.), wild mango, *Mangifera indica*, the old Western name was *komaka* (v. 103); in Brit. New Guinea it is called *waiwai* at Kiwai, *veivei* at Nala and Mekeo, *vaiwai* by the Motu, *waiwai* at Hula and Sariba; *waiwai* at San Cristoval, Solomon Is.; and probably *vaiwai* in Fiji (Vocab. p. 168). *Wibu* (W.), *Parinarium Nonda*, "the esculent drupes resemble in size and appearance a yellow egg-plum, when ripe they taste somewhat like a mealy potato, with a slight astringency" (Maiden).

The *papaw*, *Carica Papaya*, has been introduced, as has probably the water melon, *Cucurbita citrullus*, *waitain* or *waitin* (W.). Capt. C. M. Lewis (*Naut. Mag.* vi. 1837, p. 760) states that in 1836, a piece of ground on Erub "was dug and sown with culinary seeds; which *Mam-moose* appeared much pleased with, and promised to cultivate. Among them was the rock-melon, and maize, also pumpkin seeds, potatoes and peaches, all of which may be of essential service; as the Indians seem at this period of the year [June—July] to depend principally on fruit for their subsistence."

¹ The following account is taken from Maiden's *Useful Native Plants of Australia* (1889): "These large beans are eaten by the aborigines. They are put into the stone oven and heated in the same way and for the same time as those of *Avicennia tomentosa* (q.v.) for about two hours; they are then pounded fine and put into a dilly-bag, and left for ten or twelve hours in water, when they are fit for use" (*Murrell's testimony*). "The natives of India also eat them after roasting and soaking in water," p. 24. Moseley (*Notes by a Naturalist*, 1879) says the staple article of food of the Gudangs of Cape York is afforded by these beans. "Their only stone implements are a round flat-topped stone and another long conical one, suitable to be grasped in the hands. This is used as a pestle with which to pound these beans on the flat stone. Both stones are merely selected, and not shaped in any way" (pp. 357-8).

Stems.

Mangrove shoots. Macgillivray (II. p. 26) thus describes the preparation of *biuu*: "When the rains set in the *biyu* becomes the principal support of the Cape York and Muralug people. This is a grey slimy paste procured from a species of mangrove (*Candelia?*), the sprouts of which, three or four inches long, are first made to undergo a process of baking and steaming—a large heap being laid upon heated stones, and covered over with bark, wet leaves, and sand—after which they are beaten between two stones, and the pulp is scraped out fit for use. It does not seem to be a favourite food, and is probably eaten from sheer necessity. Mixed up with the *biyu* to render it more palatable they sometimes add large quantities of a leguminous seed, the size of a chestnut, which has previously been soaked for a night in water, and the husk removed, or the tuber of a wild yam (*Dioscorea bulbifera*) cut into small pieces, and well steeped in water to remove its bitter taste." I was informed in Mabuiag that fish, turtle or dugong were eaten with *biuu*; it was said to "last long in belly" and therefore they used to eat it before they went out to fight. Also I was told that it made the "belly strong and last long," like *malu damu*. The latter is the sea-grass, or grass-wrack (*Cymodocea*), various species of which are eaten by dugong, but this is the only record which I have that it may have been employed as human food. *Biiu* was formerly eaten wherever the mangrove grew (cf. v. p. 98).

Dr Seligmann obtained the following information on Mabuiag. "The fruits, *uru* (they are the sprouts or shoots of the mangrove), are usually collected by old women, and are cooked in an earth-oven, when done they are spread out to cool on a mat, beside which a woman squats. She works with her body slightly bent forwards, one knee being raised and bent at about right angles, so that a basket can be introduced between it and the ground. The woman splits the shoots longitudinally with her fingers, each half is then held with its skin resting against the upper part of her leg, she scrapes the split surface with a shell, the scrapings falling into the basket. Later the basket with its contents is immersed in fresh water for twenty-four hours¹. The root of the *derb* plant is often cooked with the *biuu*; its outer surface is removed, and the remainder is scraped fine, and made into a mash with the *biuu*." The *derb* or more properly *děabu* is a wild "yam" (p. 136) which was described to me as "colour like curry, he bite too," apparently therefore it was added to render the *biuu* less insipid; this is probably the wild yam to which Macgillivray refers.

Sago, *bisi*, was occasionally imported from New Guinea, and I have heard that in some western islands an inferior kind of sago was made occasionally from the pith of a local cycad. The sago palm "is occasionally carried by the winds and currents [from the Fly River district] as far south as the Prince of Wales Islands, where the natives scoop out the soft spongy inner wood, wash it well with fresh water, beat it up into a pulp, separate the farinaceous substance which falls to the bottom of the vessel, and bake it as bread" (Macgillivray, II. p. 62). Sago is imported into the Murray Islands wrapped up in long, oval bundles (VI. 264).

¹ The water in which *biuu* has been washed is called *idiiri* (Vol. II. p. 60).

Sugar cane, *geru* (W.), *neru* (E.), is grown in several islands; Mr Bruce states that it is indigenous to Mer, where the following varieties are grown: *aspespes neru*, *eses neru*, *golegole neru*, *gougu*, *koair*, *mammam*, *mowat*, *sermairmair*, *zemkep*. The *kaiaragam* is a Mabuiag variety, the stem of which is easily broken. When ripe the pith is chewed; the cane is not prepared or cooked in any way.

Wargon (E.) is an aroid with a leaf resembling that of taro, but the stem only is eaten in Mer; it is very pungent.

Tubers and Roots.

There are numerous varieties of yam (*Dioscorea*), but in a few instances I am not sure that the particular plant is strictly speaking a yam.

The wild yams, or yam-like tubers, of the western islands are: *boa* or *bua* (v. 91), *bud*, *daibau* (Vol. v. p. 156), *děabu* or *derb* (p. 135). The cultivated varieties are: *gabau* (the general name, *koi nel*, for yams), *bizar* (purple), *ketai* or *kutai* (a climbing form), *kulkdai* (red), *naquai* (a Tutu name), *sagu* (purple), *sauur* (a kind of yam eaten during the dry season, *waur*), *sege* (a long yam in Tutu). The Miriam names are: *lewer* (the comprehensive name, *au nei*, for yams and for vegetable food in general), *bad lewer*¹, *borom matai lewer* (a flat and sweet variety), *buge usare*, *daibar*, *dob*, *etei*, *gagaba*, *goz**, *ipigaba*, *iwariwar*, *kakigaba* (perennial, white), *kepsabes*, *kimiar*, *kurkur lewer*, *kusejager*, *lamar lewer*, *madupenau**, *mammam usare*, *mapis**, *mutmut usare*, *penau* or *peneu* (pink variety), *reg*, *sap**, *segei*, *sorbe kep lewer*, *tap**, *usare*, *usarip**, *wabed*, *wabuna*, *waimawaima**, *waiser*. The *ketai* is a perennial, climbing kind of yam, one or two varieties occur, such as the *borom ketai*, *iru ketai*. Yams are cooked by roasting or boiling; sometimes yams and taro after having been roasted are boiled in coco-nut "milk," the mash so produced is called *papai* in Mabuiag.

Several varieties of sweet-potato (*Ipomœa Batatas*) are known: the general Western name is *urugabau* or *wegabau*, with the varieties *nurinuri*, *tapan*. The three indigenous forms in Mer are *nuri*, *orgagab* and *mammam orgagab*, but several other varieties have been introduced. At the present time the name *kumala* is widely employed, having been borrowed from South Sea men (Lifu, *kumala*; Samoa, *umala*; Banks Is., Fiji, New Zealand, *kumara*, etc.).

Taro (*Colocasia macrorhiza*) is called in the west *goin* or *guin*, the white, black, and green varieties are respectively known as *karbai*, *kubikubi*, and *wiba*; other names in the Vocabulary (Vol. III.) are *guamakiam*, and *kima*. The Eastern name is *aneg*. I am not sure whether the indigenous, edible *gaine* is the same species as the above.

"Arrowroot" (? *Maranta*) is called *gasi* (W.), and *kep sabez* in Mer.

Formerly the tuberous rhizomes of the aroids *bode* or *badi* and *ager* (E.) were eaten (pl. XII. fig. 5), but I have not been able to identify them. These are now very rarely eaten, and I have suggested (vi. p. 2) that the Miriam tales in which the use of this food is mentioned may date back to a time before the cultivation of yams and sweet-potatoes, when the islanders were merely collectors of food. In common with many aroids these rhizomes probably contain a poisonous latex which is dispelled by heat,

¹ All these names were sent to me by Mr J. Bruce, except those marked *, which were obtained by the Expedition; we also obtained several of the former names.

consequently they had to be cooked in an earth-oven. The phrase used in this connection was "too much he fight, when we roast him he no fight"; in jargon English the word "fight" also includes the idea of something pungent which burns the mouth. The rhizome of the *ager* often attained the size of a man's head. References to this food occur in Vol. VI. pp. 6, 9, 11.

The following roots were eaten in Mer: *gauda*, a kind of vine, *weskep*, *Pueraria phaseoloides* (root eaten raw or cooked), *mar*, a grass-like scented plant, the leaves and roots of which are edible (Vol. II. p. 183), and *wagao*.

The following were described as edible plants in the western islands, but there is no information as to what parts were eaten: *gobegobe*, *gugabe*, *igaru*, *ikur*, *kuak*, *uzu*.

ANIMAL FOOD.

As there were no indigenous land mammals, milk and ordinary flesh food were unknown. The dingo was domesticated but, so far as I could make out, never eaten. I think it doubtful whether the pig was introduced into and allowed to run wild on any of the islands before the coming of the European. Dr Seligmann was informed that it was once domesticated on Mabuig, but was given up as being a nuisance, for, as they said, "too much he humbug," probably meaning by this that the pigs damaged the gardens too much. Dr Seligmann found a few old men in Mabuig who had recently learnt in New Guinea to eat the *sapur*, flying-fox (*Pteropus*), but this was considered a somewhat objectionable practice; Waria informed me that "big men" eat it in Mabuig. In the story of Mutuk it will be remembered that Mutuk and his crew were transformed into flying-foxes (v. p. 90). The porpoise or dolphin, *bid*, is not eaten in most of the islands; Waria informed me that the Kulkalaig (natives of Muralug, etc.), eat porpoises, *bid*, but the people of Mabuig and Saibai do not. On the other hand, a Muralug man said to me, "Me fellow no kaikai him, he too fat; Masig, Pourna (Parema) and mainland (Australia) man kaikai him, 'cause he no savvy spear *dungal* (dugong)." Marrow is unknown as neither the dugong nor turtle have any in their bones.

The dugong is a very important article of food, more especially in Mabuig owing to its contiguity to the great reefs where that sirenian abounds, but it is not much eaten in Mer. All the soft parts are eaten except the gall bladder and probably the brain as the latter is not easy to extract. Pieces of dugong meat are generally roasted over the fire, and small pieces are often eaten half cooked; sometimes the meat is boiled in shells. Even the blood and offal are carefully collected. Strips of dugong skin with the blubber attached are smoked, making a fairly good bacon. I have seen such strips in Mabuig on a cord hanging out of doors, they were prepared in the dry season for use during the north-west monsoon; in Mer it is called *kaiger*, before it is eaten it is roasted and beaten between stones to make it tender. Macgillivray says, "The blubber is esteemed the most delicate part; but even the skin is eaten [in Muralug], although it requires much cooking in the [earth] oven" (II. p. 25). Waria informed me that dugong meat was preserved by first cooking it in an earth-oven, after which it was smoked, or it was roasted after being cooked in an earth-oven, then scraped, dipped in salt water, and finally dried in the sun.

One method of earving a dugong is shewn in pl. XXII. fig. 2. An annular cut is made at the end of the abdominal cavity, and a cheek piece including the eye is cut, which again may be longitudinally divided, and the upper border of which extends beside the median dorsal line to the posterior cut, three lateral vertical cuts are made in the region of the shoulder, and a number of longitudinal cuts along the flanks.

Various birds are shot and eaten, the most important being the Torres Straits pigeon, *gainau* (W.), *daumer* or *gaino* (E.), *Carpophaga luctuosa*. Birds' eggs were eaten, more especially those of sea-birds, which were collected on the sand-banks where they breed. According to a folk-tale (v. p. 12), the mound bird, *surka* (*Megapodius*), occurred on Boigu, its eggs were eaten.

I was informed by Waria that while the natives of Mabuig do not eat *karum*, "iguana" (the monitor lizard, *Varanus*), those of Muralug, Moa, Saibai, Dauan, Boigu and New Guinea do. The *Madub zogo le* of Mer (vi. p. 232), according to Mr Bruce, both men and women, eat snakes, which are roasted first. Snakes are not eaten in Mabuig; we were told that on the coast of Daudai "snake-eater" is a term of reproach.

The various species of turtle and their eggs form the most important meat diet of the islanders, and the turtle has the advantage over the dugong that the eating of it does not injure it, and as it is perfectly helpless when turned over on its back it can be kept alive for a long time.

All the soft portions of the green turtle, including the blood, are eaten with the exception of the gall bladder; but on certain occasions women are not allowed to eat turtle or their eggs (v. p. 196).

It is not customary for the Miriam to eat the hawksbill turtle, though they say that the other islanders to the west do eat it. Gill says, "The flesh is eaten by the Straits islanders and by the whites engaged in shelling" (l. c. p. 291), but he refers to the Western Islanders only. Maegillivray states that "the hawksbill turtle and its eggs are forbidden to [Muralug] women suckling" (ii. p. 10). Waria, of Mabuig, informed me that fathers do not let small boys put their hands in the blood of his turtle, *unoo*, since if the blood got below the nails they would have sore places and headache. In Vol. vi. p. 227 I refer to the death of three infants being attributed to their mothers having previously eaten some boiled flesh of this turtle, and the Miriam have a special form of nefarious magic which causes people to die after eating the *kesur* (vi. 227).

According to a folk-tale (vi. 48), a turtle was placed on a framework over a fire, and it was boiled with sea water in its own shell; to do this the plastron must have been removed and the animal placed on its back, the carapace would then form a convenient saucepan with the meat *in situ*. Turtle are cooked in the same manner as dugong. Maegillivray says, "The Torres Straits Islanders are accustomed to dry the flesh to supply them with food during their voyages. The meat is cut into thin slices, boiled in a melon shell, stuck upon skewers, and dried in the sun. Prepared in this manner it will keep for some weeks, but requires a second cooking before being used, on account of its hardness and toughness. The fat which rises to the surface during boiling is skimmed off and kept in joints of bamboo and turtles' bladders, being much prized as food; I have even seen the natives drink it off in this hot fluid state with

as much gusto as ever alderman enjoyed his elaborately prepared turtle soup" (II. p. 23). In Mer turtle are preserved for several days by keeping them above a slow fire.

Frogs were eaten by all the Miriam, who used to collect them by basketfuls; they were gutted before roasting. The skin of the head, *mat gegur*, was removed as it was very pungent, *au kapkap*, to the palate. The Mabuiag people speak contemptuously of the Miriam and Erub natives as foreigners who eat frogs.

Numerous kinds of fish are eaten. The larger fish are gutted before being cooked, and may be boiled in fresh water in a shell saucepan, *alup* or *bu*, roasted over the fire, or cooked in an earth-oven. Fish are often wrapped in pandanus leaves when being roasted (VI. pp. 16, 25). When not required for immediate use the fish are dried in the sun, dried and smoked, or slightly roasted on a bamboo frame hung over a fire or on a light wooden framework, *noai*, *noi* (W.); *takar*¹ (E.), under which a fire has been lit; in Mer fish so prepared was termed *takar lar*. The natives of Masig, Waraber, and other central islands frequently brought *takar lar*, along with turtle-shell and other spoil from the sea, to Mer to trade with. The small fish known as *tup* are generally boiled in a shell.

Dr Seligmann was informed that sharks, except the carpet shark, *im* (*Crossorhinus dasypogon*), were not eaten at Mabuiag, but were eaten at Saibai and Boigu. The young shovel-nosed skate, *kaigas* (*Rhinobatis*), was also eaten in the three islands. He was also informed that the *uzi* (*Synancidium horridum*), was employed in magic in Mabuiag, and that young men might not eat it ("he too eold") although old men and women might.

Numerous kinds of molluses and crustaceans were eaten. Holothurians (tripang or bêche-de-mer) were and are not eaten, although in the western and central islands large numbers are prepared for traders to be exported to China.

The larvæ and pupæ of a Longicorn beetle are considered delicacies in the western islands, they are eaten raw or roasted. The *Madub zogo* men of Mer ate locusts, but only male ones, *gebo pem*; they were eaten raw and wrapped up in the leaves of a shrub named *paiwer* (J. Bruce), in the Vocabulary, *paiwa* is the "chili" plant.

EARTH-EATING.

I never heard of any unusual substances, such as clay, being used as food in times of scarcity. Pregnant women in Mer frequently eat small lumps of a greasy chocolate-like earth to make their babe light-coloured. Sometimes it is eaten raw, but, in order to ensure the best results, it is wrapped in a banana leaf and roasted (VI. 105). Children eat the same kind of earth till about five to seven years of age to make them strong, brave and hardy (VI. 111). So far as I am aware earth is not eaten elsewhere, I was definitely informed that it was not eaten in Mabuiag.

ANTHROPOPHAGY.

Anthropophagy purely for the sake of eating human flesh never occurred so far as I could discover. Among the Western Islanders certain portions, generally the eyes and cheeks,

¹ The *paiwer* was more particularly the framework on which corpses were dried (VI. pp. 135, 148).

of enemies killed in battle were eaten in a raw or partially cooked condition (v. p. 300). Similar portions were given to lads on the occasion of their first fight, the avowed object being to make them brave and fearless. I was informed that a Mabuia warrior would sometimes hold up the head of a man whom he had killed and beheaded and let the dripping blood fall into his mouth, and he might give some to a young man who had accompanied him but who had not yet killed a man, saying, "You do not know how to fight. You drink it and it will give you a strong heart." Tutu men also drank the sweat of renowned warriors, and all the scrapings from their gory finger-nails were mixed with their food in order "to make strong and like stone; no afraid." A Tutu warrior would tear out the tongue of a man whom he had just killed and eat it on the spot (v. p. 301). Part of the training of a sorcerer in Mabuia was said to consist in eating the decomposing flesh of a dead man (v. p. 321).

It was formerly the custom in Mer for men to drink the juices which exuded from a desiccating corpse. This "grease belong dead man" would also be mixed with food and eaten. The juices of dead women were never drunk or eaten (vi. p. 159). There is some evidence that portions of the body were occasionally eaten. It is probable that the juices of dead relatives only were consumed, in which case the practice must have had a different significance from that of the Western Islanders. Only two cases of cannibalism among the Miriam are narrated in the folk-tales (vi. pp. 17, 53).

FOOD RESTRICTIONS.

No member of any clan might kill or eat the totem of that clan among the Western Islanders; two exceptions to this rule are noted in Vol. v. p. 186. Owing to the absence of totemism this rule does not apply to the Miriam (vi. p. 250) despite Hunt's statement to the contrary (*Journ. Anth. Inst.* xxviii. p. 13).

Among the Western Islanders certain food was tabooed to lads during the period of initiation (v. pp. 210, 212, 216, 269, 270), but we could not discover that this prohibition obtained among the Miriam.

At certain periods women were debarred from eating particular kinds of food (v. pp. 196, 202—4; vi. p. 105). Women may not eat any kind of bird in Mabuia, as birds are believed to be aphrodisiacs; for as pigeons fly from tree to tree so the woman would desire one man after another. The women of Muralug, Moa, and Saibai are permitted however to eat any kind of bird. Examples are given in Vol. vi. pp. 105, 106 of the effects which are supposed to be produced on the offspring when a pregnant mother eats certain kinds of food.

Taboos were occasionally imposed on gardens and garden produce in Mer (vi. 248, 249).

LIQUIDS.

Fresh water is drunk and a great deal of coco-nut "milk" in those islands where the palm abounds. As fresh water is generally scarce coco-nut "milk" is frequently substituted for it for purposes of boiling and imparts a delicate flavour to the food.

No fermented liquor has ever been made and till the European arrived none was

drunk; unfortunately many natives have acquired a liking for "grog," and although it is illegal to sell beer or spirits to them, they sometimes manage to get some. Kava was unknown¹.

NARCOTICS.

Tobacco is the only narcotic employed, and it was formerly invariably used for inhalation from the characteristic bamboo pipe (fig. 165, pls. III. fig. 3, XXIV. fig. 2).

The Papuan pipe is made from a piece of bamboo from over a foot (30 cm.) to between two and three or even four feet in length. The natural partition at one end (and the intermediate one, if such occurs) is perforated. At one end of the pipe there is always a complete partition, and near this a small hole is bored into which a narrow wooden or cane tube a few inches in length is inserted. The tobacco, previously cut and crumbled, is put in this and the open end of the pipe applied to the mouth, and by suction the pipe is filled with tobacco smoke; sometimes the bowl will be inserted in the mouth and the smoke blown down through it into the pipe². As soon as the pipe is filled with smoke, the right hand is placed over the open end and the bowl is removed. The small hole is applied to the mouth and the smoke sucked through it after the withdrawal of the hand from the open end (pl. XXI. fig. 3). The length of the pipe causes such a draught that the smoke is violently inhaled. When a man has had a suck he will put his right hand to the open end to prevent the further escape of smoke and pass it on to another, who receives and maybe transfers it to a third in the same manner after taking a suck. The women usually prepare the pipe and pass it on to their men.



FIG. 165. Tobacco pipes (from Jukes, I. p. 165).

¹ *Gumada* or *komata*, as kava is called, is drunk on certain occasions in some places on the coast of Daudai, as at the initiation feast of lads (cf. E. Beardmore, *Journ. Anth. Inst.* XIX. p. 460). MacFarlane found that kava was drunk by natives near the Fly River, "Here it is the boys who chew the root" (*Among the Cannibals of New Guinea*, 1888, p. 126). D'Albertis (*New Guinea*, II. p. 197) says that he was given at Mawata some roots of a plant which the natives chew for its narcotic and intoxicating properties. Maino explained that to experience its intoxicating effects perfectly tobacco should be smoked after chewing. Apparently it induces pleasant dreams or visions. Sir William MacGregor (*Ann. Rep. of Brit. New Guinea, C.A.I.* 1892) in a despatch dated April 27, 1891, gives details of the chewing of the rootlets and stems of *Piper methysticum* (kava) by the Masingara of Daudai; as this has been reprinted in the *Journ. Anth. Inst.* XXI. p. 204, I need not give further particulars.

² Moseley (*Notes by a Naturalist*, p. 356) found that the most prized possessions of the Gudangs of Cape York were tobacco pipes which were "procured by barter from the Murray Islanders. No doubt the Australians have learned to smoke from the Murray Islanders." They employed a small cone of green leaf, instead of a small bamboo tube, as a bowl. "A man, or oftener a woman, then opening her mouth wide covers the cone and lighted tobacco with it and applies her lips to the bamboo all around it, having the leaf cone and burning tobacco thus entirely within her mouth. She then blows and forces the smoke into the cavity of the bamboo, keeping her hand over the hole at the other end and closing the aperture as soon as the bamboo is full." He compares this method with the one by Jukes observed in Damut (I. p. 156), in which the mouth was applied only to the open end of the bamboo; but as stated above both methods are in vogue in Torres Straits.

The effect of this kind of smoking appears to be very severe. The men always seem quite dazed for a second or two or even longer after a single inhalation, but they enjoy it greatly and prize tobacco very highly. I have seen an old man reel and stagger from the effects of one pull at the pipe. Jukes says of the Erub people (I. p. 187): "In smoking their own tobacco [which is of a light brown colour], they break off a piece from the plait¹ into which the leaves are twisted, and wrap it in a green leaf to prevent its setting fire to the wooden bowl. A woman is then deputed to fill the bamboo with smoke, and on its being passed round, each person takes a long draught of smoke, which *he swallows*, apparently with considerable effort, and stands motionless a few seconds, as if convulsed, with the tears in his eyes; he then respirees deeply, and seems to recover. They call it 'eree oora' [*eri ur*] (to drink heat or fire), and, patting their stomachs, seem much comforted after it. I tried their tobacco, but found it intolerably hot and strong." Macgillivray offers similar testimony: "On several occasions at Cape York I have seen a native so affected by a single inhalation as to be rendered nearly senseless, with the perspiration bursting out at every pore, and require a draught of water to restore him; and, although myself a smoker, yet on the only occasion when I tried this method of using tobacco, the sensations of nausea and faintness were produced" (I. p. 126).

A white acquaintance of mine who at one time took to smoking the Papuan pipe gave me the following account of his experiences. The inhaled smoke is retained for as long as possible and let out through the mouth and nose. There is a very strong draught through the pipe which drives the smoke right into the lungs. On the first occasion this nearly chokes a person and this experience generally satisfies all curiosity. After a single inhalation the confirmed smoker feels happy and sleepy; the effect is much the same as with opium but with none of the illusions; all the senses are deadened, and after a whiff or two, the smoker goes off into a deep, heavy, but not refreshing sleep. The smoke is quite cool. My informant smoked in this manner for about six months, but had to leave it off as his heart became affected, but not his lungs. The heart's action was weakened, and he had a dry barking cough. The smoking made him generally lazy and indolent, but extremely nervous. He always took a pull when the effect of the last wore off, and had a great hankering after it.

At the present time most of the natives have adopted a short clay or wooden pipe and roll up cigarettes in bits of newspaper or banana leaf as the case may be.

The pipe is called *sukub morap* (W.), *zub* (E.), and the bowl *turku* (W.), *tarkok* (E.), tobacco being *sukuba* or *sugub* (W.), *sokop* (E.). The dry leaf of the banana used as a wrapper for a cigarette is called *taugoi* (W.) and that of the Mimusops, *ubarau ris*. The Mabuag terms for smoking are: *gamu widai*, light it; *ngalkai*, blow or suck (smoke into the *marap*); *sukuba wani*, swallow tobacco (*i.e.* smoke); *wai*, exhale (smoke). The decoration of the pipes is dealt with in the section on Decorative Art.

The bowl is generally made of a piece of narrow bamboo, the lower end of which is cut into a cone so as to fit into the hole, *gud* (W.). The length varies in our specimens from 10 to 22.5 cm. Sometimes it is decorated in the manner characteristic

¹ Brockett (*Voyage*, 1836, p. 22) says, "After the tobacco is dry they plait it like a three yarn sennet." In the *Naut. Mag.* (vi. 1837, p. 754) it is stated: "They also cultivate the tobacco plant, which they prepare for smoking, by drying the leaves, and twisting it up into 'figs.'"

of pipes; Brockett, *Narrative*, 1836, pl. 4, illustrates three decorated specimens and one is shewn in the *Album*, I. pl. 318, No. 3. A large quadrangular heavy wooden bowl from the mouth of the Fly River is figured in the *Album*, II. pl. 188, No. 1, it tapers gradually below, is 134 mm. long, and is carved on two sides with zigzag patterns and on the others with a design which probably represents a nose (cf. p. 26). Mr Robert Bruce presented a similar bowl to the Glasgow Museum which is carved with various common patterns; it is stated to come from Mer but is probably an importation. It is 184 mm. long and 57 mm. square above and 44 mm. below. I believe that many of the Daudai bowls are characterised by a fillet or raised ridges round their middle.

MacFarlane says (*Among the Cannibals*, p. 125): "When it [smoking] was introduced we cannot say. In 1871 we found the natives of Saibai and Katau smoking from bamboo pipes, and on our voyages up the Baxter and Fly rivers found tobacco plantations far in the interior. On the south-east peninsula however it is a recently acquired habit. They did not know the use of tobacco when we first met them....On the peninsula, in the vicinity of Port Moresby, the tobacco is rolled in a leaf, and the smoke inhaled from the end of the bamboo."

It seems probable that tobacco was introduced to Torres Straits from New Guinea, and, further, that it came from the north down the Fly river. From the mouth of that river as far west as the Dutch boundary it is known by the same name, *sukuba*, Kiwai and Mawata; *sakaba*, Dabu; *sakupa*, Bugi; *sukuba*, Dungorwab; *sokuwa*, Bangu. According to Lawes (*Grammar and Vocabulary of Motu*, 1888), the word *kuku* is employed by the Motumotu, Maiva, Kabadi, Motu, Kerepunu, Aroma and South Cape natives. The name *baubau* for the bamboo pipe extends, according to Lawes, from South Cape to the Motu districts inclusive, but, passing up the coast, it is *kemona* at Kabadi, *ireire* at Maiva, and *kika* at Motumotu. *Bau* is the Motu name for bamboo, and *marap*, *marep*, *morap*, etc., over the whole district west of the Fly river. The Papuan tobacco is referred to on p. 150.

Betel-chewing was not practised in Torres Straits, though I believe it is done to some extent in neighbouring parts of New Guinea; the areca nut is called *wau* by the Western Islanders. The people of the adjacent coast of New Guinea are said to chew the pungent fruit of the *meidu* palm, *Nipa fruticans* (see Vol. v. p. 15). In his account of the natives of Kiwai, MacGregor, in a despatch dated Dec. 9, 1889, says: "They know betel-nut, lime, and pepper, but they do not use them, just as they know of the *Piper methysticum* [kava] which also it is not customary to employ, and they do not cultivate it. I have not seen a person with stained teeth on the island. I do not know of any stimulant they possess, unless we may call by such name their home-grown tobacco, which they cultivate in considerable quantities" (*Ann. Rep. Brit. New Guinea*. C.A. 105—1890, p. 41).

VII. HORTICULTURE

EXCEPT when kept under cultivation the land is covered with "bush." The nature and density of the vegetation vary somewhat with the soil; thus it is on the whole of a more luxuriant character on the volcanic eastern islands than on the western high islands or the central coral banks. In any case vegetation is apt to grow rapidly when not kept under constant control, which circumstance renders horticulture rather hard work.

The lighter work in the gardens is done by women. The earth is turned over with a digging-stick, *pai* or *potur* (W.), *wet* (E.); the Western verb for digging a garden is *gowa pagi*. The digging-sticks are simple staves, with one end pointed or more characteristically slightly turned up at the digging end and cut to form a flat surface (fig. 166). The end may be hardened by being burnt. They are made of various kinds of wood, thus *argerarger wet* is a digging-stick made of that wood. The longest digging-stick which we collected in

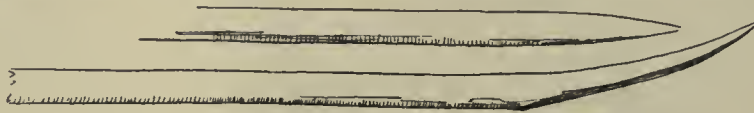


FIG. 166. Front and side views of the end of a digging-stick, Mer.

Mer is 178 cm. long (67 in.), and is crooked and ill made; two stout ones are 83 and 94 cm., four stout *argerarger wet* are 75 cm. (29½ in.), and two thin ones, which have the bark on, are 61 and 69 cm.—these are also used for husking coco-nuts, as probably are all digging-sticks.

Although many natives of Torres Straits must have been familiar with the shell hoe which is employed in soft ground in Daudai, they do not appear to have adopted the implement. The Daudai hoe is made of a piece of melon shell inserted into a hole cut through a club-like stick and wedged in position by pieces of wood. This interesting implement has been figured by D'Albertis (II. p. 378, fig. 11), by myself (*Head-Hunters*, 1891, p. 110), by R. Etheridge, jun. (*Proc. Linn. Soc. N.S.W.* ix. 2nd Ser. 1894, pl. vi. p. 109), and in the *Album*, I. pl. 346, No. 6.

Gardens are frequently fenced, mainly for the purpose of keeping out pigs. Fences, *pa* (W.), *kar* (E.), are made of various substances, but mainly of saplings and bamboo; thus *zi kar* is made of mangrove wood, *beriberi kar* is a rope fence, and *kegar kar* a stone fence.

In the Murray Islands each group, *le* (VI. p. 172), has its territory with defined boundaries which are well known to its own members as well as to neighbouring groups. Mr Bruce informs me that these territories are called *pur ged*, which he translates as

tribal land. Each family has its own portion marked (or supposed to be) by recognisable boundaries, which are generally large standing trees or a ridge of earth; the latter is made by each family, when cleaning their land, throwing weeds and refuse on the boundary. In some cases the ridge thus formed is well-defined, but in others the boundary is very vague and frequently gives rise to land disputes. Some families have larger areas than others through members of the family dying, the land thus falling into fewer hands. Land is sometimes owned in several *pur ged*; a man may hold his father's land, perhaps a portion of his mother's land, as well as his wife's share of her *pur ged*, and the same holds good with allotment lands on the beach, on which the houses are built. Every man is a landowner. When a family has been very prolific for several generations, the portion allotted to each member is very small, and a network of boundary lines results. This may lead to litigation in consequence of encroachment. The natives are in such a case very eager to enlarge their gardens at the expense of their relatives or neighbours, much bitter feeling arises amongst them from this cause and each maintains that his boundary mark is the original one.

The time, *gedub eged* or *gedub ismi*, for cutting down the timber and clearing the undergrowth in preparation for planting new gardens begins about the end of August, and continues till the wet season sets in about the end of the year, in fact as long as the wood can be burned off. Some begin clearing earlier than others. There are various signs to indicate the beginning of the clearing season, such as the flowering of the *sòbe*¹, *waiwi*², *meaur* and *kud* trees, and the ascension in the north-east horizon of the stars *Usiam* (the Pleiades) and *Seg* (Belt of Orion). *Usiam* appears first, *Seg* a little later, as when it appears *Usiam* will be about nine degrees above the horizon; they consider it time to prepare their gardens when *Seg* is first seen, but they term it "*Usiam* time." Another sign is when *Tagai* (Crux)³ is in its declension and seen in the southern horizon after sunset.

The work of clearing the land, *itara*, and preparing it is divided between the two sexes. The women clear the undergrowth and cut down the small bushes; the men cut down the big timber if necessary and do all the axe-work. Grass land is generally cleaned by the women only, but Mr Bruce notices that the men now begin to take a share in this work. The minor clearing is done by means of large scrub-knives purchased from Europeans. Trees are now felled with trade iron axes (tomahawks), but formerly shell axes were employed (p. 126); when I asked whether it was not hard work to use such an axe, my informant replied laconically, "Plenty sweat."

When the wood, branches and bushes are thoroughly dry, they are set on fire to clean the ground. Those who have got their timber burnt off early begin to plant *ketai*, yams and bananas in October, paying attention to the altitude of *Usiam*. They also plant when they see the *kakigaba* and *ketai* plants (p. 136) beginning to shoot out their vines—these two are perennials. At the beginning of the planting season the yams are planted whole, so as better to resist the drought, but in November, when they generally get rains, they cut the tubers into pieces, as we do potatoes. They are planted at fairly regular intervals.

¹ p. 133.

² p. 134.

³ *Tagai* is a very large constellation which includes several of ours (see Astronomy); we identified the Southern Cross as the left hand of *Tagai*.

When a *ketai* is planted it is provided with a small pole for the plants to climb up (cf. vi. pl. IV. fig. 4).

The whole of the planting should be finished in November, but just as elsewhere there are some men more industrious than their fellows, who pride themselves on having early crops, while others delay and even run the time so fine that the rains set in before the scrub has been burnt off. The plants have then to be dibbled in anyhow without due preparation, with the result that the crops are poor and late. The latter class, however, is the exception.

In *seau ged*, that is coco-nut groves, or close-timbered land with a rich soil and good shade, they plant yams, *ketai*, *kakigaba* and bananas. The yams are planted some distance from the trunk of a tree, and bamboo poles up which the yam vine climbs are placed in the ground beside the plant, the other ends resting on the tree. The same plants are also grown in open timber land, *kebe seau ged*.

In *wagor ged*, that is land with no large trees on it or very sparsely timbered, or land with bushes or with grass only, they plant sugar-cane, bananas, sweet-potatoes, papaws, and some varieties of yams, but for the last they always prefer *seau ged*. All the sweet-potatoes are planted in this land. The women generally clear the ground of grass and the men dig up the mounds in which the cuttings of the vine are planted, for the tubers are never planted; the women cut up the vines and assist in planting them. Sweet-potatoes are planted when the heavy rains commence in January and February, as they have to wait until the vines of the old crop have grown strong enough for taking cuttings. If the vines have not sufficient moisture they die off; thus sweet-potatoes are nearly always planted whilst it is raining or immediately after a big downpour. They are never planted in drills, but always in hillocks or mounds.

The roots of the *ketai* are called *teb* and the clusters of tubers *not* (E.). When digging the tubers the original or parent tuber is never disturbed, but the new tubers are removed from it annually. It is believed in Mer that the parent tuber, *apu ketai* (mother *ketai*), is everlasting and will keep on indefinitely producing new tubers, *werem ketai* (children of the *ketai*), if not injured in any way (cf. vi. p. 51).

In former days all land outside coco-nut groves was called *wagor ged*, as the old people say that there was no grass land, the only grass being that large coarse kind used for thatching the houses. The old *wagor ged* was like open forest country, and the hills were also well timbered where now there is nothing but grass. Mr Bruce informs me that he can still trace the stumps of trees on the hill-sides. I remember hearing from Mr Robert Bruce in 1889 of the enormous quantity of timber that was cut on Mer by the missionaries to construct houses, but more especially to build boats. It looks as if this ruthless exploitation had permanently affected the producibility of the island.

A new garden patch is called *kerkar gedub* (new garden), after it is one season old and has been cropped it is called *keas gedub*, and after two years, *gazag gedub*. They do not replant *keas* or *gazag* gardens, but always select a new patch that has been fallow, where the undergrowth is four or five years old. Thus every year a man clears new ground and lets another portion lie fallow; this chiefly applies to yam and banana patches. They believe that in order to get good yams the planting must be made on fresh soil. They recognise that the banana crop exhausts the soil rapidly, so when a banana patch is planted they crop

it for some years, until the fruit gradually diminishes. As a rule they do not root out the old stocks but allow the place to be overgrown and the bananas to die off. Sugar-cane they erop for two or three years; as the canes are eut the stools throw out fresh canes, after the third year they are much deteriorated and the land is left to lie fallow. Sweet-potatoes are cropped for two seasons; they never dig the vines out when taking the tubers, but grope for the latter with their hands, leaving the vine whole. At the second season the crop is of an inferior quality, the tubers being very stringy.

There is no regular rotation of erops, as it is generally the same kind of plant that is cultivated on the old land, but, as we have seen, tubers usually are grown for only one season on the same patch, which is then allowed to lie fallow for several years. This necessitates the clearing of fresh ground every year.

The praetice of leasing or loaning land in the Murray Islands has been described by Mr Wilkin in Vol. vi. (pp. 165—7), but Mr Bruce has recently given me the following fresh information. The natives, especially relatives, are very fond of getting loans of land and giving others in return, as they like a change. In loaning land no time is stipulated nor payment made; the tenant gives a present of food from the first crop, but this is not a compulsory payment, though it is customary. Generally this is the only payment, and the owner expects nothing from the *keas* or *gazag* crops; it is purely optional on the part of the tenant whether he shall give anything to the owner from them. Formerly when the tenant left the land he could take away whatever he ehose in the way of plants or even destroy what he did not take. The lease was generally dissolved on account of the parties quarrelling or because of some dispute among the families, in which case the tenant would be immediately ordered to quit the land; he therefore tried to do as much damage as possible to that portion of the crop that he could not carry away. The law now is that the tenant must receive due notice to quit, and that too at a seasonable time so that he may be able to replant what plants he removes, but nothing may be destroyed. He takes suckers of bananas, yams and so forth, but must leave the parent plants intact. The people appreciate the new regulations, although at times, if there has been sore feeling between the parties, the tenant would prefer the old fashion so that he might vent his spleen on the owner's property.

The banana is easily cultivated, and requires no care execept the weeding of the plantation.

In the Murray Islands a bunch of green bananas while still hanging on the tree is packed with the leaves and small branches, *lislis*, of certain trees and shrubs, and wrapped round with *ewa*, the cloth-like spathe of the leaf of the coco-nut palm; the whole is neatly tied round diagonally in opposite direCTIONS with *ked* (pl. XXI. fig. 1). The *ked* that I saw employed for this purpose consisted of strips of coco-nut husk knotted together (p. 89). The bananas are allowed to mature and ripen under this covering; eventually their skins are beautifully and richly coloured in shades of brown, maroon and red. The bananas are very sweet, and the leaves impart a sweet odour to them. They are very "rich" eating, and the wrapping process certainly greatly improves the fruit. They are known as *sopsop kaba*, *sopem kaba*, *aumeramer kaba*, all of which mean "wrapped-up banana"; another name is *araur kaba*, the adjective in this case being derived from *ur*, fire. A funeral feast in Mer gains in reputation in proportion to the number of *sopsop kaba* provided (cf. Vol. vi. pp. 127, 135, 138, 159).

The same practice of wrapping is adopted in the western islands. Landtman says that in Badu banana leaves are wrapped round the bunches of green fruit "to keep him nice" (as the natives say) and as a protection from birds.

Mr Bruce informs me that the horticulture on Erub and Uga was perfectly similar to that on the Murray Islands, and that the Saibai-laig were horticulturalists and managed their gardens in very much the same manner.

Commander C. M. Lewis saw on Erub "a spot of ground containing about eight acres, cleared and planted with yams, banana, and a species of [sweet] potatoes....An Indian and his wife were industriously at work cutting down branches of trees to shelter the plants from the sun....This plantation displayed no small skill and even taste." The natives would not barter away yams or fruit; "on one occasion some iron tools were offered in exchange for sweet potatoes, which, valuable as they esteemed them, they refused" (*Naut. Mag.* vi. 1837, p. 759).

The following notes on horticulture in Badu have recently been sent to me by Dr G. Landtman. After the end of the rainy season all trees and bushes in the selected ground are felled and cut to pieces, "smashed up" as his informant described it, and left to dry; later they are burnt. The ground is then dug—"stone he out, root he out, clean him good, make him nice." The natives claim that the following have been cultivated from time immemorial: coco-nuts (which are said to have been introduced from New Guinea), bananas, sugar-cane, yams, sweet-potatoes and taro.

The coco-nut in its husk is placed vertically in a shallow hole so that half of it is exposed. The planting is done at any time of the year, "no time more better," and the surrounding ground is carefully kept clear of grass or bushes.

Concerning the banana the natives say, "piecanniny tree come out mother tree, take off, plant Christmas time, make hole in ground seven inches deep." The old trees are cut down and sometimes the suckers are allowed to grow up in the same spot, "like father and mother them dead, and piecanniny live"; sometimes they are planted elsewhere.

Old sugar-canes are burnt, and "new suckers he come up nice same place, plant him new place, take head and root altogether, cannot grow good old place, must take away." This may take place at any time of the year.

At the end of the dry season shallow holes are made in the ground, in each of which one or two small pieces of the tuber of a yam are buried, care being taken that they are only just covered over with earth, if buried deep "he be dead." In the rainy season "all root he go over garden now," and later on "root he grow big" (thick). In April, "yam, sweet-potato all come dry, start eat." At the present day the tubers are dug up with an iron rod about one yard (1 m.) long, pointed at one end; this has evidently replaced the former digging-stick.

Apparently the method of cultivating sweet-potatoes is similar to that of the Miriam. A fairly long portion of the tuber is removed, and earth heaped over the root so as to form a small mound. "End he stand up, he grow, root [tuber] he come that end, sweet-potato he grow like yam, same time finish, he grow out of the ground, he come out himself, you pull him off."

For taro a bed is made in the ground with a piece of wood, and a hole dug with

a stick. The head is cut off from the tuber and inserted in the hole; it takes about six months to produce a new tuber, after which the process is repeated. The head is sometimes kept in water for perhaps a month before being replanted, which may take place at any time of the year.

Many plants have been introduced by the white man, as for instance, maize (known as *koun* or *wit*), water-melon, *waitain* or *waitin*, pumpkin, manioc (*Manihot* sp.), and papaw¹ (*Carica Papaya*); see p. 134. The last three are called by their English names.

Maize is planted at the same time of the year as yams, one or two grains being put in holes and covered over. The plant grows to about six feet in height and bears three or four branches. "He finished [ripe], break down branches with hand." Five or six branches are tied together and hung up to dry over a fire. I do not know how it is prepared or eaten as it has been introduced since the time of the Expedition.

Water-melons and pumpkins are preferably planted on stony ground, whereas good ground is generally selected for yams, etc. Holes are made with a stick in which one or two seeds are inserted and covered over. "He start grow, you take little earth, cover him over; he grow big like yam and sweet-potato, break off end of plant to make fruit quick, if not break plant he grow long, cannot make fruit. Pumpkin any time he make fruit, eat him, take seed, plant him." These are planted at any time of the year.

The root of the old manioc plant is taken from the ground and a piece cut off, which is either planted in the same place or in another specially prepared bed.

The seeds of the papaw are scattered on the ground. "He grow, you take little bit earth, cover over."

Mr Wilkin has informed us (v. pp. 284—291), that in Mabuig, "the gardens which, though by no means so important as those of Mer, were once second only to the sea as a source of subsistence are now little more than objects of a more or less sentimental regard....Sweet-potatoes, taro, yams, bananas, sugar cane, [coco-nuts], and water-melons are now cultivated....There is no attempt to divide the crops—as in Murray Island—among the gardens, or to plant yams in one and bananas in another according to the nature of the soil or convenience in working....Gardens are cleared of undergrowth by members of the family assisted by such friends as care to help. In such cases feasts are usually given....If a man has too many gardens, his friends and relations help him to clear and plant and a feast is made. He addresses the assembled company, thanks them for their assistance, and often adds a dugong or turtle to the fare....Gardens are often lent on the understanding that the firstfruits are paid to the owner." Possibly the reason for the customs with regard to land being less strict in Mabuig than in Mer "lies in the comparative unimportance of gardens (compared with canoes) as a means of subsistence among a people so much addicted to fighting, fishing and trading as the Gumulaig."

During the period of prosperity of the pearl-shelling and *bêche-de-mer* industries, the Western Islanders found it more profitable to fish for the foreigner than to till their gardens; consequently the gardens were largely neglected, and the natives bought

¹ This is universally, but erroneously, called "mammy apple" in Torres Straits; the true mammee apple (*Mammea americana*) is a very different fruit-tree.

for their own consumption when at home the flour, rice and biscuits to which they were accustomed when on the boats or attached to a fishing station. The comparatively good pay which they obtained enabled them to live well, but when these industries especially the former, began to decline, the natives were often hard pressed for food, and since the practical abandonment of the fisheries much distress and indeed starvation has occurred, as the art of gardening has been neglected for so long a time.

The remaining western islands were in much the same condition as Mabuig or Badu, but in most of these there was very little cultivation, in some cases this was partly owing to the rocky soil, while other islands were merely sandbanks. Maegillivray (II. p. 36), says that on Nagir, "where, on the slope of a hill in good soil, we found many patches of rude cultivation. The chief plant is a broad-leaved species of yam, trained upon tall poles kept in position by cross bamboos, forming a framework divided into little squares, each of which contains a plant. A species of *Calladium* with an esculent root is also much cultivated; it is planted in regular rows with the earth heaped up in ridges." He also states (II. pp. 25, 26), that "at the Prince of Wales Islands the cleared spots are few in number, and of small extent,—nor does the latter group naturally produce either the cocoa-nut or bamboo, or is the culture of the banana attempted. On the main land [N. Queensland] again I never saw the slightest attempt at gardening. The principal yam, or that known by the names of *ketai* and *ketai*, is the most important article of vegetable food, as it lasts nearly throughout the dry season." The process of making a garden is similar to that already described, "cut pieces of yam are planted at irregular intervals, each with a small pole for the plant to climb up. These operations are completed just before the commencement of the wet season, or in the month of October." Forty years later the Kauralaig had practically no gardens.

Tobacco (p. 142) was cultivated to a small extent in a few islands, and in Mer and probably elsewhere charms were employed to make it grow quickly (VI. p. 207). Maegillivray noticed on Nagir "some small plots of ground prepared with more than usual care for the growth of what Gi'om told me was an herb used as tobacco; the young plants were protected from the sun with pieces of matting" (II. p. 36).

Mr J. H. Maiden in his "Notes on some Indigenous Sago and Tobacco from New Guinea" (*Proc. Linn. Soc. N.S.W.* for 1887, II. (2nd ser.) 1888, p. 457) says, "The species of the genus *Nicotiana* are all indigenous in America, except our *suaveolens*, which is to be found all over Australia." He refers to specimens collected by Mr T. Bevan at the village of Tumū, fifty miles north of Cape Blackwood, Papuan Gulf, where it is plentiful. "It is wrapped in a portion of a spathe of a sago palm, is sun-cured, and was prepared for local use or tribal barter by natives who, in all human probability, had never seen a white man. It consists of the leaves and petioles but of no other portions of the plant." Mr Hugh Dixson reports it of "the same species as the tobacco of commerce, if it has been at all crossed by an indigenous species it is to an imperceptible extent...it is essentially a cigar tobacco in contradistinction to a manufacturing tobacco, having a very decided cigar tobacco flavour; the strength of the flavour is remarkable." Mr Maiden adds, "The presence of a longish petiole at once excludes this tobacco from *N. Tabacum*, and of all the species described by Asa Gray it certainly comes nearest to *N. rustica*. It is not very remote (I speak of the foliage alone) from our *N. suaveolens* with its spatulate leaves" (p. 463).

Practices of a magico-religious character were universally employed to ensure the fertility of crops and the productivity of fruit-trees, and even now they are not entirely discontinued. For the ceremonies and practices connected with gardening the reader is referred to Vol. v. pp. 345—347, and Vol. vi. pp. 207—213, and for those connected with fruit-trees to Vol. v. pp. 347—349, and Vol. vi. pp. 202—207; but it is evident there were many others about which we were not informed, and unfortunately several of the examples are extremely imperfectly recorded.

There is only one folk-tale that deals with horticulture, and I have termed it "The sad end of Yawar the gardener" (v. p. 36). The tales of Sida account merely for the abundance or absence of various food plants on certain islands (v. pp. 28, 31, 35; vi. p. 19). Instruction in gardening was given to lads during the period of initiation (vi. p. 310).

The ownership, loaning and inheritance of land and crops are dealt with in Vol. v. pp. 284—291, and Vol. vi. pp. 164—168.

METHODS OF OBTAINING WATER.

Shallow wells are to be found in some islands, but we have no means of knowing whether they are aboriginal. Mr J. Bruce informed me that in former days the Miriam had no wells. Behind the village of Las, in Mer, there are two shallow surface holes, which are always dry except in the rainy season when the ground is saturated with water, they then hold a little brackish water for a very short time; a mythical origin was attributed to even these unsatisfactory water-holes (vi. pp. 7, 283).

There are very few springs of fresh water even in the most favoured islands. A famous one in Mabuiag was caused by the hero Kwoiam driving his spear into the rock (v. 82). The rains of the north-west monsoon cause streams which rapidly flow away to the sea. In Mer the pot-holes in the beds of these temporary streams retain water for some time; but water is scarce on all the islands except during the rains, and in many islands there is none to be obtained, except by digging holes in the sand into which a little brackish water may percolate. This for example is the case in Tutu, and the natives when they are living there have to import fresh water from Yam, a distance of over twelve miles, as the brackish water obtained from the one or two water-holes in the centre of the island is fit only for cooking and washing purposes. Jukes describes the water-holes in Damut as "large irregular excavations in the sand, fully ten feet deep, and near the middle of the island. At the bottom of each excavation was a little hole containing a few inches of fresh water, carefully covered from the sun by sticks and lumps of wood" (i. p. 162).

Rain-water is collected in the valves of the giant clam (pl. III. fig. 3). A wisp of leaves or bark is often tied to the most convex portion of the trunk of a curved coconut palm or round the stem of a pandanus. The rain-water which trickles down the trunk is thus drawn into a stream which is caught in a large clam shell (at the present time a bucket is often used) supported on a framework. A similar device is employed in many other places in Oceania and elsewhere. Dumont D'Urville (*Voy. au Pol. Sud.* ix. 1846, p. 235) says of the Tutu Islanders. "To collect fresh water they place large [clam] shells under the broad depending leaves of pandanus trees"; these he figures in *Atlas pitt.* pl. 188.

VIII. HUNTING AND FISHING

HUNTING AND SNARING.

THERE was no true hunting in the islands, owing to the absence of land mammals. The pig, *burum* (W.), *borom* (E.), has been introduced, and has run wild in one or two islands, where it is hunted every now and again. I do not know whether this pig is the New Guinea hog, *Sus papuensis*, or the more destructive, recently introduced European hog. The former, I was told, does not root up gardens like the latter. The arrow, named *süköri* or *sukuri* (fig. 188), the head of which is made of a narrow split bamboo, was used for shooting wild pigs, and it is still used for that purpose in Daudai. At the present time the natives employ guns in hunting wild pigs, and it is the only exciting amusement left to the Murray Islanders.

Birds were formerly shot with bows and arrows, but now they are mostly shot with guns. The archers carefully concealed themselves behind trees or rocks, and often made a booth of branches and leaves within which to hide themselves (v. p. 38; vi. p. 23).

Mr Bruce says that the Miriam shot small birds when perched on trees with a small bow, *ebur sarik*, and arrow, *ebur gelub*¹; there were two kinds of arrow: the *sakeisakei gelub* was pointed at the end like an ordinary arrow, while the *teter gelub* (fig. 187) was provided with two to four bamboo prongs like the *teter baur* (p. 157).

The *töle*, a small bird like a snipe, was shot with the *teter gelub*. A small screen of coco-nut leaves was erected on the beach above high-water mark, behind which the archer hid himself. The *töle* ran along the water's edge, and accomplices drove the bird opposite the screen, *mud*. The *töle* is also killed by men with bamboos, *nagnag*, within the fish-weirs (pl. XXII. fig. 1). About sundown the men lie down behind a stone fence at low water; the birds feed inside the fences and towards sunset they get on the wing to go to their roosting grounds, when they are knocked down while flying low.

With the exception of the Torres Straits pigeon, *Carpophaga luctuosa*, *gainau* (W.), *dawmer* or *gaino* (E.), there are very few birds of any size in the Torres Straits islands. These handsome white and black pigeons migrate from Daudai at the close of the south-east monsoon, about the beginning of November, to breed in certain of the western islands of the Straits and in North Queensland. As the pigeons feed exclusively on nutmegs, or more correctly on mace, they only stay in those localities, such as the island of Dauan, where the wild nutmeg-tree abounds. The birds return to New Guinea as soon as the north-west monsoon breaks. Jukes (I. p. 157) says, "In

¹ The *gelub* is erroneously described as a bamboo spear in Vol. vi. p. 23, and in the Vocabulary (III. p. 143).

September [the pigeons] were coming thickly from the northward to Endeavour Strait, and they seem to return in March...in March all the pigeons left in the islands were young ones." Gill says (*Life in the Southern Isles*, p. 208), "The natives of Tut go out to sea and kill numbers of these birds with sticks and stones, while flying over the Straits on their way to Australia. Even birds learn from experience, for of late years these pigeons, having become wary, avoid crossing that island." Dr Seligmann was informed that this bird was sometimes domesticated in Mabuiag. In 1888 I obtained in Masig a large coral (*Mæandrina*) figure of this bird (pl. XII. fig. 6), which probably was employed in sympathetic magic. I also saw a somewhat similar one in Mer.

Wild duck are plentiful in the marshes of Saibai, and various shore birds occur on the less frequented beaches and sand-banks. The pelican, fish eagle, and other large birds were occasionally shot for the sake of their long feathers, but of all indigenous birds the white form of the reef heron, *Demicretta sacra*, *karbai* (W.), *sir* (E.), was the most valued for its plumage, as the brilliant white feathers were used in making the characteristic head-dress (p. 37), as well as for other purposes. It is caught in Mer by a line and bait at low water, when the bird is walking about picking up its feed. One end of a line, *pom lager*, is tied to the middle of a splinter of bamboo about 75 mm. (3 in.) long and sharpened at both ends, and the other is fastened to a stone which serves as an anchor, *par*. The splinter is inserted in the mouth and passed lengthwise through the body of a small fish, *tup*, which is laid down on the birds' feeding ground. The bird swallows the bait and is caught by the skewer sticking in its throat. When the splinter or skewer is made of bamboo it is called *kus kek*, but if made from an arrow it is *sarik kep*.

The frigate bird or man-o'-war hawk, *Fregata minor*, *womer* (W.), *waumer*, *waomer* or *omer* (E.), which comes to Torres Straits in heavy weather during the north-west monsoon, is either brought down by throwing a stone which hits it on the breast, or caught in Mer by a bait. A *tup* is fastened on to a piece of wood to which a string is attached; the fowler carries a supple bamboo about 1.85 m. (6 ft.) in length and walks into the sea till only his head is above water, dragging the bait after him. He lets the bait float away to a convenient distance, and when the bird pounces at the bait the man strikes it with his bamboo and cripples it, for being heavy it cannot recover itself quickly enough to rise before being struck. The man throws the bird ashore, and is ready for another bird. The fowlers are kept pretty busy as the birds are plentiful at these times and continually swoop down on the bait.

A method of catching pelicans, *awai* (W.), according to a folk-tale ("Amipuru," v. 99) was to hold a bunch of leaves in front of the head when swimming to where the pelicans were floating on the sea. The pelicans, not knowing that a man's head was hidden by the leaves, permitted the man to approach sufficiently close for him to seize one by the legs.

Dr Walter E. Roth (*North Queensland Ethnography*, *Bulletin* No. 3, 1901, pp. 26, 27) states that the natives of the Boulia District sometimes catch pelicans with their hands when in ambush under cover of overhanging foliage. Ducks are noosed or speared by the same natives standing or swimming in the water, their heads being covered with leaves, sometimes "holding with one hand a bunch of leafy switches in front."

The tern, *Sterna Bergii*, *sera* (W.), *sirar* or *serar* (E.), is caught by the Miriam by means of a snare¹, *pom* (E.) (fig. 167). A stake about half an inch (12 cm.) in diameter or a piece of bamboo is firmly inserted in a vertical position on the coral surface of the fringing reef; a deep notch is cut into the upper end. A noose is made from a strip of the outer skin of the green branch of a coco-nut palm, *bei lid*; the strip is light and tough and about 1.85 m. (6 ft.) in length. One end is bent and tied to form a small loop, the other end is passed through this, a fair-sized running loop being thus formed, *bei gogob*; this is placed in a horizontal position in the split or notch at the end of the vertical

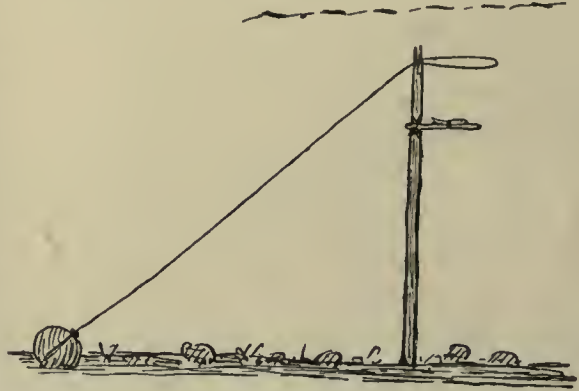


FIG. 167. Snare for catching tern, Mer.

stick, *pom*, care being taken to put the small loop in the split so that it will be held sufficiently tight to prevent the movements of the water from making the larger loop run open or close too much. A stone is tied to the other end of the strip, *bei lid*, to serve as an anchor, *par*, and is so placed that the strip has a good slant. A small piece of wood is fastened horizontally to the stick, about 305 mm. (1 ft.) from its upper end, and on to this a *tup* is so fastened that it lies directly below the centre of the large loop (*gogob*). The whole apparatus is erected under water. When the tern sees the *tup*, it dives right through the centre of the loop to it, and when it rises with the bait it takes the loop with it, pulling it out of the split stick. The weight of the stone causes the loop to run, and the bird is snared.

During the breeding season natives went to the sand-banks to collect terns' eggs (VI. p. 219).

Birds are also caught by smearing branches of trees bearing fruit with the sap of the *enau* tree (*Mimusops Browniana*) which acts as bird-lime; the birds perch on these branches, and when they try to fly topple over and hang by their feet. A large tree, *eraperap*, has small fruit shaped like seed-pods about 25 mm. (1 in.) long and filled with a glutinous substance which exudes from them. Birds that feed on the fruit get their feathers so smeared with this substance that they cannot fly, and are picked off the trees. Birds are also caught in the same manner by the small berries of the *warup-warup*, which are full of a gummy substance.

FISHING.

Shell-fish and fish are obtainable all the year round. Collecting the former for food is exclusively the work of women and children, but diving for crayfish, pearl-shells, the large conus, or other shells of value is performed by men, though some women are also

¹ The Western word for a snare is *niu*, but I do not know whether it was the same as either of the Eastern *pom*; *niui-amai* is "to entangle, catch."

excellent divers. Fishing is practised by both sexes. Fish are either killed with a plain pointed spear, often merely a stick sharpened at the end, or by a many-pronged fish spear, or are taken with the hook and line¹ (fig. 168). A humorous story of a fisherman is given in Vol. v. p. 104.

Line-fishing was practised from canoes (v. 18), off rocks (v. 89), or standing in the water on the reef at high tide (fig. 171). The fishing lines are described elsewhere (pp. 89, 90). The bait was tied on to the large, barbless, turtle-shell hooks (fig. 168; pl. XI. fig. 1). Hooks vary in length from about 38 to 100 mm. ($1\frac{1}{2}$ to 4 in.). The recurved portion of the hook varies in our specimens from 50 to 75 mm. (2 to 3 in.) in length, and the loop has an average breadth of 38 mm. ($1\frac{1}{2}$ in.); the breadth of the flat hooks averages 9 mm. ($\frac{3}{8}$ ths of an inch). This will give some idea as to how clumsy the native hook is. It is never used now, the natives employing European hooks when they can get them; failing these they make neat barbless hooks out of wire or anything else that will suit. Those which we collected are tied two on to one line made of coco-nut fibre, with a small piece of thin twine fastened on to each hook for the purpose of tying on the bait. Fig. 169 illustrates a Miriam sinker, *mekek par*, which from its name was used with a fishing-line, but may have been used for snaring the white heron (p. 153); it measures $100 \times 94 \times 65$ mm. and is made of volcanic ash.

In the Murray Islands at various times of the year large shoals of small fish, *tup*, resembling sardines or sprats come very close to the shore, usually forming dense masses which look like a dark shadow in the water; frequently they are chased by other fish. The Miriam catch them in this wise: two men each provide themselves with a long light pole or piece of thin bamboo about 1.5—2 m. (5 or 6 feet) in length, the head of which is wrapped round with string, etc., so as to form a fair-sized knob, this stick is called *werir* (fig. 170 A). Another man takes a *weres* or conical basket or scoop (fig. 170 B; pls. VII. fig. 6, XXIV. fig. 1). These three men walk along the beach on the look-out for *tup*, followed by several children with baskets. When a shoal of *tup* is seen in a suitable spot, the two men cautiously advance and fling themselves into the sea, holding the *werir* with extended arms; they so manage this movement that the shoal lies between them, and the splashing of the *werir* hinders the fish from fleeing sea-ward, especially as the *werir* are so held that their knobbed ends nearly meet in the water. In an instant the fish are huddled together within the triangle formed by the men and the poles, and this critical moment is seized by the third man, who dives into the sea and scoops up as many fish as he can. The fish are then emptied into the baskets, which the children carry with them into the water.

There are three kinds of *tup*, called *kos*, *areare* and *merdud*. They are in full roe

¹ Hook, *tud* or *tudi* (W.), *kek* (E.); fishing-line, *ariga* (W.), *ariag*, *mekek gem* (E.); hook and line, *mekek kek* (E.).



FIG. 168. Turtle-shell fish-hooks.

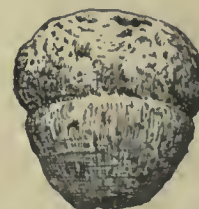


FIG. 169. Sinker for fishing-line, Mer.

in October and November. They seem to have no particular season as they are found all the year round. Sometimes they are scarce on the south-east side of Mer, but plentiful on the north-west side, or at Dauar.

Tup fishing is referred to in the story of Nageg and Geigi (vi. 16, 17), and a painted top illustrates two *werir* and a *weres* (vi. pl. VI. fig. 3).

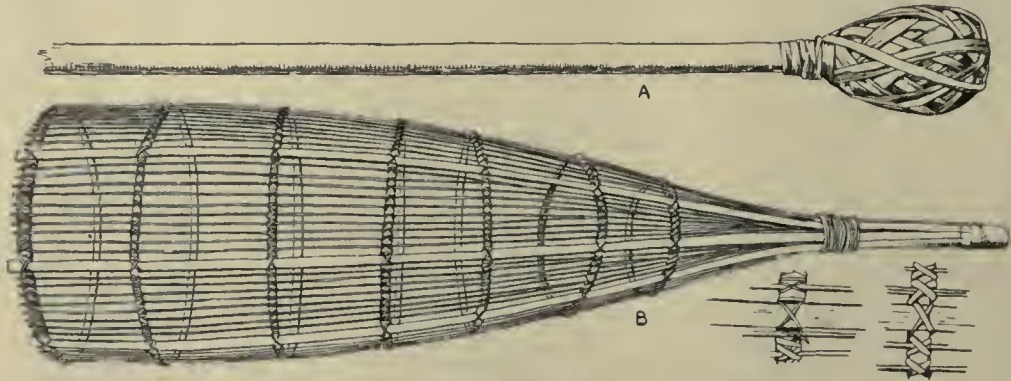


FIG. 170. *Werir* and *weres*, Mer. With details of lashings.

The *weres* made for us (fig. 170 B) is of small size (length 79 cm.), and is constructed from a piece of bamboo which is split below a node into eight strips. The strips or bars are kept apart by seven cane rings of which the lowermost is 22 cm. in diameter. Eight to ten midribs of palm-leaves run longitudinally in the spaces between these bars and like them are securely lashed to the rings, the thicker ends of the midribs being at the larger end so that they naturally diminish with the decreasing diameter of the *weres*. A lashing binds the top of the cone. One specimen measures 1.22 m. (48 in.) in length and 345 mm. (13½ in.) in diameter; it is made in the same manner as the above. *Weres* are made by men.

The two *werir* are narrow bamboos about 183 cm. (6 ft.) long. At the head end strips of the skin of the stem of a banana are bound crosswise to form a bulb, probably around a central wad.

Several kinds of fish-spears are made, which are either a simple pointed stick or a pronged instrument. The best spears in Mer are made from a hard wood, *tol*, the Western *tulu* (*Polanisia viscosa*), very like rosewood, which is traded to the Miriam by Western Islanders, principally the Waraber *le*.

The largest of the simple spears, *bager* (the Miriam *kus bager* is made from *kus* wood, vi. pp. 24, 40), has no prongs and is used for spearing large fish or turtle. The Miriam *kolap pespes* and *dab* are similar spears used for the same purposes. The *burar malil* (E.) has a piece of half-inch iron, about 61 cm. (2 ft.) long, fixed into a bamboo (*burar*) shaft (pl. XXI. fig. 3). The Western *rad* or *rada* is also a long straight stick with a sharp point. The *takai* (W.) is a pointed stick about 76 cm. (30 in.) long which is used (mainly by women) for catching fish. A small sharply pointed stick, *pat* (W.), was employed by women for catching the octopus (v. p. 23).

Baur is the general name of the Miriam for a fish-spear with several prongs. The *walek baur* has a bamboo shaft and three prongs, about 61 cm. (2 ft.) long, made

of the hard *tol* wood; it is used for large fish. The *teter baur* is made of bamboo, one end of which is split and whittled to make four prongs; this end is called *teter*, feet; the *au teter baur* is now usually provided with four iron prongs about 23 cm. (9 in.) long. The *kebe teter baur* was made of small bamboo with four bamboo prongs, 15 cm. (6 in.) long, fixed on to the shaft, which is now fitted with several iron wires; it was used for spearing *tup*.



FIG. 171. Drawing by Pasar of Mabuig of a man fishing with hook and line for a *wad* fish in a hole in the coral rock, and of another man spearing a *poadi* fish.

The Western *taku* or *takul* (fig. 171) had several prongs with a shaft made of *iser* wood. This spear is now made by lashing several wires to the end of a long shaft so that they diverge slightly from one another; formerly splints of wood were employed. The *dagulal* (W.) is a fish-spear of bamboo with several points. The *barugut* (W.) had two prongs, but possibly this may have been a two-pronged arrow. The *tul* (W.) had a shaft of *tulu* wood and its prongs consisted of the spines of the sting-ray (the *suai* (W.) was a similar spear of smaller size that was employed by the *maidelaig*, or sorcerer, for malevolent magic).

Spearing fish is the most common method of catching them; it is employed either while walking along the shore or on the reef at low tide, or from canoes. Speaking of the Murray Islanders, Brockett (1836, p. 23) says, "Their manner of fishing is much the same as that practised by the natives of New South Wales. One party is engaged

in driving the fish towards the shore, while another walks on the beach; and, as soon as the fish are near enough to the shore, the latter party dart into the water, and bring them up on the end of a spear."

Women go on the fringing reef at low water with spears to fish for all kinds of small fish and collect shell-fish.

At *naiger* time (November) and on calm days in the north-west monsoon, Miriam women go to the detached reefs near the island in a piece of a broken canoe, *pau*, which has a piece of wood nailed across each end to keep out the sea. They wade about on the top of the reefs spearing *garom* and other small fishes.

The right method of spearing saw-fish, according to a folk-tale (VI. p. 55), is to spear the nearest one; should the one in the middle be speared, when the man dived to catch it the other fish would cut him up with their saws and kill him.

Torch-light fishing, *ne igi* (E.), is carried on nearly throughout the year when the tide is suitable. When there are low tides at night men and women go on the fringing reef with small torches searching the lagoons and small pools and turning over stones. One person generally holds the torch, while the other uses the spear. They get small fish, octopus, crayfish and crabs in this way. Sometimes they go out at half-tides.

In Mer during the south-east monsoon the lowest tides, *miskep*, are in the day-time, but after November and during the north-west monsoon the night tides are the lowest; these are termed *tugei*¹.

In the months of February and March great shoals of gar-fish, *zub* (*Hemirhamphus* far), come into the deep water passages between the reefs round the Murray Islands and are speared at night by torch light. In the day-time, when the season sets in, women and children collect dry coco-nut palm leaves, *bei*, tie them into bundles in the form of a large torch to hold in the hand, and place them beside the canoes on the beach. When it gets dark the canoes are launched and the torches piled in them. A certain number of men in a crew are told off for paddling, others as torch-bearers and the remainder as spear-men; for this purpose the *au teter baur* is employed. When they get out to the passages the torches are lighted and the work of spearing begins. The water is literally alive with gar-fish, and the spear-men have only to keep dabbling at the surface of the water to catch them. They get large catches of these fish in the season. When they come ashore the fish are divided among those who have helped, the canoe-owner getting his share. At the present time, owing to the scarcity of canoes, they go in dinghys, but they do not get so many fish as formerly, as there are fewer spear-men.

On the eastern aspect of the large fringing reefs of a few of the western islands (e.g. Mabuiag), but notably in the eastern islands, long low walls of unworked boulders of stone were built, or rather piled up, to a height of three or four feet. These walls enclosed large irregular areas of the reef, *graz* (W.), *sai* (E.) (pl. XXII. fig. 1). During the north-west monsoon, when the sea is calm on the lee-side of the island, large numbers of fish swim over the walls at high tide, they are prevented by the low night tide (*tugei*)

¹ This word (and some of the information) has recently been sent to me by Mr Bruce, it evidently is connected with the *dogai* referred to in Vol. vi. p. 271, and is probably the same word. Perhaps some future investigator will clear up the matter.

from escaping and so fall an easy prey. According to Mr Bruce, no native within the memory of man ever made a *sai*¹, all they can do now is to repair them, and the natives argue that if Abob and Kos (the reputed inventors and builders) had not been endowed with power exceeding that of mere mortals, the fish-weirs would never have been built. The walls are partly made of blocks of lava, which the natives say Abob and Kos brought down from the bush, as there are no stones of this kind on the reef, only lumps of coral-rock (cf. vi. 26—28, 218). During the south-east season, as they are then on the weather side, the walls are broken down by the seas rolling in on them and thus no fish can then be taken.

No fish-traps with pockets or labyrinths are built of stone, piles or screens.

Fishing nets or landing nets were unknown.

The practice of shooting fish with a bow and arrow is widely distributed in New Guinea, and occurs along the Papuan Gulf. In the legend of Sesere of Bada (v. 40) this method of fishing is mentioned, he was in the habit of shooting fish in the pools on the reef at low tide; also the boy Geigi of Waier (vi. 15) shot fish. These are the only records for Torres Straits.

Parts of certain plants are scraped and pounded or bruised and placed in pools or lagoons on the reef at low water to stupefy fish, which are easily caught as they float on the surface. In Mer the process is called *kublām* and *sad*: *kub* is a fruit which is crushed and thrown into the water which turns red; *sad* (E.), *zozi* or *sazi* (W.) is a vine, *Derris uliginosa* Benth., that turns the water a milky white. "The leaves [of the scandent shrub *Derris*] are pounded and thrown into water for the purpose of stupefying fish by the natives of many tropical countries" (Maiden, *Useful Native Plants*, pp. 168, 416). *Ibabu* (W.) was described as a plant "like milk inside" which will kill fish and eels; *itamar* (W.), *Indigofera australis*, was employed for a similar purpose.

For magico-religious practices connected with fishing, see Vols. v. pp. 342—5; vi. pp. 217, 218.

TURTLE FISHING.

There are two periods for turtle fishing, the one during October and November, which is the pairing season², when turtle are easily speared owing to their floating on the surface of the water; the dugong harpoon is generally used for this purpose, or they are captured by hand. The other turtle season extends throughout the remaining months of the year, during which time the turtle frequent the deeper water and the channels between the reefs. It is then that the sucker-fish is utilised.

The following species of turtle occur in Torres Straits:—

The green turtle, *Chelone mydas* = *C. viridis*, *waru* (W.), *nam* or *nam kar*³ (E.), which

¹ Captain Lewis however states: "During the fish season, the Indians live principally on fish. For the purpose of taking them, extensive stone weirs are made on the south-east side of the island [Erub]. They were seen making one of very large dimensions. This is also practised by the Murray Islanders." *Naut. Mag.* vi. 1837, p. 760.

² W. W. Gill says: "We happened to be in the Straits in the pairing season....Not a day passed without our seeing single turtle asleep, idly drifting with the current. At other times pairs floated past, amorously clattering the edges of their shells against each other" (*l.c.* p. 291).

³ In Mer a full-grown turtle is *nam*; *nam kar* means true turtle, one nearly full grown is *korkor*, while a small or medium-sized one is *mergai*; the term *siruar* is employed when the word *nam* is tabooed (p. 166), it refers to a turtle of either sex.

often weighs 350 pounds. This is the only species which is at all common at the Murray Islands.

The hawksbill turtle, *Chelone* (*Caretta*) *imbriata*, *unoa*, *unawa*, *unowa*, *unuwa*, *wanawa* (W.), *kesur*, *baug* (E.). This is the species that produces most of the tortoise-shell¹ of commerce, as much as four pounds of which may be obtained from a full-grown specimen which sometimes weighs 250 pounds. According to Macgillivray it "resorts to the shores in the neighbourhood of Cape York later in the season than the green species, and is comparatively scarce. It is only taken at night when depositing its eggs in the sand, as the sharpness of the margin of its shell renders it dangerous to attempt to turn it in the water" (II. p. 23). It is scarce at the Murray Islands.

The loggerhead turtle, *Thalassochelys* (*Caouana*) *caretta*, *urza* (W.), *uris* (E.). This species grows to nearly the same size as the hawksbill, and is prized as food by the Western Islanders, but not so by the Miriam who do not care about eating it.

Mr Bruce also refers to a kind of turtle named *mainu* which has a head like *baug*, but the shell is thin like that of the green turtle and has no market value. As a rule the Miriam did not eat it, but the Western Islanders did.

The mud turtle. I do not know this form, but Gill describes it thus: "This species is particularly plentiful at Tauan [Dauan], and all along the muddy south-western coast of New Guinea...[it] never weighs more than fifty or sixty pounds, and generally much less" (*l.c.* pp. 291, 292). It may be a *Sphargis* or *Carettochelys* *insculpta*.

The importance of the breeding season of the green turtle is so great that in the west (and perhaps in the east) the name for the turtle at this period is applied also to the season—*surlal* or *surlangi* (in Muralug, according to Macgillivray, it is *sulangi*, from *subur*).

Macgillivray says, that this season "at Cape York usually extends from about the middle of October until the end of November, but the limits are not constant. During the season they are to be seen floating about on the surface of the water, often in pairs, male and female together. A few are caught at night on the sandy beaches, but the greater number are captured in the water. The canoes engaged in turtling, besides going about in the day, are often sent out on calm moonlight nights. When a turtle is perceived, it is approached from behind as noiselessly as possible,—when within reach, a man in the bow carrying the end of a small rope jumps out, and getting upon the animal's back, with a hand on each shoulder, generally contrives to turn it before it has got far and secure it with the rope. This operation requires considerable strength and courage, in addition to the remarkable dexterity in diving and swimming possessed by all the blacks of the north-east coast and Torres Straits." "Even the green turtle, with a comparatively rounded margin to the carapace, occasionally, in struggling to escape, inflicts deep cuts on the inner side of the leg of its captor, of which I myself have seen an instance." "There are some favourite look-out stations for turtle where the tide runs strongly off a high rocky point. At many such places, distinguished by large cairns of stones, bones of turtle, dugongs, &c., watch is kept during the season, and, when a turtle is perceived drifting past with the tide, the canoe is manned and sent in chase" (II. pp. 21—23).

I was informed at Mabuig that during *surlal* there were two ways of catching turtle.

¹ Tortoise-shell, or as it should be called turtle-shell, is used for making masks, fish-hooks, ornaments, etc. The Western name is *karar* or *krar* and the Eastern is *kaisu*, but the Miriam have a Malu word for it, *baugem* (III. p. 51) and the *zogo nei* or sacred name is *olai*. Recently Mr Bruce has informed me that this turtle is called *baug* and the shell *kesur* or *karar*.

1. The canoe warily approached the turtle when they were floating on the top of the water, whilst they were "fast" (copulating). One was speared by the dugong harpoon, and when it swam below the surface a man holding a rope dived after it and tied the rope round a fore flapper. The turtle was thus fastened by two ropes, the other being the *am* attached to the harpoon dart, and thus it could be hauled close to the canoe, when the rest of the crew would jump into the water and roll the turtle into the canoe.

2. Another method was for a man to tie a rope round his arm near the shoulder, and when he came close to the unsuspecting turtle he would leap on to it and catch hold of the carapace back and front with his hands. The man, still holding the turtle, would be dragged to the canoe (fig. 172).

Gill says, "Turtle are very quick-sighted, diving to the bottom at the first intimation of danger.... As soon as a sleeping turtle is seen they stealthily paddle close to it, when one of their number, with a rope tied under his armpits, leaps upon the back of the unconscious victim. Of course the man goes down to the bottom with the reptile, but immediately twists the fore-flappers over the back, and holds fast by them. The man and the turtle are then hauled up into the canoe" (*l.c.* p. 292).

Turtle are also caught by being turned over on their backs when they come on to the sand beach to lay their eggs. Evidently this is not considered a "sporting" method as no tallies are kept, at all events in Mer, of turtle so caught, whereas a *kupe* (fig. 224) may be made for those speared or caught in deep water.

Very shortly after mating the female turtle lay their eggs in sandy beaches, usually selecting for this purpose an uninhabited or sparsely inhabited island. There are in Torres Straits numerous low islets without a permanent population, as well as sand-banks raised just above the surface of the water, and mainly about the end of October and during November the natives make expeditions to them to hunt for turtles' eggs. As is well known, the female turtle scuttles in the night time up a sand beach, makes a large hole in the sand in which she lays her eggs, and then smooths over the surface for a considerable space round the nest and finally betakes herself to the sea by a different route from that taken on leaving the water. The way to find the nest is to take a bearing along each track of the turtle, and to go to the spot where they converge. A pointed stick is procured and this is thrust into the sand, when it comes up clean a blank is drawn, but should an egg be pierced the glair of the egg causes sand to adhere to the stick (cf. Vol. v. p. 19). The overlying sand is speedily removed by the hands, and the mass of nearly spherical



FIG. 172. Drawing by Waria of Mabuig of a man catching a turtle.

eggs with their parchment-like shells is exposed to view. A nest may contain from about one hundred to two hundred eggs. The eggs are carried away in an ordinary basket, or in one extemporized out of neighbouring grass or leaves.

The most interesting method of catching turtle is that in which the sucker-fish is employed. The sucker-fish, often wrongly termed "sucking-fish" (*Echeneis naucrates*¹), *gapu* (W.), *gèp* (E.), is a member of the Scombridæ or "Mackerel" family, the dorsal fin of which is transformed into a sucking organ. By means of this disk they are enabled to attach themselves to any flat surface, the adhesion is so strong that the fish can only be dislodged with difficulty, unless it is pushed forward by a sliding motion. The "suckers," as they are sometimes called, attach themselves to sharks, turtles, ships, or other object. They cannot be regarded as parasites, as they obtain their food independently of their host, but being bad swimmers they allow themselves to be carried about by other animals.

Macgillivray states that Gi'om informed him that the natives of Muralug catch a small form of turtle, which he never saw, in the following manner: "A live sucking fish (*Echeneis Remora*) [the only sucker-fish I saw was *E. naucrates*], having previously been secured by a line passed round the tail, is thrown into the water in certain places known to be suitable for the purpose; the fish while swimming about makes fast by its sucker to any turtle of this small kind which it may chance to encounter, and both are hauled in together!" (II. p. 21).

Gill states that "several captive sucking-fishes are kept swimming after the canoe until a turtle is seen, when three or four of them are thrown as near the sleeper as possible. These sucking-fishes at once attach themselves to the turtle. The cords are now cautiously hauled in.... Sucking-fishes are sometimes kept two or three days in a lagoon, or in a boat half-filled with sea-water, until turtle are seen" (*l.c.* p. 292).

The sucker-fish is not used to haul in the large green turtle; I was repeatedly assured that it would be pulled off, as the turtle was too heavy; but small ones are caught in this manner².

¹ The sucker-fish from its peculiar habits and structure has always attracted attention. Dr G. Shaw in his *General Zoology*, Vol. iv. pt. 2, 1803, p. 201, quotes Pliny's account of this fish, and Dr A. Günther in his *Ann. and Mag. of Nat. Hist.* Vol. v. 3rd ser. 1860, p. 386, gives a history of *Echeneis* and a revision of the species. The species falls into two groups: (α) with a stout and rather short body, (β) with a slender body, the most common and representative species respectively being *E. Remora* and *E. naucrates*. The Torres Straits species belongs to the slender group, and the number of the laminae of the disk (22-25) determines it as being *E. naucrates*.

² Shaw states (p. 209) that "The Count de Cepede informs us, from the manuscripts of Commerson, that it is also very common about the coasts of Mozambique, where it is sometimes made use of for the following very singular method of catching turtles. A ring is fastened round the tail of the fish in such a manner as to prevent its escape, and a long cord fastened to the ring. When thus prepared, the fish is carried in a vessel of sea-water, and when the boatmen observe a turtle sleeping, as is the frequent custom of those animals; on the surface of the water, they approach as near as possible without disturbing it; and then, throwing the *Remora* into the sea, and giving it the proper length of cord, it soon attaches itself to the breast of the sleeping turtle, which is thus easily drawn to the boat by the fishermen." Dr Günther (*l.c.* p. 396, and *The Study of Fishes*, p. 461) suggests that this "appears to have originated rather from an experiment than from regular practice."

According to one of the folk-tales (v. p. 44), there was a time when the people of Badu did not know how to catch turtle by means of the sucker-fish, and they used to employ a black toothless "dog-fish," *kumsar*, when they went for turtle. The story goes on to tell how Bia taught his fellow islanders how to employ the sucker-fish. In the Bonai-Malu legend of the Miriam (vi. p. 41) it is stated that Barat of Moa, according to the fashion of olden times, tied a rope round the tail of a *kamosar*, then he made a sucker-fish, and instructed the Western Islanders who were with him how to catch turtle with it. I do not understand how turtle could be caught by a "dog-fish," but as the identity of this fish, which is said to live in crevices of the rock in deep water, is unknown nothing further can be said, except to hazard the suggestion that it may be an unidentified kind of lamprey; but against this it must be stated that no member of the Cyclostomata is known from Queensland waters, though *Mordacia mordax* occurs in Tasmania and species of *Geotria* are found in southern Australian waters.

I was informed that in leashing a sucker-fish, a hole is made at the base of the tail-fin by means of a turtle-bone, and one end of a very long piece of string inserted through the hole and made fast to the tail, the other end being permanently retained. A short piece of string is passed through the mouth and out at the gills, thus securing the head end. By means of these two strings the fish is retained, while slung over the sides of the canoe, in the water. The short piece is pulled out of the mouth of the fish when the turtle is sighted and the *gapu* is free to attach itself to the turtle.

When starting on a trip to fish for turtle by means of the sucker-fish, the owner (or captain) of the canoe gives the order where to go and when to let go the anchor, having arrived at their destination.

The *buai-garka* (see section on Canoes) makes a fire on which he places some turtle-bone which the owner has brought with him. When the bone is charred the *buai-garka* breaks it up and throws it into the water so as to attract the sucker-fish. When one is caught it is the duty of the *buai-garka* to attach to the fish the leashing which he had previously made.

The direction of affairs is now assumed by the *buai-garka*, who gives the word to move to another place, and the directions where to go. When he gives the order to stop, the mat sail is rolled up by the other men (or at the present time the sail is lowered), he not taking any part. He gives the order to paddle till he sees the turtle, then gives the word to stop, and the anchor is let go by the owner, having been previously shifted to the stern of the canoe. When the *buai-garka* sights a turtle swimming deep down in the water, he removes the mouth-string from the sucker-fish and throws the fish overboard with the tail-line attached and plenty of slack is thrown with it, he then hauls in the superfluous slack and as far as possible indicates the direction of the turtle by pressure on the line. The sucker-fish on perceiving the turtle immediately swims towards it, and attaches itself to the reptile's carapace. When this is accomplished, the *buai-garka* gives the order to heave up the anchor and move the boat up to the position of the turtle.

One of the crew (but not the *buai-garka*), with a long rope attached to the right upper arm, dives into the water, and is guided to the turtle by the line fastened to the fish's tail. On reaching the turtle, the man gets on to its back and passes his arms behind and below the fore flappers and his legs in front of and below the hind

flappers, or secures it in some other way. The man is then rapidly drawn up to the surface of the water bearing the turtle with him. On the arrival of the diver the sucker-fish usually shifts its position from the upper to the under surface of the turtle. As soon as enough turtle have been obtained, the owner of the canoe gives the order to go home, and the *buai-garka* resumes his subordinate functions, and resigns into the hands of his brother-in-law the direction of affairs which had been his part during the actual process of fishing¹. At the end of the day's fishing the sucker-fish is eaten. This method of fishing is described in a folk-tale (v. 92).

The *buai-garka* knows whether the fish has attached itself to a turtle or to a shark by the nature of the motion of the string. If the pull is intermittent it means that the fish has adhered to a shark, but if it is steady, then a turtle has been secured.

In order to understand the method of leashing a sucker-fish, I induced a native to make a model of a *gapu* for me. Fig. 173 indicates diagrammatically the arrangement. A loop is inserted by means of a wooden arrow point through the gills and out at the mouth, the ends are passed through the loop, and one of the strands is threaded through the other, the two are then twisted into a string. The mouth-string is called *gudaz* and is made of the inner

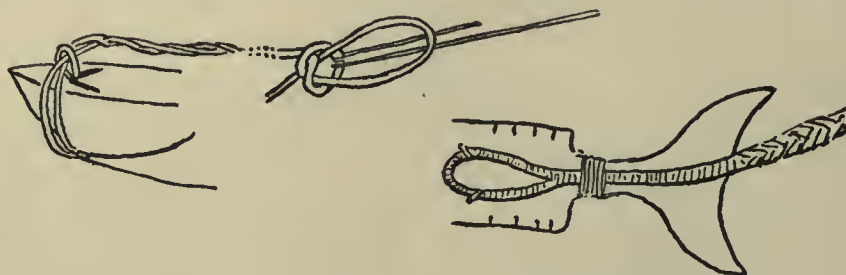


FIG. 173. Illustrating the method of leashing a sucker-fish.

bark of the root of the *wali* tree. The other end of the *gudaz* is tied into a slip knot, *kaza wiaikab*, the end of a long piece of twine is simply bent twice round the string at the knot; when the free end of the *gudaz* is pulled the knot runs out, and the twine (one end of which is still held by the fisherman) slips off the *gudaz*. The main fishing string is a very long and strong cord of twisted coco-nut fibre, *igal*; this is fastened to a braid or plaited string, *dan*², the other end of which is bent round on itself so as to form a loop; the end of the *dan* and the loop are bound round with *wali*. The loop is furnished with two strings of *wali*; it looks as if these were threaded through the tail of the fish above and below the vertebral column and tied together on the other side. Another lashing binds the cord close to the side of the narrow portion of the tail.

Note on the sucker-fish leash by W. I. Pocock. One can only conjecture the rationale of all this. Possibly the double string, besides being easier to pass through the fish's gills, is less likely to tear them and this may be the object of the threading which dispenses with a knot. The strings are perhaps twisted to avoid tangling. The effect is to convert a lark's head to a running noose made with an eye of string, and it is not quite clear why a single string with an eye could not be used.

¹ A considerable portion of this information was collected by Dr Rivers (cf. v. p. 149).

² From its name this should be made of *Ficus* bark, but in our specimen the braid was made of coco-nut fibre.

The twisting of the twine round the *gudax* is of course equivalent to twisting the *gudax* round the twine. Thus we have a third example in this small collection of a knot of which a simple twist, a turn and a half, is an essential part. The efficacy of the twist depends principally on the knot being drawn, when the strands of the twist tend to nip, something like a double half hitch. With the *gudax* and twine, if both ends of the latter are fast, the nip is automatic. One would think the reef knot bow would have done here, as there is no great strain, though it is bad in principle to unite two different kinds of strings with it. Better would be a bow-line finished by passing a bight instead of the end. The diagram shews this knot as tied by a sailor who commenced, as in a sheet bend, by making an eye of the standing part. A gentleman shewed me a very different method with the same result. This is not the only way the bow-line could be applied to the purpose, but the sailor assured me he had seen no other. The bow-line is the knot used in the widely distributed art of netting, hence its absence from this collection is remarkable.



FIG. 174. A slip knot.

The natives have a great respect for the sucker-fish and firmly believe it to possess ominous powers. For example: when the fish does not take a good hold on the turtle and then swims off it indicates that some part of the canoe is not secure; when there is something the matter with the bow of the canoe, the fish is said to attach itself to the neek of the turtle, but should the stern of the canoe be weak, the fish adheres to the extreme hinder end of the carapace; when it fixes itself firmly to the front part of the carapace, the canoe is strong; when it goes to one side of the carapace or keeps on moving about, it shews that the lashings of the float to the outrigger on that particular side are insecure. More than once I was told, "*Gapu* savvy all same man, I think him half devil (*i.e.* spirit)."

Gapu is a subsidiary totem in some of the western islands (v. p. 181), and at one time may have been a chief totem of a clan which has now become extinct.

When a man catches a turtle with another man's gear, the turtle belongs to the owner of the gear, with the exception of the lower half of the turtle and the large intestine, *kurtamar* or *kutamal*, which go to the owner of the canoe. The actual catcher of the turtle receives only a small portion.

There were many ceremonies connected with turtle fishing, more particularly during the *surlal* season, some of which are described in Vol. v. pp. 183, 330—336; vi. 213—216, and it is probable that each island had its peculiar ceremonies, though these are now irrecoverable. Gill says, "In Torres Straits are numerous turtle-giving gods, whose assistance is invoked and to whom offerings are made. These gods are merely round painted stones" (*l.c.* p. 293).

The green turtle, *Surlal* or *Waru*, was a totem in several of the western islands (v. pp. 154, 155, 167), and in addition the turtle-shell turtle *Unawa* was a totem in Muralug.

The importance of the turtle as an article of food is well seen in the taboos which are enforced to prevent any possible detriment to fishing being occasioned by menstruous, pregnant, or recently delivered women (v. pp. 196, 207). Continence was imposed during the *surlal* season (v. p. 271). This information refers to the Western Islanders only.

Both the turtle and the sucker-fish are represented in decorative art, the sucker of the latter giving rise to a decorative motive.

Turtle are not often referred to in the folk-tales and then but incidentally, with the exception of one important tale which describes the legendary origin of the *nam zogo* of Mer (vi. p. 46).

Nam is a family name for girls of the Meaurem *le* and Kòmet *le* (v. p. 102), therefore their *naubet* and relatives by marriage, *awim*, have to call the green turtle *siruar* (vi. p. 100), and address the person named *Nam* as *Siruar*. The Meaurem *le* are the principal *Nam zogo le* or *Nam boai* (vi. pp. 51, 236), and the Kòmet *le* are associated with them in the *zogo*.

DUGONG FISHING.

The dugong (*Halicore australis*) (pl. XXIII. fig. 4) is a very favourite article of food, and its capture is an exciting occupation. This bulky marine mammal attains a length of eight or nine feet or more, and is a perfectly harmless vegetable feeder, its food consisting of one or two species of submarine flowering plants (*Cymodocea*)¹. Although dugong occur everywhere in the district they are abundant only on Orman's Reef immediately to the north of Mabuiag, and over the unsurveyed expanse of reefs between Mabuiag and New Guinea. The former island may be regarded as the headquarters of the fishery of this sirenian.

Dugong were speared either from the bow of a canoe or from a bamboo platform, *noat*, *nad* or *nešt* (W.), *narat* (E.). The implement employed is the dugong harpoon or *wap* (pl. XXIII.). A barbed head is loosely inserted in a terminal hole at the butt end of the *wap*. It is lashed on to a long rope or running line, nearly an inch in thickness, and some 40 or 50 fathoms in length. The native-made rope, *am* (W.) (p. 90), is preferred for this purpose to European rope on account of its greater buoyancy. The other end of the rope is made fast to the canoe or to the platform (fig. 176; pl. XXIII. fig. 1).

When the canoe is close enough to the dugong the man bearing the harpoon jumps into the water, at the same time striking the dugong as it is in the act of breathing. The creature immediately dives down, and runs out the rope which is fastened to the harpoon-head which now becomes separated from the shaft. The man has to be careful not to get his head entangled in the loops of rope, as deaths have occurred through

¹ *Cymodocea* is one of the genera of the *Zosteraceæ* of which *Zostera marina* (the "Eel" or "Sweet Grass" of our fishermen, more commonly known as "Sea-wrack") is a familiar example. The *Zosteraceæ* are among the very few true flowering plants that live in the sea. The flowers are inconspicuous and the leaves are of a bright grass-green colour. The dugong appear to subsist on the three species (*Head Hunters*, *Black*, *White*, and *Brown*, 1901, fig. 16), but two other species occur in certain localities in Torres Straits. W. Saville Kent (*The Great Barrier Reef of Australia*, 1893, p. 327) states that its food "consists almost exclusively of *Posidonia australis*."

It is tempting to suppose that in the early Tertiary Period the ancestor of these Sirenia was a land animal which fed on the ancestral land *Cymodocea*. Being accustomed to this fodder, the animal followed the plant when it became palustral, and as the plant became more and more aquatic, so did the animal, until at last both became modified for a purely marine habitat and incapable of even temporary terrestrial existence.

this accident¹; I believe he usually throws himself backwards on reaching the water in order to avoid the rope. The man returns with the harpoon to the canoe. Other men immediately dive into the water, and when the dugong once more rises to breathe they tie a second rope, *galai gaipapi* (p. 91), round its tail; then, whenever it attempts to rise, the men by diving at the same time pull it down with the rope, frequently also they cling on to the animal so as to hamper its movements, and in a very short time the unwieldy dugong is suffocated. So far as I know death always occurs through asphyxia. Owing to the thickness of the skin and blubber, and the shortness of its point, the harpoon head can never penetrate to a vital organ, unless it should happen to pierce the spinal cord, which is unlikely. At the present time the dugong is almost invariably speared from luggers, as these vessels are so much more convenient to handle than canoes.

The platform was only employed on moonlight nights. A man would walk on the reef at low tide in the daytime to watch for traces of the dugong. When he found a patch of "dugong grass" which had been partially browsed, he would erect the staging there, knowing that the dugong would repair nightly to the same spot until the fodder was exhausted. The platform² was constructed of six bamboo poles lashed together, surmounted by the centre-board, *walunga*, of a canoe. On this the rope was coiled, one end being tied to the two oblique poles where they cross each other, and the harpoon put in readiness, the other end of the rope having been lashed to its head (fig. 176; pl. XXIII. fig. 1). All night the man would perch on this board, awaiting the arrival of the dugong. When it approached sufficiently near it was speared from above. Usually a wooden or stone image of a dugong would be slung on to the

¹ Death by strangulation in this manner was always accredited to a sorcerer, *maidelaig* (W.). The accompanying figure is reproduced from Vol. v. p. 339, and is taken from a manuscript by Waria of Mabuig. The writer says, "Him Maiak hither (at) Aladnoba strangled when (at) Aladnoba here. *Abanu*, Abs, *nuid*, he, *noat*, dugong-platform, *moidadin*, built, *keda*, thus, *keda*, in this manner, *nuin*, him, *danganan*, a dugong, *kato-*

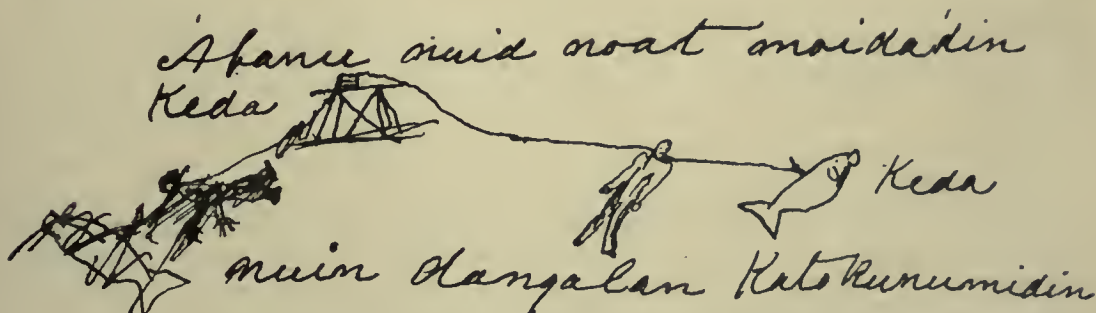


FIG. 175. Drawing by Waria illustrating the death of Maiak by strangulation when dugong-fishing.

kunumidin, strangled." Mr Ray understands from the text that Aba built the platform from which Maiak was strangled and that afterwards Aba married Tigi, Maiak's widow. The "him" in the figure evidently refers to Maiak; in the account in Vol. v. I understood that it was he who built the platform. The two men were *tukoia*b to each other (v. Tables 5, 5A).

² A writer in *Petermanns Geogr. Mitt.* (xviii. 1872, p. 254) states that the platforms for spearing dugong on the island of Tutu were one to two feet above the water on the reef.

platform to serve as a charm to ensure the approach of the animal, this is illustrated in fig. 176 and pl. XXIII. fig. 1. (See Vols. v. p. 338, vi. p. 217.)

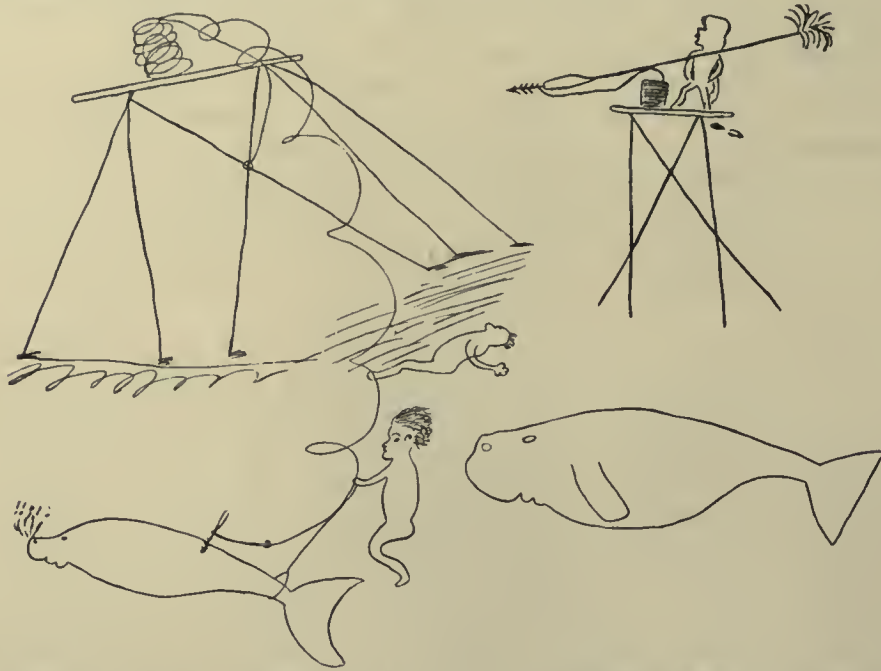


FIG. 176. Method of harpooning dugong from a *neët*, drawn by Mabuiag natives. To the right is a man standing on the *neët* ready to spear, below the board is a charm. To the left, one man has harpooned the dugong and has flung himself backwards so as not to be entangled in the rope, the harpoon is not drawn; another man has tied a spare rope round the dugong's tail. A drawing of a dugong by Gizo is added.

The platform was always erected with its long axis in the direction of the wind, and the harpoon was held in the same manner. If the platform was built across the wind, it would blow through it and make a noise which alarmed the dugong. I was informed that the platform was used only at night, for it is only then that the dugong approach the shore; in the daytime they keep to the open or over the large isolated reefs.

Dr W. Wyatt Gill states that "the dugong is caught at the new and full of the moon, because the high tides then cover the reefs. At other times the water is too shallow for the creature to pass over." After describing the platform he goes on to say, "The instant the spearman succeeds in striking one in the head—the only vulnerable part—he leaps down upon the animal, with one hand holding on to the line, and with the other hurling the spear-shaft back to his friends. A canoe in waiting follows to throw a rope to the adventurous spearman for him to slip round the head or tail, as may be most convenient. The struggle is soon over, and the prize towed ashore. A second wound is never required. It is remarkable that so large an animal should be so easily killed." (*Life in the Southern Isles* (1876?), pp. 301—2. The figure given on p. 196 is somewhat fanciful.)

The Miriam only occasionally erected platforms over a patch of dugong grass, and as the turtle also feed on the same grass they might spear the latter also, but the

narat was erected solely for the dugong. As a matter of fact dugong were rarely caught at the Murray Islands though they are abundant to the south and west.

The dugong harpoon, *wap* (fig. 177, pl. XXIII. figs. 1, 4), is the most characteristic implement of Torres Straits, and it may have been invented by the Islanders. It is more common in the western than in the eastern islands owing to the fact that dugong are more plentiful on the western and central reefs, but the harpoon is also used for catching turtle. It is made of hard wood and varies in length, excellence of workmanship and details of ornamentation. The length of the finer specimens ranges from about 3 to 4.6 m. (10—15 ft.).



FIG. 177. *Wap*, sketched at Muralug in 1888; length 4.6 m. (15 ft. 1 in.).

It must have been no easy task to hark a harpoon out of a tree trunk, and it is surprising how straight and well-shaped they are. According to my experience those from the Murray Islands are of somewhat crude workmanship, indeed this implement was not made in these islands but was imported from the western islands. The Miriam valued them more as ornaments or works of art, and like the imported spears they indicated the wealth of the owner; they were exchanged or given as presents at marriages. Muralug was said to be the chief manufactory for the harpoons, though they were occasionally made elsewhere. The Mabuig people pride themselves on their harpoons, but personally I thought those of Muralug were finer, being beautifully finished and polished with oil, the butt end was also larger and well-shaped. But the Mabuig men said that the Muralug implement was too heavy, for, when they jumped into the water with it, the spear had a tendency to fall vertically and thus miss the dugong altogether; therefore when they purchase a Muralug harpoon they pare off some of the superfluous wood. In less finished implements the butt end has an elongated ovoid form (figs. 367—370), but in better examples it is more barrel-shaped (figs. 366 A, 371), and in the finest the form is more elegant with a distinct but gentle meridional swelling and a very slight ridge extending along the median line of the upper surface (pl. XXIII. fig. 3).

The neck of the spear is frequently marked by several incised lines or beads. The shaft is of fairly uniform thickness, being about 30—40 mm. ($1\frac{1}{4}$ — $1\frac{1}{2}$ in.) in diameter.

The treatment of the posterior or upper end is subject to a good deal of variation. As a rule about two feet from the end the shaft is square in section for about a foot in length and has on each face a row of holes into which tufts of cassowary feathers are inserted, each end of this region is sometimes decorated with a white cowry shell, a bunch of seed-rattles, *goa*, or perhaps tassels of rags. The succeeding portion is plain, sometimes it is perforated by a long slit. Close by the end the shaft is square in section and bears four tufts of cassowary feathers. A *wap* is figured in the *Album*, 1. pl. 326, No. 5.

Maegillivray (II. p. 24) states that the head, *kwiuru*, *kwoiro*, *kwiuro* (W.), *kwir* (E.), *kiwura* (Kiwai), was made "of bone, four inches long and barbed all round." The specimen collected by the *Rattlesnake* now in the British Museum, is of a pale brown, close-grained wood. With the exception of the modern iron heads mentioned above, all the heads I have seen are made of hard, heavy, close-grained wood. The more common form is cut out of a piece of wood that is triangular in section, the barbs being cut out of the angles; there are thus three barbs in a whorl, and usually there are four whorls. The beading, which

serves as a stop to prevent the rope from slipping off the head, is also frequently triangular in section; the terminal portion which is inserted in the harpoon is circular in section. A large specimen may be as much as 20 cm. (nearly 8 in.) in length. One figured on pl. XXIII. fig. 2 is 146 mm. ($5\frac{3}{4}$ in.) long, it is triangular in section; the other is 222 mm. ($8\frac{3}{4}$ in.) long, it is quadrangular in section at the pointed end and has nine whorls, each consisting of four barbs. The ordinary type with three barbs in a whorl was called *putil* (W.) (see Arrows). I also obtained one with two rows and another with one row of barbs, which were called respectively *kopilai* (W.) and *wasaiia* (W.), they were quite new and appear to be too slender to be very efficient. I gave to the British Museum (93) a very strong specimen from Mer 232 mm. long, with two rows of barbs, and there are two examples in the Dresden Museum (4354, 4355). At the present time the head is invariably made from a file (triangular in section) which has been softened by heating and then allowed to cool slowly, next the barbs are cut with another file, and finally it is re-tempered.

Very few Miriam men are proficient in the use of the *wap*, and they seldom carry it in their boats or canoes, the large *burar malil* spear being their favourite implement. They speak of only two men who formerly could use the *wap* with dexterity, these were two Kōmet men, Obra (6)¹ and Sager, an uncle of Jimmy Dei (4 B). Some of the young men now profess to be able to use it, and say that they were taught by the Western Islanders.

According to a Miriam folk-tale (Vol. vi. p. 41) Barat of Moa taught the Western Islanders as follows: "Put a *kimus* (arrow-point) in the nose of the dugong and it will die, then you can lift it up and put it in your canoe." I did not get any confirmation of this method of asphyxiating a dugong in Torres Straits, possibly it alluded to the Queensland method of fishing. The Moa and Muralug people intermarried, and the latter were in constant touch with Cape York natives.

Mr W. Saville-Kent says: "The capture of the dugong is conducted on distinct principles, in different parts of the Queensland coast-line. In Moreton and Wide Bays, nets of great strength, having a mesh of a yard's width, when measured diagonally from knot to knot, or eighteen inches on the square, are stretched, at night, across the tracks the herds are wont to follow to their pasture-grounds. A little further north, at Repulse Bay, just above Mackay ...the natives pursue the animals, moonlight nights being most favourable, in their frail bark canoes, with heavy dugong harpoons, to which long lines are attached. Two men are included in one canoe, the business of one being to keep a look out for dugong, while the other bails the cranky boat. The endeavour, in the first instance, is to spear the animal through its fleshy tail, whereupon it is apt to twist itself up, and get entangled in the line. A second spear is then thrust through its muzzle, which stops its breathing, and thus the animal is speedily suffocated and dispatched" (*The Great Barrier Reef of Australia*, 1893, p. 328).

Dr W. E. Roth writes: "Dugong are either harpooned or speared, more generally the former. As pointed out to me by the natives on the Cardwell coast-line, very good indications of their presence in the neighbourhood are the short lengths of grass, which have been bitten off by the dugong grazing below, floating on the water-surface. I am informed that on the south-west portion of Bentinck Island are to be found alley-ways in the form of bush fences, built in the shallow water, into which these animals are driven" (*North Queensland Ethnography*, Bulletin No. 3, Sept. 1901, p. 30).

¹ Cf. Genealogies, Vol. vi.

I was informed at Mabuiag that when a man on a *neēt* speared a dugong, he called out the name of his son, or if he had none, that of his brother, although neither might be in the attendant canoe. The men in the canoe, which was stationed some distance off, by this means knew who it was that had speared the dugong. When asked the reason for this, and why he did not call out his own name or that of someone in the canoe, the only answer I could get was, "That fashion belong we fellow."

In Mabuiag when a dugong is caught half of it is given to the man who owns the gear and half to the owner of the canoe. A man who has borrowed both gear and canoe only gets a small portion of any dugong he may have caught.

The dugong was a totem in most of the western islands (v. pp. 154, 155, 162—164). Various practices were associated with it in this capacity (v. pp. 182, 183, 339—341), and there was a totem taboo (v. p. 186). Charms connected with the catching of dugong are described in Vol. v. pp. 337—342, and in Vol. vi. p. 217; see also *Album*, II. pl. 203.

The following statements are made by Dr W. Wyatt Gill:—"In passing through a grove of palms on the Island of Tauan [Dauan], I came upon a dugong-giving god. It was simply a large perfectly round stone, painted red. A white streak encircled it. Some sacred stones have two white streaks intersecting each other. The stone itself is intended to symbolise the dugong; the bands or streaks, the ropes which will, it is hoped, make it a prisoner. The head-man who has resolved on a dugong-hunt presents an offering of fish and cocoa-nut. In approaching the stone he mimics the paddling of a canoe. On getting tolerably near, he rushes at the stone and firmly grasps it in his arms, all the while uttering a prayer for success. The firmer the grip of the worshipper, the surer will be his success. As these stones are often of considerable weight, they occasionally slip down—an evil omen in the estimation of the dugong-hunter [the illustrative figure on p. 322 is not very convincing].

"On Warrior Island [Tutu] stood, until lately, a stately banyan-tree, completely ornamented with dugong bones, the supposed shrine of a spirit possessing the power of giving or withholding success in dugong-hunting. Under a remarkable tree of the same kind on Jervis Island [Mabuiag] dugong-feasting still goes on, the bones being piled up round the trunk.

"In some of the Straits Islands, when a dugong is caught, the skulls of parents and other relatives are brought out, talked to, wept over, and presented with a portion. When this worship is concluded, feasting begins, followed by dancing. They believe that the spirits of their deceased friends aid them in chasing dugong, turtle, etc. Hence the importance of securing their good-will" (*Life in the Southern Isles*, 1876, p. 302).

As might be expected, the dugong is referred to in folk-tales. Sesere of Badu (v. p. 40) is the reputed discoverer of the edibility of the dugong, this fact, and the method of capturing it and of making a platform were revealed to him by the skulls of his parents, which he employed in the usual manner for divinatory purposes. All the details relative to the capturing of a dugong, even to the method of cutting it up when caught (p. 138), are still carried out according to the plan thus revealed to Sesere. Gelam (v. p. 38, VI. p. 23) made a model of a dugong with which he fooled his mother and in which he swam from Moa to Mer.

IX. WEAPONS AND OBJECTS EMPLOYED IN WARFARE

As the tactics employed in warfare and the method of fighting are sufficiently described in Vols. v. pp. 298—319 and vi. pp. 189—191, I need only refer here to the weapons and other objects employed when fighting.

VARIOUS WEAPONS.

The weapons, *ares lu* (E.), of the Torres Straits Islanders were mainly the bow and arrow and various kinds of clubs, to which were added the javelin and spear-thrower in some of the western islands. There was no special kind of thrusting spear in general use, neither were swords, axes nor similar weapons employed. A sharply pointed *sok* (p. 127) is frequently used as a dagger in New Guinea and it may have been so employed in Torres Straits, but the only instance known to me of a bone dagger is in a folk-tale (vi. p. 21), where Sida, who used it, came from Daudai. It was the same hero who sharpened a piece of *kaka* wood to use as a sword (v. p. 33); this is a very strong hard wood with which, made in the shape of a sword, the women of the Fly River at the present day help the men when hard pressed in their fights.

When the former marriage customs of Mer were described to me I was informed that in the marriage fight (vi. p. 114) a weapon made of shark's teeth fastened on to a stick was employed; the same weapon is referred to in the Bomai-Malu legend (vi. p. 40). As none of these exist I got a native to make one for me (fig. 178). This specimen is made very carelessly, but there is no reason to doubt that a weapon of this kind was once in vogue. The shark's jaw is 50 cm. long, and the total length of the stick is 136 cm. I do not know whether this weapon was known to the Western Islanders.

The only record we have of slings occurs in the narrative told by Mr Wilkin in Vol. v. p. 311, where two boys on Moa are described as "slinging stones with grass slings at the tree-tops and shouting after the manner of boys when they play." I have looked up Mr Wilkin's original note which says "playing with grass apparently slinging"; presumably the fuller account was supplied from additional information. Mr Ray obtained the Mirian phrase *ma baker dau*, you stone sling, I do not know how he obtained this translation, which he modified in the Vocabulary to "throw"; but the ordinary phrase would be: to throw a stone, *baker bataueredi*; to throw stones, *baker itimeda*. Stones would naturally be used as missiles, and I collected at Mer in 1888 a stone,

idid baker, which was carried in the hand when walking to use as a missile and was also employed as a food-pounder, it is 88 mm. in greatest diameter (*Album*, i. pl. 323, No. 6).

The beheading knife and head-carrier may be regarded as post-mortem weapons.

Shields or armour, save the groin-shell, were unknown.

BOW AND ARROWS.

Bows and arrows were the only missile weapons employed in Torres Straits with the exception of the javelin, the use of which was confined to certain of the western islands.

It is doubtful whether any of the natives of North Queensland really employed the bow and arrow; specimens have been seen at Cape York, but it must be remembered that certain Western Islanders were in the habit of visiting that district, and as soon as Europeans began to fish and trade in Torres Straits they made Somerset in Albany Pass their head-quarters, and brought in their train numerous islanders. The bows seen by travellers may have been in the hands of visiting islanders only, and even if they belonged to Australians they were imported from the islands. So far as I am aware there is no evidence that this can be regarded as an Australian weapon in any sense of the term.

On the other hand bows and arrows are of universal occurrence along the neighbouring coast of New Guinea, indeed, except for a considerable part of the south-east peninsula, they occur everywhere in that island. Bows and arrows, especially the latter, formed an important article of export trade from New Guinea to the islands (cf. v. p. 295, vi. p. 185), as the reeds of which the arrow shafts were made do not grow in the islands.

The bows, *gagai* (W.), *sarik* (E.), are usually of large size and invariably made of bamboo. "The bows are made," as Jukes pointed out (*Voy. of Fly*, i. p. 179), "of the upper part of a stout bamboo, partly split in half, flattened and bent over the fire. The string [*gagai uru* (W.), *let* (E.)] is a broad strip of the tough outer rind of a bamboo, and the fastenings are very ingeniously and firmly made. The bows are large, and very powerful, some being more than seven feet [2.134 m.] long, and in the centre more than three inches [76 mm.] wide, and an inch [25 mm.] thick. The bows which we collected varied from 1.64 m. (64½ in.) to 1.88 m. (74 in.), but longer specimens occur in other Museums."

Captain Flinders says (*Voy.* i. 1814, p. xxiii) that the bows at Erub "are made of split bamboo; and so strong that no man in the ship could bend one of them. The string is a broad slip of cane, fixed to one end of the bow; and fitted with a noose, to go over the other end, when strung."

In all the islands the bow is held vertically, that end of the bow being held uppermost which in the living bamboo grew nearer the ground. Jukes (i. p. 209) gathered at Erub that the opposite was the case, and his informant "could give no



FIG. 178. Model of a weapon armed with a shark's teeth, Mer.

reason for the custom." In stringing and unstringing the bow the same end is placed against the ground, as it is the stronger.

When shooting the bow is held in a vertical position in the left hand, and the butt of the arrow is held between the thumb and flexed forefinger of the right hand, the string being drawn back either by the second and third fingers or by the three remaining fingers. The arrow is steadied and shot between the forefinger and the second finger of the left hand and to the left side of the bow (pl. XXIX. figs. 1, 2).

This is the "secondary release" of Morse (E. S. Morse, "Ancient and Modern methods of arrow-release," *Bull. Essex Inst.* Mass. U.S.A. XVII, 1885), but that author does not record the use of the little finger in assisting to pull back the string. The secondary release is the universal method in Torres Straits, and appears to be characteristic of British New Guinea, but according to Van der Sande the "archaic release" is that most common in Netherlands New Guinea; he discusses this point.

The Torres Straits Islanders even in 1888 had for so long given up the practical use of this weapon that no reliance could be placed upon the comparison between the exhibitions of archery that I saw and their former proficiency. Their extreme range was probably about 200 yards, and I was not impressed with the accuracy of aim, but owing to lack of practice that was readily explicable.

Dr Seligmann (*Geograph. Journ.* 1906, p. 228) experimented with the Toro, on the Bensbach river at the Anglo-Netherlands boundary, he found that the time an arrow took to traverse forty paces was between 1 and $1\frac{1}{5}$ seconds. Van der Sande also discusses Papuan archery, and states that "the power of the shot as a rule exceeds the expectation of Europeans" (*Nova Guinea*, p. 251). Sir W. Macgregor tells of an arrow shot through a man (*Ann. Rep. C.A.I.* 1893, p. 34).

Jukes (*l.c.* p. 179) says, "They shoot their light long arrows to great distances, but not, I think, with very accurate aim." Dr Wilson (*l.c.* 1835, p. 311) however refers to the "amazing feats" (which he does not specify) of "these athletic savages" in Mer. Captain Flinders writes, "The depth to which the arrows penetrated into the decks and sides of the brig was represented to be truly astonishing" (*l.c.* i. p. xxiii).

A spare bow string, *tapal* (W.), was usually carried doubled up in the bracer (pl. XIV. figs. 9, 10), the modifications which this has undergone are described on pp. 57, 58.

Extra arrows are held in the bow hand. A quiver is not employed, but I have seen bundles of arrows, *kaunil* or *konil* (W.), tied in two places with a piece of string, the intermediate portion of which formed a handle for carrying the bundle. A plaited strap 81.5 cm. (32 in.) long, used for carrying a bundle of arrows in this manner when going out to fight, is sketched in the *Album*, i. pl. 343, No. 4; it is the same kind of strap or band, *bata*, which the Daudai women use for carrying firewood.



FIG. 179. Bow, Mer.

The collective name for arrows in the western islands is *taiak* or *taiĕk* (pl. *taiĕl*), *tarek* in Muralug, and in the eastern islands *kĕp* or *sarik*, but the latter includes the bow as well; I also obtained *sarik oker* as an *au nei* or general name for arrow in Mer. Various types of arrows were named from the wood of which the head was made, such as *bisi kep*, *kus kep*, etc., or from the carving of the head, such as *le op*, man face, while others were called by similar names to those which they receive in the district of New Guinea where they are made.

The Rev. J. Chalmers states in a MS. that the collective name for arrows at Tureture and Mawata in Daudai is *teere*; *iana*, *boboku*, *garagaro*, *beromamu*, *paru iana*, *koteretuti*, *dupamutu* and *sokeri* are so named from their markings, carvings, or shapes. They are used indiscriminately; the *sokeri* are used for long distances. The arrow that has killed an enemy is named in song. The bow is called *gagari*, and the bow string *wada*.

As all the arrows are imported into Torres Straits from New Guinea, there is no need to attempt to discriminate between the different kinds that were obtained from various islands, especially since they have not been of any practical importance for the last fifty years, and certainly the stock has not been renewed to any extent for many years. The following account will therefore comprise a brief description of all the main varieties of arrows known to me to have been obtained in Torres Straits, and it will serve at the same time as an enumeration of most of the types of arrows made in the neighbouring district of New Guinea.

None of the arrows in New Guinea are feathered, and the end of the shaft is cut square, there being no nock. The arrows usually consist of a head composed of wood, and a reed shaft. In one class of arrow there is added a bone point. Another class possesses a bamboo head which may be fastened directly into the shaft, or into a piece of hard wood which in its turn is fastened into the shaft; this intermediate piece of wood is best termed an aftershaft. Some might like to term the hard wood portion of a bone-tipped arrow an aftershaft, but it seems preferable to me to regard the bone tip as an accessory to an original wooden head.

A. Arrows with wooden points.

(a) Long arrows with plain heads.

The head consists of a cylindrical, gently tapering piece of hard wood which is generally blackened, occasionally there is a slight swelling near the point (fig. 180 A). In some the lower part of the head is varnished with a red gum which is worked up into three groups of encircling ridges. The average length above the lashing is 38 cm. (15 in.).

The junction of the head with the shaft is very neatly and closely bound round with a thin lashing of vegetable fibre, which is covered over with gum.

The red varnishing of the lashing is generally extended over a small portion of the upper end of the shaft. Below this, usually for one internode, the yellow skin of the reed is left entire. As a rule the rind has been scraped off the remainder of the

blackened shaft so that the colour may adhere more readily to the rougher and more porous surface.

The length of the Cambridge specimens varies between 1.232 m. (48½ in.) and 1.435 m. (56½ in.), other specimens average in length from about 1.445 to 1.525 m. (57 to 60 in.).

They are known as *kaigob* or *kaigup* in the western islands. Maino of Tutu called them *Wigilkau kaigob*, probably from their place of origin.

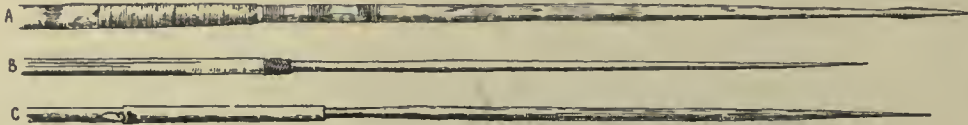


FIG. 180. Long and short arrows with plain heads, Mer.

(b) *Short arrows with plain heads.*

One very clearly marked group consists of small, slender arrows which are imported from the Fly River. The heads taper gradually to a very sharp point, usually they are quite plain but occasionally may be carved. The heads are sometimes simply inserted into the end of the shaft which is cut off abruptly (fig. 180 c), but in most cases the latter is tapered and a plaited cane lashing placed over the junction (fig. 180 B). The shortest head in our collection measures 275 mm. (10¾ in.) and the longest 405 mm. (16 in.). The whole, or the greater part, of the uppermost internode of the shaft is left with the rind intact, and so appears of a bright shining yellow colour. The rind is scraped off the rest of the shaft, either completely or longitudinal lines of the rind may be left, the pared surface being of a dull pale brown colour. The average length of these arrows is about 1.14 m. (nearly 45 in.). The shortest collected by me in Mer is 1.044 m. (41 in.) and the longest 1.165 m. (nearly 46 in.), but in 1889 I collected one 1.245 m. (49 in.) long.

Some arrows, *teraiai*, of this type collected by the Rev. J. Chalmers in Waboda or Wabuda (an island in the delta of the Fly River) are however larger than the foregoing, but they fall into a longer and a shorter group, the former, with red palm wood heads, run to 1.425 m. (56 in.) and of the latter the shortest is 1.022 m. (40¼ in.). All the heads are plain. The shaft is bevelled above with a plaited cane lashing. As a rule the rind of the upper portion of the shaft is intact, but in some it is removed in longitudinal lines. The remainder of the shaft is usually entirely scraped. These are called *tēri* by the Western Islanders, *buru* is also their word for a small arrow.

I obtained one variety of this group, the head of which was made of a wood that readily splinters, and I was informed that before using them in warfare the combatants split the point with a thin shell so that splinters might become detached in the enemy's body. Maino of Tutu called them *bop*, and said they were made by the Wogatēri men.

Another variety of (a) and (b) were called *bisi kep* in Mer, as the head was said to be made of sago-palm wood.

(c) *Arrows with carved heads.*

There is a great variety of wooden pointed arrows with carved heads.

One group possesses a gradually tapering head (fig. 181 A, B) which terminates in a longer or shorter conical point, but sometimes the head itself is slightly swollen so as to give it an extremely attenuated spindle-shape (F, G, H). The accompanying illustrations (fig. 181) give a better idea of the characteristic variations than any description can do. Sometimes (G) a bead is carved below the swollen end. In C the head has an elongated narrow sagittate point. In one case (E) a series of cone-in-cone is carved

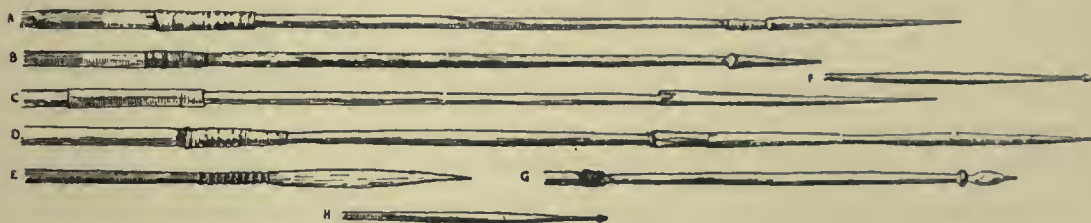


FIG. 181. Arrows with simple carved heads, Mer.

below the point, and in another (A) the same area is decorated with four series of roughened nicks. In H the slightly swollen portion near the point is indistinctly rectangular in section. The shaft is either blackened all over, or more or less of the bare rind may be left. The arrows average from about 1.385 m. to 1.485 m. (54½ to 58½ in.) in length; the head averages 380 to 510 mm. (15 to 20 in.) in length, but some are distinctly longer and others shorter.

The name given to these arrows in Daudai is *susuome* and the Wabuda name is *boboku*; the Western Islanders call them *baulilaig*, or *baulilug*, one with a very conical point was called *bok* in Muralug.

A well-marked type with a conical or fusiform point (fig. 182 A, B) is decorated with a zigzag beading about the middle of the head. The fibre lashing is usually gummed. The greater portion of the shaft is generally scraped and blackened, but part may be varnished with red gum; the upper internode may be left intact. These arrows average 1.380 m. in length. The arrow shown in fig. 181 D is somewhat similar but the beading is not a zigzag.



FIG. 182. Carved arrows with beading, Mer.

Another variety consists of arrows with a long conical point, the head being carved with beads (fig. 182 C, D). The shaft is scraped with the rind left at the anterior end. The average length of these arrows is 1.250 m.

I was informed that the necks of the conical points, or other constrictions on the

head, were nicked before use in order that they might readily break off and remain within the body of the enemy, and Chalmers has a MS. note that "head goes inside and breaks off."

A selection of wooden pointed arrows with carved heads is given in fig. 183, and several more will be found on pl. 324 of the *Album*, Vol. I. They are so varied in form that no useful purpose would be served here in describing or classifying them. They vary in length from 1.335 to 1.565 m. (52½ to 61½ in.). The longest (c) is tipped with a cassowary's claw. One somewhat similar to B from Wabuda is called *siremasepate*.

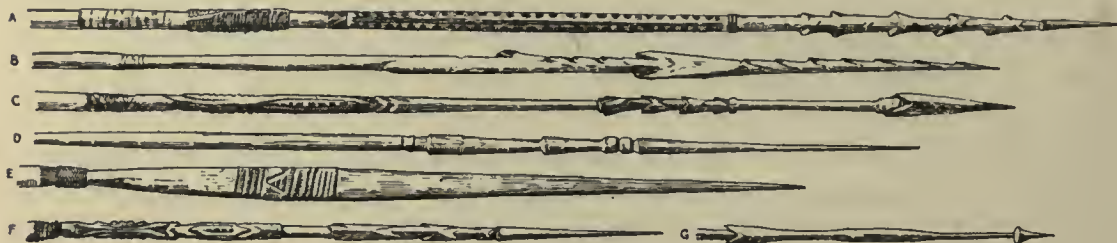


FIG. 183. Arrows with varied carving, Mer.

(d) *Arrows with a single or double row of barbs.*

Arrows with a single or double row of barbs (fig. 184) usually have a fine gummed lashing, and some have the base of the head varnished with a red gum which is



FIG. 184. Arrows with a single or double row of wooden barbs, Mer.

worked up into three groups of encircling ridges as in fig. 180 A. In most cases the upper end of the shaft has the rind entire, but the rest is scraped and blackened. In one (c) the head has an indistinct zigzag beading. These arrows vary from 1.280 to 1.460 m. in length (50½ to 57½ in.). A typical specimen is figured in the *Album*, I. pl. 324, No. 1, length 52 in., head 11 in., and two specimens, Nos. 9, 10, with a cane band at the junction of the head with the shaft, the former is only 39 in. long, with a head of 10½ in. The B type is called *oto-oto* at Wabuda, and Dr Seligmann obtained the name *caraeawa* for one from Sumai, Kiwai, which was very similar to C. One was called *kus kěp* in Mer, probably from the wood of which the head was made; it was also called *Saibaumle kěp* or arrows of the Saibai people.

(e) *Bird bolts.*

Only two arrows were obtained with heavy blunt ends, the purpose of which evidently is to stun plumage birds, such as birds-of-paradise. Probably they were imported as curiosities, since there would be no use for them on Mer where they were collected, unless it were for shooting the white reef heron. Both have slightly carved conical

heads of hard wood. One (fig. 185 A) has a total length of 1.135 m. (44 $\frac{7}{8}$ in.), the head is 102 mm. (4 in.) long, the base of the cone measures 31 × 38 mm. There is a small string lashing in addition to a long lashing of fine fibre. The whole of the shaft is scraped and blackened. The other (B) has a total length of about 1.32 m. (52 in.), the head is about 75 mm. (3 in.) long, the base measures 26 × 29 mm. The conical end and the central corolla have been painted red and the other two corollas blue. There is a neat fibre lashing, and the shaft has the rind entire.

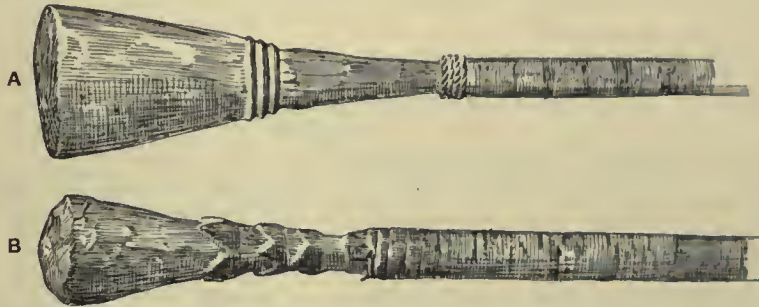


FIG. 185. Bird bolts, Mer.

A third specimen (fig. 186) is also perhaps a bird arrow. The head is carved to represent a fish's head with the mouth open. The meaning of the loop-shaped decoration which occurs on the top of the neck is discussed in the Section on Decorative Art. The head up to the lashing is 185 mm. in length, and is smeared with red ochre;



FIG. 186. Bird bolt, Mer.

it is simply stuck into an arrow shaft. It was called *gir kep* and *tu kep*, and originally came from New Guinea. A bird arrow with a squared end in the Brit. Mus. is figured in the *Album*, I. pl. 324, No. 6.

(f) *Arrows with more than one point.*

The *tete baur* (E.) are arrows with several points, which are employed in shooting birds¹. Three of our specimens have four points while a couple have two, but one of these has bone barbs and is probably not a bird arrow. *Tete* is the Kiwai word for the pronged fish-spear.

One with four points (fig. 187 B) has a total length of 1.21 m. (47 $\frac{5}{8}$ in.), the points being 215 mm. (8 $\frac{1}{2}$ in.) long. These are made of splints of bamboo tied firmly about the middle to one another by a lashing; the proximal portions of the points are cemented

¹ The Miriam state that these arrows were used for birds, those with barbed points or several points suggest fish arrows, but, as pointed out in Vol. v. p. 40, footnote, the only record we have of this practice is in a folk-tale.

together with a white substance which I believe to be sago. They are fastened to the shaft by a neat lashing of vegetable fibre which is coated with gum.

A very similar specimen is 1.175 m. ($46\frac{1}{4}$ in.) long, the points measuring 23 cm. (9 in.). A third specimen has palm wood points and is 1.34 m. ($52\frac{3}{4}$ in.) long with points 25 cm. long. The former only has a cement of sago.

One two-pointed arrow (fig. 187 A) has a length of 1.232 m. ($48\frac{1}{2}$ in.), the palm wood points being 295 mm. ($11\frac{1}{2}$ in.) long, irregularly serrated, and lashed together by a cane about one-third up. The points are fastened to the shaft by a cane lashing. The rind of the shaft is entire.

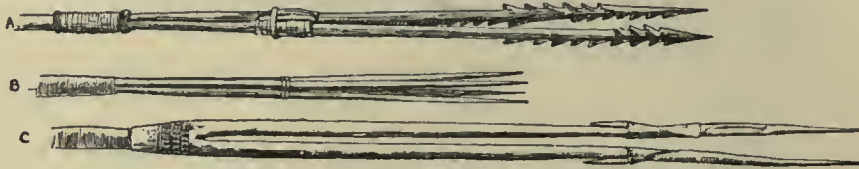


FIG. 187. Bird arrows with more than one point, Mer.

The other specimen (fig. 187 C) is 1.395 m. (55 in.) long, the head being over 385 mm. ($15\frac{1}{4}$ in.). The head is made of a red wood, and the points are provided with bone barbs. There is in the Muscum another arrow of this type which was collected by the Rev. J. Chalmers in Daudai and is called *paru iana*; it is 1.4 m. long. In the Vocabulary a two-pronged spear is called *barugut* (W.) (p. 157).

B. Arrows with bamboo heads.

As frequently as not the bamboo heads are inserted directly into the shaft (fig. 188 A), otherwise an aftershaft is present. The shortest of these arrows in the Cambridge Collection (fig. 188 B) is 136 cm. ($53\frac{1}{2}$ in.) with a head of 23 cm. (9 in.), and the longest 166 cm. ($65\frac{1}{4}$ in.) with a blade of 38 cm. (15 in.), thus the shortest arrow has the shortest head, and *vice versa*. The longest I have measured is 1.83 m. (72 in.), and I have one which combines this greatest length with the least width of the head. The average total length is 156 cm. ($61\frac{1}{2}$ in.), and the average length of the head is 28 cm. (11 in.). The broadest head is 30 mm. and the narrowest 13.5 mm.

Sometimes the head is a piece of narrow bamboo split in half and sharply pointed, or it may be a lanceolate piece of a large bamboo also with a sharp point. Thus in section the head may be deeply concave (A) or nearly flat (B, C). The latter type leads to those arrows of which the head is made of a sharp, flattened, lanceolate piece of palm wood; but there is no record of any of this type having been collected in Torres Straits, it probably comes from the east of the Fly River. The head is sometimes notched at the base (C), but the notches do not appear to be tally-marks; rarely there may be a little simple decoration.

The aftershaft may be plain or carved. The head is usually lashed to the aftershaft by a strong fastening of stout string, which is much stronger than the lashing of other arrows; it is often coated with gum. The aftershaft is fastened to the shaft in the same manner as the heads of other arrows to their shafts. In one variety the lower lashing

consists of a plaited cane binding, it may have a flat bamboo or palm wood head, but this variety apparently does not occur in Torres Straits.

The shafts vary in the same way as those of the bone-pointed arrows.

In a few specimens a lock of human hair is tied round the base of the head (A), or a strand of vegetable fibre, and in one instance a strip of (*Cusens?*) skin. There is a specimen from Erub in the Brit. Mus. about 127 cm. (52 in.) in length, with a lock of human hair tied round the base of the head; Mr Kennett who collected it made the following note: "When an arrow is recovered by which a man has been slain a lock of his hair is fastened to it and the weapon kept with great care."



FIG. 188. Arrows with bamboo heads, Mer. A. Head deeply concave, five nicks at each side of the base, a twisted strand of human hair tied round the lashing, the upper part of which is string and the lower smooth strips of vegetable fibre. The upper end of the shaft has the rind entire which is scored by fine intersecting lines, the rest of the shaft is black. B. Head flattened, the lashing of the head on the aftershaft is thickly coated with gum, the short aftershaft is fastened by means of a neat gummed lashing. C. Head flattened, notched at base on hollow side and there is a simple herring-bone pattern in this region on the other side. There is a long strong string lashing followed by one of delicate fibre. The skin of the upper end of the shaft is entire and is decorated with intersecting scratched lines, the rest is scraped and blackened.

These arrows are used for shooting wild pigs or for warfare. I was told that when employed for the latter purpose they were aimed at the abdomen of the enemy, in order to rip it open (v. p. 13). There is no doubt that the broad, sharp head would cause an ugly wound, and the groove would facilitate copious hæmorrhage.

In the western islands these arrows are called *sukuri* or *süköri*, *sükri*, *buru-süküri* (Mab.), *buru-usal* (Tutu) (*burum*, pig) or *koi kaigob*; in the eastern *uwere*. The Daudai and Kiwai name is *uwere*; *were* or *weri* is also the name for a bamboo beheading knife. According to Chalmers, *sokeri* is the name of an arrow that is used for long distances. They are made in Kiwai and probably elsewhere.

C. Arrows with bone points.

The arrows of this group consist of three portions, a shaft of reed, a head of hard wood, and a bone point; they agree in all essentials except in the treatment of the head (or, as some might prefer to term it, the aftershaft). This may be (a) left quite plain, (b) carved with simple devices, (c) carved with bracts, (d) carved to represent a man, or (e) carved to represent a crocodile.

The extreme lengths of those that I have measured are 1.28 m. (50½ in.) and 1.62 m. (63¾ in.); the bulk of them fall within 1.42 to 1.58 m. (56—62 in.). The shaft averages 1 m. in length, but frequently varies by 5 cm. longer or shorter; the lashing is about 5—8 cm. wide. The bone point, with its barb, varies from about 120—255 mm., the usual length being about 195 mm. (7¾ in.); the free portion of the barb varies from 2—3 cm.

The point is composed of a narrow flattened bone, the lower end of which is neatly lashed on to the upper end of the head, the junction being thickly coated with gum.

A barb is always present, which consists of a sharpened splint of bone, often artificially rounded in section; sometimes the bone is cut to form a hook, probably in imitation of the wing claw of a cassowary, which is also occasionally employed instead. The barb is lashed to the head, and smeared with gum.

These points are reputed to be poisoned by being stuck into decomposing human corpses, but of this there is no corroborative evidence¹. Macgregor says (*Ann. Rep. C. A. I.* 1892, p. 48): "There is nothing to lead one to suppose that these tribes [in New Guinea] prepare poisoned arrows, but the bone-tipped arrows often used probably contain septic germs lodged in the bone." At all events the Torres Straits natives always take the greatest care not to get pricked by the points of these arrows.

I suspect that the points are made of human bone, in which case the dread of being wounded by one would find a ready explanation if there be any idea of a power like *mana* being associated with the bone.

In former days, before going to fight it was customary in Mabuig to touch the white band of one of the Kwoiam head-dresses (v. p. 371) with the points of arrows in order that they might not miss their mark. Mr J. Cowling informed me that a man made the white paint poisonous by thinking hard while pounding the shell; the arrows were then dipped into this and that made them poisonous. It thus appears that for making their arrows deadly some at all events of the islanders relied on the transference of power from the relic of a hero (v. pp. 371, 377), others by the intensity of their own thought could infect powdered lime with power. There is no evidence that the islanders ever claimed actually to poison their arrows in our sense of the term.

There is great variety in the treatment of the shaft in all the arrows of this group. Sometimes the rind is scraped and the whole surface blackened, more frequently the whole of the upper internode and the uppermost portion of the second internode are left intact, sometimes the whole of the upper two internodes is so left, or the uppermost part of the first only, or merely a central band. As a rule the rind has been scraped off those parts that are blackened.

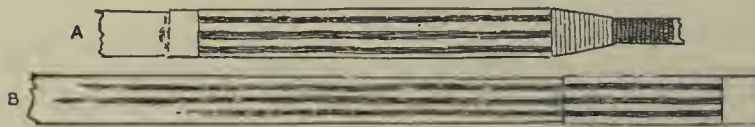


FIG. 189. Decoration on shaft of arrows, Mer. $\frac{1}{2}$ nat. size.

The part which is of the natural colour may be left quite plain, or it may be decorated with groups of fine encircling lines with occasionally scratched chevrons and other simple devices; sometimes the patterns are in zigzagged lines.

On some shafts the lower third of the first internode and more or less of the second are decorated by removing several narrow longitudinal strips of the rind (fig. 189B),

¹ For a discussion on the reputed poisoning of arrows in Melanesia cf. Rev. Dr R. H. Codrington, *The Melanesians*, pp. 306—312; and *Journ. Anth. Inst.* xix. 1890, p. 215.

or only the first internode is treated in this manner (fig. 189 A). The bands thus formed shew black upon the yellow ground of the rind that is left; a line may be scratched round the shaft in the upper internode to prevent the strips from going too far¹. Simple patterns of various kinds formed by paring the rind of the shaft may also occur.

A "poisoned" arrow is called *taiak kimus* (W.); *kimus* (W., E.) is the bone point, it also means the shin in the west, and *sapur kimus* is the wing-bone of the flying fox which is used for piercing ears. *Iena* (W.), *kaigob* (E.) is the general name for this class of arrows, it also includes, I believe, those with bamboo points.

(a) *Arrows with plain heads.*

The wooden head is usually cylindrical, slightly tapering at each end, and blackened all over. When it is made of a hard red wood (I believe of *kus* wood) there may be a broad black band and sometimes red gum is applied. Sometimes the head is made of palm wood, or a pale wood. Occasionally the head and its lashings are whitened with lime.

In some arrows the head is more swollen in the centre, and flattened in the same plane as the barb.

In the western islands this type is called *kaigob* or *dodu*.

(b) *Arrows with heads carved in simple devices.*

This is not a very numerous class, but the variations which occur are too considerable to detail, and I am not aware that they possess any significance. Parts of some of them appear to have been suggested by details on arrows of the crocodile series. The Daudai name for this type is *iana*, a term which probably also includes the plain barbed arrows. Specimens with two barbs are described on p. 180.

(c) *The Claw Arrow.*

This is a very distinct type of barbed arrow, of which the carving consists of two series of projections and a beading. In our collection the shortest arrow measures 1.488 m. and the longest 1.605 m. (58½—63¼ in.).

This type of arrow was sometimes spoken of as the dugong harpoon arrow, presumably from a resemblance of the carving to the plumed end of a *wap* (pl. XXXII. figs. 8—14). In the western islands it is called *putil*, "having *put*," in the eastern *potim* or *potin*, *pot* (E.) being a nail, claw of a bird, operculum of a mollusc. I venture to suggest that the claw of the cassowary is intended, for this bird can strike out very strongly with its legs and the large claws enable it to produce a dangerous wound. The Kiwai name is *garagara*, and the claws are called *orto*.

The upper series of projections varies from about 11 to 16 cm. (4¼—6¼ in.) in length, and consists of from twelve to twenty or more whorls of bract-like projections in sets

¹ The principle of this style of decoration is very characteristic of arrows from the Santa Cruz and Solomon Islands (cf. H. Balfour, "On the Evolution of a Characteristic Pattern on the Shafts of Arrows from the Solomon Islands," *Journ. Anth. Inst.* xvii. 1888, p. 328, and *The Evolution of Decorative Art*, 1893, p. 101).

of four; for lack of a better term I propose to call them bracts, and to describe those arrows which have this decoration as bracteate. The head appears to have been cut as a four-sided rod which gradually increases in size from above downwards. The uppermost portion of this rod is rounded and forms a tapering cone to the end of which the bone point is affixed. The bracts have evidently been produced by nicking the angles of the square rod, and subsequently their form has been developed by further carving. The bracts slightly increase in size from above downwards, and frequently the last whorl is perceptibly larger than the preceding one. Occasionally it is not easy to determine whether the last bract is really a bract or the uppermost claw of the next series. Occasionally the bracts are little more than slight triangular flaps, but usually they are quite prominent and stand out well from the stem and from each other.

The second series of projections I propose to term claws, as I believe it is from them that the name of this type of arrow is derived. The claws may consist of two or of three rows of four elements. Typically they have the form of a lanceolate leaf, except that there is no basal constriction, but occasionally they are almost rod-like (pl. XXXII. fig. 10); they are deeply undercut. The lowermost are always the largest and they vary from 5 to 8 cm. (2 to 3¼ in.) long, the average length being 6 cm. One arrow in the Cambridge Museum has no claws, another has only one whorl and this arrow is exceptional in having five bracts and claws in each whorl.

There are two classes of this group of arrows: (1) those with a simple beading below the claws, and (2) those with a cylindrical or barrel-shaped swelling below the claws. (1) The beading may be simple or grooved (pl. XXXII. figs. 9, 8). (2) The cylindrical or barrel-shaped swelling is usually bounded above and below by a bead. The cylindrical swelling is generally decorated by raised vertical lines, between which are raised dots, zigzags, etc. The typical decoration of the barrel-shaped swelling consists of a symmetrical pair of bowed lines enclosing a row of dots (pl. XXXII. fig. 13). In one specimen in the Museum (fig. 14) a face has been carved on the oval space, and lines and dots cover the corresponding space on the other side. In another two pairs of rings (?eyes) occur in the areas between the oval spaces (fig. 13).

The undercut portions may be painted white or red, the bracts and claws may be reddened but they are usually black. One arrow in the Museum has a ring of human hair between the first and second whorls of claws.

(d) *The Man Arrow.*

The heads of these arrows are carved to represent a man (fig. 190). Sometimes they are made out of a slender piece of wood, but usually they are of larger diameter than other carved arrows; good specimens vary from 25—35 mm. in the antero-posterior diameter of the man's head. They are called *parulaig* or *paruag* (W.), *opop* or *le op* (E.), both terms have reference to the face. *Dupamutu* is the Kiwai name.

The head of the man is surmounted by three or four (at most seven) whorls of bracts, usually the lowermost bracts are considerably larger than the others; rarely claws are carved¹ (pl. XXX. figs. 7, 10). The crown of the head is usually cut square or

¹ It is extremely rare to find an arrow in which the bracts are wanting, as in pl. XXX. fig. 1.

is slightly bevelled, but occasionally it tapers gradually to the stem bearing the bracts (pl. XXX. figs. 4, 8, 10).

The type of the face is very characteristic, being greatly elongated. The forehead is nearly always a large blank surface; it is absent in pl. XXX. fig. 3, or rather the eyes are cut on the forehead. The eyes are generally quadrangular, but are sometimes ovoid or triangular. The nose is usually an almost imperceptible ridge, but is occasionally slightly prominent; the alæ are M-shaped; in a few cases (fig. 190 B) a line below the nose indicates the nose-stick. The mouth is variously rendered, usually the teeth are shewn. Whiskers are always represented and frequently a moustache and beard, the latter being the more constant (fig. 190 A). The high forehead is bounded above and at the sides by a band which marks the beginning of the scalp. The top of the back of the head is always plain, below this the hair is suggested by very varied combinations of straight lines, zigzags, chevrons and lozenges.

The face and hair are separated from each other at the sides, and often deeply undercut, so that in the better carved arrows they form two thin concavo-convex plates with a shaft passing up between them. In the smaller arrows the face and hair are separated by more or less deep grooves. This interspace is occasionally painted red.

On the neck there is a marked projection, sometimes very large, which represents the thyroid cartilage, "Adam's apple," *waiwi rid* (W.), *waiwai lid* (E.), mango stone; it is rarely absent; in one instance another is carved on the back of the neck in addition. The shoulders are usually represented by a decorated area, but no shoulder scarification is indicated; I suspect that this decoration is intended to denote the surface modulations caused by the shoulder blades. The arms are always flexed, but they are absent in a few specimens. The fingers are frequently unrepresented or indicated by usually five or fewer transverse cuts; longitudinal cuts are extremely rare.

The chest is usually distinguished from the abdomen, the elbows marking its lower limit; the sternum is shewn by a plain or notched ridge. The dorsal vertebræ are also usually indicated by a well-marked line or row of tubercles, which are more prominent than those of the lumbar region when the latter are represented. The abdomen is cylindrical or barrel-shaped and decorated with transverse lines between which are dots or other simple designs; very occasionally these run in a vertical direction. In a few instances the navel is represented. A double line round the waist indicates a belt, from which a flat triangular flap projects slightly in front and usually behind as well. I was informed that the front one did not represent the genitals but the pubic shell, in one or two specimens this is clearly the case; the posterior flap is probably intended for the bunch of leaves or feathers which is worn on festive occasions or when fighting.

The legs are rarely of uniform thickness, the thighs and calves being usually very



FIG. 190. Sketch, drawn to scale, of two man arrows from Torres Straits (Cam. Mus. O. III. 94. 35. H. 1), one-third nat. size.

broad and the knees very narrow; the front part of the legs is always straight. The knees are always very prominent; the arrow shown in fig. 7, pl. XXX. is intermediate between that of fig. 10 and the usual type as seen in fig. 11. Four knee prominences are seen in fig. 3; knees are rarely absent. The area between the legs in front is filled up with a simple design, and the diamond-shaped or lenticular area behind is decorated in various ways. I know of only two specimens in which feet are represented, one in our Museum and the other in Oxford (1632). A simple band pattern finishes off the carving.

The foregoing description applies in general terms to the majority of arrows of this class, but no two are alike; although there are numerous cases of degeneration, the human element never becomes obliterated. Sometimes only the head is carved (pl. XXX. fig. 1), and the rest of the body may be entirely omitted or represented by a simple, apparently meaningless design. Some arrows occur in which the head, arms and body alone are carved (pl. XXX. fig. 2), or even the head and legs may occur without the arms and with little or no body (pl. XXX. figs. 3, 5, 6). There is a specimen in the British Museum which has a face on both sides of the head.

Dr Uhle¹ describes three carved arrows in the Dresden Museum, two of which belong to this class. He pronounces them "identical," but I find that they exhibit the usual variability in design; one of them (No. 6404; fig. 1, 1*a* of Uhle) has a variation which so far as I am aware is unique, since both arms arise from the left side of the body and the hands are joined on the right side. A man arrow is sketched in the *Album*, i. pl. 267, No. 7.

(e) *The Crocodile Arrow.*

The most interesting of all the arrows is the crocodile arrow which is called *kodaluparuag* (W.), crocodile face, *kodal kĕp* (E.), and I have heard it called *saibri op* in Mer *saibri* being a Daudai name for crocodile.

In front of the main design there are usually a few bracts, much as in the man arrows, but these may be considerably increased in number in the more degenerate types, or even absent altogether.

It is desirable first to describe the typical crocodile arrows, and it will be necessary to call attention to certain well-marked divisions of the total representation: these are (i) the snout, (ii) the head and neck (from the eyes, inclusive, to the fore limbs), (iii) the fore limbs, (iv) the trunk, (v) the hind limbs, and (vi) the tail. In these arrows too a simple band pattern generally terminates the whole design.

(i) The snout is plain; above at the anterior extremity are two elevations, which are meant for the prominent valvular nostrils of the crocodile. Occasionally one is placed behind the other (fig. 191*A*) instead of their being side by side, or even one only may be present; very rarely it is absent. Laterally the jaws and teeth are usually characteristically rendered. In one arrow (B) the teeth of the upper jaw on one side have been transformed by an easy transition into a zigzag line; teeth are rarely absent.

¹ "Ueber Pfeile aus der Torresstrasse," *Internat. Arch. f. Ethnogr.* i. 1888, p. 173.

The under side of the snout and head is ornamented with lines and dots which may have a longitudinal or transverse arrangement, or both may occur (B).

(ii) The head and neck, like the snout, are plain above except for an occasional representation of scales on the neck (C), and the ventral ornamentation is a continuation of that of the under side of the snout. The eye is triangular with the apex behind, rarely oval (C), or round; a band pattern, usually a zigzag, which is always distinguishable from the ventral ornamentation, extends from the eye to the fore limb.

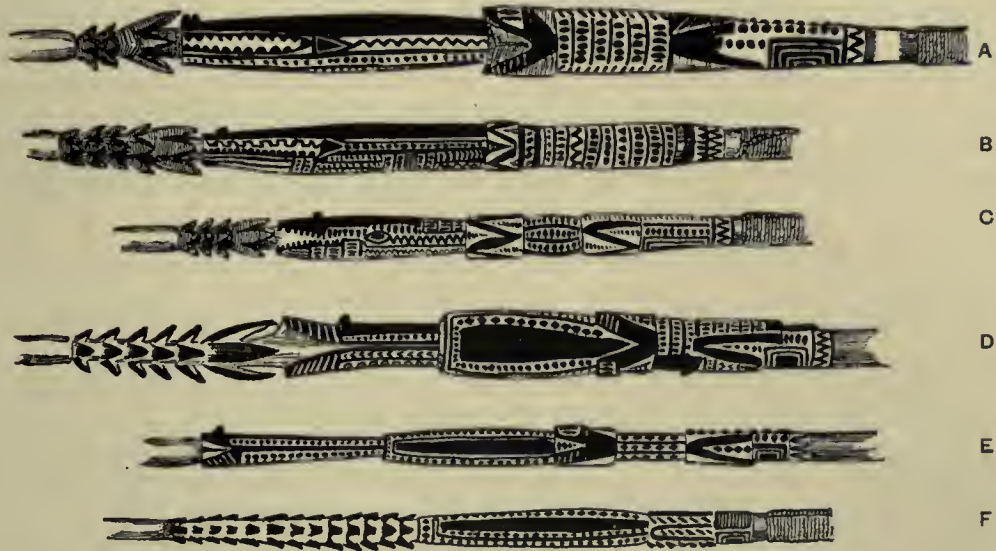


FIG. 191. Sketches drawn to scale of a series of crocodile arrows (Camb. Mus. O. III. 94. 35 A—F), one-third nat. size.

(iii) The region of the fore limbs has generally the greatest thickness of the whole arrow. The limbs often arise from an ornamental band (A), which represents the prominent scutes in this region of the real animal; the scutes are rarely unrepresented. The fore limbs first project backwards, and then run forwards towards the middle ventral line. The toes are usually indicated by transverse lines.

(iv) The trunk has usually a row of chevrons or lozenges running along the dorsal and ventral median lines; the lateral ornamentation usually consists of transverse lines separated by rows of spots, sometimes these run longitudinally. These three patterns indicate the differences between the dorsal, lateral and ventral scales of the real animal.

(v) The hind limbs may be separated dorsally by a triangular area (A), or by a row of tubercles (E). They invariably bend forwards and then backwards. The enclosed angle contains a row of spots or rarely a plain ridge. I can recall only one specimen in which they are absent.

(vi) Typically the tail is ornamented with three, occasionally two or four, dorsal rows of tubercles. The median is a continuation of the median series or the triangular

area above noted; sometimes the median row is a direct continuation of the central series on the back of the trunk. The lateral start from the insertion of the hind limb. Occasionally the tail is represented by other devices, I have only once noted its absence. The proximal portion of the tail of a living crocodile is furnished with three rows of scutes. On the under side there is a large quadrangular plate, ornamented with concentric lines, the sides of which often extend up to the dorso-lateral angle of the tail; it is rarely absent.

On comparing a number of crocodile arrows with the animal itself, one is struck with the numerous realistic details which have survived the decorative treatment of the design. It must be remembered that one is dealing with a work of decorative art, and not an attempt at realistic carving. In one arrow several anatomical characteristics of the crocodile will be suggestively rendered, in a second other details will be more accurately carved, but in the great majority of arrows belonging to this series variation has occurred to such an extent that the crocodile becomes almost unrecognisable as such.

In fig. 191, I have drawn half a dozen specimens which I have given to the Cambridge Museum; equally characteristic examples will be found in many other museums.

A very typical crocodile arrow is to be seen in A; the chief variation in this is the placing of one nostril behind the other.

In B, the nostrils are side by side, and the teeth of the upper jaw are represented by a zigzag line. The hind limbs and the tail are entirely absent.

C is important in several respects. The nostril is single, the mouth is partially closed, but the teeth have not as yet entirely disappeared from the hinder closed moiety. The eye is oval—a rare feature—and the dorsal scales of the neck are represented; this is also rare. The fore limbs have been converted into a raised zigzag band encircling the arrow. The hind limbs do the same, except that the pattern is interrupted in the median dorsal line by a double row of tubercles, which represent the prominent dorsal scutes of this region in the living animal. The thigh is carved with a curved upper border and a straight lower border.

There is a gap in the series between C and D; but it is easy to see that the hinder part of the mouth is closed, and the teeth of both jaws are represented by different patterns; the front part of the mouth is widely open, but edentulous. The nostril is single. The eye has become enormously enlarged, and constitutes what I propose to term an eye-panel; it extends backwards to the fore limb. The plain upper surface of the head and neck has become much reduced, owing to the encroachment of a double row of spots on each side. The artist mistook the upper for the lower surface when he carved the fore limbs, for it will be seen that the toes are above and the dorsal scutes are placed below. Another point of interest is the replacing of the central row of caudal scutes by a plain ridge; so far as I am aware this is unique.

E is a type of a large number of arrows. The front open part of the mouth is quite small, and the surfaces of the jaws are scored by oblique lines. The median dorsal plain band of the snout is no wider than the lateral bands which indicate the closed hinder part of the mouth. In the gape of the mouth an elongated triangle is very generally present; this is doubtless intended to represent a tongue, sometimes it is notched. The eye-panels are elongated and narrow, and the dorsal median band of the head and neck extremely reduced. The rest of the body in this arrow calls for no special mention. Sometimes eyes are carved on the dorsal surface of the gaping end of the upper jaw.

In the last arrow (f) of the series which I figure, the front part of the mouth has disappeared, but the hinder part of the head is much the same as in the last arrow. The fore limbs and body are absent. The hind limbs are narrow, but retain their characteristic forward bend; the dorsal caudal scutes are replaced by numerous parallel transverse lines.

In my *Decorative Art of B. N. G.*, p. 57, I have called attention to the danger there is in these studies of misinterpretation from the lack of a sufficiently large series of specimens.

It would be impossible to refer to all the modifications of this class of arrow which are to be found in museums. The few I have just described indicate the general drift of the changes which occur, and will enable anyone to interpret the carving on the majority of carved arrows from this district. Two features, however, are worthy of special allusion, the one is the remarkable retention of the projecting nostril, which may often be found as a slight prominence in very degraded arrows; and the other is the still greater persistence of the tail and hind quarters of the crocodile; I suspect that the striking decorative effect of the concentrically marked cloacal plate has led not only to the retention of that part but also of the neighbouring organs.

Photographs of twenty arrows are shewn on pls. XXXI. XXXII.; they are sufficiently described in the explanations of the plates.

(f) *The Snake Arrow.*

We now pass on to a small group in which the open front part of the mouth of such an arrow as fig. 191 E has suggested a complete head, and so eyes are added (fig. 192; pl. XXXI. fig. 12); the rest of the snout, the head and fore limbs are omitted; the body is much elongated, but the hind legs and tail are usually quite normal, or subject to merely minor variations; the patterns may run transversely as in the figure, or longitudinally. Such a carving irresistibly calls to mind a snake; the natives themselves told me it was a snake, calling it *elma gudulaig* (like the mouth of the elma snake) in Tutu and *waruwa kep* (snake arrow) in Mer¹.

The tail and hind quarters, however, proclaim the crocodilian original. In this group of arrows we have a very interesting example of the transition from one form into another; but hitherto I have not seen a snake arrow which has lost all trace of its saurian ancestry.



FIG. 192. Snake arrow (Camb. Mus. O. III. 94. 35), one-third nat. size.

The crocodile arrows may be classed as follows:

i. *Complete.*

Those representing all the features of a crocodile with the least amount of modification; mouth with teeth along its length, small eyes; all braeate (fig. 191 A, c, pl. XXXI. fig. 1).

ii. *Modified.*

Those in which the greater portion of the mouth is closed (except in a very few cases, fig. 191 B, pl. XXXI. 13, XXXII. 5) and the teeth are rarely indicated; eye generally in the

¹ *Arua* is the Mawata name for a species of snake, and *erawa arua* is also the name of a snake; *elma* and *erawa* may be the same word.

form of a panel (small, triangular in fig. 191 B, pl. XXXI. 4, XXXII. 5; a spot in XXXI. 13).

(a) *Flat type*: form generally representing that of a lizard; the snout generally rounded and the body diamond-shaped in section; fore limbs very rarely absent, hind limbs, tail and cloaca present; rarely bracteate (pl. XXXI. 2).

(b) *Slender, round type* (very rarely thick); frequently non-bracteate.

Head, body, limbs¹, tail. (Fig. 191 D, E, pl. XXXI. 3—10.)

” ” ” no tail. (Pl. XXXII. 1.)

” ” fore limbs, no hind limbs or tail. (Fig. 191 B, pl. XXXII. 6, 7.)

” ” tail, no limbs. (Pl. XXXI. 13.)

” ” no tail or limbs. (Pl. XXXII. 5.)

” hind limbs, tail, no fore limbs or body. (Pl. XXXII. 3, 4.)

” ” no tail or fore limbs or body². (Pl. XXXII. 2.)

Eye-panel, limbs, body, tail, no snout. (Pl. XXXI. 11.)

” and hind limbs only. (Fig. 191 F.)

iii. *Snake type.*

Those in which the crocodile is so degenerate that it comes to be regarded as a snake, but hind limbs and tail are present; non-bracteate.

CLUBS.

Stone-headed Clubs.

Both Jukes and Macgillivray state that the only weapon other than the bow and arrow which they saw in Torres Straits was “the club called *gabba-goob*,” the ordinary disc-shaped stone club which both aptly describe as “like a quoit”; Jukes adds, “We only saw one or two of them” (I. p. 209). Macgillivray says that they are made “of hard stone (quartz, basalt, or serpentine)” (II. p. 19).

In my “Classification of the stone clubs of British New Guinea” (*Journ. Anth. Inst.* xxx. 1900, p. 221), I drew attention to the great variety of stone-headed clubs that occurs in British New Guinea, and it is probable that there are other varieties which I have not seen. On the whole the clubs of the Central District (*loc. cit.* p. 246) afford the greatest variety of form with excellence of workmanship. Those of the Gulf District are generally not very carefully made, many are extremely rough, and a number of unworked or but slightly worked stones are perforated and rudely hafted. In that paper I stated that “hitherto the natural stone clubs, the unflanged knobbed clubs, the triangular, rectangular, and other peculiarly shaped disc clubs, and the large two-pointed pickaxe clubs have been obtained only from this district. Flattened ball clubs are not rare. A few unpolished ovoid clubs have been collected in this district. All flanged clubs are rare. A few flanged star and knobbed clubs have been obtained; but the flanged disc clubs are only found here. The same applies to the wooden knobbed clubs.”

¹ The fore limbs are frequently represented by a decorative device.

² This arrow has almost degenerated to a snake arrow, but the eye panel is recognisable.

When we come to the Fly River and Daudai districts, we find a still greater paucity of forms, and from these districts the Torres Straits islands cannot be distinguished, some club-heads appear to have been made in the islands. Owing to the absence of suitable rock the mainlanders, like many of the islanders, must have obtained their weapons by trade or loot. The various forms of club-head will be described immediately. The universal name for these clubs was *gabagaba* or *gobagoba*, which was the general name, but particular types probably had specific names. According to Mr Ray the two disc-shaped stone-headed clubs of Malu were called "Waduli" and "Tamera" (VI. p. 296), and those with star-shaped heads were called *saurisauri*.

The handles, *pes* (E.), of the clubs are rather short, varying from about 381 to 720 mm. (15—28½ in.) in length. They are usually thick, often of stout ratan, and are either cut square below the grip or taper to a more or less blunt point; this end was occasionally beaded.

In the Brit. Mus. (C.C. 6530) there is a disc club, the stem of which beyond the head is carved to represent an animal's head; the grip is served with coco-nut fibre string. The length of this club is just over 1 m. (40 in.); it is certainly not a typical Torres Straits form. Occasionally the head end of the stick may be decorated with *Abrus* seeds set in beeswax.

A string loop, *uru* (W.), is generally present, and probably was at one time universal; it was slung over the right shoulder, the head of the club being in front when going on the war path.

The following information was obtained by Mr Wilkin at Mabuia. All the stone-headed clubs came from Dauan, Saibai and Mer. [I do not believe that they were made in the two latter islands, but there may have been a factory on Dauan.] A disc or star stone-headed club cost one *wap* or one *waiwi*, the star club being stated to come only from the Miriam, but more would be paid for a large club. "S'pose you no got *wap* you hungry all the time; s'pose you no got *gabagaba* by'mby you fight, you lose'um life. That's what for he so dear."

Flat or biconcave disc heads are common. They are often somewhat irregular in outline, but are meant to be circular¹. They vary in diameter from about 103 to 150 mm.

Fig. 193 illustrates a typical biconvex disc club which I obtained in Yam in 1888. The stone is well worked, 103 mm. in diameter and 28 mm. thick. The handle is of thick ratan, 706 mm. (27¾ in.) long, and the grip is decorated with simple incised patterns. For a somewhat similar example see *Album*, II. pl. 176, No. 7, the head is 12 cm. in diameter, and the stout ratan handle 767 (30¼ in.) long, plaited and twisted string is served above and below the head; the treatment of the projecting shaft of No. 4, is peculiar, it is probably a mainland club. In 1888 I collected at Mabuia a rude club that was said to come from the Tugeri; the stone is an irregular flat disc, 112 mm. (4½ in.) in diameter, which was evidently a natural water-worn stone, the edge is blunt, the hole is 3 cm. in diam. and has vertical sides and sharp edges as if bored with an iron drill; the ratan handle is 584 mm. long (cf. *Album*, I. pl. 346,

¹ Tom of Mabuia informed Mr Wilkin that a triangular variety was called *dūimau kuma*, an untranslatable word, but it looks as if it might mean *doiom's* stone. No example is known to me.

No. 1). I also obtained in 1888 a beautifully worked club, the stone of which is 146 mm. in diam., it has a sharp edge and its upper surface is painted with a 6-rayed red cross; iron nails are used as wedges, and the projecting end of the stick is ornamented with Abrus seeds inserted in beeswax. These two specimens are in the Brit. Mus.

My old friend Maino, the chief of Yam and Tutu (pl. V. fig. 10), presented to the Cambridge Museum the head of an old disc club (15 cm. in diam. and 2 cm. thick, weight 2 lbs.), made of lava. It is irregularly circular, biconvex but very much flattened; the hole is oblique, with a diameter of 28 mm. at the outside and 22 mm. in the centre. We obtained in Mer a club with a short, thick, recent handle, the plano-convex disc head is made of fine-grained volcanic ash and coloured black so as to resemble the ordinary dark stone of which club-heads are made (17 cm. in diam., 29 mm. thick). I doubt if this was ever a fighting weapon, probably it was made for dance purposes.

Unflanged star-shaped heads are characteristic; some are of rather rude workmanship, others are well made with a polished surface. The number of rays varies from four to about a dozen (pl. XXIX. fig. 3); the latter variety practically merges into the class of disc-shaped heads with a notched rim, examples of which occur on the mainland, more particularly in the Gulf District.

Two sacred Malu clubs, *saurisauri* (vi. p. 296), are beautiful examples of simple unflanged four-rayed stone-headed clubs (pl. XII. fig. 2). The rays are fairly long, bluntly pointed and biconvex in section; the diameter of the head of these specimens is 28 cm. (11 in.) from point to point. The handle gradually tapers to the grip, the total length being 68.5 cm. (27 in.) in one specimen and 59 cm. (23½ in.) in the other. The grip end is beaded. When used ceremonially the head end was adorned with two white feathers which were split and the two halves bent round to form a circle. A similar club-head is shown in pl. XXIX. fig. 4.

On Yam island I obtained a large four-rayed head (fig. 193) made of white granite, which was also used in the ancient ceremonies. The rays are convex above, sloping from an indistinct median keel, and slightly concave below in section. The head as a whole is concavo-convex, so that it rests on its four points in one position and upon its centre in the other. Its greatest diameter is 224 mm. and its thickness 42 mm.; the outermost diameter of the central hole above and below is 44 mm. which converges to 16 mm. in the centre.

I obtained at Mer a *nigir gabagaba* (fig. 194), which may be described as an unflanged ball head, with the greatest diameter at an equatorial band, from which there is a sharp slope polewards. It is 105 mm. in diam. and 97 mm. thick, the outer margin of the hole is 37 mm. and the central diameter 8 mm. It is made of *nigir* stone, which is said to be found in Dauan.



FIG. 193. Stone-headed clubs, Yam.

Clubs with ovoid stone heads have been obtained from the Fly River, and Tom of Mabniag told Mr Wilkin of a spherical-headed club, *gabugaba*, and of a crescentic-headed club, *malpelau kuma* (this is probably *mulpal-au*, moon's, *kula*, stone), but I have not seen examples of these from Torres Straits. Partington figures in the *Album* (II. pl. 176, No. 5) a club in the Brit. Mus., probably from the mainland, the head of which is a perforated natural pebble of irregular shape. The stone is 107 mm. in diameter, the total length of the handle is 1.423 m. (56 in.), which is remarkably long for this district. He also figures (No. 6) a club, 89 cm. long, with a ball-shaped head of chalcedonous quartz 9 cm. in diameter; the cone at the end of the handle rather suggests that this specimen belongs to the Central District.



FIG. 194. Unflanged ball-shaped stone head of a club, Mer.

I collected at Muralug in 1888 an unflanged stone head with two rows of knobs.

I obtained at Mer a curious club, *tut* (pl. XXIX. fig. 9), made of *nigir* stone; it is 39 cm. (15 $\frac{3}{8}$ in.) in length and weighs nearly 3 kilos (6 $\frac{1}{2}$ lbs.). It appears to be a natural stone which was perhaps selected because it had a convenient grip. It was formerly used to hit initiates during the Malu ceremonies (VI. p. 311).

Wooden Clubs.

Wooden clubs, *tutu* (W.), *tut* (E.), are by no means common. They were cut from a single piece of wood generally of Mimmsops Browniana, the wangai plum, *ubar* (W.), *enau* or *enao* (E.) (VI. p. 6, fn. 5), or *kus* wood (*l.c.* p. 27).

A simple wavy club, *tut*, of dark red hard wood (fig. 195) was obtained at Mer. It measures in a direct line 525 mm. (20 $\frac{3}{4}$ in.) and weighs two pounds. This is the club with which Laui killed Boa and Kaidam for stealing his coco-nuts, the two marks on the club were cut by Laui as a memorial of this deed (VI. p. 190).

A *konor konor tut* made of *konor* wood (fig. 196 A) is 767 mm. long with a greatest diameter of 61 mm.; the grip is engraved with characteristic zigzags and there is a narrow beading at the end. Another very old *konor konor tut*, also from Mer, has a conical end on which a turtle is engraved (fig. 196 B); the length is 545 mm. and the diameter of the flat top is 67 mm.; the grip is broken but probably it was never much longer, there is a plaited cane lashing on it. We also obtained at Mer a small baton-like club which tapers slightly and has a broad bead at each end; it is 37 cm. long.

In 1889 I collected in Mer an old, well polished club, *panigob*¹, made of the hard, heavy, dark-coloured *enau* wood, 58 cm. (nearly 23 in.) in length (pl. XXVII. fig. 3; *Album*, I. pl. 346, No. 4). The head has somewhat the form of a bird's head, and an eye is incised on each side, the lines being filled in with lime, the beak is spatulate and plano-convex, the back of the head is marked in the median line with white incised chevrons,



FIG. 195. Wooden club with tally marks, Mer.

¹ It was called a *panigob*, axe, probably on account of its shape, for it could not have been used as an axe.

and beside it there are eight red comb-like markings. White chevrons are cut on the upper of the two beads which occur at the grip. This club is of especial interest as it and probably the following one are of the type seen by Flinders at Erub a hundred years ago. He says: "Their clubs are made of the *casuarina*, and are powerful weapons. The hand part is indented, and has a small knob, by which the firmness of the grasp is much assisted; and the heavy end is usually carved with some device: one had the form of a parrot's head, with a ruff round the neck; and it was not ill done" (*Voy.* i. 1814, p. xxiii). Capt. Bampton states that the Erub clubs were about four feet long (*l.c.* p. xxxvii).

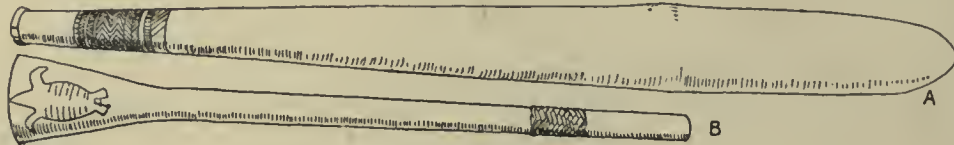


FIG. 196. Old wooden clubs, Mer.

Another old club made of *enau* wood (fig. 197) was given to the Glasgow Museum (89.67 AI) by Mr R. Bruce, who probably obtained it at Mer. It is 825 mm. (32½ in.)



FIG. 197. Old wooden club, Mer?; Glasgow Mus.

long; the oblong head is 10 cm. long and lenticular in section, it is slightly ornamented with engraved designs and decorated with cassowary and bird-of-paradise feathers; the handle is round and there is a terminal swelling at the grip.

Wooden imitations of stone-headed Clubs.

I collected two or three specimens which are obvious imitations of the ordinary disc-shaped stone-headed club. One obtained at Mabuig in 1888 and now in the Brit. Mus. is cut out of one piece of dark heavy wood; it is 725 mm. (28½ in.) long, and the head, 145 mm. in diameter, is a good imitation of a biconvex stone disc (cf. *Album*, 1. pl. 346, No. 3). We collected another at Mabuig in 1898, the disc of which is flattened and measures 175 mm. in diameter. We collected at Mer a *sekerseker gobagoba*, which is a wooden imitation of a star-shaped stone-headed club with six rays (fig. 198), and the total diameter of which is about 105 mm.; it is all in one piece. It is probable that all these were used in dances and not for fighting.

Foreign types of Wooden Clubs.

On both expeditions I obtained in Mer and Mabuig wooden clubs which were evidently imitations of South Sea forms.

The more common of these have the head end shaped like an elongated dome (fig. 199 c), this is the ordinary mushroom-shaped club, characteristic of New Caledonia and the Loyalty Islands¹. At Saibai it was called *gorbotut* in 1888. Since 1871 Lifu



FIG. 198. Wooden imitation of a star-shaped stone-headed club, Mer.



FIG. 199. Wooden clubs of foreign types from Torres Straits. A, B, New Hebrides types (65 and 80.5 cm. long). C, Loyalty Islands type (58 cm. long).

teachers have been imported into Torres Straits by the London Missionary Society, and other Loyalty Islanders have followed in their wake. The presence there of this type of implement is thus readily explicable. To the same cause is due the occurrence of a typical pelican-head club which I obtained in Mer in 1889. It was made by Ned Ware in Erub. This is the Lifu *jia* (the *j = th* in "this"), my informant called it *dia*.

Two clubs of known New Hebrides type (fig. 199 A and B) were collected in Mer.

¹ The specimen is however not quite typical, the end of the grip ought to be like that of A. The same objection applies to B. All the other clubs of type C that we collected have the normal handle. Aberrations are to be expected in implements made in a foreign land where the control of custom is absent.

SPEARS.

The javelin, *kalak*, *klak*¹, was employed solely by the natives of the western islands from Muralug to Mabuig; it was thrown by means of a spear-thrower, *kobai* or *kubai*. From their appearance it would seem that many of the javelins and spear-throwers were imported from Cape York, indeed Macgillivray states that the Muralug men obtain them from the Gudang tribe, and I confirmed this statement in 1888. It is likely that these weapons also found their way to Mabuig, but it is possible that the Mabuig, Badu and Moa people made many of their own weapons; a specimen in the Brit. Mus. from Mabuig measures 1.87 m. (73½ in.). There is no evidence that their use extended northward to Dauan, Saibai and Boigu, or eastwards to Yam, Tutu and the central islands, but Macgillivray (ii. p. 34) says, "The spears and throwing sticks [of Nagir] are perfectly similar to those of Cape York from which place they had probably been procured."

So far as I am aware, this is the only instance in which Papuans have borrowed from Australians; the innovation was a wise one, as there was in 1888 a general consensus of opinion that the javelin is a more formidable weapon than the arrow. I was informed that it generally took three or four arrows to render a combatant *hors de combat*, whereas one javelin usually had that desirable effect, and, further, a better aim could be taken than with bow and arrows. Again I heard at Muralug that in fighting the white man javelins were found to be more efficacious than arrows. [According to d'Albertis (i. p. 417) the natives of Yule Island, New Guinea, "prefer the spear to the bow and arrow, which is becoming obsolete among them."]

These javelins were the favourite weapons of the legendary Kwoiam (fig. 205), and it will be noticed in the legend (v. pp. 71—83) that his antagonists were never mentioned as using these weapons which, in the final sentence of the narrative, were relegated by general consent to Australia, whence they were derived—indeed "all he did was Mainland fashion." When I was in Mabuig, Kwoiam's island as they were proud to call it, in 1888 a large number of Badu men came for some "Sports," the chief feature of the friendly contests being a match of javelin hurling. The mark was a tree stump, 125 mm. (5 in.) in diameter, and the distance was about 40 paces (about 27.5 m.). I reckon that about ten per cent. of the javelins struck the stump, some being hurled with such force that the points projected through on the other side. The greatest distance thrown was about 100 paces (about 98 m.).

Macgillivray (ii. pp. 18, 19) gives the following information: "The Kowraregas [Prince of Wales Islanders] obtain bows and arrows from their northern neighbours, and occasionally use them in warfare, but prefer the spears which are made by the blacks of the mainland. We saw three kinds of spear [*kalak*, general name] at Cape York; one [*rada*] is merely a sharpened stick used for striking fish, the two others, tipped and barbed with bone, are used in war. The principal spear (*kalak* or *alka*²) [*tun*] measures about nine feet [2.75 m.] in length, two-

¹ A water-spout, *baiu* (v. pp. 85, 334, 360), is also called in Mabuig *klak markai* or spirits' spear, it is thus regarded as a fighting-spear and not as a fish-spear (p. 157).

² This may be *algadi*, the barb of the *kalak* (the shaft is called *guapi* or *pud* (W.)), but it may be the same word as *alkir*, a Queensland name, see p. 198.

thirds of which are made of she-oak or casuarina, hard and heavy, and the remaining third of a very soft and light wood; one end has a small hollow to receive the knob of the throwing-stick, and to the other the leg-bone of a kangaroo six inches [152 mm.] long, sharpened at each end, is secured in such a manner as to furnish a sharp point to the spear and a long barb besides. Another spear [*taku*], occasionally used in fighting, has three or four heads of wood each of which is tipped and barbed with a smaller bone than is used for the *kalak*.

"The throwing-stick in use at Cape York extends down the N.E. coast [of Queensland] at least as far as Lizard Island; it differs from those in use in other parts of Australia in having the projecting knob [*kubai ngur* or *kubai pit*] for fitting into the end of the spear parallel with the plane of the stick and not at right angles. It is made of casuarina wood, and is generally three feet [915 mm.] in length, an inch and a quarter [30 mm.] broad, and half an inch [13 mm.] thick. At the end a double slip of melon shell [*kubai tal*], three and a half inches [9 cm.] long, crossing diagonally, serves as a handle, and, when used, the end rests against the palm of the right hand, the three last fingers grasp the stick, and the forefinger and thumb loosely retain the spear. With the aid of the powerful leverage of the throwing-stick a spear can be thrown to a distance varying according to its weight from 30 to 80 yards, and with considerable precision; still, if observed coming, it may easily be avoided."

My Muralug informant gave me to understand that there were several varieties of javelin or *kalak*: the *rud*, or small form with a simple wooden point, which is probably the *rada* (p. 156), fishing spear, not used in fighting; the *tun*, or large barbed variety; the *taku*, or pronged javelin with barbed points; and the *waki*, similar to the last but armed with the serrated spines of the sting-ray, *waki*. He also said that the *taku* was mainly aimed at the side of the neck, evidently to have a better chance of severing the jugular arteries, the *tun* at the back, probably because it was the strongest of the three, and the *waki* at the front of a foe. When imbedded in the body of a victim the gum, *ierka* (W.)¹, which surrounds the barb, *algadi*, was stated to dissolve and thus to leave it in the wound when the javelin was withdrawn.

The description by Macgillivray of the spear-thrower is sufficiently detailed. The specimen shewn in fig. 200 is 80 cm. long (31½ in.) with a maximum width of 4.5 cm. (1¾ in.), a band of yellow orchid skin, *baingan* (W.), *Dendrobium*, is fastened at the lower edge of the gummed head. Abrus seeds adorn each side of the shell handle. This may be taken as a somewhat extreme form of the narrow type of spear-thrower; an exceptionally broad one is shewn in fig. 205 and in Vol. v. pl. iv. fig. 2.

The following remarks by Dr Walter E. Roth ("N. Queensland Ethnography, Bull. 13." *Records of the Austr. Mus.* (Sydney), VII. p. 192) are of interest as shewing the wide distribution of this type of spear, "The Princess Charlotte Bay, Cape Bedford, Bloomfield and Middle Palmer River spears may be dealt with collectively, with the Cape Bedford ones, about

¹ *ierka*=spleen, resin, "milk belong wood," used in fixing the heads and joints of spears and the peg of the spear-thrower.



FIG. 200. Spear-thrower made at Cape York and imported into Torres Straits.

which very reliable information is known, as the type." Local generic names for spears are *kalka* for the Koko-rarmul (Hinterland and coast of Princess Charlotte Bay), Koko-yimdir (Cooktown, Cape Bedford, etc.), Koko-yellanji (Butcher's Hill), Koko-minni (Middle Palmer River), and *alkir* for the Koko-wara (Hinterland and coast of Princess Charlotte Bay). "Strange to say, *kalka* is the generic term for a spear amongst the coastal blacks (Gunanni) between the Mitchell and Staaten Rivers." "All the following Cape Bedford spears are made of a distal (shaft) morticed into proximal (butt) portion, the one extremity of the barb invariably forming the very tip of the completed spear." Then follow descriptions of various spears, illustrations of which are given on pl. LVIII.

Various spear-throwers are described on pp. 197—201; those on the Pennefather River are similar to the *kubai* and "are known by the general name of arái-i. Used both as a spear-guard and as a spear-thrower. The blade (pl. LVIII. fig. 15) varies greatly in width, but with greater width there has, of course, to be a correspondingly larger peg; greater width, however, is not considered an advantage. It is manufactured from five different timbers...[the construction is then described]. The handle is covered with [Canarium australicum] cement, so as to prevent it from slipping through the hand. The cement at one or both extremities of the blade may be occasionally decorated with the dried (yellow) strips from the outer covering of the 'Rock Lily' (*Dendrobium bigibbum*, Lindl.) orchid. The shell-haft is formed of two oval-cut pieces of pera shell (*Melo diadema*, Lamk.) attached with beeswax, while a few *Abrus precatorius* beans may help to ornament the edges in-between; the angle at which the shell-haft is affixed varies a good deal, and appears to depend on individual caprice." The spear-thrower at Cape Bedford, on the Endeavour and Bloomfield Rivers and at Butcher's Hill is somewhat similar and may be provided with two pieces of Melo shell. The method of fastening the peg to the shaft in the Cape York instrument is similar to that figured by Dr Roth (pl. LVIII. fig. 19) from these three places and from the Pennefather River. The Cape Bedford name of the implement is *milbir* (*l.c.* p. 199). See also R. Etheridge, junr., *Proc. Linn. Soc. N. S. W.* (Ser. 2), vi. 1891, p. 699, vii. p. 399¹, viii. p. 299, and F. von Luschán, *Bastian-Festschrift*, 1896, pl. X. fig. 5.

With the exception of javelins, spears do not seem to have been employed as ordinary weapons, but on occasion fish-spears (p. 156; v. p. 71) or even the dugong harpoon (v. pp. 15, 21, 93) might be used for killing persons. The Miriam *zab* is stated in the Vocabulary to be a war spear, but probably this is merely a fish-spear, *dab* (p. 156), and the *kaigob*, "spear, javelin," is probably only a large arrow with a bone point—such arrows are frequently termed "spears" by white residents. In a folk-tale (v. p. 45) we read of a simple toy spear, *dukun*, made of the hard *dukun* wood, and we were informed that a *kéka* was a long stiek with a sharp point that was used in fighting (v. p. 94). On the other hand, Flinders quoting from Bampton's MS. Journal (1793), says that in addition to bows, arrows and clubs, the Erub natives had "spears and lances of various kinds" which were "made of black, hard, wood. Some of the lances were jagged, from the sharp point to a foot upward; and most of them were neatly carved" (*Voy.* I. p. xxxvii). This is the only record I have seen of a type of spear that is known in New Guinea and Australia. Dr Rutherford saw "long wooden spears" in Mer in 1833.

¹ Etheridge says: "1. lath-shaped, mounted with Melo. Cape York; Agate Creek, Gilbert River; Cape Grenville; Herbert River; Batavia River, Gulf of Carpentaria" (p. 402), and *l.c.* p. 170, this womerah "extends throughout Cape York Peninsula; the Gilbert River being situated at its extreme base."

BEHEADING KNIFE AND HEAD-CARRIER.

The bamboo beheading knife, *upi* (W.), *kwoier* (E.), was said to be similar to the ordinary bamboo knife, but I do not know whether the same knife was actually used for beheading and for domestic purposes.

An ordinary beheading knife (fig. 201, pl. XXIX. figs. 5—8) is cut out of a stout bamboo, and averages about 37—40 em. ($14\frac{1}{2}$ — $15\frac{3}{4}$ in.) long. The handle is about 14 em. long, and is made by putting a piece of fibrous pith (?) into the concavity of the bamboo and firmly surrounding both with a lashing of twisted string, perhaps of *wali*. The string is knotted at intervals in such a manner as to form raised zigzag cordings which run along the length of the handle and serve to give the hand a firm hold when the knife is reeking with blood.

I was informed that the edge of the knife remained sharp only long enough to cut off one head, consequently a fresh edge must be made for each decapitation. This is done by cutting a notch at the handle end of the edge and splitting the opposite end with a piece of quartz, *uz* (v. p. 71), or a shell, in such a manner that a narrow strip is peeled off the old edge, this was often done with the teeth. One result of this method of sharpening the knife was that there was a notch for each new edge, and the series of notches was necessarily a tally of the number of persons decapitated by means of that particular knife. The greatest number of notches that I have seen is eleven, but it must be remembered that as knives could be used for cutting up dugong and other purposes each notch may not always represent a head cut off. It is probable however that most of the genuine knives in collections are beheading knives, as these were kept as treasured possessions by the natives whereas the ordinary knives would not be preserved. Further, most of the knives are associated with the eane loop, and when this is the case all doubt may be set at rest. Figures of the two implements are given in Jukes, Vol. I. p. 277, and *Album*, I. pl. 336, Nos. 1, 2.

The head-carrier, *singi* or *sungei* (which averages about 345 to 400 mm. long), consists of a loop of eane or ratan, the two ends of which are lashed on to a cross piece of wood about 15 em. long. Besides the direct lashing of the loop there is frequently a supplemental lashing of braid or string of coco-nut fibre (fig. 201); the former is alone present in the illustrations in Jukes and the *Album*. Very frequently the cross-bar is composed of an old harpoon dart; in a specimen which I collected at Tutu in 1888 each end is carved to represent a human face (cf. *Album*).

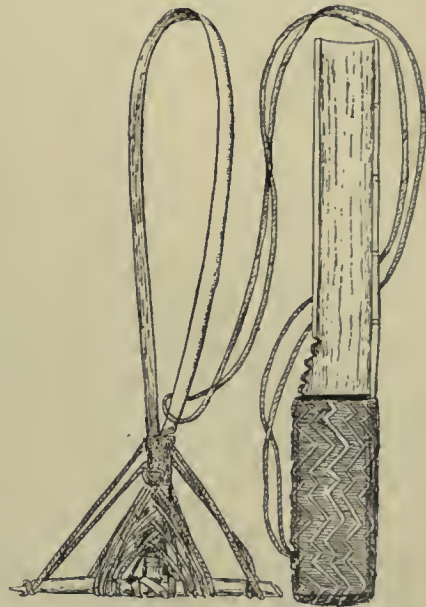


FIG. 201. Bamboo beheading knife and head-carrier; 365 and 355 mm. long, Mawata. A. C. H. Coll.

I was informed that the loop was passed in at the neck and out through the mouth of the decapitated head.

Sir William Maegregor, in his account of the natives at the mouth of the Bamu River (*Ann. Report, C. A. I.* 1892, p. 53), gives the following description of the use of these implements: "When going into action they cut out with a small clam shell a notch about a fourth of an inch deep in the edge of the bamboo at the spot where the blade joins the handle, and they make a slit in the upper end about two or three inches long in such a way that when the enemy falls pierced by an arrow they can at once catch hold of the splinter of bamboo, tear it off down to the notch, and thus have a sharp, clean-cutting, bevelled edge. The same edge is never used for two heads, and knives can be found that have cut off as many as seven or eight heads. When the head is cut off the loop is brought through the floor of the mouth until the toggle rests on the lower jaw. It is then carried home by the loop. The *kuwere* and *garaora* seem to be the most valued heirlooms of the old families, at least in many tribes."

The Rev. J. Chalmers in a MS. states that at Tureture and Mawata a bamboo knife, *were*, and sling, *garaoro*, are carried round the neck when going to fight, and when an enemy is killed the head is cut off with the former and the sling is inserted under the jawbone to carry the head home. The head is hung over a fire and all the hair singed off. While this is being done all the young girls of the village assemble near the fire, join hands, and dance in a ring near to (but not round) the fire, and with singing, *nekede*, the head is taken and all the flesh removed; after the skull has been washed it is hung in the house. A notch, *nepiri*, is made on the *were* for each head cut off. A *savori e ipa* shell is used to take a strip off and to sharpen the *were*.

DECORATION FOR WARFARE.

When going out to fight the warriors decorated themselves in order to produce a fearsome appearance. Red paint seems to have been the main colour with which the skin was painted, and there is no doubt that it had a special significance in this respect. We read, for example, in the folk-tales that when a Western man wanted champions to espouse his cause and to attack his enemies, he put some red paint in the *kwod* (the ceremonial ground of the men), and those who took some and rubbed it on their bodies thereby signified that they were prepared to fight for their friend (v. pp. 21, 43). I understand that there was no uniform method of painting among the Western Islanders. Maino of Tutu described a *koi gerkital garka*, "big fighting man," as having his face, body above the belt, and upper arms above the *musur* painted red, the remaining portions of the body and limbs being painted black. From information obtained in other western islands I gathered that the entire body might be painted red, or only the upper portion and the legs below the knees, or the head and upper portion only. Probably the rest of the person was painted black in most cases. The Miriam painted with yellow ochre a cross on the face, one line extending down the forehead along the nose to the chin, the other running across the face at the level of the eyes.

Some of the accoutrements of a warrior (fig. 202) consisted of objects of ordinary attire, such as the crescentic pearl-shell ornament, arm-bands, leglets and belt; others were articles that were worn in war and other dances, for example, feather head-dresses,

crossed shoulder-belts, bow-string guards, groin-shields, and bunches of leaves (frequently *eroton* or *dracæna*) or of cassowary feathers inserted in the belt at the back. Mr Wilkin gives in Vol. v. p. 311, an interesting description of the Mabuiag warriors accoutred for a fray.

Perhaps both kinds of the white feather head-dress, *dëri* (p. 37), were worn in warfare, but I am under the impression that the one in which the framework was provided with a solid front was more particularly a war head-dress; as a rule the decoration of feathers was less elaborate in this kind.

Cassowary head-dresses, *dagui*, were most generally worn (p. 36); these sometimes bore a central plume of bird-of-paradise feathers. The most notable feather war head-dress I collected is that which belonged to Kebisu ("Kabagi"), the chief of Tutu, which was given me in 1888 by his son Maino on the condition that it should go to the British Museum that "all men may see it" (pl. VII. fig. 3; and *Album*, I. pl. 339, Nos. 1, 2). It was called *baiib*, a word which means "eyebrows" or "a rain cloud." A somewhat similar double head-dress was one of the Kwoiam emblems (figs. 203, 205) which were worn by the two head men of a war-party in Mabuiag (v. p. 372), but in this case the one with vertical plumes was called *boibu* (*boip*, *baib* or *baiib*), and the depending one *zar*, "branch" or "bough." The *boibu* was kept doubled up in a case of tea bark, *ubu* (Melaleuca).

Frontlets of *tu* (p. 35), that is of the etiolated sprouting leaves of the coco-nut palm, were worn in war dances and presumably also in warfare.

Tu was also employed for making crossed shoulder-belts, armlets, leglets and anklets (pp. 52, 59). There was traditional authority for these accoutrements, as Kwoiam always put them on before killing people (v. pp. 71, 76).

The left forearm was encased in a *kadig* (W.), *kadik* (E.), *adigo* (Kiwai). This is an arm-guard or bracer which protects the arm against the recoil of the bow-string. Probably when going out to fight a spare bow-string was frequently carried doubled up in the bracer (pp. 56—58).

The bow and spare arrows were held in the left hand. A stone-headed elub was generally carried, which was suspended from the loop over the right shoulder, with the head in front, when not held in the hand. A beheading knife and cane loop were slung round the neck and hung down the back.

The groin-shield, *alidan*, *lòda* (W.), *alida*, *ebeneop* ("in front of penis")—sometimes this is pronounced *ebeneaup* (E.)—*vedere ere* (Kiwai), is made from the outer whorl of



FIG. 202. Drawing of a warrior by Maino of Tutu, same size. He is wearing a cassowary feather head-dress, *mai*, armlets, *kadig* with something stuck in it, belt, *lorda*, leglets, anklets, and carries a bow and arrow.

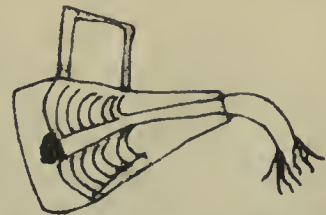


FIG. 203. Drawing by Gizu of Mabuiag of a *boibu* in its case; to the right are the strings for tying on the head-dress. In the middle of the *boibu* is some hair of a young man, this makes a young man come to be killed by the warriors.

a very old melon or bailer shell (*Melo diadema*), of which the outer surface has either become white or of which the outer coloured layer has been scraped off. They are triangular in shape, but the form varies considerably (fig. 204), all are more or less concavo-convex from side to side. A short distance from the upper border two holes are pierced, into which a string is passed which is tied on to the front of the belt in such a manner that the shell protects the sexual organs. The shield may be plain, but most frequently its upper portion is decorated by means of horizontal lines, in the intervals between which are various decorative devices of a simple character, mainly consisting of lines or dots. Frequently also the design includes a central downwardly projecting triangle. Occasionally the ends of the string that appear on the outer surface are furnished with a tassel of coloured wools or even with large beads. The shields



FIG. 204. Groin-shields, Mer, $\frac{1}{4}$ nat. size.

average in length from about 21 to 25 cm. ($8\frac{1}{4}$ to 10 in.), the extremes being 178 and 295 mm.; the breadth averages from about 13 to 14 cm. (5 to $5\frac{1}{2}$ in.), the extremes being 11 and 15 cm. When going through the bush on a fighting expedition the shield was pushed on to the hip so that it might not form an impediment when running.

It is probable that part at least of the decoration of a warrior had a significance to which we apply the term magical, in addition to the world-wide motive of making a brave show. I was however unable to discover any objects that were commonly worn which could be definitely stated to be "magical" in their function. The following special objects may fairly come under that designation.

Two crescentic objects of turtle-shell (fig. 205), which according to the legend were made by Kwoiam (v. p. 70), had such distinctly supernormal qualities that they were

termed *augud*, which is the name by which totems are called; references to them will be found in the saga of Kwoiam (Vol. v. pp. 70—76, 79), and in the account of the feud between Mabuig and Moa (v. pp. 310, 311, 313). The moral value of the *augud* in war was very great and the natives themselves recognised it, as a Mabuig man said, "S'pose we no got *augud*, how we fight?" On one occasion (*l.c.* p. 313), the victorious Mabuig men refused to fight the Moa men on account of the temporary absence of the two *augud* men. The Moa men also had magical emblems associated with Kwoiam, but they were not considered so efficacious as those belonging to the Mabuig men (v. p. 372). Each *augud* was worn by the head man of a war column together with the *boibu* and *zar* (p. 201).

The use of boars' tusks for ceremonial purposes and as armlets was mentioned on pp. 50, 55, but they were also employed as accoutrements in connection with warfare. Although I have no definite information on this head, one is justified in assuming that, as in other parts of New Guinea¹, they had a magical significance, probably being worn to give strength and courage to the warrior. They were known as *gi* (W.), *gir* (E.), both words meaning a boar's tusk.

Pl. XII. fig. 4A represents two tusks lashed together below, from which spot a bunch of fibres projects and a long cord of twisted human hair, a two-stringed tassel of halved *kus* seeds and white beads depends from the point of one tusk and one of white beads from the other. It was called *gidang*, boar's tusk, and held in the mouth when on the war path in such a manner that the points projected upwards and the hair string hung down. It formerly belonged to Kebisu of Tutu (p. 201), (cf. *Album*, I. pl. 339, No. 3).

I also obtained at Tutu in 1888 an amulet (pl. XII. fig. 4B), that was carried in the mouth when fighting, but on other occasions it was worn as a pendant. It consists of two tusks joined together at their base by plaitwork, to this is fastened a flap of bark cloth, a tassel composed of strings of halved *kus* seeds with a feather at the end of each, and a double cord of plaited human hair, the two strings being bound together at intervals by lashings of yellow orchid skin (cf. *Album*, I. pl. 340, No. 5).

At Mer I obtained a specimen composed of four very fine natural tusks, the bases of which were lashed together and covered with red calico (fig. 206). Probably it was held in the mouth when fighting, but judging from the two strings it was also worn on



FIG. 205. Drawing of Kwoiam by Waria of Mabuig; he wears the *augud* on his chest, on his head are the *boibu* and *zar*, he wears a dress and shoulder-belts, he holds a throwing-stick and a three-pronged javelin similar to the one with which he killed his mother (v. p. 71).

¹ J. Holmes, "Notes on the Religious Ideas of the Elema tribe of the Papuan Gulf," *Journ. Anth. Inst.* xxxii. 1902, p. 427.

the chest, in which case it would hang in a different position. One pair of teeth measure 157 mm. across and the other 142 mm.

A chest pendant from Mer (fig. 207) is composed of five pairs of tusks fastened to a bar 255 mm. long, at its upper end is a loop for suspension and at the lower is a tassel of calico and bark cloth.

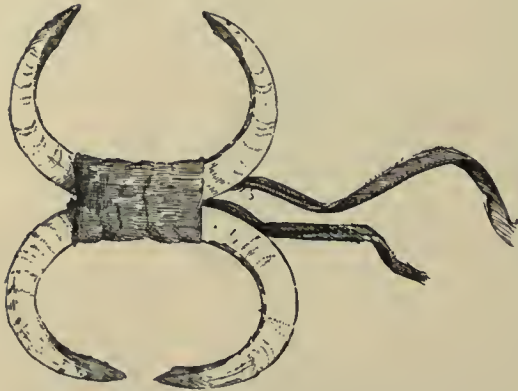


FIG. 206. Amulet of four tusks, Mer.



FIG. 207. Amulet of ten tusks, Mer.

All these specimens were imported from New Guinea, as there are no wild boars in the islands.

When fighting the Miriam wore a whole trimmed pearl-shell, *kemerkemer mai*, on the chest (pl. VIII. fig. 2). Mr Wilkin was informed that the Mabuig men on such occasions wore pearl-shell ornaments, *mai*, on their chests inscribed by means of sharks' teeth with the owner's totem (cf. fig. 60). In all the drawings of warriors by natives a large deep crescentic *mai* is indicated.

X. TRANSPORT AND CANOES

TRANSPORT by land has always been effected solely by simple carrying, mainly done by women. Baskets are used for carrying small objects, but two baskets are never fastened one to each end of a carrying-pole nor is any other device employed, except a plaited strap for carrying firewood (p. 69), and probably most of these are imported from Daudai. When a heavy load is carried on a woman's back the strap is passed across the vertex of the head. There are no vehicles, nor are hammocks or similar contrivances known.

Definite roads were not constructed, but footpaths came into being when there was sufficient traffic. No necessity arose for the construction of bridges.

Transport by water was efficiently performed by canoes; rafts and floats were unknown.

THE CANOES OF TORRES STRAITS.

Canoes of large size (pls. XXIV.—XXVI.) were formerly used for fishing, trading and fighting. There were no special war canoes. Small canoes were and are used by the women to go fishing on neighbouring reefs. The large canoes are still used, though now some natives own, or have a share in, an ordinary fishing lugger; these they employ in pearl-fishing and dugong harpooning. Many canoes have proper names which in some cases are now painted on the gunwale, but I do not know whether giving names to canoes was an old custom. Sailing by night was very rarely attempted, but the natives had definite ideas of steering by the stars when occasion arose (see Astronomy).

The large canoes of the Torres Straits Islanders of former times must have been very imposing objects when painted with red, white and black, and decorated with white shells, black feathers, and flying streamers; and not less so when quickly paddled by excited noisy naked savages adorned with cassowary coronets and shell ornaments, or when swiftly sailing, scudding before the wind with mat sails.

Dumont-D'Urville (*Voy. au Pôle sud*, ix. 1846, p. 235) saw about thirty canoes when on Toud (Tutu). One was more than 10 metres (33 ft.) in length, hollowed out of a single tree. All were ornamented with rude carving, the prow of one representing "an old man with a long beard of fucus." The Tutu canoe figured in pl. 190, *Atlas pitt.*, is of the usual Western type both as regards rig and decoration. What appears to be a porpoise is painted on the starboard bow; the decoration in front is typical. The sides of the central platform are built up with bamboos horizontally placed, the upright posts which support these are steadied by oblique poles which, starting from the middle line of the platform, project upwards and outwards; no crates are indicated; two flags are drawn. At the stern there is a large stern-post with a fringe and two flags, *dadu*.

Flinders gives the following account of the Miriam canoes as he saw them in Sept. 1792:

"Their canoes are about fifty feet in length, and appear to have been hollowed out of a single tree; but the pieces which form the gunwales are planks sewed on with the fibres of the cocoa nut, and secured with pegs. These vessels are low, forward, but rise abaft; and, being narrow, are fitted with an outrigger on each side, to keep them steady. A raft, of greater breadth than the canoe, extends over about half the length; and upon this is fixed a shed or hut, thatched with palm leaves. These people, in short, appeared to be dextrous sailors and formidable warriors; and to be as much at ease in the water, as in their canoes" (Flinders, 1. 1814, p. xxiii). Captain Bampton mentions canoes fifty to seventy feet in length, some of which were "ingeniously carved and painted, and had curious figures at each end."

The account in the *Naut. Mag.* (vi. 1837, p. 754) repeats in the main that of Flinders, with the following additions: the canoes are "so narrow that the men cannot pass each other without crawling between their legs, in the bottom of the boat...with a fresh breeze they are obliged to stand out upon the outrigger to windward, to keep the canoe upright. In pulling they had no chance with the schooner's boats, in consequence of the stern and bow being encumbered with mats, which hang into the water. These mats, called *soo soo*, are made of the young leaves of the cocoa-nut split into shreds [p. 215]; the sails of the canoes are made of the same material. Some have the head carved with the figure of a man, ornamented with strings of cowries."

Judging from the excellent drawings of H. Melville (Jukes, 1. pl. facing p. 169; Melville, *Sketches in Australia*, pls. XVII., XIX., the last is reproduced in pl. XXIV. fig. 1) the Eastern canoes were precisely similar to the Western craft. Less satisfactory is the drawing by W. Westall, the artist to the expedition commanded by Capt. Flinders of H.M.S. *Investigator*, 1801—1803, reproduced by R. T. Pritchett (*Pen and Pencil Sketches of Shipping and Craft*, 1899, p. 211). A small, rudely made Miriam canoe is shewn in Vol. vi. pl. XXVI. fig. 2 (taken from Jukes, 1. p. 133). A canoe seen at Erub in 1887 is figured on p. 416 of *The Last Voyage, Lady Brassey* (1889), the illustration on p. 423 is wrong in every detail.

Macgillivray says:—"The largest canoes which I have seen are those of the Murray and Darnley Islanders, occasionally as much as sixty feet long; those of the Australians are small, varying at Cape York between fifteen and thirty feet in length. Even the Kowraregas have much finer canoes than their neighbours on the mainland; one which I measured alongside the ship was forty-five feet long and three and a half in greatest width, and could carry with ease twenty-five people. The construction of a canoe in the neighbourhood of Cape York is still looked upon as a great undertaking, although the labour has been much lessened by the introduction of iron axes, which have completely superseded those of stone formerly in use. A tree of sufficient size free from limbs—usually a species of *Bombax* (silk-cotton tree) or *Erythrina*—is collected in the scrub, cut down, hollowed out where it falls, and dragged to the beach by means of long climbers used as ropes. The remaining requisites are now added" (II. pp. 15—16). He speaks of the poles of the outriggers as being fourteen to twenty feet in length, and from six to ten feet apart. There is a long float of light wood on each side, pointed and slightly turned up at the ends.

At Sue Island, Waraber, Macgillivray saw a canoe which "was rather singular in form, with greater beam than I had ever seen in one, nor did the sides tumble home as usual; the bow was sharp, but the stern square, as if effected by cutting a very large canoe in halves, and filling up the open end" (II. p. 40). In the Kwoiam saga (v. p. 75) it is stated

that the Gebar men cut a new canoe in half to make it more serviceable for Kwoiam; a short canoe of this kind was called *gabō*, perhaps because the cut end would require to be fitted with a *gab* to make it seaworthy. A canoe of this sort is called *pau* or *paō* by the Miriam, this name was given to the canoe mentioned in Vol. vi. pp. 16, 25. A small canoe in Mer is called *wasar*. In the Western folk-tales other forms of canoe are mentioned, these are: *guguba wake*, *kim* and *karar mad*, a straight canoe (v. p. 29), *gabō*, a canoe which has been cut down (v. p. 75), *kauta*, one side of a canoe that had been split in half (v. p. 104).

Although canoes were locally made in the Cape York district, in the Prince of Wales group and at Nagir, as Macgillivray informs us—and I too have seen a small canoe which was made by a Muralug native—this I believe was only occasionally done, and those there made were probably of small size. There is no doubt that all the large canoes are and were obtained from New Guinea. The details of this trade are described in Vol. v. p. 296. The hulls were hollowed out in the vicinity of the Fly River and fitted, I was told, with a single outrigger, as they are only used for river navigation (pl. XXXIX. figs. 1, 2). If a canoe was traded to the most westerly islands by the Saibai route, it was refitted with two outriggers, and the original gunwale (if there was one) was removed by the Saibai men and a more seaworthy one put in its place; an attempt at decoration was also made (v. p. 296). The figure-head, *dōgai*¹ (pl. XXV. fig. 4), was fastened on and other bow ornaments, together with white shells and cassowary feathers. The canoes were further ornamented by the later purchasers, as they used to pride themselves on their fine canoes and the Saibai decorations, having a purely commercial significance, were rather scant. Further details regarding the ornamentation of canoes are given on pp. 213 ff.

In the following description I have given the Western names for the parts of a canoe, the Eastern names are given in brackets (cf. pls. XXIV.—XXVI. and fig. 209). The bow is called *buai* (*tarim*) and the stern *kun* (*kor*). The hull, *gar* (*gem*), of the canoe, *gul* (*nar*), is cut out of a single tree-trunk, the ends gradually sloping up and coming to a blunt point, that at the bow is called *ngasa* (*tarim garbad* or *op*). The sides are generally heightened by a gunwale board about 101 mm. (4 in.) in height, *garbad* (the gunwale, or at all events the front end of it, is called *bag*, cheek, by the Miriam. They call the upper edge of the canoe or gunwale *maumer*, but very few if any of their canoes now have a gunwale). The smoothed lower edge of this is laid on to the straight edge of the hollowed hull. A split bamboo, *maumau* (*torob*), is placed rind outermost against the joint, and the gunwale is lashed on to the hull by string, *uru* (*ked*), which passes through holes, *tira* (*neb*), previously bored opposite one another in the gunwale, and in the upper edge of the hull; a long triangular weather-board, *sabi* (*werem sab*), is similarly added to the gunwale at the bow. A vertical flat end-board, *gab* (*garbad*)², is inserted in the bow and at the stern, *kuna gab* (*kor garbad*). The front part of the *sabi* has a small deck-covering, *awar* (*lak sop*), which is supported by a cross-bar, *gub* (*gob*). A hole is bored in each *sabi* through which a stout stick is passed, that end which projects on the starboard side is called *gudagub* and serves for the attachment of the anchor rope. The central platform, *natar* (*tam*), and outriggers are next added. Four bamboo poles, 3.66—4.57 m. (12—15 ft.) long, constitute the thwart poles, *tug* (*tug*), of the

¹ Mr J. Bruce informs me that the *dōgai* figure-head is not Miriam, but belongs to the west.

² Mr Bruce says that the *garbad*, *bag* and *werem sab* are collectively termed *uni irkei op* by the Miriam. It was on this that Malu (or Bomai) floated to Mer, see Vol. vi. p. 37.

outrigger, and at the same time form the framework of the platform. Two of the poles, from about 1.07 m. (3 ft. 6 in.) to about 1.83 m. (6 ft.) apart, project a foot or two on one side of the canoe and stretch out some 3.05—3.66 m. (10—12 ft.) on the other, and the other two are similarly placed on the opposite side; the front poles are called *buai tug* (*tarim tug*) and those behind *kuna tug* (*kor tug*). A double-pointed float, *saima* (*sirib*), about 2.44—3.66 m. (8—12 ft.) long, made of the light wood of the *pasei* tree, is fastened on to the end of each pair of thwart poles; the ends are often gently turned up, and frequently the upper surface of the float is slightly raised at the spots where it is fastened to the thwart poles. Two pairs of sticks, *sainu pat* (*kag*), spring like a V from each end of the float and embrace the pole, to which they are securely fastened with string. The platform, *natar* (*tam*), is made of lengths of bamboo, *iabu puil*, which run transversely to the length of the canoe. Each side of the platform is bounded by a peculiar kind of crate or wattled basket, *kusil* (*sal*), built on to the platform. It consists of two rows of short vertical sticks, the front ones are called *kuiku sail*, and an outermost row of long ones, *sail*, occasionally 1.22—1.52 m. (4—5 ft.) in height (usually they run much shorter now than formerly). Long sticks are woven between the uprights, and the ends are also enclosed. Thus two long narrow receptacles are formed along the outer edge of each side of the platform: the outer one, *watarau tamul*, is the firewood compartment as its name implies; the inner one is divided by partitions into three compartments, *aingu tamul*, "food compartments": the front one, *buai tamul*, is where the "mate," *buai-garka*, keeps his food, the middle, *dada tamul*, and the hindmost, *kuna tamul*, contain the food of the crew¹. The "captain" keeps his food in the stern of the canoe. Bows and arrows were formerly kept in readiness by being placed on the *kusil*. Projecting obliquely upwards and outwards from the ends of the crates are two sticks, *adaka sail*, which support the bamboo poles, *suru* (*imut*), which are used for punting the canoe when on the reef or in shallow water, they are thus stored out of the way of the crew. When on a voyage a fireplace, *mui kun* (*ur memeg*), is kept on the platform.

Sometimes an awning (*mud moder*, under mat) was built over the platform; it had a mat roof and was supported by sticks which were fastened to the crate.

A pair of cross-ties, *dami* or *duam* (*zerem* or *zirim*), strengthens the middle of the canoe. The paddles, *kaba* (*uzer*), are about 1.5 to 1.85 m. (5—6 ft.) long with an ovoid or elongated oval blade, they are very clumsily made of *pasei* wood, and without any ornamentation, except in some cases a simple beading at the end of the handle (pls. XXIV. fig. 1, XXVI. fig. 2, XX. fig. 2). A large flat board or a large paddle is used as a rudder, *kuli* (*korizer* or *kor-uzer*), at the stern on the windward side when sailing. The anchor, *iadi* (*par*), is a large stone attached to a hawser and kept in the bow.

A flat oblong perforated stone (vi. p. 42, pl. I. fig. 1) is said to be the stone anchor of a canoe that came in search of Bomai. "The cable is made of twisted climbers—often the *Flagellaria Indica*" (Macgillivray, II. p. 16). The stem of the Queensland bean, *Entada scandens*, *sirip* or *sireb*, is used for canoe cables as it is particularly strong (vi. p. 47).

Cordage and other gear are kept in the crates. The shell of the Melo diadema, *alup* (*ezer*) (fig. 152), of which the columella has been removed, is generally used as a bailer, but the spathe (*geru*) of a coco-nut palm leaf (fig. 208) is often so employed (*kuapi*). To bail



FIG. 208. Spathe of coco-nut used as a bailer, *kuapi*, Mer, 49 cm. long.

¹ There do not appear to be any names among the Miriam for the compartments, *sale nebge*, of the crate; a model of a crate is described in Vol. vi. p. 278.

water out of a canoe is called *sal pamai*, lit. dig bilge-water (*usi depaupli*, *usi* is urine or bilge-water). Mats are often placed on canoes when on the beach as a protection against the sun.

The sails, *waku* or *gulngu waku (moder)*, are large mats; Macgillivray (II. p. 20) states that "the large mats used as sails are made by the women from the fallen leaves of the pandanus." They are about 3.66 m. (12 ft.) in height and about 1.52 m. (5 ft.) in width. They are supported along their sides by two long bamboos, *waku tug (naive)*, to which they are fixed by numerous skewers. A ring or gromet, *guguba (gogob)*, is attached to each side pole between one-half and two-thirds of the way up, it enables the sails to slide up and down the backstays.

A canoe with one sail, *waku (narbet moder)*, is rigged (*seseri derem*) as follows: A step or shoc, *tira (tir)*¹, is placed in the bow immediately behind the *awar*, in this are erected a stout mast, *rangad* or *rad (morgober or morgobar)*, which slopes towards the port or windward side², and a similar mast, *karas (karas)*³, which is approximately vertical or slopes to leeward. The two masts are kept from diverging too far apart by a cord, *lumulam (atakobi lager)*, which is fastened by its ends to the *rangad* and loops round the *karas*. A guy, *garwal uru*, "rope of the *gau*," passes from the head of the *rangad* to the outer end of the fore pole, *buai tug*, of the port outrigger; but sometimes, instead of being tied to the end of the *buai tug*, it is fastened to the end of a pole that projects to windward in front of the port outrigger. This rope is in charge of a man who stands on the *buai tug*, and steadies himself by means of a pole which is fastened to the crate. This man is called *tugu-kwiku-garka* or *gauau-garka*, i.e. the chief man of the *tug* or the man of the *gau* or windward outrigger; perhaps the term *gau* should be restricted to the pole just mentioned, the "temporary outrigger" of Macgillivray. In the Miriam canoes this pole (*geau*), which is made of mangrove wood and is about 3.66 m. (12 ft.) long, is a constant feature; it is fixed between the two masts and projects to windward on a level with the deck. It is used for balancing the canoe, a man stands on it and shifts out or in according to the force of the wind. A stay, *rangadal uru (morgober lager)*, passes from the head of the port mast to the base of the hind pole, *kuna tug*, of the port outrigger, central to the crate; this is manipulated by a man, *amu-garka*, who stands on the platform. Another stay, *karasil uru (karas lager)*, passes from the head of the starboard mast, *karas*, to the base of the hind pole of the starboard outrigger, *kuna tug*, and is held by one of the crew, *pazara*, standing on the platform. In setting sail, the two backstays, *rangadal uru* and *karasil uru*, are passed through the gromets of the sail, which is pushed into position by means of two bamboo poles with forked ends; when the sail is home, that on the port side is retained, the fork fits into the gromet and the pole, *parungaizinga (narbet akmeret lu)*, props up the sail against the masts, its lower end being lashed to the port bow about halfway between the bow and the outrigger. A *kupal uru* (tail rope) or sheet is attached to the starboard lower corner of the sail and made fast to the front thwart of the platform.

When there are two sails, as is usually the case, the second and smaller one, *duda waku (keimer moder)*, is placed close behind the principal sail. A third mast, *paupa tairai*⁴, is erected

¹ The *tir* for supporting the lower end of the masts, *karas* and *morgober*, is a piece of wood with four holes in two of which the feet of the masts (*seseri*) are stepped, the other two are spare holes in case of breakage. A wooden step, *saua peere*, with two square holes, from the mouth of the Fly River, is figured in the *Album*, II, pl. 194, it is 58 cm. long.

² This is placed to windward, because "*rad* he strong."

³ *Morgober* is made of mangrove wood and *karas* of bamboo.

⁴ Mr Bruce informs me that there is no mast for the *keimer moder* in the Miriam rig, it is supported

in the step and slopes to starboard. The sail is run up on the two backstays in a similar manner to the front sail, and it too is propped up by a forked bamboo pole, *dada waku parungaizinga*¹ (*keimer akmeret lu*), the lower end of which is fastened to the gunwale on the port bow behind the former prop. The backstays, which now pass through the gromets of both sails, are attached as before. A sheet is attached to the starboard lower corner of the *dada waku*, and this sheet is made fast to the front thwart of the platform; I am not sure whether the same sheet serves for both sails, judging from the photographs on pl. XXVI. I think they must each have one.

A centre-board, *walunga* (pl. XXVI. fig. 2), is fixed on the starboard bow when sailing and is kept in place by a bamboo which is lashed to the outside of the canoe; the holes in the side of the canoe used for this purpose are called *kupumau tira*. Wilkin (Vol. v. p. 297) says that "the holes, *kupumau tira*, for the canes by means of which the canoes were launched were filled with *buat*, the root of the *tapi* tree." *Biuu* appears to have been used for caulking canoes (v. p. 73).

DETAILS OF MABUIAG CANOES.

"Adi" (pl. XXV. figs. 2—4) has a total length of 13 m. (42 ft. 6 in.), at the centre the inside breadth of the hull is 46 cm. (18 in.), but the average beam is from 61 to 71 cm., the central height is 115 cm. The gunwale is 76 mm. (3 in.) high, the higher forward portion is 13 cm. (the sudden angle which occurs when these two meet is called *ngur pagami*). The outriggers extend on each side to 3.55 m. (11 ft. 8 in.), the floats are 3.76 m. (12 ft. 4 in.) long and 30 cm. (1 ft.) broad, the outrigger poles are 99 cm. (3 ft. 3 in.) apart, and the distance between them and the float is about 25 cm. The steering-board is 2.19 m. (7 ft. 2 in.) by 27 cm., and the centre-board is 2.64 m. (8 ft. 8 in.) by 63.5 cm.; both consist of a simple plank straight, or nearly so, at one end and rounded off at the other.

One canoe I measured at Mabuiaq in 1888 was just upon 15.24 m. (50 ft.) long; the hollowed trunk was 2.69 m. (8 ft. 6 in.) in circumference, with an opening 30 cm. (1 ft.) wide. The platform was 2.08 m. (6 ft. 10 in.) across and 2.21 m. (7 ft. 3 in.) long. The inner side of the platform crate was 30 cm. (1 ft.) in height, and the outermost 74 cm. (2 ft. 5 in.). The inner and outer receptacles were respectively 165 mm. (6½ in.) and 89 mm. (3½ in.) wide. The thwart poles of the outrigger were 1.65 m. (5 ft. 5 in.) apart, and projected 3.78 m. (12 ft. 5 in.) beyond the gunwale, or 2.92 m. (9 ft. 5 in.) beyond the platform. The float was 3.66 m. (12 ft.) long. One old canoe at Tutu was 20.65 m. (67 ft. 9 in.) long, the trunk was 107 m. (3 ft. 6 in.) across in the widest part, and 79 cm. (2 ft. 7 in.) deep.

I was much puzzled when I first went to Torres Straits in 1888 by occasionally seeing at Thursday Island a canoe with a single outrigger. I afterwards found that it belonged to a native of Ware, one of the New Hebrides, residing at Mabuiaq, and that he had re-outrigged a native canoe according to the fashion of his own people. Later on, when I was staying at Mabuiaq, some natives of that island were fitting up a canoe with a single outrigger in imitation of it. Thus foreign custom was beginning to be imitated, but ten years later we found that many of the Mabuiaq canoes still had the double outrigger.

only by the two bamboos, *naiwe*, to which it is skewered, and by the *keimer akmeret lu*. He also says that they sometimes erected three sails if they had nice light winds; they were called *narbet*- (elder), *eip*- (middle), and *keimer*- (younger) *moder* (sail).

¹ *paru* means face or front, but I was also told that it means port side.

Among the western islands European sails had not quite supplanted the original mat sails in 1888, but we did not see any of the latter in 1898.

The Miriam canoes also are in an interesting transitional stage. In some instances the old double outrigger has been retained, though the crates are not now so carefully made as formerly. In these as in all the other sailing canoes the mat sails have given place to European sails, there being a mainsail, foresail and jib (the foresail still retains its old name of *narbet moder*, "elder brother sail," referring to the time when it was the more important sail, while the mainsail is termed *keimer moder*, "younger brother sail"¹); there is no bowsprit.

On being questioned the Miriam admitted that the single outrigger had been adopted in imitation of canoes rigged by South Sea men, indeed they attributed its introduction to Mataika about 1873. They said that with it a canoe was less liable to capsize, could carry more people, and could sail fifty or a hundred miles. The outrigger was always to windward and the large paddle was always held to leeward. In some instances the float is exceptionally long and thin, in one case it was practically as long as the canoe (pl. XXV. fig. 1).

Colonel A. Lane Fox (Pitt Rivers) says: "It is necessary that the outrigger should always be on the windward side. The outrigger acts as a weight on the windward side, to prevent the narrow canoe from being blown over on the opposite side. When it blows very hard, the men run out on to the outrigger, to give it the additional weight of their bodies. Wilkes says that whenever the outrigger gets to the leeward side, there is almost invariably an upset. The outrigger probably is pressed too deeply into the water, and meeting with too much resistance, breaks the poles. To meet this difficulty both the canoe and outrigger are, in some parts, made pointed at both ends. When they wish to tack, instead of luffing and coming about, they bear away, until the vessel gets on the opposite quarter, and then by shifting the sail, they sail away again stern first. This system is pursued in Fiji, in parts of New Guinea, and northward, in King's Mill Islands (Wilkes)²." I was told that a canoe with a single outrigger can travel both ways.

In many Miriam canoes the numerous thwart poles of the single outrigger support an almost continuous platform from near the float to about an equal distance on the other side of the canoe, the latter extension is what Lane Fox (Pitt Rivers) terms a "weather-platform." The crate is absent.

"In Samoa the canoes are built with bow and stern, and the outrigger is pointed towards the fore part only. As these vessels can only sail one way, the outrigger, in tacking, must necessarily be sometimes on the leeward side; to meet this, they rig out a platform corresponding to the outrigger platform on the opposite side: this, for distinction's sake, we may term a *weather platform*. It has no outrigger log, nor does it touch the water, but when the wind blows so heavily as to press the outrigger down on the lee side, they run out on the weather platform, and counterbalance the effect of the wind by their weight. This contrivance is used in some parts of New Guinea, where, it may be observed, the varieties of the outrigger canoe are more numerous than in most of the other islands. It is also used in Solomon Isles, where the weather platform is of the same width as the outrigger platform [as it is in Torres Straits]" (Lane Fox, l.c. p. 430;

¹ Cf. Vol. vi. p. 94.

² "On Early Modes of Navigation," *Journ. Anth. Inst.* iv. 1875, pp. 429, 430 (reprinted in *The Evolution of Culture*, by Lt.-Gen. A. Lane-Fox Pitt-Rivers, Oxford, 1906, p. 222).

and 1906, p. 222). The variations in New Guinea noted by Lane Fox occur mainly in the eastern and south-eastern regions where Oceanic influence has made itself felt for a long space of time. The modifications in the rig of the Torres Straits canoes are quite recent and are due to the Melanesians and Polynesians who have been introduced by Europeans, or have followed in their wake.

Sailing with mat sails.

The following are the only accounts we have of the method of sailing canoes in Torres Straits. I am afraid nothing can be added to them as in 1888 I believe there were only one or two canoes with mat sails among the Western Islanders and none either in the Murray Islands or Erub, and in 1898 none existed in Torres Straits.

"The two masts [of the Miriam canoes], when not wanted, are laid along the gunwales; when set up, they stand abreast of each other in the fore part of the canoe, and seemed to be secured by one set of shrouds, with a stay from one mast head to the other. The sail is extended between them; but when going with a side wind, the lee mast is brought aft by a backstay, and the sail then stands obliquely. In other words, they brace up by setting in the head of the lee mast, and perhaps the foot also; and can then lie within seven points of the wind, and possibly nearer. This was their mode, so far as a distant view would admit of judging; but how these canoes keep to the wind, and make such way as they do, without any after sail, I am at a loss to know" (Flinders, II. pp. 110—111. The accompanying plate shows three canoes sailing, two with one sail, and one with two oblong sails, and one canoe with an outrigger being paddled. The drawing is not sufficiently detailed or accurate to be worth reproduction).

Macgillivray, describing a Muralug canoe, says: "When desirous of making sail, the first process is to set up in the bow two poles as masts, and on the weather side a longer and stouter one is laid across the gunwale, and projects outwards and backwards as an outrigger. These are further supported by stays and guys, and, together with another long pole forked at the end, serve as a frame to support the pressure of the sails, which are usually two in number, made of matting of pandanus leaves, and average four and a half feet in width and twelve in height. The sails have a slender pole on each side to which the matting is secured by small pegs; when set, they are put up on end side by side, travelling along the backstay by means of a cane gromet. When blowing fresh it is usual to keep a man standing on the temporary outrigger to counteract by his weight the inclination of the canoe to leeward. From the whole sail being placed in the bow these cannot make much leeway, but when going free may attain a maximum speed of seven or eight knots an hour. Except in smooth water they are very wet, and the bailer (a melon shell) is in constant requisition" (II. p. 17).

To manœuvre the sails of a canoe is called *gul wakulunga pungai*. Sails are reefed by rolling up the mats from below and lowering the remainder by pulling them down the supporting bamboos, *waku tag (naiwe)*.

Windward is *paipa* or *paipa kid* (on the windward side, *paipal*), but this also means on the right hand; probably the latter meaning is derived from the former since, facing north, the south-east wind, which prevails for eight months in the year, would blow on the right. *Paru* is port side, hence *parungaizinga* is the prop set up to port. *Paupa* or

paupa kid is leeward (*paupa asi*, decline [of day], go down [of sun]), *paupa tãrai*, is the mast that is "set up to leeward." *Kal* is starboard.

The owner of a canoe in the western islands is the "captain," who stands at the stern and steers, and directs the operations of the crew; but when turtle were being caught by means of the sucker-fish (pp. 162 ff.) the *buai-garka* takes charge.

The next responsible person is the *buai-garka*, or "mate," who stands in the bow of the canoe. He is usually the *imi*¹ (or failing him an *ira*²) of the owner. According to Dr Rivers (v. p. 148) his duty is to hoist the sail, weigh the anchor, cast the anchor, light the fire, prepare the food, indeed as the natives admit he has very hard work to do. His duties in connection with the sucker-fish are given on pp. 163—4.

According to one Miriam legend (vi. p. 3) the owner or captain of a canoe stood in the bow and speared fish, the mate was in the stern. According to another tale (vi. p. 51), the following is the sacred method, *zogo tonar*, of turtle fishing (p. 161): the men in the bow are to pole the canoe, those at the stern are to paddle. One man must keep a sharp look-out. One man must dive for the turtle, and the other men have to pull him up by the rope fastened to his arm.

The ownership and inheritance of canoes in Mabuig is referred to in Vol. v. pp. 286, 7, and the sharing of turtle, etc., by the crew of a canoe in Vol. v. p. 289.

The Decoration of a Canoe.

Canoes are no longer fully decorated in the old style, but in Mabuig I have seen two or three canoes which were more or less decorated in the ancient fashion; unfortunately modern conditions do not encourage indulgence of æsthetic notions.

I was informed that the hulls of the imported canoes were usually painted and carved by their New Guinea makers, and I have seen such painted designs inside a canoe; the carving is referred to later.

The hull is painted in various ways according to the taste of the owner. One Mabuig canoe named *Iawaikan* had each end, the foredeck and the bamboos which are placed over the joints painted red, and numerous red lines encircled the hull; the gunwale and weather-board were black; the crate, tips of the poles of the outriggers and their pegs were red. Examples of the painting of Miriam canoes are seen in Pl. XXV. fig. 1.

In many Mabuig canoes an incised pattern, *garu minar*, runs from the bow to the stern immediately below the upper edge of the hull; the left side of the lower sketch in fig. 210 and Pl. XXV. fig. 4 show the typical pattern of a double zigzag or stepped line, the lower one being toothed, but it may be simplified. About the level of the end of the weather-board this pattern is interrupted by a design called a *koimai* (p. 23), variants of which are shewn in fig. 210. From this series it is evident that the concentric triangles of fig. 209 are in reality degenerations of the human face. When shewn in Mer these sketches were called *mëkët op* (vi. pp. 273, 4). These incised patterns are cut by the maker of the canoe in New Guinea.

¹ An *imi* is roughly speaking a brother-in-law, but it has a more extended significance, and has therefore no English equivalent (cf. Rivers, v. pp. 136, 148).

² An *ira* is a member of a group of men, to one of whom our term father-in-law could be applied (v. p. 137).

The forepart of the gunwale and the triangular weather-board are the areas on which the owner gives himself full play. I was informed in Mabuiag in 1888 that the owner might represent his totem on the gunwale. In fig. 211 A, B I have sketched two variants of what is evidently the same design; I was informed that they represented the bones of a fish, the lozenges being the end view of vertebræ and the oblong the side view of a vertebra. The tails are similar to that of the *gapu* (p. 162). The zigzags of C were also said to be the bones of a fish, and the design beside them was a cross-section through the body of a fish, the central lozenge being the section of the vertebral

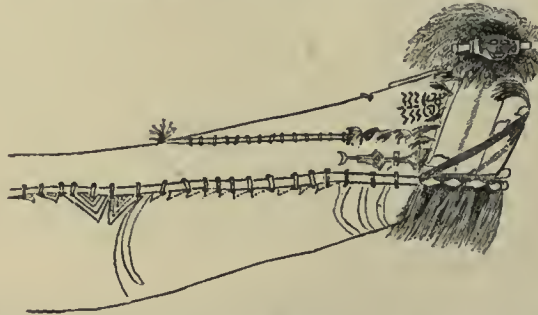


FIG. 209. Bow of a canoe named *Ausun* sketched at Mabuiag by the author in 1888.



FIG. 210. *Koimai* designs on Mabuiag canoes, sketched in 1888.

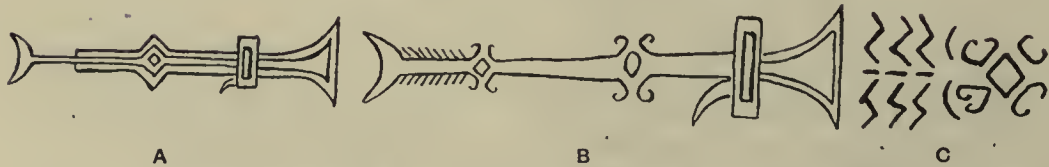


FIG. 211. Designs engraved and painted on the bows of Mabuiag canoes. B and C from the *Ausun* canoe, fig. 209.

column and the four encircling designs probably indicating the muscles as seen in section. My informant had no object in misleading me and I see no reason to doubt his explanation, though it certainly appears a somewhat strange one. Of late years the decoration seems to be meaningless.

The decorated bow of an Erub canoe is shewn in pl. XXIV. fig. 1, judging from this drawing it was painted to represent an animal's head.

The figure-head, *dōgai*¹ (*gope*, *meket op*), was always a separate carving that was lashed

¹ For an account of the bogeys called *dōgai*, see Vol. v. p. 353.

on to the top of the *gab* (fig. 209). The specimen shewn in fig. 212 was made by Mariget of Mabuiag; the heads, *ngagalau kwik*, represent the sea-eagle, *ngagalaig*. A similar carving, *kisu kwik*, occurs on Anu's canoc (pl. XXV. fig. 4), portraying a hawk-like bird, *kisulaig*. In nearly all cases a human face is carved on the figure-head, the one from Saibai shewn in pl. XXVII. fig. 1 being in the round, supported on a neck. In this specimen the bars, hair and centre of mouth are painted red, the face and ears are black; a red line runs round the lower border of the eyes and across to the ears the groovings of which are red, and a yellow line runs round the upper border of the eyes and above the former line to the ears; a yellow groove indicates the cheek-fold. When complete there were two bunches of cassowary feathers on each side of the face, five, mainly of bird-of-paradise feathers, along the top of the bar, and twenty bunches of cassowary feathers behind these. The total width is 413 mm., the face being 13 cm. long and 148 mm. wide including the ears. I gave a somewhat similar specimen from Dauan to the British Museum (*Album*, I. pl. 232, No. 2), but the board is flat, and together with the face is coloured red, blue and white; it is profusely decorated with cassowary feathers, and measures 26 × 10 cm. The figure-head of the Mabuiag canoc (fig. 209) belongs also to this type.

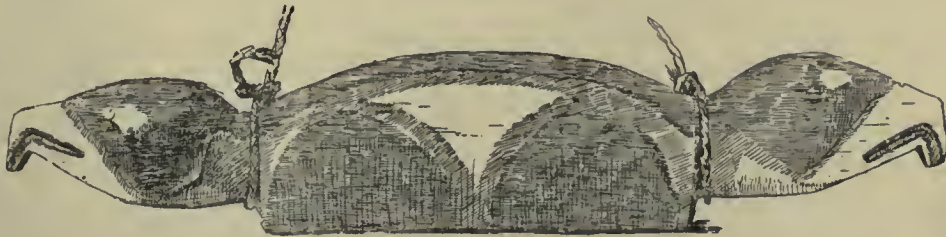


FIG. 212. Figure-head of a Mabuiag canoe. The front part of the face is white with a red border, the mouth red with a black border, the under side of the neck is white, the sides red, and the top and rest of the head are black; this coloration is extended to the central block. 48 cm. long.

The regular decoration of the bow end of the hull of a Western canoe consists of a stiff V-shaped band which continues the line of the upper border of the hull, starting from where the *gab* is attached to it; a similar band projects upwards and forwards, thus forming a kind of jaw, as is indicated by the name of the ornament, *gud*, mouth (fig. 209, pl. XXV. fig. 4, *Album*, I. pl. 323, No. 2); a vertical stick, *paipa za*, connects the apices of the jaws and keeps them apart. Both bands are generally decorated with a row of small grey cowries, *uza*, and a row of large white cowries, *bubiam*, is also attached to the lower band and one or two to the upper, the details naturally vary. The top of the vertical stick is furnished with a tuft of cassowary feathers, and a fringe of shredded young coco-nut leaves, *tu (su)*, depends from the lower jaw, which according to the Miriam represents a beard, *imus* (pl. XXIV. fig. 1). Tufts of cassowary feathers may also be inserted along the sides of the end-board, along part of the junction of the weather-board and gunwale, and at the end of the former; these feathers are called "whiskers" by the Miriam. The posterior border of the deck-covering of the weather-board in the Mabuiag canoes may also be decorated with tufts of feathers.

The sterns of the canoes have also their characteristic decoration. The stern-post, *kun*, of the canoe shewn in pl. XXV. fig. 3 consists of three vertical sticks, two of

which at their upper extremities clamp a more or less horizontal stick, while the third is lashed to its anterior end; to the posterior end of the horizontal stick are lashed two vanes, which make a large fish's tail, *wapi pakai*, resembling that of the king-fish or one of the allied gigantic predacious mackerels. Between the tail and the post is fastened a long streamer of "grass" which is made fast below to the stern of the canoe. The top of the post is furnished with cassowary feathers and a bunch of *gòà* rattles; the whole is steadied by a guy-line, *zez*, decorated with pieces of calico. In front of the stern-post four carved staves, *gozed*, project upwards and outwards, two on each side, being lashed to stieks which extend across the gunwales. Each *gozed* has a serrated edge and terminates in a *kisu kwik*, below which are tied feathers, calico and a white cowry. Two shell trumpets, *bu*, are placed between the four *gozed*. Projecting behind on each side of the canoe are two other *gozed*, two of which are plain and two deeply serrated. A small slat of wood (fig. 238) was suspended to the stern-post, it strangely resembles one type of British bull-roarer but is dissimilar from the Torres Straits type (see Sound-producing Instruments); I was informed that it did not mean anything.

Unfortunately no direct information was obtained concerning the meaning of the *gozed*, but there can be little doubt that they had at one time a magical significance. The upper end was generally carved to represent the head of the frigate bird (fig. 213) or that of the sea-eagle (*Album*, I. pl. 323, No. 4). Both these and the king-fish and its allies are voracious catchers of fish, and the representation of them would therefore be obvious to the native mind. Their use would therefore be analogous to that of the canoe charms mentioned in Vol. v. p. 337. Similar carved staves were employed by the *maid le* in sorcery (VI. p. 230), and probably also by the *maidelaig* (v. p. 321).

In 1889 I obtained at Dauan a flat board, 1.26 m. long, it was perforated with numerous holes along its length, and the lower portion was carved to represent a human face (*Album*, I. pl. 323, No. 3). It was used as a *kun* and also as a tobacco charm (v. p. 346, VI. p. 207). Perhaps the stern-post of the canoe shewn in pl. XXIV. fig. 1 was somewhat similar. I was informed in Mabuiag in 1888 that a piece of the skin of the owner's totem animal might be hung on to the *kun* of a canoe.

The erate was sometimes painted red; the terminal and some of the intermediate outer long vertical sticks, usually those opposite the partitions of the food compartments (p. 208) were provided with a tuft of short cassowary feathers (pl. XXV. fig. 2). Sometimes stiff rod-like plumes of cassowary feathers, *paupusa* (W.), were employed. A frequent decoration consisted of flags, *dadu* (W.), which were made of pinnules of coco-nut palm leaves, lashed on to a pole, and provided with a tuft of cassowary feathers above and

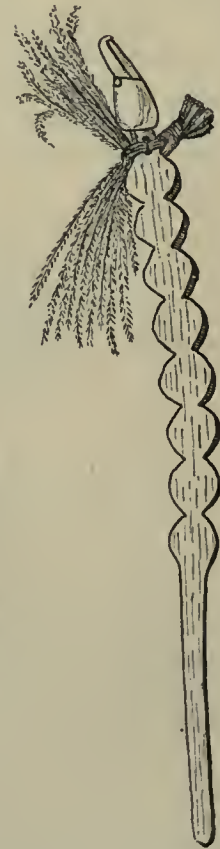


FIG. 213. *Gozed kalapi* from the stern of a canoe, carved to represent the pod of the "Queensland bean," *kalapi*, and the head of the frigate-bird, *womer*. Copied from a photograph of a specimen in the Australian Museum, Sydney.

below (figs. 214, 255, see also Vol. v. p. 357). A flag in the Brit. Mus. from Erub is figured in the *Album* (II. pl. 322), the pole is 8 feet long, the upper part of the pole is carved with a cone-in-cone ornament.



FIG. 214. Drawing by Sunday of Mabuig of the turtle ceremony on a canoe at Gumu (v. p. 331), shewing the ordinary decoration of a canoe, and two flags on the crate.

XI. SCIENCE

THE knowledge of natural phenomena and objects possessed by the Torres Straits Islanders was similar to that of most nature-folk, in other words they had a sufficient knowledge of nature for all practical purposes. This knowledge, which was utilised for gardening operations, fishing, ceremonial occasions and the like, must be distinguished from the tales that are told about the heavenly bodies, rocks or other noteworthy objects; the former may be regarded as their science, while the latter represents their literature or teleology.

The following subjects are dealt with in this section:

	PAGE		PAGE
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CALENDAR (S. H. RAY)	228	NUMERALS, COUNTING AND RECORDS	232
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ASTRONOMY.

W. H. R. RIVERS.

Only a very fragmentary account of the astronomy of the people was obtained. It is not easy in a short time to map out the sky completely according to native ideas, and in both parts of Torres Straits the difficulties were increased by the fact that the natives were forgetting their star-lore and were uncertain about the identity of stars which we know to have been of the greatest importance in the old life of the people. All my observations were made in the evening and I now very much regret that I did not adopt the obvious measure of getting up some morning before daybreak when other regions of the sky would have been visible.

The material collected is, however, sufficient to demonstrate the great development of the ideas of the people about the heavenly bodies and especially about the stars, a development which is definitely connected with practical importance, for the islanders not only used the stars in navigation but also in connection with agriculture and in the regulation of the times for certain ceremonies. Further the constellations of the people stand in a definite relation to their mythology, while certain facts pointing to the close connection between certain stars and certain localities and persons indicate an even closer relation to the religion and sociology of the people.

The chief interest of what was obtained lies in the fact that the people group the stars in constellations wholly different from those recognised by ourselves but with such a general similarity that we may conclude that the grouping owes its origin to ideas similar to those of the people from whom our constellations have been derived.

Mer.

Little could be discovered about the ideas of the people on the nature of the sun and moon. The people used to tell Mr Bruce that during the night the sun returned to its place in the east by going under the water but they will no longer talk about this.

The moon is regarded as the husband of *Ilwel*, the evening star, the story of whom has been given in Vol. VI. p. 4.

Planets were recognised as different from stars, or at least it was pointed out that Venus did not twinkle (*epreki*) while a star did.

The evening star was *Ilwel*, while a planet, said usually to be seen in the morning and called *Gegernesaur*¹, is probably the name for Venus as a morning star.

The constellations of which an account was obtained in Mer were the following:

Beizam or the Shark. This consists of certain stars of Ursa Major together with Arcturus(?) and Gemma of Corona Borealis. The seven chief stars of the Bear form the body of the shark and two small stars which in our customary representation form part of the mouth of the bear (ι and κ Ursæ Majoris) were its eyes. Gemma was at the extremity of the ventral tail-fin. There is some doubt about the inclusion of Arcturus in the constellation. According to one account this star forms the extremity of the dorsal tail-fin but it also had a special name *Dògai* representing a being believed to have much influence on the weather in the north-east season by swinging the tail of the shark (see Vol. VI. p. 271).

A drawing of *Beizam* was made by Debe Wali but the stars represented in it bore no resemblance to the actual arrangement of the stars in the sky. There is a shrine at Babud connected with this constellation (see Vol. VI. p. 269).

Tagai. This is a very large constellation, including many of our constellations, which illustrates the chief personages of the story of Tagai given in Vol. VI. p. 3. The whole of the constellation was visible in the evening during our visit. It represents a man Tagai, standing in the fore part of a canoe formed by the body of Scorpio, while Antares represents one of the personages of the story, Kareg, sitting in the stern of the canoe. Tagai holds in his left hand (the Southern cross) a fishing spear, and in his right hand (Corvus) some fruit of the *kupa*. Tagai himself is represented by stars of Centaurus and Lupus. Those most definitely identified were γ (?) and μ Centauri representing the eyes, ϕ , of the same constellation, the chin, and η Centauri the navel. Two stars close together, κ Centauri and β Lupi, were said in Mer to be the testes. Sagittarius was said to be the anchor(?).

Below the canoe was a sucker-fish formed by part of Scorpio and possibly of Telescopium (see p. 221).

¹ In the Vocabulary *gereger nesau* is the morning star and *ki nesau* the evening star; Dr Haddon obtained *gereger nesaur* for the morning star.

At the time of our visit the constellations Usiam and Scg representing personages of the story of Tagai were not visible in the evening, but they had been identified by Dr Haddon during his first visit with the Pleiades and the belt of Orion respectively.

Naurwer or *Mabersor* or the Brothers. The two chief stars of this constellation are Vega and Altair. Vega is the elder brother or *narbet* and Altair the younger or *keimer* (see Vol. VI. p. 96). With Vega are associated β and γ Lyrae, representing two sticks which the elder brother is holding on one side of his body, and with Altair are associated β and γ Aquilae, representing two sticks which the younger brother is holding out with arms outstretched.

This constellation was said to belong to certain villages and its constituent stars to individual persons. *Mabersor* is its Ulag name and it was said to belong to this village when it comes up; *Naurwer* on the other hand is its Sebeg name to which place it belongs when it goes down. *Narbet* or Vega was said to be the property of the Mamoose (Zaub 2) who had inherited it from a man named Katu, while *keimer* belonged to Kaige (Saugiz, 6) to whom it had come from his father Obra. There are certain stones connected with the two stars on the land of these men, both of whom belong to the neighbourhood of Sebeg, and it is possible that there are also Ulag men who claim the stars as their property.

This account of private property in stars was only obtained during the last day or two of our visit and the clue so given could not be followed up, but the constellation *Beizam* probably has a shrine associated with it (see Vol. VI. p. 270), and according to Mr Bruce the star *Dògai* belongs to the district of Kòmet. This association of stars and constellations with persons and social groups is highly suggestive and may be a survival of a division of natural objects between social groups such as is found among many peoples.

Mabuiag.

At the time of our visit to Mabuiag some of the constellations which had been visible in the evenings in Mer had disappeared, but it was possible by means of drawings to be satisfied that there was a very close correspondence between the constellations of the two communities, though the names were often different and there were differences in detail.

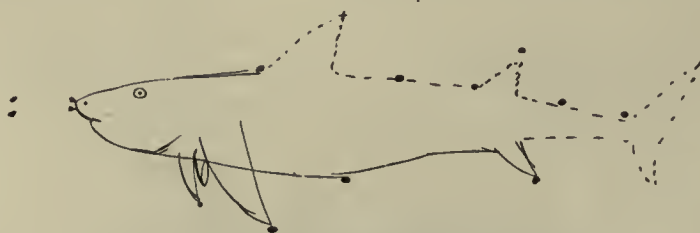


FIG. 215. The *Baidam* constellation drawn by Nait.

Baidam or the Shark. This evidently corresponds closely with the Mer grouping, but the two small stars in front, which were the eyes in Mer, were in Mabuiag said to be *wapi*, two small fish which swim in front of the shark—pilot-fish. Further, names

were given to several stars represented in the drawing of Naii (fig. 215), stars which it is unfortunately impossible to identify. The two small stars at the snout of the shark were called *ipiolag*; the two at the extremities of the pectoral fins were *komazi* and that at the end of the fore dorsal fin, *kuikuitugu*. The star at the end of the dorsal tail-fin, probably Arcturus, was called *Duga* or *Dugua*, corresponding to the *Dògai* of Mer. In Naii's drawing as in that made in Mer it is not possible to identify the seven chief stars of the constellation with any certainty.

Tagai or *Togai*. This constellation evidently has the closest similarity with that of the Eastern Islanders. It had largely disappeared in the evenings at the time of our visit to Mabuia, but the canoe, its anchor and the sucker-fish were still to be seen, and four stars in the tail of Scorpio (κ , λ and ν Scorpionis and γ Telescopii) were pointed out as the body of the sucker-fish, its head (*gapukwik*) being far away near the Pleiades (possibly the Hyades, see p. 223). Sagittarius was identified with the anchor as in Mer. Drawings were made of the whole constellation which are shewn in figs. 216, 217.



FIG. 216. The *Tagai* constellation, drawn by Mariget; reduced to $\frac{1}{3}$.

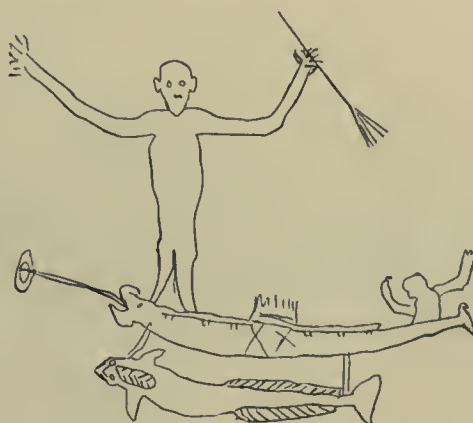


FIG. 217. *Tagai* and *Kareg* in their canoe drawn by Gizu; reduced by one-half. In this drawing the canoe, *Kareg* and the sucker-fish are represented the wrong way round.

In fig. 218 is shewn a plan of the constellation constructed by Waria. The identifications of the lower part of the constellation were made in Mabuia, but those of the parts of *Tagai* himself are derived from Mer and their exact correspondence with those of Mabuia cannot be guaranteed. In the drawing made by Gizu the canoe has been reversed mirror-wise, a common feature of the drawings of the islanders (see Vol. II.).

In the plan made by Waria a group of stars is given near the head of the scorpion to represent a reef and two stars near its tail were called *dakatir*, but neither of these groups can be identified with certainty though the latter evidently form part of Ara.

Dògai. This Mabuia constellation corresponds to the Brothers of Mer. It consists of Vega and Altair with the same associated stars as in the Mer constellation. Vega

is called *I* and also *Dògai wauralaig* and Altair is *Metakorab* or *Dògai kukilaig*. The associated stars represent arms, as in Mer, one in one case and two in the other.

Bu or the trumpet shell. This constellation corresponds to our Delphin.



FIG. 218. Drawing of the *Tagai* constellation by Waria. $\frac{3}{4}$.

These two constellations are connected with the folk-tales recorded on pp. 12—16 of Vol. v. The one arm of *I* and the two of *Metakorab* are shewn in the drawings which illustrate these tales. A drawing of these constellations made by Gizu is given in fig. 219 A, B. It illustrates very well the imaginativeness of this artist, the two stars



FIG. 219. Drawings of constellations by Gizu; reduced $\frac{1}{2}$. A, *Dògai wauralaig* or *I*. B, *Dògai kukilaig* or *Metakorab*. C, *Bu*.

associated with each of the *Dògai* having become four in one case and six in the other while the five stars of Delphin have increased in number to a still greater extent (fig. 219 c). As it was possible that in this case Gizu was representing smaller stars of Delphin which he could see I enquired into the number of stars which several natives recognised and found that they saw five only as we do.

Kek. This star represented in fig. 220, is one of great importance in the lives

of the people and yet there is much doubt whether the identification derived from several natives is correct. There was much agreement that *Kek* was Achernar (α Eridani) which was visible during the evenings at the time of our visit, but the great size of the star in Gizu's drawing and its many radiations suggest a brighter star than Achernar and raise the probability that *Kek* was Sirius or Canopus, and it is in accordance with this probability that one man definitely denied the identification of *Kek* with Achernar. In view of this discrepancy of evidence, it may be useful to record that *Kek* rises at daybreak at the beginning of the south-east season immediately over the hill called Baudar in Moa. It disappears at daybreak in the middle of the north-west monsoon. In the drawing two stars are represented called *Keaken tonar*, "the manner or fashion of *Kek*." These stars rise shortly before *Kek* and indicate its approach. These are stars in Phoenix if the identification with Achernar is correct. In his drawing Gizu has also represented *Kek* as surrounded by a circle of stars but here, as other drawings have shewn, exactness of representation is not a characteristic of this artist.

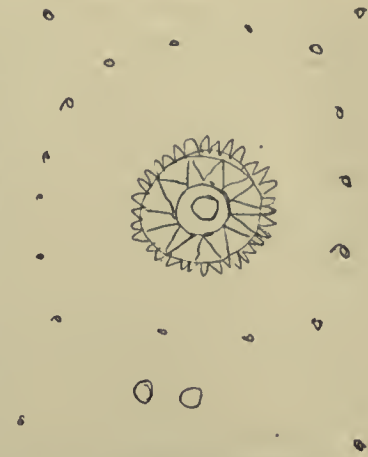


FIG. 220. Drawing of *Kek* by Gizu.

The natives of Mabuia recognize a group of constellations called respectively *Usal*, *Gapukwik* and *Dideal* close to one another, while a fourth *Getulai* or *Getalai* is probably not far distant (fig. 221). Of these the only constellation visible in the evening at the time of our visit was *Usal* which was undoubtedly the Pleiades. *Gapukwik* was described as being to the south of *Usal* and as coming up shortly after and it is probably to be identified with the Hyades.

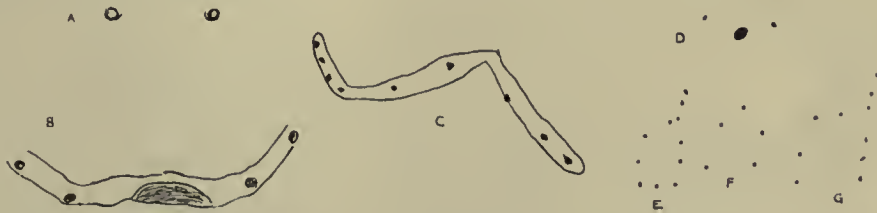


FIG. 221. Drawings of constellations, A—C by Gizu, D—G by Waria; reduced $\frac{1}{2}$. A, *Wapi*. B, D, *Getalai*. C, G, *Dideal*. F, *Gapukwik*.

Dideal or *Dederal* was described as being to the south of *Gapukwik* and as rising shortly after it. This suggests that it may be the whole or part of Orion, but the stars in *Dideal* were stated to be very little larger than those of *Usal* and its identification must be left undetermined.

Getalai or the crab was represented as near these three constellations and the drawings given in fig. 221 would seem to indicate a nebula rather than a star. It was described as a large star looking like the ashes of a fire. It has a star on either side, its *get* or arms, and two stars called *wapi* or pilot-fish come up before it.

Usal and *Gapukwik* are both connected with the story of *Togai*. *Gapukwik* was said to be the head of the *gapu* of that story and is probably connected with some incidents of the tale not given when it was related to Dr Haddon.

A star called *Panauna graz* was identified with Fomalhaut.

Nothing could be discovered indicating that stars or constellations are the property of persons or groups as in *Mer*.

The function of these stars and constellations in marking the onset of seasons and the proper times for certain ceremonies are recorded on pp. 225 ff. The most important star was undoubtedly *Kek*, the rising of which not only gave the sign for the beginning of much ceremonial but also the appropriate time for planting the new crops. The rising of *Dògai*, viz. *Vega* and *Altair*, seems also to have been an important event. Whenever in such a connection the people speak of the rising or setting of a star at a certain season they mean the time of the year when the star or constellation in question just appears or disappears on the horizon at daybreak.

When the rising of a star is expected it is the duty of the old men to watch. They get up when the birds begin to cry and watch till daybreak. In the case of *Kek* and probably of other important stars and constellations the appearance of certain other stars is taken as a sign of the near approach of the object for which the old men are watching. In the case of *Kek* it is the two small



Fig. 222. Drawing of the moon with a halo, *kubwai*, by Gizu. $\frac{1}{2}$.

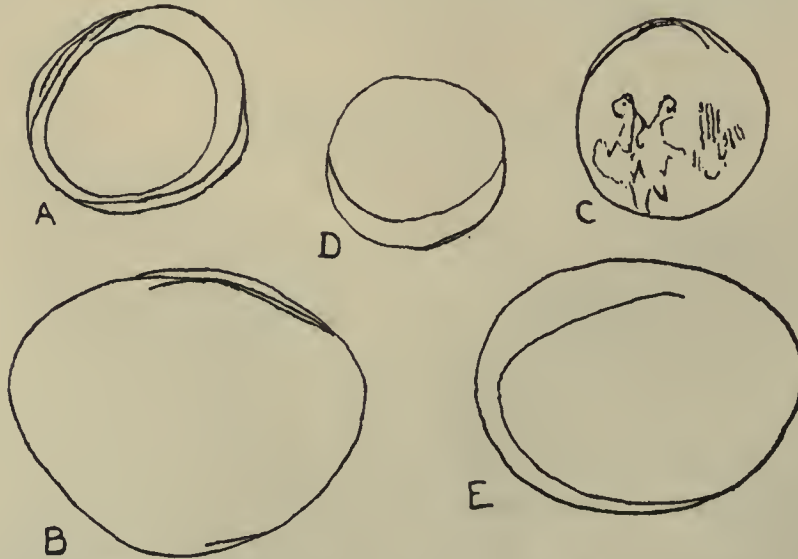


FIG. 223. Drawings of the sun and moon by *Waria*. A, Sun at zenith; B, Sun at horizon; C, Moon at zenith; D, New moon; E, Moon at horizon.

stars called *Keaken tonar* which serve this function and when they appear on the horizon at daybreak it is known that in a few days *Kek* will appear and the look-out becomes especially keen.

The setting of a star is watched in the same way.

In the western islands the figure seen by the people in the moon is that of Aukwum (or Aukum) with a coco-nut (*urab*) between two pandanus trees (*kausa*). This is probably the woman whose story is recorded in Vol. v. p. 56. A drawing of the figure by Gizu is shown in fig. 222 and by Waria in fig. 223 c, here Aukwum is seen holding out her hand to the centre of the disk, the lines in front of her are the *kausa*. In fig. 223 are also shown Waria's drawings of the sun and moon at horizon and zenith which shew very well that Waria had observed the enlargement and alteration of shape at the horizon.

According to Mr Ray the following designations of the phases of the moon occur in Mabuiag: *dang mulpal*, tooth moon, for the new moon when first seen it was also described as unmarried; a little later it is called *kisai* and termed young; the half moon is called *ipi laig*, married person; the moon in her third quarter is *kazi laig*, person with child, and was described as having one child (probably meaning that she was pregnant); and the full moon is *badi*, which was said to be *kaiza ipilaig*, big one married. In Mer the crescent moon when first seen is *aketi meb*, *meb digemli* when in the first quarter, in the third it is *meb zizimi*, nearly full moon is *eip meb* and full moon *giz meb*.

SEASONS.

There are two main seasons in Torres Straits which are usually spoken of by Europeans as the south-east and north-west monsoons respectively. The former is the dry season, and ranges from about April to November; it is characterised by almost continuous wind from the south-east. The latter is the rainy season, and is accompanied by storms from the north-west and by intervening calms; at night lightning is seen flashing almost continuously in the north.

There was no division by the natives of the year, *wiet* (W.), *urut* (E.), into months or days, and the years were never counted. Time was usually reckoned by suns (or days) and by moons (or months). Natives who have learnt how to tell time by the clock can usually estimate the hour very accurately by noting the height of the sun. When wanting to make an appointment at a given time, they do so by indicating where the sun will then be in the sky. Sunrise is now usually called in jargon-English "small daylight" or "little fellow daylight." There is no artificial method of measuring time.

The seasonal appearance of certain stars or constellations was noted, and their rising regulated particular ceremonies and various horticultural events. For example, Dr Landtman was informed in Badu that when only the tail of *baidam* (p. 220) is above the horizon the north-west wind begins to blow a "little bit"; when the tail has gone down altogether the people begin to plant yams; when *baidam* comes up again yams, sweet-potatoes and bananas are ripe.

In the legend of Kwoiam (v. pp. 67—69) we find that one day he sent his maternal uncles Koang and Togai (or "Good Eye" as he was also called) in a canoe to get some turtle-shell for him. They could both make fine weather, but Togai could make the best weather. The crew, consisting of Utimal, Usal, Kwoior and Keg, stole the water belonging to Koang and Togai, and on a subsequent voyage they were killed in revenge. The two old men spake thus to the dead men: "Usal, you go to New Guinea (Daudai) side, when you come up there will be plenty of rain. Utimal, you go to New Guinea side, you have to bring rain. Kwoior, when you come up over Buru (Mangrove Island) just before the south-east monsoon sets in there will be rain in the morning, then the wind will shift and it will rain in the afternoon. And you, Kek, will come up in the south between Badu and Moa, and it will be cold weather. When you go round this way and when you come up, then the yams and sweet-potatoes will be ripe. You all have work to do." According to this folk-tale these dead men were transformed into stars or constellations whose function was to usher in certain seasonal changes when they first appeared on the horizon. One informant said that Utimal and Usal form one group of stars ("make one lot"), of which Utimal is the *koi nel*, or comprehensive name, and Zugubal the *magi nel*, or special name.

The Seasons of the Western Islanders.

More than once when natives were questioned about the seasons of the year, they began with *surlal*, and I believe that the recognition of the beginning of this season is their nearest approach to the beginning of a new year.

Surlal¹. This is the name given to the turtle when copulating; while in this state they float on the sea and are readily caught. The importance of turtle as an article of food has given rise to the name of the season when they are most abundant (p. 160). It lasts from about the middle of October to the end of November, but the limits are not constant.

The *baidam* or shark constellation now appears; it is described as *baidam gata widan*, the shark constellation is close to the reef. Everything is dried up and the yams are ripe. The sounding of the first thunder (*doiom*) is the signal for planting yams; when the Mabuig people hear the thunder they say, "*Baidam sibui tidi*."

Raz was described as "time of die," that is, the season when leaves die down. The first portion of it is called *duau-urma* in Mabuig, that is the falling of the cashew nuts, *dua* (*Semecarpus heterophyllus*). There is then an interval of fine weather and the wind is shifty; it coincides with about Christmas time. This is the time when the yams which have been planted begin to sprout; in Muralug it is called *malgui*, which is the exact equivalent of our word spring. Wallaby of Muralug said that they could no longer eat yams or sweet-potatoes, as they were watery when their leaves sprouted. The next division is called *dob* (the last of growing things) or *kusi kuki* (medusæ of the north-west), the latter name being due to the large numbers of jelly-

¹ Macgillivray gives *silur* as the name of the green turtle in Muralug (which is only partially correct) and *silangi* as the season of the year when it is most plentiful. Quite independently I had noted *surlal* as being "turtle fast," and *surlangi* as the season when the turtle is "fast."

fish that float on the sea. The runners of the yams now grow. The time immediately after this is called *purimugo*, *apagap* or *keme* in Muralug.

Kuki. This is the season when strong winds blow intermittently from the north-west, accompanied by deluges of rain. During the intervals of the storms there is no wind, and the sea becomes calm and glassy. The damp heat is rather trying. The yams and sweet-potatoes are too watery to eat, and so recourse has to be had to unsavoury *biu* (p. 135) and to the seeds of the Queensland bean or *kolap* (p. 134).

The constellation *Dògai kukilaig* or *kai Dògai* of Muralug is the *Dògai metakorab* of Mabuiag = Altair and the associated stars β and γ Aquilæ (p. 220). The appearance of these three stars heralded the beginning of *kuki*. The constellation *bu* (trumpet shell) = Delphinus is associated in the legend with *Dògai metakorab*. "*Dògai* go first, *bu* come after. When *bu* go down blow comes, wind not strong." An informant said: "*Kukilaig* go first, *wauralaig* come after; when *kukilaig* go rain come; when *wauralaig* go down south-east begins."

Although one informant said that *Usal* and *Utimal* were stars of the south-east season, yet their first appearance according to the legend of Kwoiam must be during, or towards the close of, the rainy season, the end of which is marked by the appearance of *Kwoior*.

Aibaud. This is the dry season when the roots become strong and food is abundant. The south-west wind, *waur*, begins to blow steadily, and from this fact the first part of the season is called *waur*¹ and perhaps merits as much a distinctive name as *raz*. It is marked by the appearance of a constellation consisting of a large and a small star, the *magi Dògai* or *Dògai wauralaig* of Muralug, which is the *Dògai I* of Mabuiag, = Vega with β and γ Lyrae (v. pp. 13, 16). As food is abundant the natives are in good health and spirits and perform various ceremonies, the time for these being signalled by the appearance of the star called *Kek*, which is our α Eridani; the *Dìdeal* and *Usal* constellations also appear. During the *waur* season the Torres Straits pigeon (pp. 152, 153) migrates to New Guinea, and the natives begin to eat taro, sweet-potatoes, and wild yams (*boa*), and cultivate varieties of yams such as *saur*, *kutai*, and other edible plants, for instance *ikur*.

I obtained from Tom of Mabuiag the following list of stars associated with this season:—" *Kek*, come up and is the sign [*mek*] for everything to be done, start meeting," that is ceremonies which are dependent upon a good food supply can now be held—at the present time the "May meetings" take place at this season; *Gil*; *Usal* (the Pleiades)—at this time the ovaries of the turtle enlarge; *Pagas* and *dede* (Betelgeux). *Utimal*; and *Wapil*. Towards the end of *aibaud* the large constellation of *baidam* (shark) is seen, and then the Torres Straits pigeon migrates from New Guinea to Australia, as do the *birubiru* birds when the crab constellation, *Gitalai*, appears.

¹ In Muralug *sasiwaur* is the name for the beginning of the south-east winds, it was described as "small fellow south-east"; when *Kek* appears *tatiwaur* (father-*waur*), the "big fellow south-east," begins. The term *tati* is applied to a father and all male relatives of a generation above the speaker who are not *wadwam* to him. *Sasi* is probably *kazi*, child, the corresponding relation of the generation below (v. p. 133).

The Seasons of the Eastern Islanders.

Our information about the seasons recognised by the Miriam is unfortunately very scanty. The north-west season is called *koki*; *gaibar* is the spring, from *gaire*, all things, *bar*, spring up. The *Usiam* constellation (Pleiades) indicates the beginning of the turtle season and of early food, and gardens are now prepared. *Mag* is the season when the new leaves of the yam are sprouting, *umi* is that when the yam tubers swell, I believe this is indicated by the *neur wer*, girl star. *Giz nur*, beginning of harvest, is the time when the yam leaves wither and the yams are matured, *nur* is harvest time. *Eged* or *egeb*, about the end of August to November, is the season when the gardens, *gedub*, are cleared of bush; the signs, *tonar*, which indicate this season, are mentioned on p. 145. The fishing at *naiger* time (November) is referred to on p. 158.

CALENDAR OF WESTERN ISLANDS OF TORRES STRAITS.

S. H. RAY.

Approximate English month	Referred to by Natives as	Stars	Wind and weather	Animal life	Vegetation	Occupation and food
Dec.—Jan.	<i>Duau urma</i>	<i>Dogai</i> ¹ <i>kulkaka tameuman</i> , <i>Dogai</i> go down in the West.	Wind all ways. Start N.W.	"Turtle finished."	<i>Duau urma</i> (fruit of <i>dua</i> tree is ripe). Grass grows a little.	Eat <i>dua</i> fruit.
	<i>Dob</i>	—	—	<i>Kusi kuki</i> appears (Medusæ of N.W.).	Runners of yam begin to grow.	Food scarce.
Feb.	<i>Aga gaba</i>	<i>Bu</i> (Delphin) sets.	Wind not strong.	—	—	—
March	<i>Kuki</i>	<i>Dogai</i> on horizon.	"Big fellow North-west."	—	<i>Baradar malgui</i> (earth sprouts). Yams watery.	Eat <i>biiu</i> and <i>kolap</i> . Make garden.
April	<i>Kupa kuki</i>	<i>Dogai taiauman</i> ¹ , <i>Dogai</i> rises (close to <i>naigai</i> , p. 236).	N.W. Monsoon weak. N.W. wind finishes.	<i>Birubiru</i> bird arrives (from South).	—	Eat <i>deab</i> , <i>bua</i> , <i>ketai</i> , etc. Women dig <i>gasi</i> (<i>Caladium</i>).
May	<i>Gugad arai</i>	—	Wind <i>gugad arai</i> , i.e. moves round.	—	<i>Geru</i> (sugar cane) and <i>kai</i> tree flower, new sweet-potatoes.	—
Oct.	<i>Sasi Waur</i>	<i>Baidam</i> .	"Small fellow South-east, blow for long time."	<i>Birubiru</i> and <i>gainau</i> fly to <i>naigai dogam</i> (i.e. N. to New Guinea).	All dry, leaves fall, new yams.	Cut bush. Make dugong platform on reef, plant sweet-potato in swamp.
	<i>Piepe</i>	<i>Gial</i> , <i>Usal</i> and <i>Wapial</i> appear.	Fine weather.	"Turtle got egg inside."	—	—
	<i>Tati Waur</i>	<i>Kek</i> rises and sets just after <i>Dogai</i> rises.	"Big fellow South-east."	—	Yam leaves dead and yams ripe. Food plentiful.	"Have Mei" (i.e. "May Meetings"), formerly season for ceremonies.
	<i>Birubiru</i>	<i>Gitalai</i> appears after <i>Wapi</i> at dawn in East.	—	<i>Birubiru</i> and <i>gainau</i> fly to <i>ziai dogam</i> (i.e. S. to Australia).	—	Plant yams.
Oct.—Nov.	<i>Surlal</i>	<i>Dogai</i> .	Dry weather—Thunder.	Turtle copulating.	—	Turtle season.

The seasons in the Gospels are *komanal uiet*, summer, lit. hot season; *aibaud*, harvest; *sumai uiet*, winter, lit. cold season. The seasons in the Eastern Islands appear to be somewhat earlier than these.

¹ Note that *Dogai* is composed of 2 stars, hence the dual verbs.

GEOGRAPHY.

The natives have a strongly-marked appreciation of geographical features and can readily make maps or portray the essential characteristics of an island from memory. These faculties are probably to be accounted for by their being navigators, and their fondness for drawing animals has made them good draughtsmen.

On p. 163 of Vol. v. I have given a native map of Mabuig, which should be compared with the sketch map of that island on p. 7 (*l. c.*), but I should not like to vouch for the extreme accuracy of the latter. I have several other maps of parts of the island, and in order to illustrate a folk-tale Papi of Mabuig drew a sketch map of the uncharted coral-reefs between Mabuig and Buru (v. p. 60)¹.

Geographical ideas were somewhat crudely represented by the Miriam in the divinatory shrine of *Tomog zogo* and in the sacred ground at Dam (vi. pp. 260, 303). When Dr Rutherford was at Mer in 1833, he wrote that Madeau or Securo "was easily made to understand the meaning of a chart of the straits, and was highly gratified when Murray's island, laid down in it, was pointed out to him" (*United Service Journ.* 1834, pt II. p. 202).

All the islands however small, every large sandbank and many coral reefs are named. Banks Island, however, did not have a single name, its hilly eastern portion being known as Moa, while the western low-lying land was called It—the former term is now applied by Europeans to the whole island. Each island of any size is further divided into a large number of named districts, sometimes of very small extent; these may be grouped into larger districts, as in the case of Mer (Vol. vi. p. 170), thus the position of house-sites, gardens, fruit trees, etc. can be located. Geographical features such as hills, streams, swamps, water-holes, capes, coves, prominent rocks and the like have their distinctive names.

GENERAL AND SPECIAL TERMS.

It is important to note that terms are classified (more particularly perhaps among the Miriam) into those which signify a group or general term, *koi nel* (W.), *au nei* (E.), or big name, and those which denote a special name, *magi nel* (W.), *kebi nei* (E.), or little name. The following Miriam examples will suffice to illustrate this (cf. pp. 53, 230, Vol. III. pp. 17, 59).

Lar is the *au nei* for fish, but the name of each kind of fish is a *kebi nei*. *Lewer* (food) is the general name for all kinds of yams and *u* for coco-nut, but each variety (pp. 133, 136) has its special designation which is called a *kebi nei*.

A further distinction is sometimes made with regard to what are called *au au nei*, or very big names, as an example of which Mr Ray was given *lu*, which includes *lu* (properly plants), *meta* (house), *baker* (stones), and such things as *bokes* (boxes), *lampu* (lamp), *sik* (floor); *lu*, *meta* and *baker* are themselves *au nei*.

The *au nei* of the masked performers in the initiation ceremony of the Bomai-Malu cult was *agud*. *Malu* was a *kebi nei* and was known to everyone (vi. p. 37), and

¹ Illustrations of some of Waria's drawings of the geographical features of Mabuig will be found in Herr A. Schück's memoir *Die Stabkarten der Marshall-Insulaner* (Hamburg, H. O. Persiehl, 1902).

Bomai a *gumik nei* or secret name. One disguised performer in these ceremonies had the *kebi nei* of Magur, but his *zogo nei* (sacred name) or *au nei* was *Ib* (VI. p. 312), which also was a *gumik nei*.

NATURAL HISTORY.

The natives are good field naturalists and have names for a large number of plants and animals. A considerable number of plants are utilised in one way or another, more so than we have mentioned in these Reports. Although the land fauna is deficient in forms of economic importance, the natives have names for animals which are not of value to them, and are acquainted with their habits; their knowledge of the natural history of marine animals being very extensive. The uses and properties of most of the plants are known to them.

As will be seen in the section on Decorative Art, the drawings of animals are remarkably accurate, especially when one remembers that the majority were drawn from memory; but although the essential characters of the external form are recognised we did not discover that this has led to a system of classification. A remarkable carving in coral of a fish's skull is described in Vol. VI. p. 234, pl. VII. fig. 4.

The only domesticated animal was the dingo, as is the case with Papuans and Australians; at present they have a mongrel breed of dogs. Jukes (I. pp. 202, 209) refers to the keeping of a cuscus in a kind of cage by the Eastern Islanders (pl. III. fig. 3). Cats and fowls have now been adopted.

Bampton (Flinders, I. p. xxxvii) says that in Erub "on all parts of the reefs there were bamboos set up with pendants of dried leaves," the meaning of which he could not ascertain. Captain Lewis found they were merely ornaments, "each pole is surrounded by a string of shells. Ireland says they are placed there for birds to build upon. The birds he describes to be with long necks and legs and wings, like cranes: perhaps the blue heron" [cf. p. 153] (*Naut. Mag.* 1837, p. 755). Accepting Ireland's version, it would seem that the object was to attract the *sir* in order that it might be more easily shot for its plumage. This may be regarded as a first step towards domestication.

A large number of animals have separate names, but in some instances the same name is given to different species, mainly, I believe, because they are used for a similar purpose and possibly any special designation may be of no consequence. For example, in the West *id* is the name for small bivalves such as *Tellina staurella*, while *Lucina exasperata* is called *warkid id*, that is, another kind of *id*; similarly *Barbatia fusca* (fig. 72) is called *tepe* and *Modiola subramosa* *wakid tepe*. Of two species of spider shell, one (*Pterocera lambis*) is called *asor* (E.), while another with carved spines (*P. chiragra*) is called *neasor*. Pasi of Mer wrote for Mr Ray a list of "many shell fishes' names," he gives *sorsor* as the *au nei* and enumerates 42 kinds as *kebi nei*. The Miriam *au nei* for clams of the genus *Tridacna* is *mi*: *beizam mi* is *T. serrifera*, *terpa mi* is *T. elongata* (*terpa* being the coral-rock oyster, *Ostrea mordax*), but the giant clam, *T. gigas*, is called *taikor*. The male of the sun bird (*Nectarinia australis*), *ti*, was called by the Miriam *kupi ti*, dark *ti*, and the female *nurib ti*, sere *ti*, on account of the throat of the one being dark and that of the other yellow (VI. p. 8).

As the natives of Mabuia constantly cut up dugong and turtle they have distinct names for parts of the body, organs and different portions of the intestine; we collected a considerable number of these names, which were applied in most cases to the corresponding structure in both animals.

Owing to the utility of the coco-nut palm there is a distinct designation for its various parts and for the various stages of its flowering and the ripening of the nuts.

One expects to find names for meteorological phenomena such as rain, *ari* (W.), *irmer* (E.); rainbow, *kuruai*, *oripara*, *sisuri* (W.); *suseri* (E.); wind, *guba* (W.), *wag* (E.); and clouds *zia*, *baz* (W.), *baz* (E.); but it is interesting to note that the Islanders have names for particular kinds of clouds, thus a cumulus cloud is *amal* (W.), *ziag* (E.); *bégai* or *bége* (W.) is a hill-shaped cloud denoting fine weather; *margor* (E.) is a cloud appearing during the north-west season betokening fine weather; a rain cloud is *baiib* or *boiib* (W.), *golegole baz* (E.); *torob* (E.) is a wind cloud with a little rain; a road or path is *iabu-gud* (W.), hence *goigoi iabu-gud* is the expression for white stratus clouds at sunset, and *kubilai*, *kulkan*, and *mulpalan iabu-gud* for dark, red, and yellow stratus clouds at sunset; *neder* is the Miriam name for a stratus cloud; a small cloud, "half way in sky" is *iara zia* (W.); a clustering of clouds is *mei* (W.); a scud, a driving cloud or squall is *ras* (W.); while a bright cloud is *saruai* (W.); a cloud on the top of a hill is *atuer* (E.); *dad* is a still white cloud in the night sky, or the Milky Way. An invocation for various clouds to gather is given in Vol. vi. pp. 198, 199.

There are also names in Mer for dark, night, dawn before and dawn after sun-rise, light, day, noon, setting sun, red sky at sunset, etc., and there seems to be greater discrimination in Mabuia, as the following list obtained by Mr Ray shews:

Ar pu, morning twilight [*ar zilami*, getting light, lit. dawn runs¹]; *ar kulka*, early dawn, lit. dawn is red; *gidub dada-palamin*, sun just rising, lit. *gidub* peeps or comes through—the metaphor is taken from the *gidub* or kernel of a coco-nut just shewing when the nut is sliced off—[*goiga ar palami*, lit. sun cuts dawn]; *magi batainga*, sunrise, lit. little morning; *goiga kadaka-palgin*, sun has risen [*goiga worogi tanori*, sun above stops]; *goiga kadaka-mema*, sun has gone up [*goiga kadaka-ulaig*, sun goes up]; *goiga dada senu*, noon, lit. sun (in) middle there [*dada goiga tanori*, middle sun stops]; *goiga magikia paupa asin*, about 3 p.m., lit. sun a-little-way gone downward; *goiga paupa asin*, later, lit. sun gone downward [*goiga paupa asika*, sun downward goes]; *goiga pudaika meka*, sun beginning to go down; *goiga kup-ieudi*, sun sitting down; *goiga pudi*, sun fallen [*goiga pudiz*]; *kuta buia*, evening twilight, lit. ending light [*goigau buia mata puzika*, *inurau pudaingina*, lit. sun's light still hanging, darkness not fallen]; [*magi inur*, little darkness]; *inur*, darkness; *kubil*, night [*kubil*, *inur*, darkness]; *dada kubil*, midnight.

Being sailors the natives have named the winds which blow from definite quarters and these give the directions of space, p. 232. Among the Miriam we find: *wag*, wind, *ras*, strong wind or storm, *wi*, squall, *balgup*, catspaw.

The Miriam name the tides, *meg*, as follows: *meg ogeri*, rising tide, *meg tawerge* or *au meg*, flood tide, *meg omarida*, ebbing tide, *meskep*, low tide, *au meskep*, low spring tide.

¹ The Tutu equivalents are given in brackets.

DIRECTIONS OF SPACE.

The following directions of space were recognised, the chief determining factors being the direction of winds. For the sake of convenience I have taken them as equivalent to the more important points of the compass.

MABULAG.	MIRIAM.
North: <i>naigai dogam</i> ¹ ,	<i>sab.</i>
North-east: <i>naigai id</i> ,	<i>naiger.</i>
East: <i>waura dad</i> ¹ ,	<i>naiger pek</i> ¹ , <i>sager pek.</i>
South-east: <i>waura dogam</i> ,	<i>sager</i> ² .
South: <i>ziyai dogam</i> ,	<i>gared</i> (or <i>ziyai pek</i>).
South-west: <i>kuki ada</i> ¹ ,	<i>ziyai</i> (? <i>logab</i>).
West: <i>kuki dogam</i> ,	<i>koki ziai.</i>
North-west: <i>kuki</i>	<i>koki.</i>

RELATION OF MAN TO HIS SURROUNDINGS.

Unfortunately we have very little direct knowledge concerning the ideas of the Torres Straits peoples as to the relation between inanimate objects, human beings, animals, plants and inanimate objects. I was informed in Mer that no animal, plant or inanimate object had a *lamar* or spirit (vi. p. 251) as human beings have, but *lamar* were associated in an unexplained way with carved stone images; similarly the *mari* of the Western Islanders (v. p. 355) were the spirits of men. Thus, so far as we know, all the Islanders recognised that the possession of a ghost, which ultimately became a spirit and dwelt in a land of spirits, was a distinguishing feature of man. This belief was held by the Western Islanders who at the same time recognised that a man belonged to the same family as his totem. One result of totemism was to place the totem animal of a clan in a different category from all other animals so far as the behaviour of that clan was concerned. The relation of human beings to individual stars or constellations is mentioned by Dr Rivers (p. 220).

NUMERALS, COUNTING AND RECORDS.

Throughout Torres Straits there are practically but two numerals, *urapun* (W.), *netat* (E.), one, and *ukasar* (W.), *neis* (E.), two. The first is generally pronounced *urapuni* or *warapuni* in Muralug and sometimes *öröpun* or *örapuni* in the Western Islands. *Ukasar* may also be pronounced *kwasar*, *kōsa*, *okōsa*, etc. Higher numbers are expressed by repetition, thus: two one (3), two two (4), two two one (5), two two two (6), after which my informants would generally say a lot, *ras* (W.), *lakub*, *gaire* (E.). I obtained the term *badagili* in Muralug for three, but this simply means another one or some. Jukes (II. p. 302) says that *neis* "repeated three or four times rapidly means an indefinite

¹ *Ada*, outside; *dad*, middle; *dogam*, side; *pek* is equivalent to *-ly* in northerly.

² According to Mr Ray *sager* includes all the winds from E. to S. *gared saga*, S.S.E.; *sager op*, out of sight, to the S.E. of Mer there is nothing but the open sea; *sager pek*, points of the compass from E. to S.E.

large number, twice only means 'a few,' 'some,' as we should say, 'three or four.'" Nomoa and Waria of Mabuiag also gave me *wa* (or *war*) *getal* (fingers) for five and *okasar getal* for ten.

For further information on this subject, see *Journ. Anth. Inst.* XIX. 303; and S. H. Ray in Vol. III. pp. 46, 86.

There are two methods of counting, one by enumerating parts of the body and the other by a bundle of sticks or tallies.

In the first method when only a few counts, say up to ten, were needed they counted on the fingers, beginning with the little finger of the left hand. I am not aware that the toes were ever utilised. There was another system of counting on the body, commencing at the little finger of the left hand:—

The Western Islanders enumerate in this way as follows: 1, *kutadimur* (end finger); then following on with the fourth finger, 2, *kutadimur gurunguzinga* (a thing following the end finger), ring finger; 3, *il get*, middle finger; 4, *klak-nitui-get* (spear-throwing finger), index finger; 5, *kagabet* (paddle finger), thumb; 6, *perta* or *tiap*, wrist; 7, *kudu*, elbow (they point to the inside of the elbow joint); 8, *zugu kuik* (upper arm head or basis), shoulder; 9, *susu madu* (breast flesh), left nipple; 10, *kosa dadir*, sternum; 11, *wadogam susu madu* (other side breast flesh), right nipple; and so on in reverse order preceded by *wadogam* (other side), the series ending with the little finger of the right hand. These names were obtained at Mabuiag; those used in Tutu and Muralug are somewhat different. This gives nineteen enumerations, of which 11 to 19 are merely inverse repetitions of 1 to 9. Nomoa and Waria of Mabuiag in 1898 gave the following enumeration: 1—5 as above, 6, *wadogam kutadimur* (other side end finger), 10 being the thumb of the right hand, 11 is the left wrist, and so on, ending with 19 for the right wrist. I believe the former method to be the correct one. The spelling of these names is that adopted by Mr Ray in Volume III.; in my original publications (*Journ. Anth. Inst.* XIX. p. 305; *Proc. Roy. Irish Acad.* (3) IV. 1897, p. 162) I adopted a somewhat different spelling.

I obtained the following in Erub in 1889: 1, *kebi ke* (little finger); 2, *kebi eip ke* (little middle finger); 3, *eip ke* (middle finger); 4, *baur ke* (spear finger), index; 5, *au ke* (big finger), thumb; 6, *kebi kok ne* (little bone inside of joint), wrist; 7, *au kok ne* (big bone inside of joint), inner part of elbow; 8, *kenani*, armpit; 9, *tuger*, shoulder; 10, *gélid*, pit above the clavicle; 11, *něrkěp*, pit at the root of the neck; and then passing in the reverse order on to the right side, ending with the little finger, using the same names; this gives a total of 21. Mr Ray obtained at Mer from Jimmy Rice precisely the same enumeration, except that he added: 12, *nano*, breast or nipple, and 13, *kopor*, navel, making a total of 25 by counting the *něrkěp* a second time.

The mamoose of Mer gave Mr Ray a somewhat more complicated series (III. p. 86), but he was often a somewhat vague person. It is possible that the method may vary with different individuals¹.

¹ The Rev. A. E. Hunt says: "The counting commenced at the little finger of the left hand, thence counting the digits, wrist, elbow, armpit, shoulder, hollow above the clavicle, thorax, and thence in reverse order down the right arm, ending with little finger of right hand. This gives twenty-one. The toes are then resorted to and these give ten more. Beyond this number the term 'gairé' (many) would be used" (*Journ. Anth. Inst.* XXVIII. p. 13).

The names are simply those of the parts of the body themselves and are not numerals. In counting the part mentioned was touched with the hand, or if a finger it was bent down. This system can only be employed as an aid to counting and not as a series of actual numbers. In Mabuiag the elbow, *kudu*, may be 7 or 13, but I could not discover that *kudu* really stood for either of those numbers, although in a matter of trade both men would remember how far along the body the tally of a former number of articles extended, and by beginning again on the left little finger the actual number of articles could be recovered. Only the older men are acquainted with this method as all the numerals now in use are borrowed from the English and spelled phonetically. I have experienced a surprising amount of difficulty in getting reliable information on this apparently simple subject.

I have noticed in several islands a decided tendency on the part of the natives to count by twos or couples. In *Mer seg* signifies things tied in a row with string, two bunches of bananas, and *seg degari* is to hang in a row, tie coco-nuts on a string in tens. I suspect the tying in tens is due to modern South Sea influence. Mrs Walker, of Badu, informed me recently that a native who had 183 pearl-shells for sale said: "17 shell stop in water, suppose they get them, they get 200 shell."

When it is desired to keep count of a comparatively large number of objects or events recourse is had to sticks. These are frequently portions of arrow-heads or small trimmed sticks, which are usually nicked so as to enable them to be tied on to a piece of string. A bundle of such sticks is called a *kupe* or *kopei* (E.), (fig. 224; *Album*, I. pl. 342, No. 6), and has generally a stouter stick in the centre round which the others can be wrapped, frequently it is a broken harpoon dart. In some specimens certain sticks are marked by a piece of rag being tied to them. Occasionally two sticks are tied together; on my enquiring what this signified my informant said "he have two women that night." The sticks are generally rather rough, but sometimes they are neatly cut out of hard dark wood; in one example of the latter from Dauar the sticks had an average length of 11 mm.

A tally of this kind was employed for various purposes, such as reckoning the number of dugong or turtle killed, number of amours, etc.¹ Formerly the Miriam men did not keep a tally of the dugong caught off the coast as dugong were not common there owing to the absence of suitable feeding grounds. Now a few men on Dauar have

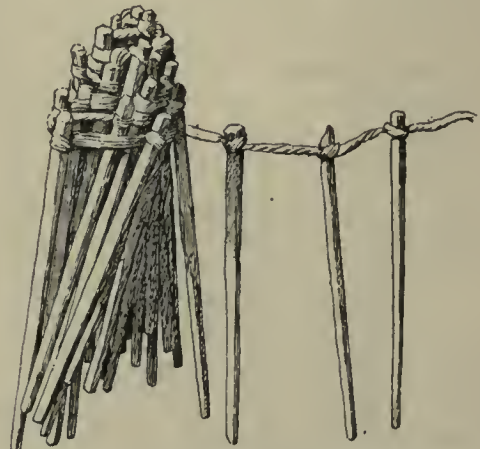


FIG. 224. The tally, *kupe*, of Masak, father of Itui, Mer.

¹ Jukes says (i. 194): "Mammoos enquired one day of Lieut. Risk, the number of all our large vessels, or 'ow shippo' and small ones, or 'kabbi shippo,' as they call the boats. On Lieut. Risk enumerating them, he took little pieces of stick, and made a little bundle of four, for the Fly, Bramble, Prince George, and Midge, and of the requisite number of smaller pieces for the boats, amounting then, I believe, altogether to eleven."

some as they are able to go further afield in fishing, but they are so small that it is considered of no importance. The Miriam are so fond of making a show that they take no interest in a tally unless it is a big one.

Mr J. Bruce informs me that the Miriam had *kupe* for turtle speared or caught in deep water only, those turned over on the sand-beach did not count. There was also a tally for the number of king-fish, *geigi*, speared, but not for those caught on a line. A *kupe* was also kept for the number of bunches of bananas that were wrapped up, *sopem kaba* (p. 147). One *kupe* was employed as a fornication tally, another for *sopem kaba*, and a third for turtle and *geigi*, the two counts being separated by a dividing mark.

The *kupe*, at all events in Mer, were usually employed to keep count of adventures with women, and a large tally was greatly prized. I believe the men used sometimes to go over the tally before congenial companions giving the name of each woman or girl that a stick represented. The specimen in the Cambridge Museum (fig. 224) contains ninety-two sticks. Mr Bruce informed me that "these tallies are left entirely to a man's honour; a man may have doubts about the correctness of another's tally, but he would never dare single-handed to express an opinion doubting it. Sometimes a crowd may chaff a man whom they suspect of cheating and get him to confess that he was only 'gammoning.'" One *kupe* which I obtained in Mer, now in the Oxford Museum, was said to be used to denote the number of persons injured by sorcery.

When a man died and was laid out (vi. p. 130), the *kupe* tallying his illicit connections with married women and unmarried girls was suspended from a croton plant placed at his head or feet. This was to honour the dead, as the unimportant *kupe* were not displayed. For example those which recorded the number of turtle or king-fish (*geigi*) he had caught or his wealth in bananas. The *kupe* descended to his son, or failing a son to his next heir, the *kesem le*.

The idea of competition and the desire to excel others, to which I have alluded, led the Torres Straits Islanders to keep the skulls of dugong or the carapaces of turtle as evidence of their skill in fishing. To take but one or two examples: in Mabuig the shells of turtle were placed on a long platform (*agu*), and as each canoe had its separate *agu* the crew that could shew the greatest number of turtles at the end of the season acquired the greatest glory; a drawing of an *agu* by a native is given in Vol. v. p. 331. In the account of the cult of Kwoiam (v. p. 370) it was stated that there was an active rivalry between the two phratries concerning the acquisition of skulls for the "elder" and "younger basket." The lower jaws, however, were private property, and were taken to the house of the warrior, where they served as a proof of his valour.

Although there were no personal monuments the natives had some idea of perpetuating their own memory; for example, a large stone bird in Mer was said to be a memorial of a certain man, and in the *kwod* on Tutu there is a large old tree in which pieces of bones, mainly of turtle, have been inserted and are now more or less overgrown by corky tissue. Part of the plastron, *kāpai*, of a turtle had been placed there by a man named Rusia or Rosir, and another man, Wēdai, being exceptionally tall, had stuck his iron harpoon dart into the tree 2.06 m. (6 ft. 9 in.) above the ground; these two objects are now in the Cambridge Museum (cf. Vol. v. p. 208).

The decorated skulls of deceased relatives may perhaps be regarded as a crude

attempt at portraiture (Vols. v. pp. 251, 258, 362; vi. pp. 126, 148), and certain scarifications were also commemorative (p. 14), as were also the *bud lu* (Vol. vi. p. 158).

CURRENCY.

Various articles in daily use or which were occasionally worn had a recognised exchange value, which necessarily depended upon the fineness of the specimen or its rarity. These considerations must be taken into account when attempting to make out a table of relative values. The following articles were the units of highest value, and were approximately of equal exchange value, each being about equivalent to a wife, and were used for bride purchase, more especially among the Western Islanders: the dugong harpoon (p. 169), canoe (p. 203), cone-shell armband (p. 56), *wraz* shell necklace and necklace of dogs' teeth (p. 41). The *dibidibi* pendants (p. 44) were also used for this purpose.

The only object which was not obviously useful or ornamental, but which was used as currency in Mer, is a cone-shell from which an *o* has been made and of which the top has been removed probably to make a *dibidibi* (fig. 225). I had considerable difficulty in procuring this specimen as the owner said he wanted to buy a canoe with it from the Fly River. In the British Museum there is a similar *wauri* (*Album*, I. pl. 306, No. 5) 163 mm. (6½ in.) in length, which was collected at the Fly River by the Rev. S. MacFarlane. The label of this specimen says, "Fly River armband, very valuable, worth a man or a canoe." The real interest in these objects lies in the fact that their value must be conventional, thus representing the first step towards actual money.

The details of the internal and external trade are given in Vol. v. pp. 293—7 and Vol. vi. pp. 185—8.

No arithmetical processes were employed other than those mentioned above.

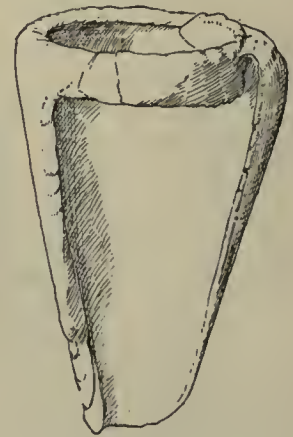


FIG. 225. *Wauri*, Mer, 125 mm. in length.

WEIGHTS AND MEASURES.

There is no system of weights and measures. The only unit of length is the fathom, *koi getalunga* (big with the fingers), *kaza* (W.), *kag* (E.), which is measured from tip to tip of the fingers of the outstretched hands; to measure in fathoms is called *geta minami* (W.), or hand measure.

HYGIENE.

On the whole the houses are kept very clean and tidy, and the spaces round them are freed from filth.

The natives frequently bathe in the sea, but I do not know that they make a daily practice of it. Fresh water is too scarce to be used for bathing. Meidu, in the folk-tale (vi. 13), "as was her wont, went into the sea to wash herself and to kill the fleas in her petticoat. When she returned she changed her wet petticoat for a dry one."

Mosquitos are very troublesome during the months of the north-west monsoon, especially in December, and there were certain men in Mer called *lag zogo le* who were credited with having a control over these pests. To remove the plague they put a mixture of coco-nut oil and water, *sabid*, on the stones of the water-hole at Lakop (vi. 218). *Sabid* is greatly used in all *zogo* ceremonies, but in this instance if the oil spread over the water it would form a film which by preventing the larvae of the mosquitos from breathing would cause their death. I do not know whether the natives have noted that oil spread on water lessens the numbers of mosquitos, or whether it is merely a coincidence that they adopt the modern scientific method.

The Mirian recognise that one place may be better than another for a sick person. For example Kiar (vi. 13), when he cut his foot and could not get well on his own island of Dauar, said to his friends, "More better you take me to Ulag, north-east wind he come here all the time." So they took him to Ulag on the far side of Mer. It is probable that the salubriousness of this breezy point of Mer (*see* Map, vi. p. 170) was the real reason why the remarkable practice of curative "medicine" by the *kekuruk le* was performed at Ulag (vi. p. 237). Patients used to resort thither and sometimes remained there several days.

The diseases and therapeutics of the natives are described in Vol. I.

XII. MUSIC

By CHARLES S. MYERS.

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A. MURRAY ISLAND.

1. Introductory.

THE songs of the Miriam or Murray Islanders, which form the subject of this section, are of considerable interest from the standpoint of musical history and development. For they differ among one another not only in complexity of structure but also in date of composition and place of origin. They thus afford an opportunity of tracing the changes in musical expression which may occur in course of time within a primitive community. They also shew evidence of the great traffic in tunes which may go on between the inhabitants of neighbouring islands, thus raising the general question as to how far the fundamental characteristics of the music of a given people are fixed or are modifiable, temporarily or permanently, by the importation of foreign airs.

The primitive character of Murray Island music is sufficiently attested by the fact that the drum is probably the sole native instrument the islanders possess; at all events the drum is the only instrument ever used as an accompaniment to their tunes, and then only in ceremonial and dance music. Flutes, pan-pipes and jews' harps are occasionally seen, the first possibly introduced by visiting South Sea Islanders, the two latter coming from New Guinea (see following section). But they are now seldom played upon and are never used in orchestral combination or at musical festivals: they have evidently exerted little or no influence on Miriam music.

The compass of the majority of the Miriam male voices is baritone. A few have a light bass voice; but none could be described as having a true tenor. At times, however, they pitch their songs (especially their Christian hymn-tunes) so high, that their voices are forced into an artificial compass. The songs which are about to be described were sung by men only. There are doubtless children's and women's songs, but these were not heard or recorded during the stay of the Expedition. In church, the women emit the most piercing treble notes; the *tempo* is excellent, but the volume and quality of the sound are very unpleasant and there is a general tendency to lower the pitch in the course of the hymn.

By the aid of a phonograph records of many songs were secured, and of these twenty have been subjected to detailed examination. Some of the songs are religious and ancient, others secular and relatively modern. Of the secular songs, some are sung at games, others at dances. Unfortunately no songs, specially designated as dance songs, were recorded, but from what could be ascertained during our visit it is probable that any favourite non-sacred tune (cf. Song XIII A, p. 246) could be sung at dances. The rhythm of the songs actually performed during dancing was strikingly independent of that of the dancers' movements. In the dance the drum appeared of more importance than the melody.

There can be no doubt that the tunes belonging to their religious ceremonies have not been affected by contamination with European music. It is true that hymn-tunes sung in the Miriam church have been introduced by Christian missionaries during the last 35 years, and that lately one or two tunes have been brought into the island from the Salvation Army at Thursday Island. But the songs of the Malu cult were so sacred that no native woman or child might hear them; indeed no white man had ever heard them before the arrival of the members of our Expedition. It was only with the greatest difficulty that the natives were induced to sing them.

In other words, the Malu songs were sung so seldom and so secretly that it is impossible to believe that modern European music had affected them. In securing the records for the phonograph, great care, moreover, was taken to ensure that they were obtained from the older men who were alive in the times when the ceremonies were still being performed, of which these songs formed part. The other ceremonial songs were probably also sacred. Traces of European influence may be suspected in one or two of the secular songs, but the evidence is not strongly in favour of this view.

2. Origin and Classification of the Songs.

The first four songs are songs of extreme solemnity belonging to the Malu funeral ceremonies. They have already appeared in these *Reports* (Vol. VI. pp. 151, 152). The circumstances and manner in which they were sung are there described (*ibid.* pp. 145, 146, 312, 313), and the translation of the words, so far as that was possible, is also given (*ibid.* pp. 299, 300).

Song I was sung into the phonograph by Ulai. Of Song II three records are available, of which two were sung by Ulai and one by Gasu. The two records of Song III were sung by Ulai and Wanu. Song IV was sung by Enoka.

Song IV A was sung during the exhibition of the sacred masks of Bomai and Malu (Vol. VI. pp. 289—292, 306—308), and again during the dance of the Bezam Boai (*ibid.*

pp. 309, 310). The translation of the various words sung to this air has already been given (*ibid.* pp. 297, 298¹), and is here re-printed (see Appendix). Three records of this tune have been obtained, two of which were sung by Ulai and Gasu.

Songs V—XII have also been published (Vol. vi. pp. 152, 153). They belong to the *keber* ceremonies (*ibid.* pp. 126—144). Songs VI², VII, X² appear to have been connected with the *zera markai* (*ibid.* pp. 133, 134), Songs VIII and IX² with the *meket siriam* (*ibid.* pp. 142, 143, 273, 274). These two songs were sung into the phonograph by Wanu. Joe Brown and Ulai were responsible for most of the others. Song XIII is an old song from the island of Dauar, sung by Gasu. Perhaps Song XIII A may be included in this group of songs. It was sung at the funeral of a *nogle* ("one of 'the people,' who was not *zogole* or *tamileb*"). But it was also used as *babanet*, i.e. as a prelude to a dance. The words were introduced from Tutu.

Songs XIV and XV are sung while the natives are sitting in a circle spinning their *kolap* or tops (see section on Games). Song XVI was composed by a woman named Akoko; it was described as "a new song from Las." Joe Brown who sang Song XVII claimed to have composed it. Song XVIII appears to have been introduced by Boa. It is said to have been known at Tutu. The words of these twenty songs are translated into English, so far as possible, on pp. 266—268.

The songs conveniently fall into three divisions, the Malu songs (I—IV A), the *keber* songs (V—XIII A), and the "secular" songs (XIV—XVIII). That the Malu songs have been sung in Murray Island for a longer time than the *keber* songs admits of no doubt whatever. It was Waiet who introduced the ceremonies of the *zera markai* and the *keber*. The natives emphatically state that Waiet came after Bomai and Malu, and that he came from the western islands (Vol. vi. pp. 279, 280).

A study of the words of the Malu and of the *keber* songs confirms this estimate of their relative age in Murray Island. With one or two exceptions the words of the Malu songs clearly belong to the language of the eastern islands. These songs thus present a striking contrast to the *keber* songs which, with the exception of Song XI, are invariably in the western language. Mr Ray finds many obsolete words and forms of grammar in the words of the Malu songs: he has dealt with this subject at length in Vol. III. p. 51. The original significance of the Malu songs is for the most part forgotten by the Murray Islanders of the present day. They describe some of the words as "Malu words," and attempt to translate them into the vernacular (Vol. vi. pp. 296, 297).

Inasmuch, on the other hand, as the words of all the *keber* songs (save Song XI) belong to the language of the western islands of the Torres Straits, they are naturally even less intelligible than those of the Malu songs to the Murray Islanders. The same feature characterises the majority of the secular songs. These are said to be introduced from the western islands of the Torres Straits or from Saibai, often during the voyages made by the Murray Islanders while serving on the luggers engaged in the pearl-shell industry. The original words of these songs are more or less correctly retained on their introduction into Murray Island, but their meaning is lost. The Murray Islanders appear

¹ By mistake the words "Air 1, p. 151," "Air 1," "Air 1, p. 151," appear on these two pages over the translation of the words sung during the exhibition of the sacred masks. The only words sung to the first song are those given and translated on p. 299.

² I was unable to obtain the words for these songs; cf. p. 268.

invariably to attach little or no importance to the words of their song; they would often say, "it is only the music that matters."

It was seldom that a Miriam (i.e. Murray Island) origin was claimed for the secular songs, but in some instances this claim appeared questionable upon enquiry. For example, Boa declared himself the composer of Song XVIII. Yet the words are clearly of the western language. They were admittedly known at Tutu, and seem to have been introduced from Muralug. Similarly Song XV was given to me as composed by Matud, a Murray Islander then deceased. But later it turned out to have been introduced by Matud from Erub whither it had been previously brought from Masig; Matud sang it first at a Miriam marriage-feast.

The words of seven secular songs, the music of which was not recorded, were also obtained. Of these three came direct from Tutu, a fourth from Saibai, a fifth from Aurid or Masig, while a sixth was traceable from Masig, thither from Purem (Paremar), and finally from Tutu. The words of these songs are given in the section on Songs; they are in the language of the western islands.

But it is difficult to accept the conclusion, which the evidence thus adduced appears to indicate, that the modern music in Murray Island is *entirely* of exotic origin. There is still the possibility that the Murray Islanders may often have made use of the incomprehensible language of the western islands (to the words of a song, as has been already pointed out, they attach no importance) and set them to their own music. This possibility is strengthened by the words of one song (tunc not recorded) which were said to have been brought from Tutu (indirectly from Saibai) "when Orotu was ten years old" (about 35 years ago) by men who happened to be sailing under Douglas Pitt, a West Indian owner of a pearl-shelling lugger. "Akoko then made new music to those words." Akoko, it will be remembered, claimed (p. 240) also to have composed Song XVI, the words of which are in the Murray Island language. She was said to dream new songs while asleep, and was evidently recognised by her fellow-islanders as a composer of music. Joe Brown also appears as the composer of Song XVII, one of the words of which is also in the Murray Island language; when younger, he had the reputation of being the best singer on the island.

It is conceivable that after long familiarity with the songs and words borrowed from the western islands, the Murray Islanders fell into the habit or adopted the fashion of singing incomprehensible words to their own music. The words of the Malu songs, as we have already explained, are so archaic and symbolic as to have long lost most of their meaning; it is therefore not so strange if the custom has grown up of singing the words not merely of the *keber* but also of the secular songs in the (more or less distorted) language of the western islands. We may reasonably look on the Malu songs as representing ancient Miriam music¹. The question arises, of course, as to how far the *keber* and the secular songs may be respectively regarded as specimens of "medieval" and "modern" Miriam music. If once it be admitted,

¹ It will be remembered that the cult of Malu was introduced from the west, possibly indeed originally from New Guinea (see these *Reports*, Vol. vi. p. 282), but at such a remote epoch that we may regard the Malu tunes as virtually representative of ancient Miriam music, even though the introducers of the cult brought their tunes with them.

as I think it must, that some of the modern secular songs are written by Murray Island composers to the western and a few to the eastern language of the Torres Straits, it may well be that other tunes which purported to have come from the western islands really have a Murray Island origin. For aught we know to the contrary, it may be that only the *words* of many of the *keber* songs were introduced, and that the *music* was composed by the Murray Islanders, or that, at all events in course of time, it became modified to suit their aesthetic needs. If this hypothesis be accepted, the Malu, the *keber* and the "secular" music may be regarded as representing three different stages in the development of music in Murray Island. At the same time, however, it must be doubtless admitted that the characteristics of these three kinds of music have been determined or influenced by the free communication of the inhabitants with the western and other islands of the Torres Straits.

3. Methods of Analysis.

The twenty songs which are now to be closely examined have been studied from phonographic records, by aid of a metronome and an Appun's Tonmesser which consists of a box of metal tongues any one of which can be made to vibrate at will by means of air driven from bellows. The tongues are carefully tuned so as to give tones which are successively different by two vibrations. The box contains 65 tongues giving as many tones ranging from 128 to 256 vibrations per second. The pitch of the tones emitted by such tongues is remarkably constant, despite the inevitable variations in temperature and in wind pressure.

A given song is first written down approximately in European notation. It is next subject to more careful examination. The pitch of the more important and more prolonged notes is determined as accurately as possible by means of the Tonmesser. Any one tone can be prolonged on the phonograph by holding up the lever which usually rests on the spiral steel thread and is driven along it. When this lever is held up, the glass style remains stationary instead of travelling along the spiral groove cut in the wax cylinder. The mean of several determinations, made both by upward and downward changes in the tones of the Tonmesser, is taken as the required pitch. The *tempo* and rhythm of the song, and of the accompanying drum beats when present, are at the same time noted by aid of the metronome.


Then the quotient or ratio of the vibration numbers of successive different notes is calculated, so as to determine the interval between them. Supposing that two consecutive notes are of 200 and 300 vibrations respectively, the quotient becomes 1.5. The higher tone is always selected as the numerator, so as to express the quotient in the form of a whole number.

The size of the interval is also estimated in cents¹. A cent is the hundredth part of our tempered semitone; hence an octave is divisible into twelve hundred cents. For purposes of comparison of the ratios and cents hereafter calculated from the records, the following table may be useful:

¹ These are readily calculated from the interval ratios by the aid of the tables given by the late A. J. Ellis in his edition of Helmholtz's *Sensations of Tone*, London, 1895, pp. 446—451.

Interval	Quotient	Cents
Tempered semitone	1·059	100
Just semitone (15 : 16)	1·06	111·731
Just minor tone (9 : 10)	1·111	182·404
Tempered tone	1·122	200
Just major tone (8 : 9)	1·125	203·910
Tempered minor third.....	1·189	300
Just minor third (5 : 6)	1·200	315·641
Just major third (4 : 5)	1·250	386·314
Tempered major third.....	1·260	400
Just fourth (3 : 4).....	1·3	498·045
Tempered fourth	1·335	500
Just tritone (32 : 45)	1·406	590·224
Tempered tritone	1·414	600
Tempered fifth	1·498	700
Just fifth (2 : 3)	1·5	701·955
Tempered minor sixth.....	1·587	800
Just minor sixth (5 : 8)	1·6	813·687
Just major sixth (3 : 5)	1·6	884·359
Tempered major sixth.....	1·682	900
Just minor seventh (9 : 16)	1·7	996·091
Tempered minor seventh	1·782	1000
Just major seventh (8 : 15)	1·875	1088·269
Tempered major seventh.....	1·888	1100
Octave (1 : 2).....	2·0	1200

We shall employ the usual nomenclature in referring to the names of the musical notes, the tones in the middle octave of the piano being written as *c'*, *d'*, *e'* ... *b'*, those in the two octaves immediately below it being written as *c°* ... *b°*, *C_o* ... *B_o*. The letter *b* is employed with the customary English signification.

The numbers and letters which we shall hereafter use having been thus explained, a few observations remain to be added as regards the notation of the songs. Of the five Malu songs four have already appeared in musical notation in Vol. VI. (pp. 151, 152) of these *Reports*. The fifth Malu Song IV A was performed during the exhibition of the sacred masks and during the dance of the Beizam Boai after the initiation ceremonies. Only the words of this song have been published in Vol. VI. pp. 297—299, where by error in each case they are ascribed to the air of Malu Song I. The notation now presented does not always tally exactly with the earlier version, which was intended only to convey to the European a rough idea of the character of the songs¹. In this section an attempt is made to give a more exact value to the pitch and duration of each note. The sign + or - over a note means that the pitch of the tone is slightly higher or lower than would otherwise be indicated². The sign \vee indicates a breath pause. Asterisks denote the drum beats. A number of asterisks massed together implies that the drum is beaten as rapidly as possible. When two notes are connected by two ties (e.g. ) a well-marked *glissando*, or continuous change of pitch in passing from the one note to the other, is indicated. The songs are for convenience sake written an octave higher than they were actually sung.

¹ No attempt has been made to convey a very accurate idea of Song IV A. It was felt that a more elaborate system of notation would do more harm than good.

² The sign + or - is not repeated when successive repetitions of the same note occur.

4. The Songs transcribed in Musical Notation.

MALU SONGS.

I¹.

$\text{♩} = 40.$ $\text{♩} = 56.$

* * * * *
emarer emarer emarer etc.

II¹.

$\text{♩} = 60.$

* * * * *
weii weii etc.

III.

$\text{♩} = 108.$

Variant

IV.

$\text{♩} = 120.$

IV A.

$\text{♩} = 60.$

¹ On the pianoforte the notes of this song are best playable as a series of descending whole-tones.

5 etc. Shouts of bua, bua, bua.....

This block contains two staves of musical notation. The first staff begins with a treble clef, a key signature of one sharp (F#), and a 2/4 time signature. It features a sequence of rhythmic patterns: a quintuplet of eighth notes, followed by a series of eighth notes with accents and slurs, and then groups of eighth notes with slurs and accents. The second staff continues with similar rhythmic patterns, including groups of eighth notes with slurs and accents. Asterisks are placed below the notes to indicate specific rhythmic or performance instructions.

KEBER SONGS.

V.

$\text{♩} = 80.$

Song V consists of two staves of music. The first staff has a treble clef, a key signature of one sharp, and a 2/4 time signature. It features a melody with eighth notes, some with slurs and accents, and a final measure with a fermata. The second staff provides a bass line with eighth notes, some with slurs and accents, and a final measure with a fermata. Asterisks are placed below the notes.

VI.

$\text{♩} = 92.$

Song VI consists of one staff of music. It has a treble clef, a key signature of one sharp, and a 2/4 time signature. The melody features eighth notes with slurs and accents, and a final measure with a fermata. Asterisks are placed below the notes.

VII.

$\text{♩} = 72.$

Song VII consists of one staff of music. It has a treble clef, a key signature of one sharp, and a 2/4 time signature. The melody features eighth notes with slurs and accents, and a final measure with a fermata. Asterisks are placed below the notes.

VIII.

$\text{♩} = 96.$

Song VIII consists of one staff of music. It has a treble clef, a key signature of one sharp, and a 2/4 time signature. The melody features eighth notes with slurs and accents, and a final measure with a fermata. Asterisks are placed below the notes.

IX.

$\text{♩} = 138.$

Song IX consists of one staff of music. It has a treble clef, a key signature of one sharp, and a 2/4 time signature. The melody features eighth notes with slurs and accents, and a final measure with a fermata. Asterisks are placed below the notes.

X.

$\text{♩} = 120.$

Song X consists of one staff of music. It has a treble clef, a key signature of one sharp, and a 2/4 time signature. The melody features eighth notes with slurs and accents, and a final measure with a fermata. Asterisks are placed below the notes.

XI.

$\text{♩} = 72.$

Song XI consists of one staff of music. It has a treble clef, a key signature of one sharp, and a 2/4 time signature. The melody features eighth notes with slurs and accents, and a final measure with a fermata. Asterisks are placed below the notes.

XII.

$\text{♩} = 96.$

XIII.

$\text{♩} = 60.$

Variant

XIII A.

Variant

$\text{♩} = 120.$

SECULAR SONGS.

XIV.

$\text{♩} = 100.$

XV.

$\text{♩} = 60.$

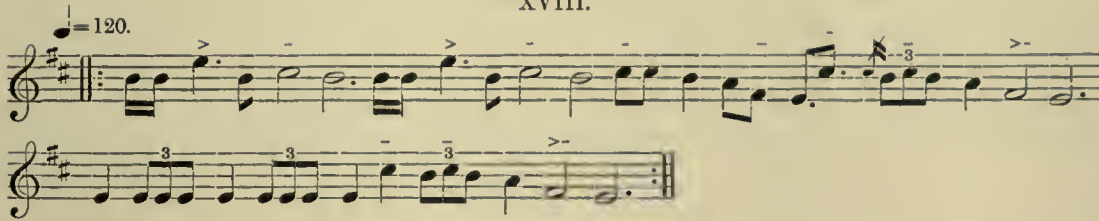
XVI.

$\text{♩} = 76.$

XVII.

$\text{♩} = 136.$

XVIII.



5. Detailed Analysis of the Songs.

Song I. This song consists of a descent through a succession of intervals, each of which (with the exception of the last) is slightly smaller than our whole tone. When the descent has been made approximately through an octave, the verse is repeated. A sudden rise to an octave may occur anywhere in the song when the pitch has become uncomfortably low for the singer. The successive intervals between the notes used have the following values:

Vibration-ratios	1·118	1·102	1·122	1·108	1·121	1·138
Cents	193	168	199	179	197	224

We have a succession of alternate larger and smaller intervals, averaging 196 and 173 cents, none exceeding our whole tone, excepting the last where a larger interval is employed apparently in order to reach (approximately) the pitch of the original starting note.

If we could treat these differences in size of successive intervals as due to accident, we might suppose that it was the purpose of the singer to descend by six intervals, each of 200 cents, until the octave had been completed. But, as we shall presently see, this conclusion is not warranted by other facts.

It is, however, certainly the case that a distinct recognition of a "principal tone" (? = tonic) appears in this song, but the function of this tone is not so much to end as to commence and recommence the melody. Each repeated verse starts with the principal tone, and the descent is continued until this tone is reached once more. The following values in cents are the distances of the successive descending tones from the principal tone:—0, 193, 361, 560, 739, 936, 1160.

The drum beats are sounded just after the note to which they belong. The rhythm of the song is not strictly regular until the words *emarar*, *emarar*, etc. are reached. The drum beat is sounded just between the syllables *em* and *ar*. The *tempo* is increased at the start of the descent and remains constant until the song is restarted.

Song II. This song is closely similar in construction to the previous one. The transcript here published is derived from the only record of several available, which was distinct enough for the pitch of the notes to be accurately determined. In two verses even of this record I had to be content with determining the interval between say two tones *a* and *c*, omitting the interval between *a* and *b*, and between *b* and *c*,

owing to the insufficient audibility of *b*. The following table gives the successive intervals in cents employed in different verses in the same record:

Verse I.	← 649 →				209	250	Total descent	1108
Verse II.	196	204	← 522 →		234			1156
Verse III.	212	201	242	212	272			1139
Verse IV.	212	219	227	219	?			?
Average	207	208	240	227	252			1134

The following values in cents represent the distances of the various notes from the initial note, the latter being given the value zero:

0 207 415 655 882 1134

Here the range traversed is still less exactly an octave than in the former song. Indeed it approximates more nearly to eleven semitones (1100 cents) than to six whole-tone intervals.

The basis of division, moreover, is different. In Song I, it will be remembered, an interval of 1160 cents was divided into six intervals. In this song an interval of 1134 cents is divided into five intervals. In both songs the last interval is larger than the rest, apparently in order to reach approximately the pitch (octave differences being allowed for) of the initial note.

The drums are sounded as in the first song. The *tempo* remains fairly constant throughout the song.

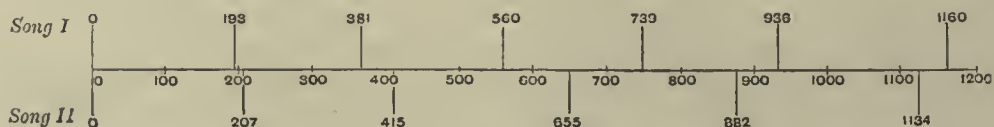
One of the several versions obtained of this song follows the record here published, descending (with an octave rise) through eleven semitones, the second verse being sung a semitone higher than the first, and the third being similarly sung approximately a semitone higher than the second.

In another rendering the song began on *d'* and descended to *B₀* without any octave rise during the descent. The second verse began again on *d'*, descending to *d^ob*.

In another rendering the song began on *c'*, descending (with an octave rise) so as to begin the second verse on *b'*. In this verse the tune descended past the octave to below *G₀*. The third verse began on *d'* and descended (with octave rise) so that the fourth began on *e^ob*.

These several versions shew how variable are the intentions of the singers and how inaccurately they execute their intentions.

From a study of these two songs there seems little doubt that the general aim of the Murray Island singers was to descend through successive intervals until the song could be begun again at the initial pitch. In the second song, however, the size of the interval is distinctly larger than in the other, so that the octave is traversed by five steps in this, by six steps in the first song. This difference in subdivision is made clear in the following diagram:



Song III. This extremely simple song consists only of three notes $B_0\flat$, c° , d° , with a broad descent *glissando* at the end of each verse. It begins with a prolonged c° and, after the intervention of the unimportant ascent to d° , descends to $B_0\flat$. I have two records (A and B) of this song sung by different natives. The following table gives the vibration-ratios of the two intervals formed between these three notes in four verses of the song:

RECORD A.		RECORD B.	
$c^\circ-d^\circ$	$c^\circ-B_0\flat$	$c^\circ-d^\circ$	$c^\circ-B_0\flat$
1.112	1.079—1.090	1.113	?
1.112	1.096— ?	1.101	1.121—1.092
1.115	1.083—1.106	1.130	? —1.109
1.109	1.088—1.110	1.137	1.073—1.106
Average 1.112	1.087—1.102	1.120	1.094—1.102

The interval $c^\circ-B_0\flat$ occurs three times in each verse and varies each time in size, generally increasing as the interval is repeated. Both tones tend to rise absolutely in pitch, the second more than the first.

The average value of the interval $c^\circ-d^\circ$ is 190 cents, while the interval $c^\circ-B_0\flat$ varies from 153 to 167 cents. We may perhaps suppose that the final or larger value gave the singer most satisfaction and represents the interval he really intended to sing. It will be noted that the values 190 and 167 closely agree with the two different values of the interval used in descending the octave in Song I, viz. 196 and 173 cents.

The final, resting, note (? = tonic) is clearly $B_0\flat$. Hence we have a scale of three notes, $B_0\flat$, c° , d° , the distance of successive notes from the tonic being 167 and 357 cents.

The *tempo* of this song is not strict. The drum beats follow the enunciation of the syllable to which they belong. The long notes are accompanied by a rapid series of beats, again not beginning until after the note has been sounding for a short time.

Song IV. This record contains a descent of a large fourth by four notes. The three intervals thus sung have the vibration-ratios of 1.135, 1.104, 1.098, equivalent to 219, 172, 162 cents respectively.

Reckoned from the initial note, the intervals consequently have the following cent-values:

0	219	391	553
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It is curious, but probably accidental, that the interval between the first and third notes (391 cents) is almost exactly that of a just major third.

Probably the lowest note is accidentally sharpened owing to its very low pitch. It is obvious from the record that the performer had great difficulty in singing it.

The number of descending intervals appears to be entirely at the discretion of the singer. Sometimes fewer or sometimes more were sung than occurred in the one record which it was possible to investigate with care. Ultimately so low a note was reached that the singer stopped; he then whispered the sacred words given on p. 267.

Song IV A. This is a very interesting song, in many respects different from the other Malu songs. It is far livelier in character, and the characteristic intervals instead of being whole tones are fourths and fifths.

Apart from the opening phrase, which is repeated, it consists essentially in an ascending *glissando* through an interval approximately of a fourth and in descending by an exceedingly drawn out *glissando* approximately through a fifth to a prolonged note. This rise to a fourth and descent through a fifth are repeated, the pitch being consequently lowered by about a tone after each repetition, until the song becomes too low for the performers to sing it, or until the words belonging to it have been exhausted. A series of sacred words (see p. 267) are then whispered and the song ends with a number of short high-pitched shouts, *buā, buā, buā*, as indicated in the transcript.

Consequently it is possible to maintain that in this song we are observing the evolution of whole-tone intervals, since a series of (approximately) whole tones is obtained from the successive rises through fourths and falls through fifths. I have little doubt, however, that this idea is incorrect (see p. 260).

Four records of this song are available, which will be called A, B, C, D. They were sung by different singers.

We may consider the intervals occurring in this song under five heads: (i) the whole tone ascended and descended in the opening phrase, (ii) the approximate whole tone separating the different repetitions of the main tune, (iii) the abrupt fall through a fourth occurring in the opening phrase, (iv) the *glissando* rise to a fourth, (v) the *glissando* fall through a fifth, the last two in the main part of the tune. The first four intervals may be considered together in successive pairs, the last separately. The quotients for the first pair are as follows:

	A	B	C	D
(i)	1.125	{ 1.134 1.118	?	1.143
(ii)	1.132 1.118 1.115	1.131 1.125 1.128 1.069	?	1.135 1.067 1.118
Average	1.123	1.118		1.116
Equivalent to 201		193 cents		190 cents

The mean of these three means is 195 cents, an interval closely identical with the larger of the two intervals with which we have met in Songs I and III.

The following table gives the quotients for the second pair (iii) and (iv):

	A	B	C	D
(iii)	1.360	{ 1.357 1.339	?	1.389
(iv)	1.314 1.382 [1.529] [1.508] [1.421] [1.400]	1.321 1.333 1.375 [1.526] [1.466] —	1.443 1.301 ? ? ? —	? 1.423 ? ? ? ?
Average	1.416	1.388	1.372	1.406

The average for the above intervals of (iii) and (iv) amounts to 1.399 or 581 cents, a slightly flattened tritone (32 : 45).

It will be noted that the intervals in (iv) tend to become larger and more uncertain towards the end of the song. This was noticeable in all the heard versions of the song, and may be ascribed in part to carelessness and in part to the increasing lowness of pitch of the note from which the rise to a fourth was taken. The note became so uncomfortably low that the singer evidently exaggerated the rise in his effort to get away from it.

If we omit the intervals (bracketed in the above columns) due to these causes the average amounts to 1.361. Precisely the same average is reached if we limit ourselves to the fourth sung (without *glissando*) in (iii). The ratio 1.361 amounts to 534 cents.

Similar difficulties attend the exact determination of the remaining interval used in this song, the *glissando* descent through an approximate fifth. The two intervals bracketed below should certainly be excluded; their smallness is obviously due to the fact that the singer had reached so low a pitch that the descent through the required interval was quite beyond his power.

	A	B	C	D
(v)	1.487	1.495	1.612	?
	1.544	1.500	1.506	1.519
	1.705	1.551	?	?
	1.521	1.630	?	?
	[1.433]	—	—	?
	[1.461]	—	—	—
Average	1.552	1.544	1.559	1.519

The average of all the intervals (those bracketed being excepted) amounts to 1.552 or 761 cents.

The drum beats immediately follow the note to which they belong. They recur irregularly in the opening phrases of the song, but soon take on a regular rhythm, only quickening during the *glissando* descents which are accompanied by a very rapid succession of drum beats.

Song V. This song, at first limited to the two notes c' , d' , contains a descending *glissando* through a fifth from c' to f° . The song ends on e° . Thus the notes composing the song are e° , f° , g° , c' , d' . The intervals could not be accurately determined. The drums are beaten with fairly regular rhythm, quickening on the last note to a rate of about three beats per second.

Song VI. The essential feature of this song consists of a descent through an approximate fifth, $f^{\circ\#}$ to B_\circ , with the insertion of the intermediate tones e° and d° . The tune then rises to the octave b° , falls abruptly to the lower B_\circ , and ends by repeating the previous sequence $f^{\circ\#}$, d° , B_\circ , the common chord of our minor scale. These three important notes $f^{\circ\#}$, d° , B_\circ form the following downward intervals:

	$f^{\circ\#}-d^\circ$	$d^\circ-B_\circ$
Verse I.	1.264 or 406 cents	1.200 or 316 cents
Verse II.	1.263 or 404 cents	1.236 or 367 cents

Thus the average values of the intervals amount to 405 and 342 cents, comprising a large fifth of 747 cents.

The scale composed of the notes of this song runs $B_o, d^{\circ}, e^{\circ}, f^{\circ\#}, b^{\circ}$.

Song VII. In this curious song, after a prolonged dwelling on f° , relieved by two turns, there is a *glissando* rise from it through a major third to a° with a fall of a major sixth from a° to c° , and hence to B_o , the final and fundamental note¹ of the song. The important intervals and their values are thus:

	$f^{\circ}-a^{\circ}$	$a^{\circ}-c^{\circ}$	$c^{\circ}-B_o$
Verse I.	1·233 or 362 cents	1·710 or 929 cents	1·051 or 86 cents
Verse II.	1·244 or 378 cents	1·672 or 890 cents	?

Their average values in cents are 370, 910 and 86 cents respectively.

The scale composed of the notes of this song runs $B_o, c^{\circ}, d^{\circ}, f^{\circ}, a^{\circ}$.

Song VIII. This is an extremely simple song, the note f° , adorned with turns, being prolonged until the end of the song which ends by a descent of a fifth on the lower $B_o\flat$. We have therefore only the interval $f^{\circ}-B_o\flat$ to consider. The vibration-ratio of these two notes is exactly 3 : 2. The ratio is consequently 1·5, equivalent to 702 cents.

Song IX. The tones used in this song are $B_o\flat, c^{\circ}, d^{\circ}, f^{\circ\#}, g^{\circ}$. It starts from d° , rising to the fourth g° , and then descending through $f^{\circ\#}$ to d° , whence it descends by two further whole-tone intervals to c° and $B_o\flat$. The notes form a pentatonic scale, the fourth and seventh being omitted. The actual pitch of these five notes, $B_o\flat, c^{\circ}, d^{\circ}, f^{\circ\#}, g^{\circ}$, was 226, 256, 284, 352, 380 vibrations per sec. respectively. The intervals which they successively form are:

	1·133	1·109	1·239	1·080
Equivalent to	216	179	371	133 cents

All these intervals (if the unimportant grace notes be excluded) are actually sung in the song. In addition to these, there is the interval of a fourth from d° to g° , the ratio of which is 1·333, equal to 504 cents.

The intervals of the scale, reckoned from the final and fundamental note $B_o\flat$ as zero, have the values:

0	216	395	766	899
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Song X. The important intervals in this song are the ascent from the prolonged note c° to the fourth f° , and the descent from c° through whole tones to $A_o\flat$. The values of these intervals are 1·339, 1·255, equivalent to 505 and 393 cents respectively.

The notes used in this song run $A_o\flat, B_o\flat, c^{\circ}, f^{\circ}$. The notes of this scale are identical with four of the five in Song IX.

Song XI. Here as in Song IX the scale is pentatonic, consisting of $f^{\circ}, g^{\circ}, a^{\circ}, c', d'$, if we except the once-occurring grace note e' . As in that song, the fourth and seventh

¹ So little feeling for tonality exists in these songs that the word "tonio" in the sense of "keynote" would be out of place.

are wanting, and the lowest tone is the final note of the song. The intervals, however, between the third and fourth, and the fourth and fifth notes of this scale, are somewhat different. Structurally it consists in a play on the notes d' , c' , repeated a fifth below on the notes g° , f° .

The important intervals used are $d'-c'$, c' to g° , g° to a° , g° to f° . The actual pitch of the tones f° , g° , a° , c' , d' used is 176, 196, 220, 268, 304 vibrations per sec. The intervals which they successively form are consequently:

	1·114	1·123	1·218	1·135
Equivalent to	187	200	342	220 cents

or reckoned from the lowest tone f° : 0, 187, 387, 729, 949 cents.

The interval c' to g° which occurs in the song has the value of 1·367, equivalent to 542 cents.

Song XII. Here again the melody consists of five notes A_0 , c' , d° , $f^{\circ\#}$, g° . It includes the ascent of a fourth $d'-g'$, the descent of a fourth $d^\circ-A_0$, the descent through a major third $f^{\circ\#}-d'$, and of a minor third $c^\circ-A_0$. The record, however, was too feeble for these intervals to be determined exactly.

The song opens, like Song IX, with the ascent of a fourth, and, like it, makes use of the tone below the initial note, but it ends on the fourth instead of on the major third below the latter.

Song XIII. The notes of this song also were not determinable with accuracy. It begins on $g^{\circ\#}$ and, after alternating for some time between $g^{\circ\#}$ and a° , descends from the former abruptly through a fifth to $c^{\circ\#}$, rises suddenly again to the $g^{\circ\#}$ and descends by a run of notes once more through a fifth to $c^{\circ\#}$ on which the song ends, after touching on the note b° . The important notes employed are

$$c^{\circ\#}, g^{\circ\#}, a^\circ, b^\circ.$$

Song XIII A. This song has d° as its important note. As in Song XII it descends from d° to a fourth below it, viz. a° . It also contains the notes e° and f° .

Song XIV. The tones used in this song are B_0 , d° , e° , $f^{\circ\#}$, g° , a° and the octave b° . It consists of two descents through a fifth, the first from b° to e° with an intermediate pause on g° ; the second, instead of starting from b° , starts from a fourth below it, i.e. from $f^{\circ\#}$ to B_0 with an intermediate pause on d° . Thus in each case the descent through a fifth is divided into intervals of a major followed by a minor third¹.

The interval $b^\circ-e^\circ$ has a ratio of 1·488 or 688 cents, which are subdivided into thirds of 379 and 309 cents respectively.

The interval $f^{\circ\#}$ to B_0 has a ratio of 1·525 or 730 cents. The pitch of d° could not be accurately determined.

The octave appears true; consequently the interval $e^\circ-f^{\circ\#}$ may be deduced—218 cents.

¹ The breath mark after the crotchet $f^{\circ\#}$ at first sight suggests the analysis of a fifth followed by a major third. But when I heard the song, it certainly conveyed to me the construction given above.

Song XV. The remaining songs are of more elaborate form than any of the preceding, and in some of them, as I have said (p. 239), we may possibly suspect foreign influence. Song XV is of this kind. It consists of two descents through a major sixth, the tune starting on d' and descending from e' to g° , and then rising a whole tone; whereupon precisely the same phrase is repeated a fourth lower, starting from a° and descending from b° to d° , ascending to e° . It then ascends from e° through g° to the fifth b° , descending from d° to g° . The song, after alternately dwelling on g° and a° and descending to e° , ends on the fairly well-marked tonic g° . Hence the important notes in this song are g° , a° , b° , d' , e' , a scale which we have already met with in Songs IX, X and XI.

The first major sixth has a ratio 1.675, equivalent to 893 cents; the second major sixth has a ratio 1.648, equivalent to 865 cents. The interval of 893 cents is made up of the four intervals of 207, 334, 155 and 197 cents. The $f^\circ\sharp$ in the second major sixth could not be determined. The first and last of the four intervals making up the second major sixth measured 187 and 185 cents. Hence the average values of the intervals between the notes of the above scale appear to be:

g°	a°	b°	d'	e'
197	171	334	196	

or starting from g° the values are 0, 197, 368, 702, 898 cents.

The descent from a° to e° near the close of the song amounts to 556 cents, the final descent from a° to g° to 181 cents.

Song XVI. To many this song, like the last, will appear to bear suspicious traces of European influence. Despite its more complex form, however, it retains many of the leading characteristics observable in the majority of purely Miriam songs. The descent to a minor seventh from e^\flat to f° is the most striking feature of the tune. It is followed by a twice repeated descent through two (?) minor thirds.

Song XVII. Here we meet with the same pentatonic scale as occurs in Songs IX, X, XI and XV. If the final note a° be accepted as a basis, the scale runs

a°	b°	$c^\circ\sharp$	e'	$f^\circ\sharp$	
with intervals of	203	213	278	202	cents

These values reckoned from a° become 203, 416, 694, 896 cents.

The important intervals used are $f^\circ\sharp - a^\circ$, having a ratio of 1.192 or 304 cents; $f^\circ\sharp - c^\circ\sharp$, with ratio 1.516 or 720 cents; $c^\circ\sharp - f^\circ\sharp$, with ratio 1.319 or 480 cents.

The song starts by the ascent of a fourth to $f^\circ\sharp$, whence the tune descends through e' to c' , and thence a second phrase starts through b° and a° to the fifth below $f^\circ\sharp$, ending on a° .

Song XVIII. This song has clearly e° as its tonic. It employs the tones

e°	$f^\circ\sharp$	a°	b°	$c^\circ\sharp$	
174	353	202	162	cents	

These values reckoned from the tonic as zero become 174, 527, 729, 891 cents.

The song also starts by the twice repeated ascent of a fourth, from b° to e' , of 507 cents, followed by a return to b° and the notes $c'\sharp$, b° ; whereupon a descent of a major sixth is sung from $c'\sharp$ through b° , a° , $f^\circ\sharp$ to e° , which is thrice repeated.

6. Deductions from the Analyses¹.

The range of the Malu songs is ill-defined. In most of these songs it amounts to an approximate octave, but frequently it depends on the will of the singer or on the limitation of the compass of his voice.

The range of the remaining fifteen songs is shown in the following table:

KEBER SONGS.										
Song	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.	XIII.	XIII A.
Range	min. 7th	octave	min. 7th	5th	maj. 6th	maj. 6th	maj. 6th	min. 7th	min. 7th	maj. 6th
" SECULAR " SONGS.										
Song	XIV.	XV.	XVI.	XVII.	XVIII.					
Range	octave	maj. 9th	maj. 9th	octave	octave					

Hence the average range of the medieval songs lies between a major sixth and minor seventh, while the range of the modern songs is appreciably greater, averaging a minor ninth.

Of the five Malu songs, numbers I, II and IV are in many respects similar. They are made up of a descending series of notes, each approximately a whole tone apart from its neighbour. In Songs I and II the object appears to be to descend until the song can be begun again on the same note as that with which it started originally. In this sense the initial note of the song may be styled the "tonic." We may then, perhaps, regard these songs as shewing a very primitive effort in the direction of tonality. But except for the purpose of restarting the song the tonic appears to have little or no influence. The successive intervals appear to be formed regardless of it. In one song the octave is divided into six, in the other into five intervals. Songs III and IV A are possibly of later date than the other three; they are certainly somewhat different in character. In III there is more distinct evidence of tonality, in IV A there is little or none, while in both songs there are ascending as well as descending intervals and well-marked *glissando* descents. Song IV A is noteworthy for the alternating ascents through a fourth and descents through a fifth, and for the twice repeated phrase with which it opens.

The following table gives the probable values in cents of the intervals actually sung in these five songs:

I.	173	196	224		
II.			? 227		
III.	167	190			
IV.	167		219		
IV A.		195		534	761

¹ I wish to express my indebtedness to Mr A. H. Fox Strangways, who has very carefully read the proof-sheets, for various criticisms, many of which I have gladly availed myself of.

It will be noted that the interval of 534 cents closely corresponds to three intervals of 172 cents, and that it is separated by 227 cents from the interval of 761 cents. We may perhaps suppose, therefore, that the important intervals sung in these songs are (i) a distinctly flat whole tone, (ii) a slightly flat whole tone, (iii) a distinctly sharp whole tone, (iv) a distinctly sharp fourth, (v) a very sharp fifth. No interval less than about 170 cents, i.e. no interval approaching the size of our semitone, occurs in these songs.

Coming now to the *keber* and "secular" songs, I have calculated the total number of intervals used in each song of these two groups. I have omitted from this calculation the prime (i.e. no interval), rapid turns and unimportant grace notes. The following table gives the results:

	total number of intervals	average per song	ascending intervals	descending intervals	ratio of asc. to desc. int.
In the 10 <i>keber</i> songs	60	6	19	41	1 : 2.2
In the 5 "secular" songs	74	15	28	46	1 : 1.6
In all 15 songs	134	9	47	87	1 : 1.9

Hence there appears to be a distinct tendency in the more modern or "secular" music to increase the number of intervals in each song, and perhaps to increase the relative frequency of ascending intervals, although in both groups of songs the descending intervals preponderate—a feature which is, of course, still more marked in the five Malu songs.

Pursuing our analysis of the ascending (*a*) and descending (*d*) intervals in the above fifteen songs still more closely, we obtain the following table:

	minor seconds		major seconds		minor thirds		neutral thirds		major thirds		fourths	fifths	sixths	octaves				
	<i>a</i>	<i>d</i>	<i>a</i>	<i>d</i>	<i>a</i>	<i>d</i>	<i>a</i>	<i>d</i>	<i>a</i>	<i>d</i>								
In the 10 <i>keber</i> songs	3	7	8	19	0	0	1	3	0	4	5	3	1	3	0	1	1	1
In the 5 "secular" songs	0	0	12	23	2	4	2	9	0	1	6	3	0	0	2	2	1	0
In all 15 songs	3	7	20	42	2	4	3	12	0	5	11	6	1	3	2	3	2	1

From this table¹ we conclude that a further tendency of the modern or "secular" music in Murray Island is to discard the use of fifths and greatly to favour the use of thirds, whereas it eschews intervals approximating to a semitone. We also note that the only intervals which occur more frequently in ascent than in descent are the fourth and the octave. It will be remembered that of the Malu songs Song IV A alone² contains intervals appreciably greater than a whole tone, and that one of the striking features of this song consisted in its repeated ascents through fourths.

We may now proceed to compare the various scales which have come to light in our analyses of the records. The material, i.e. the notes of which the air of a given song is composed, when arranged in order of pitch, forms such a scale. As there is good reason to believe that the intervals of the scale were added to from above downwards,

¹ As it was impossible to determine the size of the seven thirds in Song XVI, they are omitted from the table.

² I here exclude the indeterminate *glissando* at the close of Song III.

they are represented below in descending order. The following methods and signs have been found useful.

The "basal" (usually the fundamental) note is transposed to *c*, and is indicated by the value \hat{c} . Notes having an importance almost equal to the basal note are written ρ . Notes of little or no importance are written ρ , ρ , or ρ .

Five of the songs are evidently in the same scale:

Song IX. Song X. Song XI.

Song XIII.A. Song XV. Song XVII.

The notes, constituting the material of these six songs, obviously form the familiar pentatonic scale of *c, d, e, g, a*. The values of the intervals in cents for five of the above six songs are here given:

Song	<i>c—d</i>	<i>c—e</i>	<i>c—g</i>	<i>c—a</i>
IX.	216	395	766	899
X.	—	393	—	898
XI.	187	387	729	949
XV.	197	368	702	898
XVII.	203	416	694	896
Average	201	392	723	908

In other words, the distances between the successive intervals

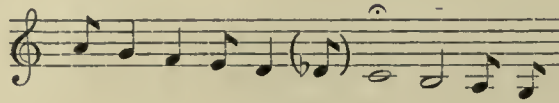
	<i>c</i>	—	<i>d</i>	—	<i>e</i>	—	<i>g</i>	—	<i>a</i>	—	<i>c</i>
amount to	201		191		331		185		292		

It will be convenient to call this series of notes Scale I A. The notes *c, d, g, a* of this scale also occur in Song XVIII, but here *f* occurs instead of *e*. We may call this scale of *c, d, f, g, a* Scale I B; it is based on a descent through two consecutive fourths *c—g, f—c*:

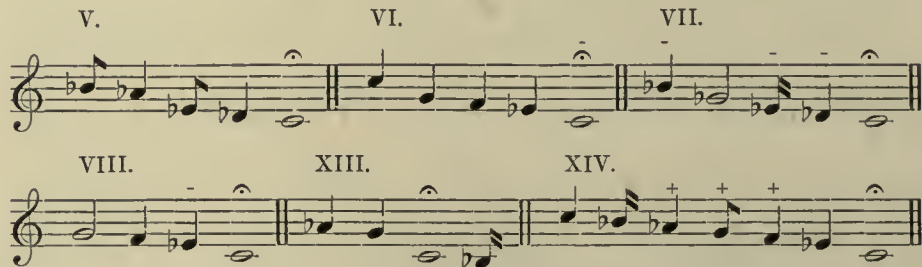
A further development occurs in Song XVI, which contains not only the six notes comprised in Scales I A, I B, but also the remaining note *b*, which is needed to make a scale corresponding to the Lydian mode¹ or to our major heptatonic scale.

¹ In speaking of modes, I always employ the ancient Greek, not the ecclesiastical (Gregorian), nomenclature. It will be remembered that the Greek terms "Dorian," "Phrygian" and "Lydian" correspond respectively to the ecclesiastical "Phrygian," "Dorian" and "Ionian."

This we may term Scale I:

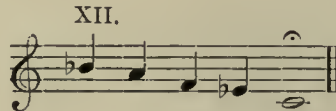


Let us now turn to six of the remaining songs, viz. V, VI, VII, VIII, XIII and XIV. In VI and VIII we find a scale of the notes *c*, *e♭*, *f*, *g*. In XIII the scale runs *c*, *g*, *a♭*, *b♭*, in V it runs *c*, *a♭*, *e♭*, *a♭*, *b♭*, and in VII *c*, *a♭*, *e♭* (*g♭* =) *g*, *b♭*.



Combining these, we get the Dorian scale *c*, *a♭*, *e♭*, *f*, *g*, *a♭*, *b♭* (Scale II), all of which notes (if we admit the once-occurring grace note *a♭*) occur in XIV. Of these seven notes the *a♭* occurs most rarely in the above six songs, while the commonest notes are *c*, *e♭*, *g*, *b♭*, the interval between successive pairs being a minor third.

There remains Song XII, which makes use of the notes *c*, *e♭*, *f*, *b♭* of Scale II, but in which *a♯* takes the place of *a♭*, a change comparable to that from the Dorian to the Phrygian mode (Scale III):



We have thus five scales on which these songs are constructed, the first two of which are contained in the third:

Scale I A.	<i>c</i>	<i>d</i>	<i>e</i>	<i>g</i>	<i>a</i>	in Songs IX, X, XI, XIII A, XV, XVII.		
„ I B.	<i>c</i>	<i>d</i>	<i>f</i>	<i>g</i>	<i>a</i>	in Song XVIII.		
„ I.	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>a</i>	<i>b</i>	in Song XVI.
„ II.	<i>c</i>	<i>a♭</i>	<i>e♭</i>	<i>f</i>	<i>g</i>	<i>a♭</i>	<i>b♭</i>	in Songs V, VI, VII, VIII, XIII, XIV.
„ III.	<i>c</i>	<i>e♭</i>	<i>f</i>	<i>a</i>	<i>b♭</i>	in Song XII.		

It will be noted that, with the exception of Song XIV which, I suspect, was once a *keber* song, all the songs belonging to Scales II and III are *keber* songs, while with this exception all the “secular” songs occur in Scale I (including I A, I B). It would therefore appear that in Murray Island the “major” scales¹ are far more often used in the secular songs than are the “minor” scales. At first sight this seems to contradict the conclusion reached on p. 256 that not one of the *keber* songs contains

¹ I use the terms “major” and “minor” scale for convenience here merely to denote the scales in which the third above the basal (usually=fundamental) tone is major or minor.

the interval of the minor third, while this interval is quite common in the secular songs and the major third occurs in both groups of songs with equal frequency. A moment's consideration, however, will make it evident that a song in the major scale may contain a great number of minor third intervals, while a song in the minor scale may contain a great number of major third intervals. Moreover, it must be remembered that we are applying the terms "major" and "minor" scales to songs in which no definite tonic is generally recognisable.

Let us now determine the frequency with which these several notes (*c*, *d♭*, *d*, *e♭*, *e*, *f*, *g*, *a♭*, *a*, *b♭*, *c'*) occur in the above fifteen scales derived from Songs V—XVIII. We find

<i>c</i>	occurring in 15 scales
<i>g</i>	,, ,, 12 ,,
<i>a</i>	,, ,, 8 ,,
<i>e</i>	,, ,, 7 ,,
<i>f</i>	,, ,, 6 ,,
<i>e♭</i>	,, ,, 5 ,,
<i>b♭</i>	,, ,, 4 ,,
<i>a♭</i> , <i>d♭</i> , and <i>c'</i> (each)	,, ,, 3 ,,

It is remarkable that the note *b* (forming the major seventh) does not occur in any of these fifteen scales¹. Of the notes which lie below the basal *c* we find

<i>a</i>	occurring in 3 scales
<i>g</i>	,, ,, 3 ,,
<i>b</i> and <i>b♭</i> each	,, ,, 1 ,,

Thus the order of frequency of the intervals in these scales appears to be (i) fifths, (ii) sixths, (iii) fourths and thirds, and (iv) minor sevenths.

It must be remembered that this order does not express the frequency of the intervals actually sung in the Songs V—XVIII. It has been obtained by finding the material (i.e. the different notes) of which each song is composed, by transposing the "basal" note of each song to *c*, by massing all the notes thus obtained into a general scale, and by calculating the order of frequency with which the notes of this general scale, thus obtained, appear in the special scales of the individual songs. If, on the other hand, we wish to determine the frequency of the various intervals actually sung in these fourteen songs, information on this point is readily yielded by the table which has been given on p. 256. The order is as follows: major seconds, thirds, fourths, fifths and sixths, octaves. In other words, the frequency with which the various intervals occur varies directly with their size. The striking exceptions to this rule are the minor seconds, which rank in order of frequency after the fourths.

A point of considerable historical interest is affected by these calculations. Whether the fourth or the fifth is the earlier interval used by primitive man has always been a subject of keen controversy. Some writers have gone so far as to state that the descending fourth was the first of all intervals, and that it was subsequently divided and added to. Others have urged that inasmuch as the fifth is by far the more

¹ In Scale XI it occurs as a quite unimportant grace note which naturally is not to be reckoned as a scale note.

consonant interval, it must have preceded the fourth in date of evolution. So far as the Murray Islanders are concerned, a direct answer may be given to this question.

For a glance at the ancient Malu Songs I—IV A (p. 244) shews that the earliest tones to originate correspond approximately to our major second, that the initial tone was throughout vaguely borne in mind, acting as a rudimentary tonic, and that when the performer had sung through an octave of descending tones he began the song once more. We can also see that the next interval (after the major second) to occur was a fourth, which probably was employed in descent earlier than in ascent; then came the fifth used in descent only. Turning now to the *keber* and "secular" songs we see the same order, viz. major seconds, fourths and fifths, with the important interposition of the thirds between major seconds and fourths, the addition (in diminishing frequency of occurrence) of sixths and octaves, and the increasing frequency of ascending intervals.

But, as we have seen on p. 256, the songs, regarded as a whole, shew the clear origin of their melody and their intervals in the natural fall or "cadence" of the voice. There is a descent from a high tone to one which, as time goes on, becomes more and more distinctly recognised as the tonic, and larger intervals first arise as the result of a fusion of smaller ones. Thus the fourth apparently arose as a "tritone" (i.e. as a synthesis of three approximately whole tones), at all events when sung as a descending interval. For the descending fourths sung in Songs IV A, XI, and XV measure 534, 542, 556 cents respectively. On the other hand when the fourth begins to be sung from below upwards, it closely approaches our ordinary fourth, e.g. in Songs IX (504 cents), X (505 cents), XVIII (507 cents). Probably the fifth was subsequently hit upon in the same way, at first undetermined by any harmonic relations. In relation to this tonic, the tone which is a fourth above it comes to play a less prominent part than that which is a fifth above it (p. 259).

We conclude, then, that there is good reason to believe that in Murray Island the use of the fourth preceded that of the fifth, but that with the development of the tonic, the note which is a fifth above it is more often used than that which is a fourth above it. Further, the tonic is almost invariably the lowest note in the melody and its upper octave rarely occurs. Hence it is impossible to consider the fifth to have arisen from the relation of this upper octave note to the note a fourth below it. We are bound to see here the rudiments of a harmony dependent on the greater consonance of fifths over fourths, despite the fact that the Murray Islanders never hear the intervals as literally "consonant" (i.e. sounding simultaneously) during their songs. They always sing in unison. That they use the note a fifth above, more frequently than they use the note a fourth above, the tonic, can only be due to an incipient sensibility to the dictates of harmony.

7. Summary.

As a whole, the songs of the Murray Islanders are very primitive. There is little attempt at divisions into phrases, and scant feeling for tonality. The smallest interval sung is rarely much less than a whole tone. It is certain that quarter tones fail to find any place in Miriam music. There is moreover a striking absence of that regard

for and delight in complexities of rhythm which are often well-marked features of the music of many primitive peoples. The *tempo* is usually slow, and nearly all the tunes contain several very prolonged notes. Where, as in the Malu songs, a rhythm is noticeable, it has invariably a very simple character. But generally there is no strict rhythm, the *tempo* is distinctly *rubato*, and the music has more the character of a *récitatif* than of a melody. It is only in the secular songs that some advance from this condition has taken place.

The Malu songs bear a general resemblance to several that have been recorded in Australia, especially as regards their lax *tempo* and their relatively considerable range. Their characteristic lies in a descent through a considerable range by an indeterminate number of approximately whole-tone intervals. It is not difficult to see how this feature has been derived from a prolonged cry or wail, the natural formless expression of sorrow. For this reason, doubtless, the mournful nature of the Malu songs is so prominent. Such music is in striking contrast to that of the Veddas¹, who are also a people that have no musical instruments. Here we find a stricter and more rapid *tempo*, complexities of rhythm shewing evidence of order and method, and a much more limited material, most of their songs being made up of two or three near-lying notes.

But even in the Malu songs there is an attempt to deal musically with the material at the disposal of the singers. Even here there is often a certain contrast between an initial introductory figure and the mournful rather monotonous cadence of which the remainder of most of the songs consists.

In the *keber* songs the rhythmic element is even still more subordinate to the air, which, at times indeed, has rather the character of a *récitatif*. The tonic (in the sense, at least, of a "central" note) comes to be felt with increasing strength. Thirds and sixths make their appearance.

In the "secular" songs we find a wider range of notes, greater tunefulness, and a more obvious attempt at contrast and alternation of figures. A given phrase is, crudely enough, precisely repeated at another level of pitch. A figure of wide range of notes is followed by another of very narrow range; there has awakened an elemental but real desire for balance. The scale is almost always of a major character, commonly of the pentatonic form *c, d, e, g, a*. With the increasing material at hand, there goes, however, some increase of diffuseness and restlessness. Many of the tunes in this group are far less compact than those of the *keber* group. The air wanders on without presenting so definite a form or purpose. This diffuseness and restlessness are to be observed in a still higher degree in various songs of the western islands (p. 264) from which the words at least (cf. pp. 241, 242) of the above songs have been derived.

B. THE WESTERN ISLANDS AND SAIBAI.

My anthropological work in the Torres Straits was confined to Murray Island. To Mr S. H. Ray, who visited other islands of the Straits, I am indebted for phonographic records of the music of Mabuag, Yam and Saibai. He informs me that he knows nothing about the age of these songs, but from its title ("Waiat song—dance

¹ Cf. the writer's chapter on Vedita music in *The Veddias*, by C. G. and Brenda Seligmann (Cambridge, 1911), pp. 341—365.

of dead men") the Mabuig Song XI is likely to be old, and Song XIII bears the title, "Sea and island—song from Kwoiam"; probably this, therefore, is also old. Mr Ray's translation of the titles and words of the various songs of this group is given on p. 269.

SONGS FROM MABUIAG¹.

MABUIAG III.

$\text{♩} = 100.$

210 246 300 268 190 154 184 108

MABUIAG IV.

$\text{♩} = 120.$

212 186 124 164 246 210 186 182 186 246 308 276 etc.

MABUIAG IX.

$\text{♩} = 76.$

212 190 160 122 214 188 244 214 190 158 212 190 156 214 192 etc.

MABUIAG XI.

$\text{♩} = 88.$

214 3 3 192 3 214 3 3 etc.

MABUIAG XIII.

$\text{♩} = 66.$

202 148 180 etc.

¹ I have retained the original numbering of the Mabuig songs in the Cambridge collection. Several of the records were too faint for the songs to be transcribed. The figures underneath the notes give the pitch of the tones in vibrations per second; the signs + and - have consequently been omitted.

MABUIAG XIV.

$\text{♩} = 120.$

SONGS FROM YAM.

YAM I.

$\text{♩} = 60.$

First verse.

Variant.

YAM II.

$\text{♩} = 96.$

SONGS FROM SAIBAI.

SAIBAI I A.

$\text{♩} = 84.$

SAIBAI I B.

$\text{♩} = 84.$

SAIBAI II.

The two presumably oldest Songs XI and XIII are distinctly simpler in character than the others of the Mabuia group. Song XI bears a resemblance to the *keber* group of the Murray Island songs. Like Songs V, XI, XIII of the *keber* group, it

consists for the greater part in ringing the changes on two notes a whole tone apart. The rhythm is strikingly irregular and there is little feeling for tonality.

Song XIII has the characteristic *glissando*, first downward and then upward through about a fourth, with which we met in Song IV_A of the Malu group. There is the same sequence of consecutive whole-tone intervals which characterises the Malu songs.

Of the four remaining Mabuiag songs, Song XIV is obviously different from the rest in its (to us) greater tunefulness and conciseness, its relatively regular rhythm, and its greater feeling for tonality. It bears a distinct resemblance to certain songs of the "secular" group of Murray Island songs, but has a range of compass (minor tenth) wider than any of those (cf. p. 255). It exhibits, however, a feature characteristic of several of those Mabuiag songs in which tonality can be detected, namely, a desire to avoid resting on the tonic. Clearly the note d° would be the natural termination of the song, but it is only momentarily sung, the melody springing up a major third and then descending a fifth.

The same avoidance of the tonic, accompanied nevertheless by a feeling for tonality, is shown in the almost equally tuneful but less rhythmical and more diffuse Mabuiag Song IX. The main part of the air consists in a descent from b° through a° and g° to e° , the natural tonic. But the note e° seldom seems really final; the melody either descends through a fourth to B_0 or ascends a minor third or a fourth to g° or a° . It will be noted that the phrase, $a^\circ, g^\circ, e^\circ, g^\circ$, occurs also in the Mabuiag Song XIII.

The remaining two Mabuiag Songs III and IV, which are dance songs, are likewise very diffuse and of irregular rhythm. If a feeling of tonality be admitted to exist in Song IV, the tonic would probably be f° , the air being primarily built on the descending phrase $a^\circ, g^\circ, f^\circ$. But f° provides no resting place for the melody. It at once ascends a minor third to a° or else ascends through a fifth to c' .

So perhaps in Song III the natural tonic would perhaps be e° . But it fails to provide a resting place.

In the first of the two songs from Yam there is a similar feeling of restlessness, partly owing to the inherent diffuseness of the melody, partly owing to the absence of any clear key-note. To us the song would perhaps end more comfortably on B_0^b ; yet the air never remains long on B_0^b but passes to the dominant f° . In the second song the sequence of descending whole tones $a^\circ, g^\circ, f^\circ$ obviously plays an important part, following a tuneful descent from f' through c', b^b, g° to the lower octave and tonic f° .

As a whole, then, the Mabuiag and Yam songs differ from those of Murray Island in greater diffuseness, restlessness and irregularity of rhythm, and in less feeling for tonality. They are also characterised by a greater range of tones. The range of the *keber* songs of Murray Island averages, as we have seen, between six or seven tones, while the range of the "secular" songs averages between eight or nine tones. The old ceremonial Mabuiag Songs XI and XIII average only four tones, but the modern Mabuiag "secular" songs average ten tones, and the Yam songs shew a range almost as wide.

The average number of intervals ascending and descending in the Murray Island and Mabuiag songs may be compared by means of the following table:

Songs	Average number of intervals per song	Average number of ascending intervals	Average number of descending intervals	Frequency ratio of ascending to descending intervals
Murray Island "secular"	15	6	9	1 : 1.6
Mabuiag "secular"	21	8	13	1 : 1.6

A more detailed analysis of the intervals actually sung in the Mabuiag songs (comparable to the table already given on p. 256 for the Murray Island songs) yields the following data, the columns *a* and *d* referring to ascending and descending intervals:

	minor seconds		major seconds		minor thirds		major thirds		fourths	fifths	sixths	sevenths	octaves				
	<i>a</i>	<i>d</i>	<i>a</i>	<i>d</i>	<i>a</i>	<i>d</i>	<i>a</i>	<i>d</i>									
Mabuiag "secular" songs	0	0	9	31	10	15	6	0	5	3	2	1	1	0	0	0	0

The Mabuiag, like the Murray Island, "secular" songs make no use of the minor second, and in both islands the fourth occurs more frequently in ascent than in descent. In Mabuiag, as in Murray Island, thirds and seconds occur far more commonly in descent than in ascent. It is curious, however, to note that, in Mabuiag, the major third when it occurs (six times) is always an ascending interval, while in Murray Island it is always a descending interval. Of the wider intervals the sixth occurs but once; the octave is absent from the Mabuiag songs.

The two songs from Yam are characterised by the frequent use made of the interval of the descending fourth, and by the wide range of tones employed in the songs. The interval of a minor seventh occurs once.

In Murray Island all four "secular" songs are in the major scale. In Mabuiag two of the four "secular" songs are in the major, two in the minor scale. In Murray Island, only the *keber* songs are in the minor scale; the Mabuiag Song XI, which we have already likened to the *keber* songs, is likewise in the minor scale¹.

The three songs from Saibai stand in marked contrast to the Mabuiag and Yam songs we have been considering. They are as simple in construction as any of the Malu songs, the air consisting in the case of the first song of merely two tones *g*°, *f*°, and in the case of the second of three tones *a*°, *g*°, *f*°. The third song is hardly more complex, though the number of tones employed is increased to five—*g*°, *f*°, *e*°, *d*°, *c*°. In their simplicity and in their use solely of whole-tone intervals within the phrase, the Saibai songs resemble the Malu Songs I—IV of Murray Island. But in their general effect, particularly in their lack of rhythm and their *récitatif* character, they recall rather the *keber* group of songs.

C. GENERAL CONCLUSIONS.

We are able to divide the music of the Torres Straits into three main styles, which for convenience we may designate (i) the Malu, (ii) the *keber*, and (iii) the "secular" styles.

(i) The Malu style is certainly the most ancient of the three in Murray Island.

¹ See footnote to p. 258 for the use of the terms "major" and "minor scale" in this Section.

It pertains to the most sacred initiation ceremonies of the islanders; and as the words to which these tunes are sung are so archaic that they have lost their meaning, the extreme antiquity of this style is unquestionable. Yet even here there is a differentiation into (a) songs (I—IV) consisting solely of whole-tone intervals¹, and (b) a song (IV A) in which a pronounced *glissando* and the use of fourths and fifths are characteristic features.

Similar songs which contain only whole-tone intervals occur in Saibai. We have also met with a song (XIII), in which the characteristic *glissando* is a prominent feature, in Mabuiag; it bears the title "Song from Kwoiam," and may therefore be considered ancient.

(ii) The *keber* style doubtless originated at a later date in Murray Island than the Malu style. Both the Malu and the *keber* ceremonies appear to have been introduced from the western islands. But the *keber* ceremonies undoubtedly came later, and the songs sung in connection with them retain the words of the western language. There is one old song (XI) from Mabuiag which distinctly recalls the *keber* style. The style is generally *récitatif*, the notes are often very prolonged, and often much of the song consists in a play upon two or three near-lying tones.

(iii) The "secular" style may be subdivided into two. Both are characterised by a greater liveliness, by a greater range of tones, by increasing complexity of structure and increasing feeling for tonality. In the one, however, there is considerably greater conciseness of form and (to our ears) greater tunefulness and tonality than in the other, in which, on the contrary, diffuseness, an unwillingness to rest on the natural tonic, and the avoidance of large intervals, are the distinguishing features. The former of these styles is (if we may judge from our few examples) characteristic rather of Murray Island, while the latter occurs in Mabuiag and Yam. Consequently, if the Murray Islanders have borrowed their "secular" music from the Western Islanders, as undoubtedly they have borrowed the words to which they sing these songs, they have selected or altered the style of the songs according to their own taste. As has already been shewn (p. 241) they have at times invented new songs to words of the western language. Their own compositions, even if based upon the songs which have at some time been introduced from other islands, appear to have distinctive characters of their own, to which we have called attention in the course of this section.

D. APPENDIX. WORDS OF THE SONGS².

Words of the Malu, *keber* and "secular" songs obtained from Murray Island.

Song I. *Wau aka o adet Maluet e padet emarer*
Yea why O holy one Malu at the creek sways.

Song II. *Wau o weluba o lewerlewer o meriba tamera*
Yea O pigeon's feather O food our Malu's club
o gulabora tamera o weii
O made of banana leaves Malu's club O alas!

¹ See second footnote to p. 256.

² I am indebted to Mr S. H. Ray for the attempts at translation into English; see also these *Reports*, Vol. vi, pp. 297—299.

Song III. *Wau Izib eiriam¹, wau Izibe dirker ewatur*
 Yea Izib ye two drink. Yea Izib he sinks it pulls him down.

Song IV. *Ib' abara lewer kerim abara lewer*
 Jaw his food head his food.

Followed in a whisper by the sacred words²:

Malu okasisi okasoksok bamsilare tabamsilare
 Malu sorry sorry many are troubled many are troubled again
batapilare tabatapilare bausakilare tabausakilare
 many grumble many grumble again many cut themselves many cut themselves
 again.

Song IV A. *Wau aka Maluet au adud leluti adud tereget*
 Yea why Malu very bad man bad teeth
Warbir¹ naukarik leluti Warbir dereble segura
 Warbir haul me out men Warbir dug out play
tuglei
 stand round.

To the same air are sung:

- (a) *Wau baurem kazi wapa baurem tabametalam³*
 Yea to fish spear child harpoon to fish spear ?
baurem
 to fish spear.
- (b) *Wau aka Maluet uzer taurameti Warbir¹ naukarik leluti*
 Yea why O Malu paddle sticks fast again Warbir haul me out men.
- (c) *Wau degem kerem derapeida isemadariei⁴*
 Yea bird-of-paradise head is cut off two roll it up in mat.
- (d) *Wau galbol iaba taiawa imadari Seii⁵ padgege ni gedgege*
 Yea whales they spout here (?at) Seii in the valley fresh water in the place
 there.
- (e) *Wau weduli gereb kesge otaili Seii⁵ padgege ni gedgege*
 Yea Malu's club ? in the channel ? Seii in the valley fresh water in the
 place there.

Followed in a whisper by the sacred words:

Malu kopa isauado naukarik leluti isaua dararager
 Malu buttocks smear haul me out men smeared stick on.

¹ I have little doubt that the word Iruam is here intended. Iruam made Warbir (or Warber) which is a water-hole at Las (these *Reports*, Vol. vi. pp. 7, 283, 297), but probably the island Waraber is here confused with Warber.

² For the different versions of these words and their possible meaning, see these *Reports*, Vol. vi. pp. 300, 301 (footnotes).

³ This was translated "all women are ready to carry." Mr Ray suggests in place of it *tabao metalam*=go out from house.

⁴ This was said to be the "Malu word" for *itarati*=roll or fold up.

⁵ Seii was the "brother" of Bomai and is also the name of the channel in the reefs between Mer and Erub.

- Song V. *Kodiaba kodiaba moiaba dagata lagiaba sigapa*
 To the ring to the fire to place to there
sigasi akamai a ... waier babamula
 from afar ? ? ?
- Song VII. *Wau kubi uti sa baibai ita...*
 Yea dark sleep now eyebrows cover.
- Followed in monotone by :
- Were were tepe were waru¹ gedge were sidar*
 sea-urchin Haliotis shell turtle on land Tellina shell
- gedge were tepe were baua gedge were*
 on land waves on land.
- Song VIII. *O meluba Dudiie*
 ? along Daudai.
- Song XI. *O obarasa gainau teir dimer*
 recognise pigeon ornament sew
 tie on.
- Song XII. *O Dudiaba...Gebariaba Mukeriaba tatarmauke Amiaba*
 to Daudai to Gebar to Mukwa comes between to Yam.
- Song XIII. *Pua pua...er pua...er etc., tokaiba namiedra (? namiadaba)*
wer a wer
- Song XIII A. *O dia...ina wara si kalapudema wa waia tana abu wali*
 this other there put on back along coconut they ? fishing line
guba gol mina
 club canoe mark.
- Song XIV. *Isia ba ba walsika O...umuru*
 name of plant for for a basket plait.
 (perhaps basket)
- Other versions :
- Umuru Kiweia naigaiia*
 along Kiwai along north.
- Isiaba malásika² isiaba terésika³ isiaba malásika*
 ? to basket go with ? to basket.
 know how
- Song XV. *Kolap nab ulai kolap pogaipa kolap nino wagel (? walgen) pogaipa*
 Spinning top this go along top fails top yours after fails.
- Song XVI. *Babim mena taisedu*
 to father always brought back.
- Song XVII. *Saiba ala mitge we mitge*
 on lip on lip.
- Song XVIII. *Iriboa kukia iriboa*
 along N.W.

¹ *Waru*, if a Western word, means turtle; if not, it may be Miriam, meaning a sea bird.

² *Mal* may be the Mabuig *malu*=sea. *Asika* means "go with."

³ Probably *ter*=reef, and *asika*=go with.

Titles or words of the Songs obtained from Mabuiag, Yam and Saibai.

- Mabuiag III. *Ngata kaba nau puidaik*
I dance song sing.
- Mabuiag IV. *Gana sagulau nau*
Ga's play's song.
- Mabuiag IX. *Korara kwiku puidaik*
? crocodile head sing.
- Mabuiag XI. *Waiatana na puidaik*
Waiat's¹ song.
- Mabuiag XIII. *Ur kawa*
Sea [and] island.
- Mabuiag XIV. *Ngato madubar nau puidaik*
I madub's song sing.
(= charm's)
- Yam I. *Awaia gulabwi kabutan*
pelican in canoe put.
- Yam II. *Yamazi barid*
along Yam Id. cuscus.
- Saibai I. *Mawa na puidam*
Mawa² song sing
sung.
- Saibai II. *Madub na puidam*
(= charm) song sung.

¹ For Waiat see these *Reports*, Vol. v. pp. 49—55.

² A ceremony for insuring ripe fruit (cf. these *Reports*, Vol. v. pp. 348, 349).

XIII. SOUND-PRODUCING INSTRUMENTS

THE sound-producing instruments—one cannot accurately describe most of them as musical—are decidedly Papuan in character. The absence of such instruments is a characteristic feature of Australian ethnography (N. W. Thomas, *Natives of Australia*, 1906, p. 126). A good example of the manner in which an imperfect observation may give rise to an erroneous impression is afforded by the following remarks by Capt. Lewis concerning an experience in Erub. He says, "The musicians, who were at least fifty in number, had squatted themselves at a little distance, singing and beating time by striking a piece of bamboo with a stick, and others by striking their hinder parts with their hands" (*Naut. Mag.* 1837, p. 760). Capt. Lewis does not refer to drums, of which there must have been many on the island; if this were the only information we possessed we should be obliged to rank these natives at the same low level as the Australians so far as sound-producing instruments are concerned.

There are no stringed instruments, perhaps the flat string of a bow prevented it from developing into a musical bow.

There was no native bell or gong. The bell is solely employed in connection with the churches and has been introduced by the missionaries; it is frequently called *pat* from the Lifuan *pate*, as the first "native teachers" came from the Loyalty Islands. A bell is also called in Mer *amulu* (perhaps, dugong rope thing).

Stridulators, Clappers and Rattles.

The *kat* or *katak*, green frog, is part of the stem or a flat piece of bamboo, 27—31 cm. long, in which several deep transverse grooves are cut fairly close together (fig. 226). A clam



FIG. 226. *Kat*, Mabuiag; 29 cm. long.



FIG. 227. *Marep*, Mabuiag.

shell (*Cyrena*, fig. 59) is scraped along the grooves, producing a noise which resembles the croaking of the green tree-frog, hence the name of the implement. I was informed in Mabuiag that lads go round houses at night-time during the turtle season (p. 160) and make noises with the *kat*.

A stridulating noise was also made by scraping together two rough shells, such as clams (*Tridacna*) (vi. p. 311).

At Mabuiag we obtained specimens of "bones," which consist usually of two slabs of bamboo from 145 to 149 mm. in length and 2 cm. broad (fig. 227). They are simply called *marep*, bamboo, and have been introduced by Europeans. One pair we collected consists of two portions of ribs from the carapace of a turtle.



FIG. 228. *Kerker keber*, or bamboo clapper, Mer; length 50 cm.

The *kerker keber* or *kirkir keber* is a clapper made of a section of *pater*, a kind of reed or small species of bamboo; this is split longitudinally except at one end, and a portion of the proximal end of one half is cut away so as to give that half free play upon the other (fig. 228). It was employed in Mer by a rain-maker to imitate thunder (vi. p. 199); from its name one would suspect a connection with funeral ceremonies, but of this we have no evidence. It varies in length from 44 to 65 cm. ($17\frac{1}{4}$ to $25\frac{1}{2}$ in.).



FIG. 229. Shell rattle, Mer; diameter of ring 13 cm.

Various kinds of rattles were employed. Of these the shell rattles are worn in dances or used on ceremonial occasions. As an example of the former the shell fringe

on belts worn in the secular dances (fig. 72) may be given; I am not aware that similar rattles were worn on the legs.

The shell rattle shown in fig. 229 was held in the hand and shaken during certain ceremonies in which masks were employed. The instrument is named *serpa*, from the *Barbatia* shells of which it is made. The shells are attached by a loop to a narrow plaited band, which is fastened to a stem of a plant tied into a circle; the whole is supported by two pieces of wood tied together crosswise.

The objects most frequently used as rattles were the nut-shells, *goa*, *gua* (W.), *gda* (E.), of the *Pangium edule*, which I believe are imported from New Guinea. A bunch of these nuts is frequently attached to a dugong harpoon, the stern staves of a canoe ornaments held in the hand when dancing, etc., or a bunch may be held in the hand when dancing; several single nuts are generally tied on to *warup* drums and masks.



FIG. 230. Rattle made of *gda* nuts used by Magur, Mer.

Fig. 230 illustrates a hand rattle which was used ceremonially by Miriam men who personated a spirit named Magur (VI. p. 311). It consists of a twisted cane ring, 18 x 20 cm. in diameter, supported by two crossed sticks bound round with string, there are about 85 nuts, each of which is suspended by a short string; most of the nuts are ruddled. A rattle of *goa* nuts, but more like that of fig. 229, is used in beating the bush in pig hunts near the Katau River (*Album*, II. pl. 322, No. 3).

The gigantic pod (fig. 231) of the Queensland bean, *kalapi*, *kolapi* (W.), *kolap* (E.) (*Entada scandens*), was used when dancing; it is a very effective natural rattle.



FIG. 231. Pod of the Queensland bean used as a rattle.

The *padatrong* or *padatring* (W.), *lolo* (E.) (fig. 232), is a rattle made of a split bamboo, in the hollow of which is inserted a bundle of long thin sticks. These are tied round their middle with a piece of string, which is further wound round and round the bundle and the end passed through a hole in the bamboo. When the end of the string is pulled suddenly it unwinds off the bundle, causing it to revolve rapidly with a loud rattling noise. The decoration of the rattle is subject to much variation. The ends of the bamboo may be cut square, but usually the lower end is cut to a blunt point and the upper end produced into a long spur, the tip of which may be enlarged and notched (*Journ. Anth. Inst.* XIX. pl. IX. fig. 7; *Album*, 1. pl. 341, fig. 16, this is 61 cm. long); the rind of the bamboo may be engraved in the usual native fashion. Those with a projecting rod vary from 62.5 to 94 cm. (24½ to 37 in.), and those cut square vary from 31 to 57 cm. (12¼ to 22½ in.).

In Mabuiag the *padatrong* was used only by the men and solely during the turtle season. The young men used to go round the houses at night-time and startle the inmates by working these rattles. The rattles were kept on the *agu*, or turtle platform, in the *kwod* (v. p. 330), and after a successful turtling expedition men went round the *agu* clockwise in the daytime pulling the rattles (v. p. 333). As far as I could gather this instrument was used at night-time by the Miriam young men in order to frighten girls. Doubtless it once had in Mer a ceremonial significance which may have been forgotten.

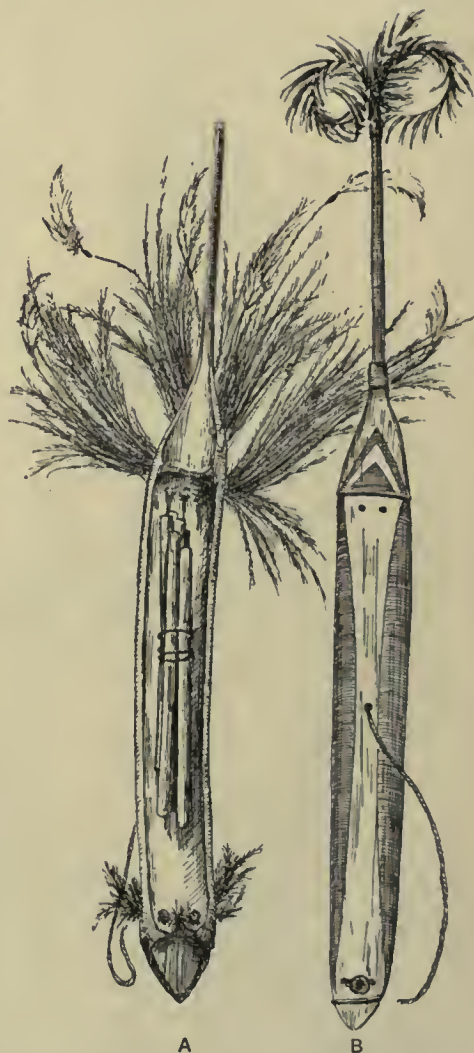


FIG. 232. Bamboo rattles, Mer. A, 70.7 cm. long, upper portion and lower end painted red, decorated above and below with cassowary feathers. B, 74 cm. Where the skin of the bamboo is left it shews yellow, the areas where it has been removed are darkened.

Jew's harp.

The widely spread jew's harp, *darubiri* (W.), *darobëri* (E.), is found in Torres Straits (figs. 233, 241), where it is made of bamboo; those made for us in Mer were of large size and were decorated with typical punctate patterns. In properly made specimens the tongue does not reach the end of the slit; a knotted string is passed through a hole in the handle and is tied by a fibre to the tongue at about one-fifth from its base, sometimes the free end of the string is provided with *gda* rattles. The narrow end of the harp is placed in front of the half-opened mouth and the string is repeatedly smartly pulled and released, the player at the same time breathing strongly.

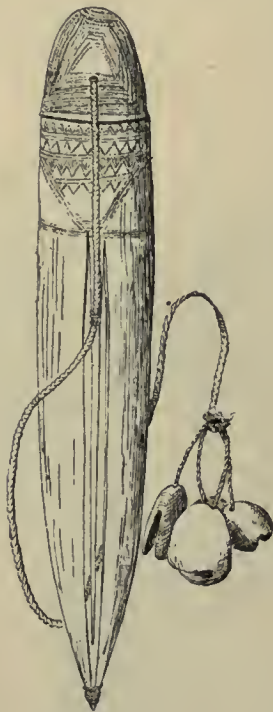


FIG. 233. Jew's harp, Mer; 37 cm. long.



FIG. 234. Cracking whip, Mer; length of stick 545 mm., string 385 mm., mid-rib 630 mm.

There is a jew's harp in the British Museum (C.C. 6523) which is supposed to come from Torres Straits, it is about 355 mm. in length (*Album*, I. pl. 317, No. 6). A jew's harp similar to that of fig. 233 was obtained in Mer and figured by Brockett (*Narrative*, 1836, pl. III. fig. 4); he says, "John Ireland told me that it was brought from New Guinea" (p. 22). A jew's harp is called *pekupe* at the mouth of the Fly River (*Album*, II. pl. 197, No. 4).

Cracking whip.

The *pëpedu* (W.), *lolo* (E.) (fig. 234), is an instrument for making a cracking sound, which I have not seen elsewhere. It consists of a thin tapering piece of bamboo ranging from about 345 to 745 mm. in length, to the point of which a string is attached from

345 to 650 mm. long, and this is fastened to the end of a palm-leaf mid-rib which varies from 63 to 86 cm. in length. The bamboo is held in the left hand, the mid-rib is doubled up along the string and their junction is held with the thumb and forefinger of the right hand. The right hand pulls the string so that the bamboo is bent as far as it will go and then suddenly released and the lash makes a sharp crack. This appears to be simply a toy. The specimen figured in the *Album* (i. pl. 346, No. 8) was made by a Saibai boy in Mer in 1889.

Bull-roarers.

As bull-roarers occur on the mainland on both sides of Torres Straits (v. pp. 218, 221) it is natural that they should be found in the islands. Even in 1888 there was no



FIG. 235. Models of *bigo* used for rain-making, Mer (vi. p. 197).



FIG. 236. Models of *bigo* used in turtle ceremonies, Mer (vi. p. 213).

longer, so far as I could discover, an original bull-roarer to be found, but then and ten years later I was able to get a number made for me.

There is a good deal of variation in the shape of bull-roarers as seen in figs. 235—237, but they are generally of an elongated oval or lanceolate form; one end is generally nicked or produced into a small knob, to the neck of which the string is tied, but in some specimens the end is perforated. They are often painted red, white and black as in fig. 237, or red, yellow and white as in fig. 236. The specimen from Moa shewn in pl. XII. fig. 8 is also brightly coloured in red and blue and is slightly carved.



FIG. 237. A—D, models of *bigu* as used in turtle ceremonies in Mabuig, the vertical shading indicates red paint and the cross-hatching black paint. One-eighth natural size. E, *wanes*.

It was only in Muralug that the bull-roarer, *wanēs* (pl. XII. fig. 7), was employed in the initiation ceremonies, and it was only in this island that it was reckoned so sacred that no woman might see it (v. p. 217).

In Kiwai (v. p. 218) the bull-roarer, *madubu*, though employed in initiation ceremonies, is at the same time associated with good crops of yams, sweet-potatoes and bananas. With the exception noted above, the bull-roarer in Torres Straits, so far as I am aware,

is solely associated with the procuring of food or of rain, which amounts to the same thing. In Mabuiaig a small garden shrine, an arch or booth, was erected within and outside which bull-roarers, *bigu*, were hung. Little wooden human figures were placed in the shrine, which at night-time became alive, took the bull-roarers and marched round the gardens singing as they went to make the plants grow (v. p. 346). In Yam also the *bigu* "belonged" to sweet-potatoes and yams as well as to turtle. Some Saibai boys in Mer in 1889 called a bull-roarer *madub*.

In Mer bull-roarers were definitely connected with rain-making. The stone images of men, *doiom*, employed in rain-making ceremonies (vi. pp. 194—198) were generally provided with one bull-roarer, *bigu*, or even two (vi. pl. VIII. fig. 1; pl. XI. fig. 3), in one specimen of the latter case they are blackened on one side and whitened on the other doubtless to represent rain clouds, they are respectively 103 and 107 mm. long. I obtained models of a small lanceolate type of bull-roarer, *bigu* (fig. 235), which I understood was used in connection with rain-making. They are made of hard wood, unperforated and undecorated, and are tied to a cord about 61 cm. long, the other end of which is fastened to a stick (about 91 to 107 cm. in length); the three *bigu* figured measure 125 × 37 mm., 180 × 35 mm., and 247 × 35 mm.

So far as I know, only the Kauralaig employed bull-roarers for raising a wind (v. p. 352). In both Moa and Muralug "a big man who savvy" could raise a wind by very rapidly whirling a small thin bull-roarer, *wanes*, attached to a long string (fig. 237 E).

The employment of the bull-roarer in ceremonies connected with turtle-fishing is possibly merely an extension of the practices connected with horticulture. The turtle was a very important article of food for the Western Islanders, and, as we have seen, horticulture was relatively unimportant. There is therefore not much cause for surprise if a custom originally connected with increasing the supply of vegetable food has been transferred to increasing the supply of animal food, or the reverse may have been the case.

Preparatory to starting out to catch the floating turtle the Mabuiaig men took a bull-roarer from the *agu*, or turtle platform (v. p. 330), and swung it over the canoe (fig. 214); they also stood round the *agu* and whirled the large and small bull-roarers, *bigu* and *wanes* (fig. 237). A performer whirled a *bigu* many times round his head, and a *wanes* was at first swung in the same manner, but after a few revolutions it was lashed backwards and forwards and was thus made to produce more than one kind of noise. When the canoes were returning, if the look-out man saw that they had been successful he whirled a *wanes*. On arrival the men first went round the *agu* clockwise swinging bull-roarers and pulling rattles; if they marched in the counter direction the turtle would swim away (v. p. 333). The bull-roarers were used solely during the turtle season, *surlal*. One informant in Mabuiaig said that swinging a *bigu* was lucky for a canoe when sailing, probably meaning by this that it enabled the crew to get turtle.

When a turtle was caught in former days in Mer it was placed on its back on the beach and a number of men carrying large bull-roarers, *bigu*, walked round it three times "widdershins," or counter-clockwise (vi. p. 213). Models made for me of these *bigu* have a large elongated oval form (fig. 236) and are painted, as shewn, in red and yellow ochre spotted with white or red; one is 355 × 115 mm. and the other 406 × 127 mm.;

the strings are about 107 em. in length and the stieks about 137 em.; the latter are carved at the upper end into a series of roughly cut inverted cones, painted alternately red and white. These specimens were definitely stated to be similar to those that were employed in the turtle ceremonies. At the present day the *bigu* is merely a child's toy, but it is not a common one.

Suspended from one of the stern posts of the Mabuiag canoe referred to on p. 215 I found a perforated oblong slat of varnished black wood (fig. 238) which must have been obtained from a foreign source. Its form and notched edges curiously resemble certain English bull-roarers. I was informed that it had no significance, but was put on the canoe for ornament, indeed Anu had picked it up. It is not a bull-roarer, and I refer to it merely to shew how easily one may be led astray by the superficial resemblance of one object to another especially when a specimen is simply collected without data.

Illustrations of Western Papuan bull-roarers will be found in Vol. v. fig. 30, *Album*, 11. pls. 200, 201.

Drums.

There are two kinds of drums in Torres Straits, the *warup* and the *buruburu* (W.), *boroboro* (E.). Most were certainly made in Daudai, New Guinea, and imported into the islands¹, but I believe that rarely certain islanders have made drums for themselves. I have seen one of these and it was undoubtedly a poor specimen. The drums are made out of a single piece of wood. The *warup* variety especially shews a high degree of skill in earving the form and in hollowing out, and the lines and general finish prove a fine artistic sense. It was more particularly characteristic of the western islands.

One end is always open, *gawet* (E.), the other is invariably circular and has a narrow rebate, round which the tympanum is fastened. The tympanum, *pad* (W.), is normally the skin of a Vananus, *si gegur* (E.) (locally called "iguana" by the Europeans), but I have seen the skin of a globe-fish, *korèg* (E.) (one of the *Gymnodontes*) used for this purpose. The tympanum is cemented with beeswax (?) and further kept in position by a plaited or twisted band of various materials. Usually numerous pellets of beeswax are stuck on the tympanum, possibly to improve the quality of the sound.



FIG. 238. Slat of wood forming part of the decoration of a canoe; 231 mm. long.

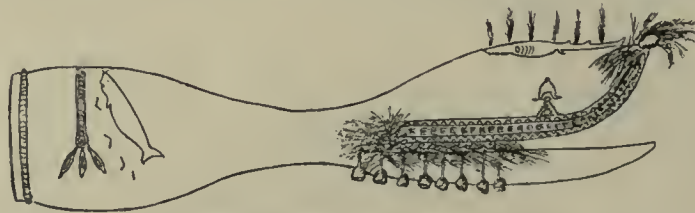


FIG. 239. Sketch of a *warup* from Saibai.

The *warup* (fig. 239; pl. XXVII. fig. 2) is a large hourglass-shaped drum which has an average length of about 1 m. (39½ in.) and an average diameter at the tympanic

¹ For example, one I obtained at Nagir came from Mawata via Tutu.

end of about 20 em. (8 in.). The diameter of the central constriction is from about one-half to one-third of the greatest diameter of the drum. The open end is cut to represent an open mouth, the gape of which extends in some cases nearly to the middle of the drum; the border of the upper jaw has a gentle upward curvature which ends in a blunt point, whereas the border of the lower jaw is cut in a straight line and ends in a square symphysis. Frequently an elongated narrow projection or shelf runs from the angle of the mouth some distance forward along the upper margin of the lower jaw on each side.

The upper margin of the lower jaw, and the shelf when there is one, are decorated with cassowary feathers, Ovulum shells and often with rattle seeds, *gða*. The apex of the upper jaw is similarly adorned. Tufts of cassowary feathers may be inserted in the median line of the upper jaw, as in fig. 239. In a specimen in the Dresden Museum (6357) the band of the tympanum is ornamented with cassowary feathers. The patterns and designs cut on the drum are described in the section on Decorative Art.

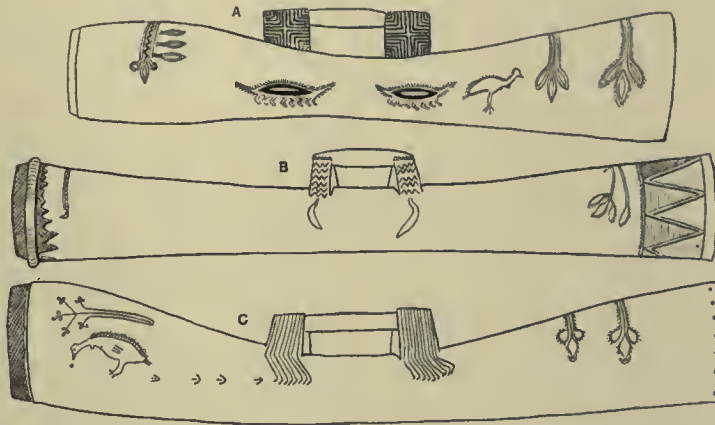


FIG. 240. Sketches of three *buruburu*. A, from Daudai, formerly in the possession of the Rev. E. B. Savage. B, Dresden (6400), 94 cm. long. C, Cambridge, 95 cm. long.

The *buruburu* (fig. 240) is usually more or less cylindrical, with but a slight central constriction; unlike the *warup* it invariably has a handle. The tympanic end resembles that of the *warup*, but the opposite end is simply circular. The average length is about 95 em. (37½ in.).

I collected at Yam in 1889 a drum of the *buruburu* type, 74 cm. (29 in.) long, but the tympanic end is larger than usual and the handle is set quite close to the open and narrower end; the decoration at this end is shown in fig. 354; two cassowaries and *duibau* (p. 136) are engraved at the tympanic end. This drum is in the British Museum.

The sacred Malu drum "Wasikor" (vi. pp. 43, 296) is intermediate in form between the *warup* and *buruburu* types of drums (pl. XII. fig. 2). It has the general form of the latter but with a "jaw" at one end, and is without a handle; it also bears some resemblance to the Kiwai *gama* (fig. 242 c). A neatly plaited ratan band surrounds the constriction. It is 1.43 m. long and 20 cm. in diameter at the tympanum.

Jukes gives an illustration (i. p. 176) of a drum (fig. 241) which he saw at Erub; assuming the drawing to be correct, it may be regarded as a *warup* which bears a slight resemblance to the Malu drum.



FIG. 241. Drum and jew's harp from Erub; from Jukes, i. p. 176.

Several varieties of drum have been obtained from time to time at Kiwai island and naturally have been so labelled, but it is necessary to enquire whether an object collected in a place is actually made there. When at Iasa on Kiwai island, I made enquiries on the

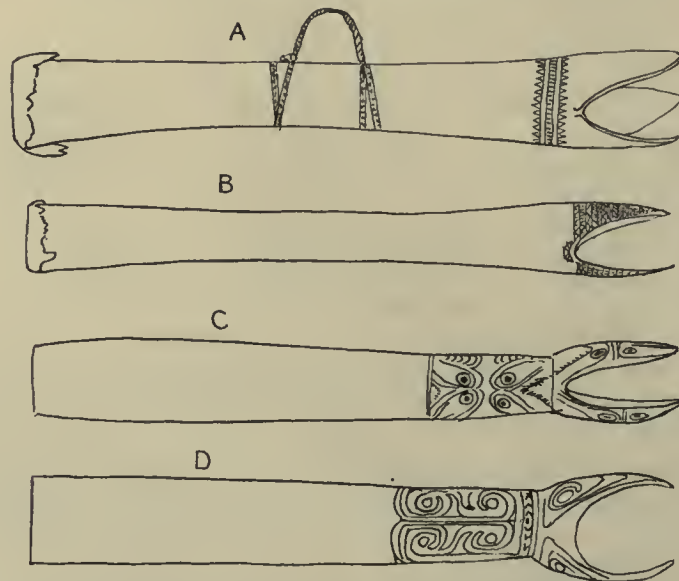


FIG. 242. Drums from the mouth of the Fly River. A, Kiwai, 93 cm. (36½ in.). B, Kiwai, 102.2 cm. (40¼ in.), collected by Rev. J. Chalmers, see fig. 360. C, said to come from Kiwai, but probably from Dibiri, 81.5 cm. (32 in.), see fig. 359 c. D, Dibiri, 96.5 cm. (38 in.), see fig. 360.

subject and found that the indigenous drum (Kiwai *gama*) is cylindrical and decreases gently in diameter from each end towards the centre; there is no handle; the open end may have three or two small triangular jaws (fig. 242 A, B). The tympanum is frequently made of the skin of a snake, *ior*. These drums vary in length from 90 to 120 cm.

Another type, the Dibiri *gama*, which is commonly stated to come from Kiwai, is cylindrical but decreases slightly in diameter to the neck; the open end is provided with small slightly

divergent jaws; there is no handle. The tympanum is fastened on to the drum by means of a band (fig. 242 c, d). The average length of this drum is about 90 cm. ($35\frac{1}{2}$ in.) and its average diameter about 11 cm. ($4\frac{1}{2}$ in.). The first drum of this type to reach this country was the specimen obtained by the "Fly" at "Pigville," which Macgregor (C.A. 1. 1892, p. 53) has shewn to be Bebea on the northern side of the eastern mouth of the Bamu River. It is now in the Brit. Mus. (C.C. 8833); it is 797 mm. ($31\frac{3}{8}$ in.) long. I was informed at Iasa that these drums came from Dibiri at the northern mouth of the Fly River, and Chalmers collected an example 87 cm. long on Wabuda Island. Several drums of this type have a tympanum made of the skin of a globe-fish (probably a *Tetrodon*). All the above are called *gama*. Their decoration is described later.

About 380 miles upstream, in what I term the middle region of the Fly River (*Dec. Art B.N.G.* p. 76), at the "Villaggio dei cocchi," d'Albertis appears to have collected two "large



FIG. 243. Fly River drum. 1·8 m. in length and 21 cm. in circumference at the tympanum. Rome, 2575 (d'Albertis, II. p. 269).

but very roughly made drums" (d'Albertis, II. p. 137) which are respectively 1 and 1·8 m. in length (fig. 243). Their decoration is referred to later (figs. 363, 364). Both are of the *buruburu* type, but with the raised handle bands that characterise the drums from the Papuan Gulf.

What appears to be a variant of the Dibiri *gama* was collected by d'Albertis from an unrecorded spot on the Fly River (II. p. 269, Nos. 2, 4; *Dec. Art B.N.G.* pl. V. figs. 80, 81); in another specimen the jawed mouth has become circular.

The drum of the aggressive, warlike Tugeri, who live by the coast of Netherlands New Guinea near its eastern boundary, is similar to that shewn in fig. 243, but the handle is much longer. One I measured was 1·11 m. long. Illustrations of this drum will be found in Sir W. Macgregor's *British New Guinea*, 1897, p. 69 (the drum to the left), and in a paper by Dr J. D. E. Schmeltz, *Internat. Arch. f. Ethnographie*, XVI. 1904, pl. XI. fig. 6, pl. XV. fig. 2.

In the Papuan Gulf district the drums, *aopa* or *apa*, are slightly constricted towards the middle, and there is a central handle and well-marked toothed jaws. I have described several and figured one in the *Dec. Art B.N.G.* pp. 128—129, pl. VIII. figs. 133, 134.

Whistles and pipes.

We obtained only three kinds of whistles of the "key whistle" type, but doubtless others occur.

The *persok persok*¹ is the dried fruit of *Luffa graveolens* which is used as a whistle in Mer by blowing across the orifice (fig. 244). The fruits vary in length from about 55 to 75 mm.

¹ A blue-bottle fly or a locust is called *persok* (E.) probably from the noise it makes.

At Mer we collected a remarkable whistle, *auper lu* (fig. 245), which consists of a piece of driftwood from New Guinea in which there is a natural tubular cavity.



FIG. 244. Whistle, *persok persok*, Mer.

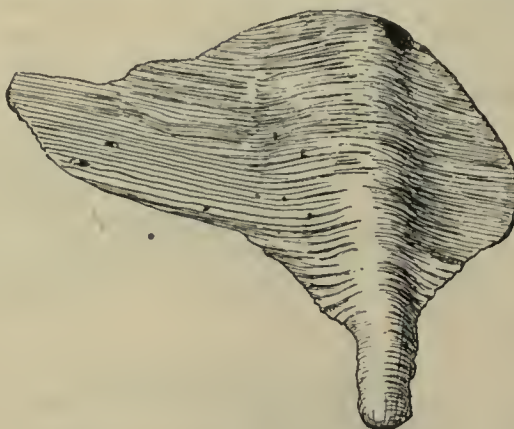


FIG. 245. Whistle, *auper lu*, 142 x 165 mm., Mer.

I do not know what the *watu* whistle of Mabuiag or the Miriam *komelag* is like.

I was assured in Mer that pan-pipes were formerly made, but I have never seen an old specimen. It is worth noting that I was informed that one kind of pan-pipes was introduced many years ago by some Tanna men (New Hebrides) who landed at Ugar in Mer from a three-masted ship. We collected in Kiwai Island¹ five pan-pipes, *piago*, which have six pipes, the longest and shortest pipes of the largest and smallest specimens are 195, 112 mm. and 128, 83 mm. The pipes are bound together by a broad banana-leaf band, to which each pipe is lashed (fig. 246 A). We may take these as typical. One Miriam specimen has six pipes which are fastened together by two narrow cane bands, the longest pipe (fig. 246 B) is 135 mm. and the shortest 76 mm. The other has only four pipes, 105 mm.—85 mm., and a single band; but I lay no stress on this specimen as perhaps the Tanna men introduced a new form of lashing.

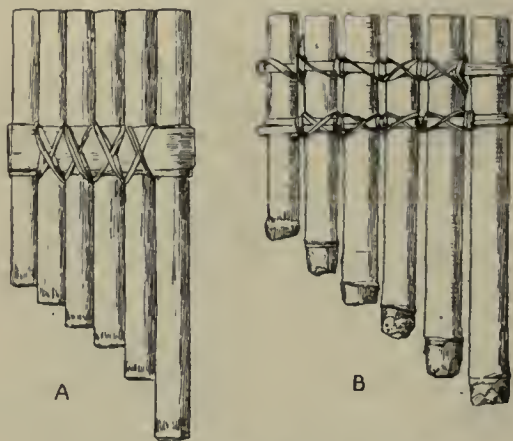


FIG. 246. Pan-pipes, A, Kiwai, B, Mer.

We obtained several flutes, *pupui* (W.), *burar* (E.), from Mer; these were made of bamboo or reed and range from 425 to 735 mm. in length. The tube is so cut as to have a node left at one end which is perforated, a short distance from it are two holes in the barrel; there is a V-shaped notch at the other end (fig. 247) on the same side as the holes. One specimen has no nick.

¹ S. Baglioni (*Globus*, xcvi. 1910, p. 264) figures two pan-pipes with six pipes from the Fly River and describes the musical notes emitted by them.

I was informed at Mer that flutes were introduced by South Sea men. I must leave it an open question whether there was an indigenous instrument of this nature. At all events we collected from the Central District of B.N.G. a similar flute without a nick from Moremore, Maiva, one (*ineine*) from Inawi, Mekeo, decorated with characteristic burnt patterns, three from Barapada (N. of Port Moresby), and a decorated one from Port Moresby. There are also two specimens in the Cambridge Museum from Collingwood Bay with two holes in a square counter sinking, they have no nick.

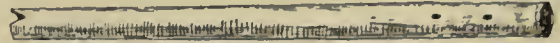


FIG. 247. Flute, Mer; 425 mm. long.

Trumpets.

In sounding trumpets the lips of the blower are so disposed as to constitute reeds; the only instrument of this kind is the giant Fusus, *bu* (W.), *maber* (E.), or occasionally a large Triton. The Fusus is universally employed, and so far as I have seen the mouth-hole is always lateral (fig. 248). It was employed for conveying signals, but now

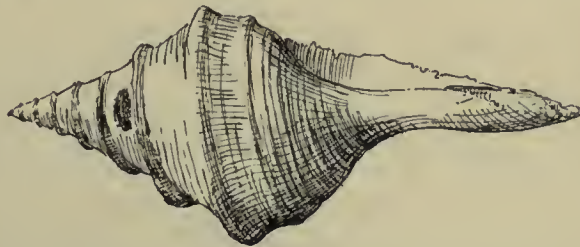


FIG. 248. Old shell trumpet, *bu*, from the *kwod* at Pulu (v. p. 3); 41 cm. long.

at all events is most frequently blown when the natives are sailing, especially when going fast or racing. There is a Triton trumpet, *u*, in the British Museum from the mouth of the Fly River, which according to Chalmers is used for calling to arms and for frightening away the evil spirits of sickness from the village (*Album*, II. pl. 201, No. 3).

There are no instruments with a single beating reed or with a free reed, but there are two that may be classed as double beating reed instruments. The first is simply a leaf of the *karbi* tree (W.) which is doubled up and blown through between the lips in Mabuiag, but doubtless other leaves are employed there and elsewhere.

The *neubgir* or *burar* is made by splitting a very small bamboo, the split end is put in the mouth and blown; it was employed in one of the death ceremonies in Mer (VI. p. 139). The average length varies from 17.5—20 cm. (7—8 ins.), the extremities being 16.5 and 23 cm.

XIV. SONGS

UNFORTUNATELY our material is far too imperfect to deal adequately with the native songs and, as elsewhere, in many cases some or all of the words of the song are either obsolete terms or borrowed words of which the singers did not know the meaning, this is especially the case among the Miriam. Mr Bruce says that "many of their songs are merely words to them which they cannot explain as they say the language is foreign. They look and act so seriously in singing them that I am inclined to think at times they must understand them, but whenever I try to analyse them they say 'Oh! its only words, but the tune is good.' With the little they know of the Gumulaig (Western) language they make an attempt at adapting it to their own, but it is only guesswork and what they consider was intended by the bard in composing the song. They really do not consider the words as of any account. They will sing hymns in Samoan just as seriously and with as much gusto as if they understood the language; they are quite satisfied if the air pleases them."

In my original account of the Western Islanders I expressed a belief that there were "certain clans whose more especial function it was to sing the chants at the dances, etc." (*Journ. Anth. Inst.* XIX. p. 380); this was probably the case, and on Mer we found that at all events during the Bomai-Malu ceremonies the *Zagareb le* were the *warup le*, drum men, who alone could beat drums, and who sang the songs and led the dances, hence they were sometimes called *wed le*, song men (VI. p. 287). Originally the *Mcaurem le* and *Kòmet le* of the north-west of Mer (VI. p. 170) were the owners of the *asasem wed*, hence they were called *asasem giz le*, *asasem* origin people, but they have from time to time given them to other groups so that now all use them. The *asasem wed* are the laments sung at a funeral (VI. p. 130) in which anyone can join. The beating of the drums is strictly confined to the old men, whom Mr Bruce calls *wezer le*. The singing of the dirge or lament is kept on by relays during the whole night; men can scarcely speak on the following day as their voices are quite worn out by the continuous strain. Mr Bruce says they are passionately fond of their songs whether joyous or sorrowful.

Songs may be accompanied by drum-beating on ceremonial or festive occasions, and may be sung, spoken in recitative in a humming tone, or even muttered. It is impossible to draw a hard and fast line between different classes of songs, with perhaps the exception of those composed and sung for personal delectation, and possibly the war songs. Singing in one form or another enters into nearly every ceremony; some are distinctly funeral

or death songs, others are associated with definite cults such as the hero-cults, in which case they may be regarded as hymns, others again are what we should term magical. It is not easy to distinguish between a magical song and a magical formula, *wenewen* (W.) (v. pp. 329, 350—352), *zogo mer* (E.) (vi. pp. 203, 229, 243, 264), or *kog mer* (vi. p. 221). The following referenees may assist the reader: war songs, v. p. 303; death and funeral songs, v. pp. 62, 74, vi. pp. 131, 134, 143, 150—153, 299—303; ceremonial songs, v. pp. 66, 334, 340, 342, 346, 350, vi. pp. 214, 296—299, 302—303; magical songs, v. pp. 16, 29, 72, 77, 217, vi. pp. 196, 198; various songs, v. pp. 58, 59, 75, 94, 210, 332; see also pp. 266—269 of this volume.

WESTERN SONGS.

The following are examples of secular songs sung for personal delectation. They were given to me in Mabuiaq in 1888:—

Zanania dri widema sika dri
At Zana dri broke foam along dri.

The translation given to me was "The spray breaks on Zana (Passage Islet) like the white feather head-dress (*dri*)."

Bau idi laga auzipa uhoha Bauia idi laga waia
Sea oil dwelling-place goes ? along Bau oil place leaves

I was told that this meant "There is plenty of sea near this village (of Bau, the village of Mabuiaq), fine water where he stop." I think this must be a pun on the word *bau*. I suspect that the reference to oil is intended to convey the idea of a smooth oily sea.

The following were sung to me by a Muralug man in 1888, he was a native tracker who spoke English fairly well. I took down his words verbatim:—

"I can't pull the canoe round the point, the wind is too strong. I will have to stay here a year, for I can't get round the point. I don't yet know when it will be fine weather, so when I get fine weather I will go round the point. I want to see how the people are getting on there, then I come back again."

"I got one fish on line, the one fish I got I lost, then I heave the sinker; every sinker I got I lost. I got ten sinkers and lost all besides my hooks; every hook I got I lost all the time, I could not get any more hooks than that."

I once heard one of my informants, a Muralug man, humming to himself, and after much persuasion he told me he was singing:—"See that man he got a cock (penis)," "I sing thing belong woman," "I kill man to-day." These were disconnected sentiments each of which was repeated a great number of times. Other Muralug songs are "Walk along bush to find, find," "Your hair look bad, you never clean it at all."

The following six "secular" songs were collected on Mer by Dr Myers; the names of the islands whence they were said to have come are also given:—

Aurid or **Masig**.

1. *Gubal manui-au* (? *maluia*) *-au urge nagua* (? *nagi wa*)
 Waterspouts along (interrog.) in sea look yes.
 sea

From **Masig**, thence to Paremar and finally to Tutu.

2. *Akurwir* (? *Akur urwer*) *lamana buya wa tenainia*
 thatch hot flame I have (?).

Tutu.

3. *Wau italia gabuzir*.

4. *Gazo kasi go sau puiam ini guda tamaia paradi paradi*
 boy along blow penis hole or comes out pull pull
 there mouth

paragusa (? *ngapa uzar*) *mata ganula ini tamai gizu tamai*
 comes only smelling penis comes out point comes out

paradi paradi para usa (? *ngapa uzar*) *gizu tamai*
 pull pull comes point comes out.

5. *Waier waier sikala ita kida magi halbalgiza talipugaiba*
 round little opposite thing scratch with finger-nail ?

Saibai (the words are Miriam).

6. *Wer wer gai maba netuna wer* (? *net wanwan-wer*)
 sea-urchin many conch sea-urchin.

MIRIAM SONGS.

Mr J. Bruce has sent me the following *zera markai wed* (cf. p. 240 and Vol. VI. p. 133). This is evidently the same song as that recorded by Dr Myers (No. XI. p. 268).

U boresa Gano tairo Dime dimey
Bidoa bidoa sagapa Sesi targaba
Markai! a! la gi a! U ziba.

Assuming these words to be in the Western language Mr Ray has transliterated and translated some of them as follows: *borsa*, bad, *ganu-tai*, send out smell, *dimidem*, foolish, *bid*, petticoat, *sagulpa*, for a dance, *sesi-tai*, show, *gaba*, club, *markai lagia*, *markai* along house, *uzuripa* (?), go. On the other hand the words collected by Dr Myers admit of a different translation if they are to be regarded as Miriam words, but as the *keber* of the *zera markai* was introduced from the Western Islands into Mer (Vol. VI. pp. 128, 133) it is probable that the words are really in the Western language though some may have subsequently become modified so as to approach in sound to Miriam words.

The following four songs are copied from a MS. book written for Mr Ray by Pasi of Mer:—

Smoking Song (Pasi's MS.).

Abele mer peike ese le sogob iruwar
This word here when men tobacco smoke

Abele zub kabi turika madera kabi turik moranagidana utu nagidana gaborono mina¹
This pipe iron mat sleep nostrils true
suguba taugarana² ibeta³ murana pi
tobacco ashes

Sina esemuda
Enough it ends.

Tobacco Song (Pasi's MS.).

Abele mer ko⁴ sogob iruwar
This word for tobacco smoking

Kanasuguba kanasuguba inia⁵ (W.)⁶ taziba (W.) inia taziba numi aberaber tarema ba,
along with the penis shoot out
a bere aber tamaba iniini sekursegu (W.) mada (W.) tapim (W.) mada tapima da, mara koror
penis playing pudendum sting ray
uzi nade mara sai nade mara koro milomilo mara koror pisai sor
where your post where your your cracks (n.) shell.

Tobacco Song (Pasi's MS.).

Kasikere a kasikere kanabere a kanabere mudia kanaber modi kanaber uraura kakaper miti
fiery spark lip
uaruar (iruwar) sabe uaruar ubu keakeak ade mi uade aga tararobi saga tararobi
marked drink N. to N.E. marked white we E. to S.

Mr Ray cannot make anything of this: *mudia* and *modi* may be *moder*, mat, or along house (W.).

¹ A Western word.

² *gaborono* is the Kiwai word for nostrils, and *tau* is Kiwai for finish. *Taugarana* may be Kiwai *taugo*, finished, *erana*, burn.

³ This may be *ipeder*, lay down, or the Kiwai *beda*, what?

⁴ This would seem to mark the song as a modern one, as the construction is that used in the mission books: *ko* really=again, but in the Gospels it is used for the infinitive: for this use Mr Ray could obtain no support from his informants (Vol. III. p. 73). *ko sogob iruwar*=to smoke tobacco.

⁵ *ia* is a suffixed particle, a locative of motion (Vol. III. p. 19).

⁶ Words marked (W.) are Western language.

A Song (Pasi's MS.).

Abele mer peike ese le tay dazirik abele wed kega
 This word here when man hand draws back This song thus:

Kobai kobai kerakera gaviai a gaviai kerakera koba mitupa lagemaia walwal kakenipi
 spear-thrower taste
palemana mata koikoi banitana wa kalei dumu ne garba keke uleiba kekeo uapi noka
 open only break yes go along
tarapa uazar bubumola tarapa uaz-ar kobaiai a kobaiai kerakera gaviai a gaviai kerakera.

Mr Ray says: "The first line is descriptive and is in Miriam. The song itself is unintelligible. It seems to contain words of the Western language, e.g. *kobai*, *mata*, *uaz-ar* = *uzar* (?), go, *mitupa* = *mitapa* (?), to the mouth, *banitan*, break."

The Miriam have songs for special occasions such as the *rob wed* (see section on Various Social Customs), or when spinning tops (a top song in the Western language is given by Dr Myers, Song XV. p. 268), and songs, *kamut wed*, are sung softly or murmured when playing certain cats' cradles (see section on Games and Toys).

XV. DANCES AND DANCE PARAPHERNALIA

IN ethnological nomenclature the term dancing is employed to describe a large range of movements on various occasions. The dances may be grouped for convenience as Ceremonial Dances, War Dances, and Secular Dances.

Ceremonial Dances.

The general characteristics of the ceremonial dances were that they were held on stated occasions, and were for the most part of annual occurrence. Usually they took place in definite spots, for example in the western islands the *kwod* (v. p. 3) was the ceremonial dancing ground. It appears that at Mabuiaig the *kwod* on the adjacent islet of Pulu might be called the national *kwod*, whereas each of the Gumulaig clans had its own *kwod* on Mabuiaig. Thus the great death dances took place on Pulu, but subsequently there were local dances in the *kwod* at Widul and Gumu (fig. 249). There is



FIG. 249. Drawing by Sunday of a death dance, *zarar markai*, in the *kwod* at Gumu, Mabuiaig.

reason to believe that each Western clan had its special dances, which in modern technical terminology would be described as being of a magico-religious nature. In the Murray Islands the analogous ceremonies were as a rule definitely associated with places. Another feature of the ceremonial dances was that the decoration of the person was of a defined character, and in most cases masks of some kind or another were worn. Sometimes the masks were merely leafy disguises, but on the majority of occasions very elaborate masks were employed, the general character of which will be described later.

There is no need to repeat here the accounts of the dances given in Vols. v. and vi.

War Dances.

I regret to say that I do not know whether a war dance was performed before going out to fight, in order to stimulate the warriors, but there is no doubt that war dances were held after successful forays. In Vol. v. pp. 302—4 I have described the only two Western war dances that I have seen; a war dance is also described in Vol. vi. pp. 274—277.

Secular Dances.

The natives have always been very fond of dancing, and as the dances are of a very energetic character they have considerable value in exercising the muscles of the body and limbs. They were important social events and gave opportunities for the girls to judge of the activity and stamina of the young men (v. p. 222). From statements in the folk-tales and from what occurs at present it is evident that visitors to an island took a pride in exhibiting their local dances, and there is reason to believe that the dances of other islands were occasionally adopted.

I have designated as secular the ordinary dance, *kap*, *kab* (W.), *kab* (E.), as it is now of a purely festive nature, there is however no evidence to shew whether this was always so. In some cases ordinary dances are either secularised ceremonial dances or they have been influenced by them. Dancing has been greatly discouraged by the missionaries although, so far as I have seen, the dances did not possess any objectionable features; but the "teachers," who are South Sea men, do not discourage the dances of the Polynesians and Melanesians who reside on or visit the islands, consequently one finds at the present day natives dancing alien dances, those of the Rotuma men being especially popular when we were in Mer. Dances are now usually called *koppa koppa*, but this is a jargon-English word which has been adopted by the natives.

It is by no means an easy matter to describe the dance movements executed in the *kap*. Like all semi-realistic dances it is composed of numerous figures which are in fact so many separate dances. I do not think that there is any set order for these, and the performance may continue for an indefinite time. On all occasions on which I saw a *kap* danced by Western Islanders the pelican dance terminated the proceedings. The following are some of the figures, the names given to them are those of the Western Islanders:

The whole company circles round and round the open space, two deep, with all sorts of gestures, cringing, swaying, tripping, leaping; the circling may be from left to right or *vice versa*. This figure is called *gagai*, "bow and arrow." These weapons were carried by the dancers, and the dance probably represents men on the war path.

A man advances singly and dances with a stamping action. At Muralug this was called *moi asimts*, and *mui usimi* at Mabuiag, "put out the fire."

In one dance the men continually stand on one leg rapidly moving the other up and down.

A similar one to the foregoing is called *ngara pusik*, in this one leg is raised after the other.

In the *ngara taiermin* there is jumping with both legs.

A man wearing a *dri* head-dress advances, crouches down and vibrates his head rapidly, this is called *dri girer* or *dri* movement.

One dance, *karuma tapi* (?), imitates the swimming movements of the large lizard (Varanus, wrongly known as "Iguana").

In the *tadu kap*, crab dance, a man dances in a crouching attitude with the upper arms horizontal and the forearms vertical, thus representing the way in which the crab carries its nipping claws.

In one figure all the men dance in a circle in single file, either from right to left or from left to right. During the pauses in the dancing every man performs some definite movements which illustrate an action in real life, such as agricultural, nautical or fishing employments; for example, a man would crouch and move his hands about as if he were planting yams, or he would pretend to look for pearl-shell at the bottom of the sea. These movements are well known to the spectators, though the foreign observer may not catch the allusion. Probably most of these actions have become more or less conventionalised during innumerable dance representations, just as some of the adjuncts to the dance are degenerate representations of objects used in every-day life. These descriptive movements are the most common of the figures danced in the Straits, probably the majority of the dances were originally imitative, but many have become conventionalised beyond recognition by the uninstructed.

A more complicated figure which I saw at Mawata consisted in the men advancing in two lines, one up each side of the dancing ground; the first pair of men who met retreated a little in the middle line, still facing the spectators; when the next two arrived the first pair separated to allow them to pass between and the newcomers took up their position behind them, and so on, until the last pair passed between the gradually extending avenue of standing men.

As has been previously stated, the *awai kap*, pelican dance, concludes a performance. The general body of the dancers stand together in the background; from these two men step forward (sometimes one man only) and dance on the tips of their toes without advancing; as the drum-beats become more rapid the jumping is accelerated, their legs keeping time till with quickened music their feet become almost invisible from the rapidity of their movement. It looks as if a hole were being bored in the ground and the dust rises in clouds. Naturally this cannot last long and when tired the pair retire, their places being taken by another two, and this is repeated until all have displayed their skill, and a splendid exhibition of activity and verve it is. The spirit of emulation is largely evoked in this dance, and the onlookers admire and applaud the most vigorous and staying dancer of this particularly fatiguing step.

*Kab eri*¹ is the general Miriam name for dancing. The several figures and particular steps in the dance have their distinguishing names. The general arrangement of the dancing ground is shewn in the diagram.

¹ I am indebted to Mr J. Bruce for this account of a *kab eri*.

The overture sung with a drum accompaniment before the dance begins is called *babana segur*. The music is very slow and is the same as that sung at a death, when it is called *esusera* or *sunu segur wed*.

The dance always begins with the dancers coming into the ground with their left hands towards the centre, but as the dance proceeds they sometimes change and come in from the other side with their right hands towards the centre; there seems to be no fixed rule except at the beginning of the dance. When dancing in horizontal lines facing the drummers each line of dancers retires with their left hands towards the centre. When the dancers are in one line only, they generally retire backwards facing the drummers. When the line separates in the centre, they retire to the right and left.

Dancers who follow in a circular line are called *gir le* (*gir*, boar's tusk), and those in a horizontal line facing the drummers, *kub ekwat* (? to stand like a nose-stick); *kep le* (separate man) is the name for the one man or two men dancing singly or together at the finish of a figure. *Teter itiang* is standing on one foot whilst quickly drawing the other foot up and down the calf of that leg, as a Highlander does in the "fling." *Ber didgar* is resting on the balls of the toes with the feet apart and working the knees together quickly. *Kab eupemar* is springing from the ground when dancing. *Ser ame le* (joy wonder people) are those who get up in the excitement of the dance and dance through joy beside their child or near relative and sprinkle him with water from a coco-nut water vessel.

The invariable final figure is that called *kiwir* or *pap kerem*, which also concludes all *keber* ceremonies (VI. p. 141); the performer dances on his toes, continually springing into the air.

Drs MacDougall and Myers gave me the following information concerning a *kub* which they saw in Mer. The dancing ground was an oblong space on the sand-beach. The drummers sat at the closed end near the sea and here were also the majority of the spectators who were mainly women, the remainder sat along each side of the ground gradually tailing off to the other end, where the dancers retired behind a fire into the shade of trees. There were several small fires outside the ground, and a man in the open space held handfuls of flaming long dry grass which he waved to and fro especially holding it below and behind the dancers to shew off their legs. The drummers with the singers generally struck up a song, but sometimes the dancers sang a refrain or called for a song by name. Each song seemed to be associated with its own particular dance and to be accompanied by some story or incident which was illustrated by the movements of the dancers. The words of one were said to be "Suppose he fall down and break him head."



Diagram of a Miriam dancing ground. o o, coco-nut palms behind which the dancers prepare and retire, *neras uteb*, resting place. →, the dancers, *kab le*. x x, *bei le*, men holding flaming torches of dry coco-palm leaves to light up the dancers. |||, the drummers, *warup le*, and singers, *wedakirire le*. ●●●, the spectators, *ir le*.

When the music began the dancers ran into the open space generally along the one side, sometimes in pairs, sometimes one after the other, to form one long row. The dancers as they ran in joined loudly in the chorus, sometimes with other erics; they sang all through some dances, but were silent in others. Occasionally one man danced by himself. The dancers did not speak to other people, but stood or sat together while waiting their turn. All dancing was in a more or less stooping attitude and was done on the toes and fore part of the foot only; the dancers did not assume the upright attitude until they returned to the shade. No two dances were exactly alike although there is much similarity and repetition. At the end of each dance the music ceased, but only for a moment.

In the first dance, which was called "Pulling up grass," the line of seven dancers moved round the circle with the right arm bent and carried forwards and the palm extended upwards, the left elbow was drawn behind and the face uplifted to the right. Occasionally they crouched down, making clawing movements at the ground with both hands as though pulling grass, and holding the arms quite stiff.

In the second dance, called "The breakers on the surf," the men carried a sword-shaped leaf upright in their hands.

In one dance the men ran in and formed a long row in pairs down one side crouching on the left foot and right knee with the arms bent to the sides, the head was thrown back and the face turned upwards with rhythmic movements turning from side to side, the rapid movements of the face to either side being accompanied by more rapid beating of the elbows on the chest. As the first two reached the end they faced the drums, crouched and then retired prancing backwards, sometimes they stopped to prance several times while retiring, often close to or over the fire, finally they ran into the shade. As each pair took up their position opposite the drums, the others rose into a stooping posture and pranced up two places, and so on till all had finished.

In a somewhat similar dance, which imitated the movements of pigeons, the dancers ran round three sides of the dancing ground, from time to time crouching and beating their elbows against their chests. Another dance illustrated a man stung by wasps.

Mr Bruce informed me that there is a Miriam dance, *seb ginar*, ground dance, in which the performers sit on the ground and whilst the drums are beating go through all the attitudes of dancing. They are decorated in the same way as in ordinary dances.

A characteristic feature of all the dances is that they are practically confined to the men. Only on one occasion did I see women dancing, and that was in Tutu in 1888. They danced in a circle widdershins or counter clock-wise (if my memory serves me aright) without any violent movements; it may have been a repetition of part of a war dance. I have mentioned in Vol. v. p. 303, that it was only in connection with a war dance that women ever danced with men, and have there given all the information that I have on the subject.

DANCE PARAPHERNALIA.

In the section on Personal Ornaments and Clothing (pp. 33—62) I have given sufficient information about the decoration of the person for dances, and illustrations of men dressed for a dance will be found in pls. V. fig. 10, VIII., XXIX. fig. 1. It may

be noted that the groin-shield (pp. 54, 60) is as often worn behind or on the hip as in front.

Various objects may be held in the hand when dancing, sometimes, more particularly in ceremonial or war dances, these are efficient weapons or implements, but usually they are made solely for these festive occasions and are perfectly useless otherwise. For example, the *kap gagai* is a bow of slight construction (*Album*, II. pl. 205, No. 6), but when arrows are carried they are always real ones. Stone-headed clubs may be imitated in wood (p. 194). An imitation beheading knife and sling (p. 199) were often worn suspended down the back (pl. VIII. fig. 5; *Album*, I. pl. 342, No. 5). The false spare bowstrings carried in the bracer and the modifications which they exhibit are mentioned on p. 57. I have collected small models of the dugong harpoon, one from Mer (*Dec. Art B.N.G.*, pl. IV. fig. 55) is 1.465 m. (4 ft. 9½ in.) in length, the butt end of which is shewn in fig. 364 D; another in the Cambridge Museum measures 2.05 m. (6 ft. 8¾ in.) and has a dugong carved at the upper end, the butt end represents the usual head with painted eyes, and at the base of the shaft there is a raised beading carved with simple patterns.

A great variety of decorated staves are often carried in the hand, some are simple sticks or poles variously painted and sometimes decorated with a tuft of feathers, others are carved, and though now carried in dances which are apparently of a purely secular character they have every appearance of being reminiscent of symbolic objects belonging to ceremonial dances. Good examples of these staves are the objects known as *gub* in Mer (fig. 250). The staves A and D with their raised carved faces bear some resemblance to the carved boards, *zogo baur*, used in a turtle ceremony on Dauar (VI. p. 214, pl. XXI. figs. 11, 12). A waterspout is called *gub*, and in the *kimiari baur* or male board (*l.c.* pl. XVI. fig. 11) the lowermost face is connected by a beading, *baur gub*, with a turtle; in the *kosker baur*, or female board, there is a similar beading connected with a *terpa*, the coral-rock oyster. The *baur* is a spear that is used in catching turtle (p. 156). The



FIG. 250. *Gub*, staves held when dancing, Mer. A, 1.125 m. long, 98 mm. broad at widest point; plano-convex, handle round. B, 1.66 m. long; prongs alternately red and black, cones alternately red and blue. C, 1.135 m. long, diameter of knob 73 mm.; a spiral band is burnt on the handle. D, 1.035 m. long, average width 56 mm.; blue and white. Vertical shading = red, horizontal = blue, dots = yellow.

Western Islanders believe that spirits employ waterspouts, *baiu*, as their spears for catching dugong and turtle (v. p. 359, figs. 75, 78). The *zogo baur* are analogous to the two *baiu* boards employed in Pulu for a turtle ceremony (v. p. 333), and the words of the song in the Dauar ceremony are of Western origin. It is therefore not unreasonable to suppose that these *gub* are secularised representatives of symbolic paraphernalia connected with spirits and waterspouts, and may have come originally from the western islands. Fig. B is evidently a conventionalised fish-spear.

Some Nagir men who danced for me at Somerset, Cape York, in 1888 held a curious object (fig. 251) in their hands. The upper part was called a cloud, *bēgai* (p. 231), below this are eyes with feather eyebrows, *baiib* (which is also the name for a rain-cloud)¹, the crescentic portion held in the hand was called *mulpal*, the moon.

The long pod of the Queensland bean was sometimes used as a rattle (fig. 231) when dancing, and it was imitated in wood in certain canoe ornaments, *gozed kalapi* (W.), *kolap pespes* (E.) (fig. 213), which were often carried in the hand when dancing.

I obtained at Tutu in 1888 some wheel-like ornaments, *getau-za*, hand-thing (pl. XXXIII. fig. 3 A, B; *Album*, I. pl. 333, No. 2), which were held in each hand when dancing. They consist of a central disc on which is carved the fore part of a sucker-fish, *gapu*, or which is decorated with an eye made of nautilus nacre; from this radiate a number of narrow spokes, coloured with red, yellow, white and black bands; the periphery is formed of a thin strip of wood into which numerous white feathers are inserted, most of which are cut in an elegant fashion. The ring of B is 38 cm. (15 in.) in diameter; in A there is an inner ring close to the disc. We obtained in Mer a wooden disc-shaped dance ornament, *samuru*, carved on one side with a representation of a human face, 162 × 152 mm. in diameter. In the legend of Sid (v. p. 29) a dance ornament, *sabigarigu*, is mentioned which consisted of an oval piece of turtle-shell attached to a long handle, the edge of the disc being fringed with the black-tipped, white feathers of the Torres Straits pigeon.



FIG. 251. Object held in hand when dancing, Nagir.



FIG. 252. Dance staff representing a crocodile, $\frac{1}{3}$ n.s., Mer.

Models of various animals are sometimes held in the hand during dances, some of which are carved in a very life-like manner. For example, we collected at Mer excellent representations of cuttle-fish, *gole*, crabs, *dauma*, various fishes, Torres Straits pigeon, etc.

¹ In 1898 Wallaby of Muralug said that *bēgai* was the Moa, Yam, Mabuiag word but *panipan* was the Muralug name; he said that the *baiib*, or *buia*, were *augadau baiib* and "belong Kwoiam" (v. p. 373).

A small model of the dugong is carried by the Waier *le* and Areb *le* of Mer, it was described as "belong flash," that is ornamental and not ceremonial. Also at Mer we collected a dance stave (fig. 252) which represents a crocodile.

Mrs F. W. Walker states in a letter that at Christmas, 1909, there was a dance of Paremar and Waraber men at Badu; each man and boy carried in one hand a very clever model of a large wooden fish, painted blue and white, and mounted on a stick; the dance and words were all connected with this fish, its life in the sea, the catching of it, etc. Some of the women and girls joined in the dance, forming rows on each side a little distance from the men and boys.

Masks and Composite Effigies.

Highly characteristic of Torres Straits are the numerous masks and effigies which have been obtained on the islands. This art extends to Daudai, and it is probable that some specimens labelled "Torres Straits" in museums have come from the mainland; it is easy to determine whether a given unlabelled specimen came from the district generally, but not whether it belongs to the islands or to Daudai; *buk* (v. p. 55) is the general Western name for a mask but the term most generally employed is *krar* or *kara*, which is also the name for turtle-shell; *kara-asi* means to be pliable like *krar* when heated. The Eastern name is *le op*, man's face; I do not know what kind of mask the *nog* or *ndg* was (vi. p. 31).

There is no doubt that certain masks at all events were regarded as sacred objects, probably they varied in this respect. On more than one occasion I have known natives to refuse through fear to put on a turtle-shell mask, as it was not the right occasion so to do. Marau of Mer had a face disfigured it was said by *kamer tonar* (vi. p. 226) because he put the sacred Malu mask, *Zogo Malu*, on his head. Dr Rivers found in Mabuig that brothers-in-law, *imi*, might wear each other's mask, *krar*, but a man would not put the mask on his own head, it was placed there by his *imi* (v. p. 149).

Before describing masks which have a definite form allusion should be made to the leafy disguises or masks that were worn during the elaborate funeral ceremonies (v. pp. 252—258, figs. 36, 40, 41, pl. XIV., p. 341, fig. 63; vi. pp. 131—133, 139, 142; see also *Internat. Arch. f. Ethnographie*, vi. 1893; p. 157, fig. 7 and pl. XIV.).

Masks.

Some masks are carved out of a single block of wood, others are elaborately constructed out of pieces of turtle-shell. Wooden boxes, pieces of imported boards and even kerosene tins have been employed in recent years in the manufacture of not a few masks, the foreign materials being used instead of turtle-shell. I doubt if wood were formerly also used in the construction of turtle-shell masks except to a very limited extent and then only in the form of supporting bars or rods. Although the plates of turtle-shell are not very large they form an admirable material for this purpose as they are thin, strong and light and can be readily cut, engraved, pierced and bent on application of damp heat. The material is also a very beautiful one, but in most cases the surface was more or less painted, sometimes entirely so. In museums many masks are

plain, though probably when in use they were always profusely decorated with feathers, shells and rattles. Masks were sometimes made of other materials, as for example those made of Hibiscus bark worn by the *alag* and *waiwa lag le* of Mer during a ceremony following a good crop of *enau* fruit (vi. figs. 23—25), or the enormous mask of the *dogai keber* of Mer, which was made of the decayed bark or the husk of the nuts of the coco-nut palm (vi. p. 143). In the *Album*, I. pl. 334, No. 5, a human face mask in the British Museum is figured, which measures 23 cm. each way and is made of the spathe of the coco-nut palm, mounted on wire. It is supposed to come from Torres Straits, but the wire coiled in a spiral round each eye-hole is a feature which I have never seen in this region.

I have attempted to make a rough classification of these masks, but where the maker's fancy has been allowed free play types are not adhered to. I know of masks in several museums which fall into the groups mentioned below, but I have not alluded to them unless there is some special feature of interest.

Frequently models of various animals, usually cut out of pieces of turtle-shell, are attached to masks; when they become detached they appear in museums as isolated objects.

Wooden Masks.

Three wooden masks in the British Museum from Saibai, carved to represent human faces, were employed in the *mawa* ceremony to ensure a good crop of *ubar* fruit (v. pp. 348, 349, pls. XVII. figs. 1, 2, XVIII. fig. 1). They are respectively 46, 68·5 and 53·5 cm. (18, 27, 21 in.) in length. The masks are hollowed out behind so as to fit



FIG. 253. Man wearing a large *mawa* mask, drawn by Sunday of Mabuia (for the face marking see p. 15).

over the face of the wearer, and a stick is lashed across about a third of the length from the chin, by means of which the mask was held in the mouth, in case holes are made to see through. They are variously painted, one is provided with an imitation nose-stick, the ears of two are decorated with Coix seeds, the hair is made of string. Three masks in the Dresden Museum were evidently collected at the same time by Dr S. MacFarlane, they are described and figured by Dr A. B. Meyer ("Masken von

Neu Guinea," etc., *Königliches Ethnographisches Museum zu Dresden*, VII. 1889, pp. 5, 6, pls. IV. fig. 3, V.); they measure 35 × 38, 73 × 36, and 69 × 41 cm. There are two similar masks in Berlin and one in Cambridge, the last has a snake carved on each side of the chin. A wooden mask in the British Museum from Mabuiag, 20 cm. high, is figured in the *Album*, I. pl. 261, No. 3, it is about 20 cm. high. Gizu said that the two *mawa* masks of Mabuiag (v. p. 349) were made of *maiwa* wood; his unsatisfactory drawings of these masks shewed that they had the same character as those of Saibai. In a better drawing by Sunday (fig. 253) the man wearing the mask is disproportionately small; there is evidently a fringe of Pangium seeds along the forehead. A somewhat similar wooden mask is shewn in an Erub house by Macgillivray (II. p. 47). There is an interesting wooden mask with a crescentic ornament on the forehead in the Copenhagen Museum.

Masks which are or should have been made of turtle-shell.

The turtle-shell masks fall into several categories:—

1. Small masks which cover only the upper part of the face. These visors or ventails were worn in connection with the *meket siriam zogo* of Mer (VI. figs. 54, 55). Possibly they may be in some way connected with Kwoiam's *augud* (p. 203; v. pp. 372, 373).

2. Masks representing a human face. A good example of a turtle-shell mask of this type from Mer is shewn in pl. XXXVI. fig. 4 which was identified as a *pop le op*, which was worn in one of the funeral ceremonies (VI. p. 135); it is 38 cm. (15 in.) high, and is sketched in the *Album*, I. pl. 328, No. 3. One from Erub, now in the British Museum, is figured by Jukes (I. p. 178) and resembles another from Erub figured on pl. 186 of *l'Atlas pittoresque* by Dumont-D'Urville. A somewhat similar mask in the Berlin Museum bears as a crest on the head a fret-work cassowary couchant. Sketches by natives of analogous masks are given in Vol. v. figs. 62, 71, 72, and other illustrations in Vol. v. pl. XX. fig. 1, and Vol. VI. figs. 56, 59, 60, pls. XVIII. figs. 3, 4, XXII. fig. 7, XXVIII. fig. 6, XXIX., XXX., where the occasions are mentioned on which the masks were worn; a number are also engraved on a pipe in the Oxford Museum (fig. 256 D). Dr Meyer figures a large simple mask, 138 cm. long and 71 cm. broad (*l.c.* pl. I.), and a small one 28 × 22 cm. (*l.c.* pl. IV. fig. 1), both from Mabuiag. At the *mudu kap* of that island (v. p. 339) masks of this kind were worn. Fig. 254 represents a performer who has put on his shoulders a ring of wood or cane¹ on which he rests the mask, *krar*, which is evidently of large size. He is dressed in a coco-nut leaf petticoat, *tu*, and is carrying a bow, arrow and a coco-nut leaf flag, *dadu*.



FIG. 254. Man dressed for the *mudu kap*, drawn by Waria of Mabuiag.

In the ethnographical museum in Copenhagen there is a large turtle-shell mask from Dauar, Murray Islands, which is ruddled all over and profusely decorated with

¹ So it was described to me, but very likely it may be the cylindrical support figured by Dr Meyer, indeed his specimen may well be a *mudu kap* mask.

Ovulum shells and rattles, a *Fusus* shell is fastened vertically on the forehead, and a large *Murex* is attached to each side; it is 83 cm. long (K. Bahnson, *Etnografien*, Vol. I. 1900, fig. 92, p. 191, and L. Frobenius, *The Childhood of Man*, 1909, fig. 205). This mask, which came to the museum in 1864 from the Sydney Museum, has a general resemblance to the Aurid mask.

The Aurid mask, which almost certainly represented the hero Kulka (v. p. 378), is of especial interest as the skulls of the murdered passengers and crew of the *Charles Eaton* were attached to it; a surviving boy said that the natives held a corrobory over the figure on feast days. On plate XXXVI. I have reproduced two drawings of this mask, one (fig. 2) from Brockett's *Narrative* and the other (fig. 1) from the *Missionary Mag. and Chronicle*, May, 1837. Both accounts describe the mask as follows: "The body of the figure, it seems, was composed of tortoise-shell and smeared over with a red colour, and measured between four and five feet by about two-and-a-half. A semi-circular projection stands out from the forehead, made also of tortoise-shell fancifully cut, and when taken from the island was ornamented with feathers. In the centre of the figure, from the projection upwards, is a small bundle of broken arrows bound together. [This may have been the tally of the number of people murdered.] The eyes are detached and formed with a silvery shell, something like what is called the mutton fish, and the face is surrounded with shells arranged with method."

Dr Meyer describes and figures a more complex mask, 80 × 55 cm., from Mabuiag (*l.c.* pl. II.). The face of this fine mask is bordered by the pattern shewn in fig. 299 A, and the forehead by a key-pattern resembling that of fig. 90 but less elongated. This mask is intermediate between a simple face and a complex mask, as in front of the face is a model of the saw of a saw-fish (*Pristis*).

In the Pitt-Rivers Museum at Farnham is a mask with a beard and whiskers of fret-work, above the head is a large model of a frigate-bird. On the front border of each wing is a perforated turtle-shell disc with a central disc of pearl-shell. One disc has a ring of half-a-dozen holes, the other is so cut as to present a ring of V- or Y-shaped bars each with a circle cut out of its widest part. The motive is thus analogous to but simpler than that of the discs figured on pl. X.

3. Not a few masks represent a complete animal combined or not with a human face.

(a) Without a human face:—

One in the British Museum from Mabuiag is an excellent model of a shovel-nosed skate, *Rhinobatus*, *kaigas*, which was a prominent totem in that island (v. pp. 154—164). It is 1.22 m. (4 ft.) long. On each side of the mask is a small turtle-shell fish. It is supported on two rods the free ends of which, as is frequently the case, are carved to represent a bird's head (*Album*, I. pl. 329, No. 1). The large crocodile, about 2.1 m. (7 ft.) long, in the same museum was made, I believe, for Dr MacFarlane in Mabuiag; it is a very clever piece of work (see *Journ. Anth. Inst.* xvii. 1888, p. 87, and *Album*, I. pl. 328, No. 1).

Dr A. B. Meyer describes and figures a good model of a hammer-headed shark, *Zygæna*, *kursi*, 1.25 m. in length (*l.c.* p. 4, pl. III.); the small ray at the snout is evidently a *pukai* (v. p. 374). I believe it may be identified with the mask referred to in a

folk-tale (v. p. 54), see also fig. 255 c. The importance of this shark in the ceremonial life of the people is alluded to in Vols. v. pp. 64—66, 154, 155, 374—377; vi. pp. 290—292.

In the Horniman Museum is a mask (pl. XXXVIII. fig. 1) representing what seems to be a king-fish, *Cybium commersoni*, *dabor*, or possibly a *mugarir*, *Cybium* sp. (fig. 315). The body of this fish has a pattern somewhat similar to that of pl. XXXV. fig. 2. The mask painted on a Miriam top (pl. XXXVII. fig. 4) seems to be similar to the foregoing, the shark's tail-fin is probably an error. These masks evidently belong to the type illustrated in fig. 255 b.

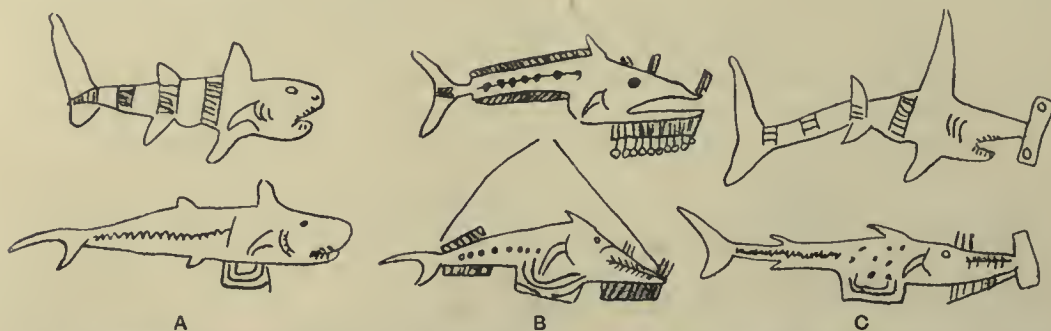


FIG. 255. Sketches of masks referred to in a folk-tale (v. p. 54). A, *baidam* (*Stegostoma tigrinum*). B, *dabor* or *dëbu* (*Cybium commersoni*). C, *kursi* (*Zygæna*). Those in the upper row were drawn by Gizu and those in the lower row by Sunday.

In the museum of the late Sir Cuthbert Peek at Rousdon, Lyme Regis, is a beautifully executed mask, probably a *dabor*, which may well be the original of fig. 255 B. The mask (pl. XXXVIII. fig. 2)¹ is 1.35 m. (4 ft. 5 in.) long, on each side of the tail is an engraved design somewhat similar to that of pl. XXXV. fig. 2, and it is decorated in the usual manner with feathers and shells. The most characteristic feature is the decoration of the cylindrical support into which the head of the wearer was inserted; the ornamentation (pl. XXXVIII. fig. 3) consists of two bands each containing engravings of three human heads and upraised arms, the palm of each hand is marked with a white spot, in the upper band each figure is separate while in the lower band the arms cross each other (this attitude may be compared with the drawing by Pasi given in Vol. vi. pl. XXVII. fig. 1); there is a single arm at the end of each band. Stars are represented in all the spaces. The pattern of the central band is, I believe, unique. The whole mask is ruddled and the intaglio portions are filled in with lime.

I obtained at Yam in 1888 a small mask made by Wadai, who had long been dead, it represented the head of a *mugarir*, or barracuda.

(b) With a human face.

Representations of masks of this type are found on some pipes (fig. 256, B was identified on Mer as a *dabor*, C from its heterocercal tail is probably some kind of shark).

On shewing at Mabuiag a photograph of a mask in the British Museum (pl. XXXV. fig. 2 and *Album*, I. pl. 328, No. 2) collected by Dr MacFarlane, I was told

¹ I am indebted to Mr C. Grover, of the Rousdon Observatory, for the photographs and for additional information.

that it represented the head of a hawk and the body of a fish. It was dreamt of by an old man named Pedia and made by Wigi and Anaii of Mabuiag (v. p. 345). It is 1·27 m. (50 in.) long, the pattern along the body was called *kutikuti minar*, mark of the *kuti* (a kind of shark).



FIG. 256. Tracing of masks engraved on bamboo tobacco pipes. A, B, British Museum (6520). C, D, Oxford Museum. $\frac{1}{2}$ n.s.

Dr Meyer describes (*l.c.* p. 4) a mask from Mabuiag¹ representing a *kaigas*. It is 1·06 m. long and is provided with human arms as in fig. 256 B, C; so also was the Malu mask (vi. figs. 61—63) which represented a hammer-headed shark.

I collected in Nagir in 1888 a mask, *krar*, made by Gizu of that island, which I gave to the Cambridge Museum. The head is 55 cm. long, and was stated to be that of a crocodile, *kodal*, above is a human face with hands. Originally it was provided with a fish's tail. Behind the head were two vertical triangles of turtle-shell with an apical swelling, which were called *bēge* or *bēgai* (p. 295).

A variety of this type, in which the human face is replaced by a projecting human figure, is supplied by the Iabur mask of which we have two drawings made independently by two natives of Mabuiag (figs. 257, 258); it is said to have been made by Kitulkula of Moa, who sold it to the Mabuiag people. The mask consisted of a turtle-shell model of a fish, *baiĕg tim*, with long jaws, it is almost certainly a gar-pike (*Belonidæ*), the fins preclude its being a king-fish. The projections on the snout are the variegated feathers of the *poapu* bird, and at the tip are feathers of the bird-of-paradise; feathers are also attached to the guy-lines, there are five *kaikai* (thin sticks to which white feathers are fastened, v. p. 335), and below the jaw are seed rattles. A man named Iabur is placed on top. In Joani's drawing a figure called Malu is placed on the fish's nose; a screen, *kai*, is shewn in the background behind which the dancers retired. This mask was probably worn in a ceremony which had for its object to ensure a good fishing season (v. p. 343).

4. Masks which represent an animal's head combined or not with a human face:—
(a) Without a human face.

On pl. 186 of Dumont-D'Urville's *Atlas pittoresque* is figured a turtle-shell mask from Erub, which consists of an animal's head without a human face.

¹ This mask and the four mentioned on pp. 298, 299 were obtained from Dr S. MacFarlane, they were taken from a "sacred house" in Mabuiag.

(b) With a human face.

A common type of mask is that of which the lower portion consists of an animal's



FIG. 257. Man wearing the Iabur mask, drawn by Joani of Mabuia.

head on the top of which is a human face. A typical example is a mask made in Yam by Maino, which I obtained from him in 1888 and gave to the British Museum (pl. XXXIV.). The general name, *koi nel*, for these masks is *buk*, and the *magi nel*, or special name, *krar*, turtle-shell. The body of the mask consists of an animal's head in wood, the jaws being furnished with a large number of small teeth, the human face (*iena markai*, basket *markai*) above is well made, surmounting the forehead is the usual *baiib* (p. 295), and on the top of the end of the snout is a crescentic ornament which looks like a *gud* (v. fig. 35) but was called a *pukai*, a kind of ray. Behind project two horizontal bars, the free end of each being carved

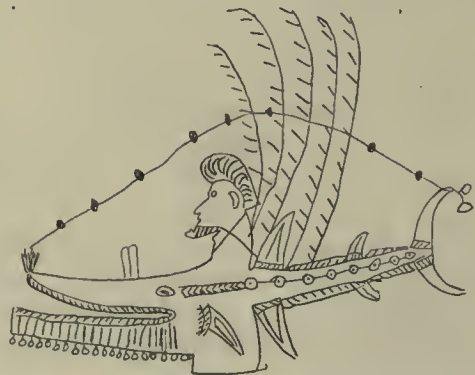


FIG. 258. The Iabur mask, drawn by Gizu of Mabuia, reduced to $\frac{1}{2}$.

into an animal's head, and two upwardly slanting sticks decorated with feathers and rattles. The whole mask is profusely decorated with various kinds of feathers (mainly cassowary, Torres Straits pigeon and reef-heron) and Pangium seed rattles. Maino told me in 1898 that the mask was sometimes worn during the *markai* ceremonies (v. p. 257), it was worn in the *kab* (dance), and he asserted that it had nothing to do with *augud* (totem) ceremonies. A similar mask is described by Dr Meyer (*l.c.* p. 3).

(c) Masks representing an animal's head combined with human face and surmounted by an animal.

The four masks of the Saw-fish Dance (v. p. 342) were all of the same pattern though differing in minor details. The lower portion was an animal's head with numerous small teeth, eyes were variously indicated, on one or two masks curved bands to represent gills were painted, at the tip of the snout was an Ovulum shell. Behind the head was a fringe of vegetable fibre dyed russet-red and brown, and below the snout a fringe of shredded leaves. Surmounting the head was an obliquely placed human face which was surrounded by the characteristic open-work border. Along the sides of the face and down to the end of the snout were inserted black-tipped white feathers of the Torres Straits pigeon which were mounted on thin sticks, about the middle of the mask these were very long and bore three feathers, *kaikai* (a very usual decoration of ceremonial head-dresses). Above this was a representation of a saw-fish (*Pristis*) about 1'37 m. (4 ft. 6 in.) in length, its long snout was not only provided with the appropriate paired series of horizontal teeth but a double row of similar teeth was inserted so as to depend from the under side of the saw. (The origin of this supernumerary row is obvious; formerly when the snout was made of turtle-shell the teeth were formed by lateral cuts, every alternate tooth thus formed was not removed but bent at right angles to the plane of the snout. As this was the traditional method of representing a saw-fish's rostrum the double series has been retained, although in the masks now described it entailed double the amount of labour.) On the hinder part of the body of the saw-fish were represented three dorsal fins and a heterocercal tail; small tufts of cassowary feathers were inserted along the whole upper edge of the fish. Towering above the centre of the fish, which consisted only of snout and tail, was a high narrow triangle covered with turkey-red twill and flanked with white feathers. The whole erection was steadied by guy-lines which extended in front from the apex of the triangle to the tip of the saw-fish's snout and thence to the front end of the mask, and behind to near the end of the fish's tail and thence to the back of the mask. The upper guy-lines were decorated with white feathers and pieces of calico. The total height of the mask was about 1'37 m. Behind and below the eye can be seen the end of a bar of wood which passed through the body of the mask; this bar was held by the teeth of the wearer, the hands were not used at all to support the mask, nor did it even rest on the shoulders of the dancers. Various kinds of feathers were employed in the decoration of the masks. The masks were painted with red, black, white and a little blue (introduced) pigment. In former days such a mask would be almost entirely constructed of turtle-shell, but these were made out of old wooden boxes and kerosene tins (Vol. v. pls. XVIII. fig. 2, XIX. fig. 1, and *Internat. Arch. f. Ethnogr.* vi. 1893, pl. XIII.).

The mask shewn in fig. 256 A belongs to this type, it is surmounted by a hammer-

headed shark. Gizu drew for us a similar mask but surmounted by a dugong, it has three *warka*, feathers of the Torres Straits pigeon, on the head and tail, and on the back four *kaikai*.

It is not clear what animal's head is reproduced on these masks. At one time I thought it was always a crocodile's, but I believe that in some cases it may be a king-fish's or something of that sort, which has become conventionalised in the direction of a crocodile's head.

5. One type of mask consists of a box into which the head of the wearer is inserted, surmounted by an animal. The box, which is made of small boards obtained from Europeans, probably replaces a cylinder of turtle-shell shewn in fig. 255 and pl. XXXVIII. figs. 2, 3.

A good example of this type is to be found in a mask made by Kuduma of Muralug in Moa and taken by him to Nagir, where I bought it in 1888; it has been given to the British Museum (pls. XXXV. fig. 1, XXXVI. fig. 3). On the front of the wooden box there is a tin face, 245 mm. in height, surmounted by a wooden *baiib*, decorated with cassowary feathers, from the middle of the *baiib* a wire projects which supports a fish cut out of turtle-shell (*zugawad*, it was described as a fish of about 30 cm. in length that jumps out of the water). On the back of the box is carved a *koimai* (fig. 27), and on the sides are three eyes; all the designs are variously painted in red, black and white. Surmounting the box is a well executed model in turtle-shell of a *gaigai*, bonito, *Thynnus*; it is 71 cm. (28 in.) in length. Dr Gunther in his *Study of Fishes* describes the genus *Thynnus* as having "a longitudinal keel on each side of the tail" (p. 458), a feature which is well shewn in the model.

In the Museum of Victoria, Melbourne, there is a mask the box of which is \square -shape in plan, there being two holes for the eyes in the converging sides; there is on one side of the box a human face surrounded by typical fret-work. On the top is a cleverly made representation of a monkey stretching out its paws over the front of the mask, and holding in its arms the usual *baiib*. Someone must have brought a monkey to Torres Straits which so struck the fancy of some native that he made a model of it.

Composite Effigies.

We may well suppose that simple face masks were first made, gradually as the natives became skilled in working turtle-shell the more elaborate masks were constructed and eventually human and other effigies were attempted. These and the complex masks exhibit considerable dexterity and constructive skill.

Jukes (i. p. 193) gives a figure of a human effigy, about 91 cm. (3 ft.) high, which was obtained at Erub, a fish depends from the chin and the object on the head may be a frigate-bird. For an unprofitable discussion concerning this effigy the reader is referred to the *Journ. and Proc. Roy. Soc. N.S. Wales*, XLIII. 1909, p. 50, XLIV. 1910, pp. 81—83. In the *Walet zogo* of Waier (vi. 277) that personage was represented by a turtle-shell image about 92 to 122 cm. in height. An image from Mabuiag in the British Museum (*Album*, i. pl. 329, No. 4) is crudely made, it is about 58 cm. high.

In Vol. v. pp. 374, 375 I have described the effigies of the two great totems of

Yam, the crocodile and hammer-headed shark, without doubt the latter was very similar to certain masks (p. 299). In the Truro Museum are two remarkable turtle-shell objects from Mer which were presented to that museum about 1840 by Lieut. G. B. Kempthorne; one is a highly decorated crab 33 cm. long and 15 cm. broad, which must have been a wonderful object when perfect. The other (pl. XXXIX. figs. 3, 4) is 76 cm. long and resembles the body of an insect, the head bears two enormous eyes, the thorax is barrel-shaped, the abdomen is an elongated cone. It is highly improbable that we shall ever know its significance, but I would venture the suggestion that it was connected with the *lag zogo* (vi. 218) which was concerned with the control of mosquitos. The shrine was situated behind the beach on which visitors would be most likely to land on account of the safe anchorage in its propinquity.

There is a very remarkable turtle-shell mask-like object in the Berlin Museum, which is somewhat triangular in plan and in vertical section, the anterior end is curved from side to side, the posterior end is pointed and terminates in a long spine. The dorsal keel and the latero-ventral edges are provided with a double series of serrated spines, serrated and simple spines project from the anterior surface, on the upper portion of which is affixed a four-rayed star also of turtle-shell. The form of this object is somewhat similar to, but less flattened than, that of a king-crab (*Limulus*) while the serrated spines recall the fringed labial processes of the carpet-shark (*Crossorhinus tentaculatus*) or those of a *Lophius*, but I am not aware that this fishing frog or angler occurs in these waters.

Jukes (i. p. 168) describes and figures a "curious ornament" which was obtained at Masig. "It consisted of two rudely carved figures of fish, about two feet long, connected together by cross pieces, about one foot long [the ends of which were carved to represent bird's heads], over which frame was a large figure of a bird, with an immense toothed bill, the eyes and some other parts cut out of mother-of-pearl, neatly inlaid. It was altogether two feet high, and by no means badly designed or executed." Jukes correctly conjectured that the bird represented a hornbill. This curious object may have been a portion of a mask of which the front part was wanting, or it may have been a ceremonial object of a kind which has not been described. It was either imported from New Guinea or made by an Islander who had seen a hornbill in New Guinea.

XVI. GREETINGS, SALUTATIONS, AND VARIOUS SOCIAL CUSTOMS

GREETINGS AND SALUTATIONS.

By S. H. RAY.

Greetings.

THROUGHOUT the islands of Torres Straits the old form of greeting was to bend slightly the fingers of the right hand, hook them with those of the person greeted, and then draw them away so as to scratch the palm of the hand; this was repeated several times. This movement was called in the Western language *get-pudai*¹, lit. hand-digging, *get* being the word for hand and *pudai* referring to the scooping out or hooking motion. In the Eastern language the term used was *tag-augwat*, hand-plucking² (*tag-degwat*, to pluck hands), *tag* meaning hand, and *augwat* being the root form of the verbs *degwati* to pluck, *egwatumur* to pull.

In the Western tribe kissing combined with embracing the head sometimes took place. This was termed *gud-wiai*, mouth-touching, *gud-widi*, mouth-approaching, or *parunudai*, face-rubbing³. The modern term for kissing is *gud-tapamai*; the meaning of *tapamai* is uncertain.

In the Eastern language *eskos*, lit. stick out, is used for kiss, but there is no evidence as to the custom being indigenous.

The modern sentiment of kindness of feeling in a salutation⁴ is shewn by the names now in use. In the Western language *sibu-anai* (*sibu-wanai*), pity, love, lit. liver-putting or leaving, is used for greet, salute. In the Eastern language the term is *omare*, liver-leaving or *nas*, to be sorry.

¹ In a folk-tale told by Maino of Tutu, when Kebra and Waier met Naga, it was stated that *palai noin get pudan*, they two plucked hands (with) him (v. p. 49).

² *Tag-augwat* was a prominent element in the Miriam marriage ceremonies (vi. pp. 113, 114).

³ Dr Wilson (*Narr. Voy. round the World*, 1835, p. 310) says that a friendly native "touched my nose with his." Dr Haddon was informed in 1889 that among the Miriam after a long separation or when friends returned after they had been given up for dead, they would embrace heads and rub cheeks together, once for each cheek. He was informed that they neither rubbed noses nor kissed in former days.

Salutations.

The words used as salutations are imperatives, sometimes combined with a demonstrative.

In the western islands the visitor on arrival says *Sangapa!* to which those visited reply *Wa!* On leaving, the visitor says *Iawa!* or *Iawakai!* and the same is said in return. *Nipel* meaning you two, or *nita*, you, is prefixed to indicate two or more persons. If the journey is to be short, the word *magi*, little, is prefixed to *Iawa*.

A person passing another says *Sauki!* on approaching, and *Siaupa!* on leaving. Those passed say *Sawa!*

Sangapa, *sauki*, *siaupa* and *sawa*, appear to be derivatives from the demonstrative *si*, there, that, with the particle *wa* indicating visibility, the directive endings *pa*, *ki*, and the nominal or local ending *nga*. Thus *sangapa* for *si-wa-nga-pa*, to that place, *sauki* for *si-wa-ki*, along there, *siaupa* for *si-wa-pa*, towards there, *sawa*, there. *Iawa* is from the verb *iawai*, to journey, and *kai* is the sign of the present tense. *Wa* means yes.

In the eastern islands when two or more persons meet, both sides say *Maiem!*

A person passing or leaving says *Nawa!* to one person remaining, *Dawam!* to two, *Dawadariwam!* to three, and *Uridwa!* to a company. The person or persons left reply *Bakeam!* to one, *Bakeamulam!* to two, *Bakeauwidare!* to three, and *Bakeaware!* to a company.

Maiem appears to be formed from the pronoun *ma*, thou, with the dative suffix *-em*, but this does not explain its use in address to several persons. But *em* may be the suffix sometimes added to personal names to indicate a man's companions (III. pp. 56, 57), and hence *maiem* may mean your people.

Nawa, *dawam*, *dawadariwam* and *uridwa* are the imperatives of the verb to stay, stop. *Bakeam*, *bakeamulam*, *bakeauwidare*, *bakeaware*, are the imperatives of the verb to go.

In both languages of Torres Straits the Samoan *Talofa!* introduced by the mission teachers is often now used. This is the usual Samoan greeting, an abbreviation of *tā, I, alofa*, love.

The waving of boughs of trees appears to have been the general method of demonstrating peace and friendship.

There are no definite records of the forms of salutation in use in New Guinea in the immediate neighbourhood of Torres Straits. In Kiwai *Yauwo!* was used for Good-bye! but this appears to be the Western Islanders word *Iawa!* perhaps adopted from the Torres Straits teacher. At Toaripi in the east of the Papuan Gulf, the person saluted says *A reha!* or *Koti ta reha!* literally you (are) there, or came to you there. The person saluted says *Ara meha!* or *Koti ta meha!* I (am) here or came here.

The Pittapitta natives in North-west-central Queensland use expressions similar to the Miriam when parting company. The person leaving says *Nǎngkǎnǎ!* Stay! sit down! (from verb *nǎngka*, to sit, stay). The person remaining says *Kǎndǎnǎpǎ!* Go away! (from verb *kǎnda*, to go¹). When passing at a distance *Hoo!* is shouted, and on nearer approach *Kouǎ!* Come here!².

The Kalkadoon use *Nawo!* to attract some one's attention at a distance².

¹ W. E. Roth, *Ethnological Studies among the North-west-central Queensland Aborigines* (1897), p. 29.

² *ib.* p. 8.

VARIOUS SOCIAL CUSTOMS.

By A. C. HADDON and J. BRUCE.

ROB, SERENADING PARTIES.

TOTUAM, FANNING GAME.

TAMA, EXCHANGE OF FOOD.

AISWER OR MAM, EXCHANGE OF FOOD.

A pleasing feature of the Miriam was the number of purely social gatherings which were held in addition to family gatherings and the meeting of friends at marriages, death ceremonies, and the numerous magical and religious ceremonies. When one remembers that there was a population of some four hundred persons (388 in 1894) on an island only 2.79 kilometres (just over $1\frac{1}{2}$ miles) long and 1.65 km. (less than one mile) wide, the facilities for casual intercourse were great; but in addition provision was definitely made for friendly gatherings, thus proving the sociable character of the people. These frequent social gatherings may also be regarded as an evidence of the immunity of the Islanders from sudden attack by foreign foes.

Rob, Serenading parties.

About the time of the beginning of the south-east season, the married and unmarried men and the unmarried girls of a certain village arrange a party to serenade other villages on particular nights.

The serenaders wear a girdle of the yellow, sprouting leaves of the coco palm, *kupi*, bind a band of leaves round their heads, and insert a feather of the Torres Straits pigeon in their hair. They carry two short pieces of wood in their hands, which they use to beat time for their singing. The villages which they intend to serenade usually manage to hear beforehand of the proposed visit and so preparation is made.

The villagers are sitting round their fire when the visitors arrive; the latter march in a column, the two sexes being mixed indiscriminately, singing and beating time with their sticks. They circle round¹ the seated villagers and break into a kind of dancing movement to the time of the music. After continuing this for about an hour they cease and the residents give their visitors small presents of tobacco, bananas and so forth. The serenading party then goes on to the next village, it may take two or three nights to complete the round.

The villages which have been visited arrange to return the compliment, and they serenade the other village and so get presents in their turn.

In another form of *rob* the serenaders start at a later hour in order to give a surprise visit. They all sit down in a semicircle round the door of a house, whose inmates are supposed to be asleep. After the *rob wed* has been sung, the head of the house comes out and presents his visitors with tobacco if he has any, but if he has

¹ Generally they march or dance round the fire with the left hand towards the centre, but on some occasions Mr Bruce has seen them begin in this way and then reverse their direction without stopping the music.

none he gives them what food he may have in the house. Then they visit another village for a similar purpose.

The following are the words of the usual *rob wed*, but their meaning is unknown, nor have the singers the slightest idea as to what the song refers to. They say this *rob wed* was introduced to their forebears at the very beginning of the settlement of the island, so how could they tell what the words mean!

Samo pasarana
Parap pasarana a
Kela a kezub ia
Tero ia ataruke
A neide kopas utirida
A neide kela kela
Bali bali kela a
Bali bali kela a.

Giaz, one of the Sebeg *le*, composed the following *rob wed*:

Kawair wair dorigile
Wair wair dorigile
Wair wair dorigile.

Kawair wair is the name of a sea-fowl; these birds generally fly in pairs at night, and as they fly along the beach they cry out their own name "*Kawair wair!*" *Lu dorigile* is the noise made by wind blowing through the branches of a tree or through a clump of bamboos, and *dorigile* here refers to the sougning noise made by the birds as they fly. This effusion of Giaz' is considered rather good, and is quite a favourite *rob wed*.

Rob is considered to be one of the very oldest forms of amusement. The natives say that it was introduced to Mer by the people of Dugong Island (Asub *le*) and of Half-way Island (Zogared *le*), but they do not know whence these obtained it; as these islanders and the Waraber *le* were the middle men who traded between the Muralug *le* and the Miriam it is possible that they brought it from Prince of Wales Island, or some other western island. In any case the Miriam are very fond of the custom and it helps to while away many evenings pleasantly; but, as with all their forms of amusement, they do it to excess, not knowing when to leave off, the consequence is that it generally leads to a rupture of good feeling¹ and is stopped. Recourse is then had to some other diversion, which in its turn shares the same fate.

Totuam, Fanning game.

A rather nice custom, called *Totuam*, is carried on by the Miriam during the mosquito season, that is during the months of the north-west monsoon, and especially in December. The Dauar *le*, for example, would go one night to Sebeg and fan the people of that village with leaves of the *abal* tree, Pandanus; if the following night was fine they would go to Babud and so on until they had visited all the principal villages. Then those who had been visited would return the compliment, so that every

¹ For an example of this cf. quarrels amongst themselves, Vol. vi. p. 190.

one in turn had the opportunity of enjoying the luxury of being fanned by another person. The people who are being fanned sit or lie down in groups in a circle whilst the fanners remain standing plying their fans amidst all kinds of chaffing and laughter. After the fanning is over the visitors get presents of food and tobacco from those whom they have been fanning. Men, women and children all take part in this custom, which is, however, only carried on in fine weather. Each village knows beforehand when it is to be visited, in order that presents may be held in readiness. It is a pleasant social custom, but unfortunately, as is the case with many of their customs, it generally ends up with a row, especially if it is carried on too long. Something is sure to happen to somebody in the community during the month or two of the ceremony, or the inhabitants of some village think that they did not receive so large a present as they themselves had given; then the quarrelling begins. Some one has been seen to make the *zogo* gesture¹, or heard to repeat the *zogo mer*¹, in order to try and injure some person, so the fanning does not always end quite so sociably as it began; still there is never any serious quarrelling, it mostly ends in talk.

When *totuam* is finished they hie to the *lag zogo le* and beseech him to send the mosquitos away. They are not very particular as to time, but when the mosquitos eventually depart the *lag zogo le* gets the credit of having banished them (vi. p. 218).

Tama, Exchange of food.

A man who intends to make a *tama* gets together a great deal of food, then he goes into the bush, cuts down a small tree, clears away the smaller branches, and strips off all the leaves. The denuded tree is erected in a cleared spot, and the area enclosed with a fence. Bananas, coco-nuts, yams and other food are hung on the tree and when all is ready a large fire is made in the centre of the enclosure in the evening.

The invited guests arrive, bringing food with them and dead coco-palm leaves for fuel, and they sit in a circle round the fire. The host, or master of the ceremonies, *lu kem le* ("the owner of the things"), goes round the circle, standing before each person in turn, who holds up the object he has brought saying, "*Tama*" and mentioning at the same time what it is he has brought. The "master" asks, "Where did you get this?" or "Who gave it to you?" and the visitor may make any answer that he can think of—the more humorous the better, and the present, which is usually food, is exchanged for some of the food on the tree.

When some one makes his appearance for the first time, all the people present call out "*Kerkar le tabakeamu!*" ("New man come"). He is invited to sit on a small mat near the fire, and he puts the present of food which he has brought on the mat in front of himself. The other men get up, take away his food and give him other food in exchange. The *lu kem le* stands in front of the new man, and pointing a fire-brand towards him says, "You see this fire-stick! You go home and look after your wife. When you come again another night, you must bring firewood and food with you. If you have not brought kindling and food the next time I ask you, I will duck you in the

¹ Unfortunately I do not know to what these refer, as I had not heard of them previously to this account which Mr Bruce sent home to me.

sea. Now, you take your food and go outside." Exchange is made only of the same kind of food and to an equivalent amount.

After this preliminary ceremony a sort of auction or mart takes place to which reference is made in Vol. VI. p. 188. Two occasions on which we were at a *tama*, first when one of us was a *kerkar le*, and then when he brought his firewood and food, are described in *Head-Hunters: Black, White, and Brown*, pp. 58, 59, 62.

Aiswer or Mam, Exchange of food.

Aiswer, or *Mam*, are names given to the custom of a man giving a present of food to another, or of one village making a similar present to another village. Some time afterwards a return gift is made, as my informant expressed it, "like race," that is, in a spirit of friendly rivalry, the one party trying to outvie the other and thereby exhibiting at one and the same time its wealth of food and its generosity. This is not a case of buying or selling nor even of a definite exchange of food. I once saw this custom in operation in 1889. It was the return present, and the people from the distant village were sitting chatting, laughing and eating with their hosts; round about were bamboo poles on which bunches of bananas were hanging and other food was piled close by. Mr Ray (III. p. 165) gives *wetpur* as "a native exchange of presents" and regards it as equivalent to *tama*, "a ceremonial exchange of presents." I am not quite sure whether *aiswer*, *mam*, and *wetpur* may not be other names for the same custom as *tama*, which Mr Ray regards as "perhaps an introduced word."

XVII. GAMES AND TOYS¹

It is not an easy matter to classify the games played by the adults and children of various peoples, nor can one draw a hard and fast line between games played without apparatus, those played with objects which may be either actual tools or implements or toy imitations of them, or playing with toys. The following enumeration is not intended as a classification but as a simple method of grouping to facilitate reference.

Game, fun, play is termed *sagul* (W.), *segur* (E.).

1. Games of movement that develop and exercise the bodily powers.

The game that combines agility, endurance, skill and emulation to the greatest degree is that of dancing, but for the sake of convenience dances are dealt with in a special section (pp. 289—293).

Among the games of agility may be mentioned skipping with a rope which is played by children in Mer, where it was stated to be an indigenous pastime. In Mabuia I heard of young people swinging on the aerial roots of the *kabi* tree, which I believe is a kind of banyan (*Ficus*) (cf. Holmes, p. 287).

The most energetic of these games is a kind of hockey, shinny or shinty, which is played everywhere. It is called *kokan* in Mabuia, which is also the name of the ball itself. The ball is made of wood and varies from about 55 to 60 mm. in diameter and 3½ to 4 oz. in weight, the largest being 78 mm. and 10 oz., it is struck with a roughly made bat or club, *bawain, dabi* (W.), which is usually a piece of bamboo, varying from 60 to 85 cm. in length, on which a grip is cut. The game is played over a long stretch of the sand-beach, there are two sides and each player has a stick, but so far as I could discover there were no goals and no rules. The game is very "fast" and causes intense excitement and a tremendous noise; it is not without an element of danger as the heavy ball is hit with extreme vigour. We witnessed in Mabuia one great match between married and single men (cf. Holmes, p. 282).

¹ In Bulletin No. 4 (1902) of his *North Queensland Ethnography* Dr Walter Roth gives a classification and description of the "Games, Sports and Amusements" of various tribes of North Queensland. Those interested in this subject should consult this valuable paper, and also the following in the *Journ. Roy. Anth. Inst.* xxxviii. 1908: "Children's Games in British New Guinea," by Capt. F. R. Barton, pp. 259—279; "Introductory Notes on the Toys and Games of Elema, Papuan Gnlf," by Rev. J. H. Holmes, pp. 280—288; "Notes on Children's Games in British New Guinea," by A. C. Haddon, pp. 289—297.

2. Games of dexterity and skill.

In the Miriam ball game the players stand in a eirele and sing the following *kai wed*, ball song:

<i>Kai tapitari</i>	Ball hit.
<i>Kai tapitari</i>	Ball strike.
<i>Abu kak kai o!</i>	Fall not ball!
<i>Atimed kak kai o!</i>	Throw not ball!

As soon as they begin to sing one player strikes up the ball with his hand towards another player, who in his turn hits up the ball, and so on, keeping time to the rhythm of the music. The song is repeated as long as the game lasts. Should anyone let the ball fall to the ground, he is jeered at. According to one account the game is properly played by two sides.

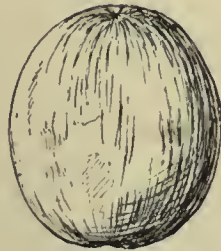


FIG. 259. Fruit of the *kai* tree used as a ball, 68 mm. long, Mer.

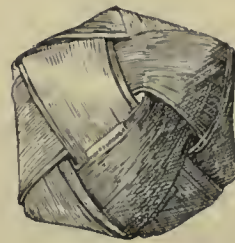


FIG. 260. Palm-leaf ball introduced by South Sea men.

Formerly they used for this game the thick, oval, deep red fruit of the *kai* tree (fig. 259), which is quite light when dry; this fruit, which has a tough rind, varies from about 6—7 cm. ($2\frac{1}{4}$ — $2\frac{3}{4}$ in.) in length. At the present time they generally use a hollow cubical ball (fig. 260) made of Pandanus or coco-nut palm leaves. This ball was introduced by South Sea men and is a common Polynesian toy; the names *kokan* (W.) and *kai* (E.) prove that it is a loan object. It varies in size from about 35 to 53 mm. in diameter, an average size being 45 mm.; one oblong example measures 55 × 95 mm. (cf. Roth, p. 17; Holmes, p. 280; and Barton, p. 279, and for a bladder game, p. 264).

Mabuiag children play a catching game called *udai* (*wadai*) or *damadiai*; the former is the red flat bean of a Mueuna, the latter is a hard fruit that comes from New Guinea. Boys and girls go in pairs into the sea, a boy tries to throw a bean to another boy which his partner attempts to intercept; should she succeed she in her turn throws it to another girl and her partner tries to forestall her.

In the north-west season the Miriam men play a game for which I obtained only the name *kolap*. Two mats are laid at a distance of about 15 m. Two men sit behind each mat, those facing each other obliquely being partners. Each man has four *kolap* beans which he tries to throw on to the further mat; a score of twenty finishes the game. I believe there is a similar game in which beans are thrown at a mark on the ground.

Game of hide and seek:—Mr J. Bruce has given me particulars of a game in Mer called *nem deraimer*, "louse searching." It is played by men and women. Two sides are arranged, and they all kneel in a circle on the sand or round a bare spot. One

person, who is blindfolded, puts his head down—or if not blindfolded the face is placed so close to the ground that he cannot see what is being done. One of the other side then picks from his hair a louse, which is hidden in the sand in the centre of the circle. All the players begin to sing and beat the ground with their hands, except the man from whose head the louse was taken, whose business it now is to search for it. If he succeeds in finding it, one from the other side has to put his head down and do the searching. Should the man fail to find the louse, one of the other side shows it to him and his side has to remain in until someone has been successful in the search. The one who finds the louse eats it.

A variant of this game is called *pone deraimer*, or “eye searching,” the crystalline lens of a fish being hidden in the sand instead of a louse. Roth (p. 17) found this game among several tribes of North Queensland.

Both sexes in Mer play a game by the light of the full moon, in which food is hidden in the bush or gardens for others to find (cf. Holmes, p. 286).

I do not know whether there is a hide and seek game in which players hide themselves, as in New Guinea (cf. Barton, p. 267; Holmes, p. 285).

Dr Macfarlane informed me that they played a guessing game in Mer which consisted of giving two syllables of a name from which the whole had to be guessed, thus: “ia?” “Elia.”

Children also play guessing the number of small objects held in the closed hand.

Games with string exhibit great dexterity of the fingers and are distinctly games of skill. For the sake of convenience these will be treated separately at the end of this section.

3. Games of emulation.

Various kinds of spinning tops are to be found in Torres Straits. The most general is a top (fig. 261 A) made of a Queensland bean (*Entada scandens*)¹; in Mer both bean and top have the same name *kolap*, but in Mabuiag the top is called *wana* and the bean *kälapi* or *kolapi*. The flat, chestnut-coloured bean is perforated and into it inserted a thin stick, *kolap pes* (E.) (usually the mid-rib of the coco-nut leaf), with an average length of about 14—15 cm., the beans averaging about 45 mm. in diameter. In a Mabuiag top the stick was called *tul*, probably because it was made of *tulu* wood; in Mer it is also called *teter*, or leg. The *pewer kolap* of Mer (fig. 261 B) is made from the fruit of the *pewer* which has a diameter of about 20—25 mm., the sticks being 10—12 cm. long. A similar top is made of the dried fruit of the *zom* tree (*Thespesia populnea*).

These tops are spun with the fingers and resemble in this respect the tee-totum, but strictly speaking the latter is a four-sided or faceted top used in games of chance. These tops were simple toys for children and never attained the importance of the Miriam stone tops. Small cone-shells are spun by children by twirling them in the usual way between the thumb and finger.

¹ The plant is called *sirip* or *sireb* and the top is consequently sometimes called *sirip kolap*.

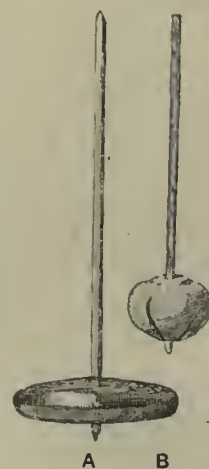


FIG. 261. Seed tops, Mer; *kolap* and *pewer kolap*.

The use of stone tops, *kolap*, is and always has been confined, so far as our knowledge goes, to the Miriam, for it is only in the Murray Islands and to a very limited extent in Erub that the fine-grained volcanic ash occurs of which they are made. The top is shaped like a split pea, the upper surface being occasionally slightly convex. Those in the collection vary from 11 to 19 cm. in diameter, 14—15 cm. being a common measurement; they are generally about 45 mm. thick, and usually weigh about 2 lbs. The top shewn in pl. XXXVII. fig. 4 is 19 cm. in diameter, 5 cm. thick, and weighs 4 lbs.; for further dimensions see figs. 380—385. A top is seen in pl. XXI. fig. 3.

The tops are carefully made and smoothed down, and although not absolute circles they are made as true as possible in order that they may balance when spinning. A hole is drilled through the centre, which is larger above than below, and into this a stick, *kolap pes*, is inserted. The shortest we have is 15 cm., the longest 41 cm., but the usual length is about 25—30 cm. The sticks are generally made of the heavy wooden heads of arrows (generally palm-wood) whittled down, but what was most preferred was the hard wood called *dab*, which was obtained from the Queensland natives through the intermediacy of the natives of Waraber and Half-way Island; sometimes a piece of an old dugong harpoon would be employed as it was made of hard wood. The stick tapers delicately to its upper end and is smooth and neatly made.

The upper surface may be plain, but it is usually decorated in various ways as described in the section on Decorative Art (figs. 378—383, pl. XXXVII. figs. 3, 4).

Very great care is taken of these tops and the better ones are kept in round baskets specially made for them, which are often lined with calico as a further protection for the top. A basket made of coiled basketry is described on p. 82; a polygonal basket is seen in pl. XXVIII. fig. 1, but I believe this to be of foreign make. It is very amusing to see elderly men carrying with both hands a top ensconced in its basket with the greatest care; the tops are also very carefully handled, and some are so much valued that we could not induce their owners to part with them. On the other hand, tops could be taken by certain relatives (vi. pp. 100, 101). The stick of his top was hung over the corpse of a deceased man (vi. p. 130).

A top is spun by repeated slow, steady, sliding movements of the outstretched palms and fingers. Formerly they were spun on pieces of melon shell (*Album*, i. pl. 344, No. 4), now pieces of broken crockery or the under surfaces of cups and saucers are employed.

Kolap wed, top songs, are sung during top spinning, *kolap omen*¹: one of these songs is given on pp. 268, 288.

Stone top spinning was very prevalent during part of our stay in Mer, indeed at one time the people played so assiduously every week-day that they had no time to attend to their gardens, and on Saturday they did not bring in enough food to last till Monday. The Puritan Sunday is in full force, and none would dream of breaking it by gathering food, consequently numbers of children came to school on Monday morning without having had any breakfast. This made them peevish and inattentive, so Mr Bruce had to complain to the mamoose, and an edict was issued prohibiting *kolap* matches

¹ The spinning movement of a top is *omen*, or *omen-omen* when spinning fast. When a top is spinning steadily, or as we say "going to sleep," it is called *kolap kus*, and the stopping of the revolutions is called *eiri*.

on Saturday, and the men were told to go to their gardens as heretofore. On one occasion there were thirty tops spinning at the same time (pl. XXVIII. fig. 1). The men sang songs and there was great cheering on of slackening tops, and shouting and jeering when one stopped. At the critical time when one was "dying" great care was taken to shelter it from the wind so as to prolong its "life" a few seconds longer. At one match we timed the four best tops, and found that they spun for $27\frac{1}{2}$, $26\frac{3}{4}$, $25\frac{1}{4}$ and 24 minutes respectively. We have seen men of all ages (but no women or girls) engaged in these matches, the grizzled taking as much interest in the performance of their tops as the young men. In the larger competitions one section or side of the island is pitted against another.

Dr C. H. Read (*Journ. Anth. Inst.* xvii. 1887, p. 85) was the first to describe these tops. He says (p. 88): "I do not think it very probable, though it is, of course, possible, that the natives of the Torres Straits islands invented spinning tops for themselves. It is far more likely that they received the idea from a more cultured and ingenious race; for, apart from the rarity of the occurrence of this toy among savage tribes¹, it is evident that the notion of a spinning top, a very complex toy [!], would be little likely to spring ready made into the mind of a people of the mental calibre of the Papuan." We must, therefore, look elsewhere than among the races of New Guinea for the origin of the toy." Spinning tops, such as those described above, can scarcely be considered "very complex" toys, but at the time when Dr Read wrote his paper so little was known about the Torres Straits Islanders that he naturally underrated their mental calibre. Two objects may very well have suggested the making of tops, namely the disc-shaped stone-headed club and the pump-drill (p. 128), but we do not know for certain that they possessed this instrument, though a pump-drill with a circular disc as a fly-wheel occurs in the Gulf District. I see no reason however why the seed tops should not have been directly invented and the stone-headed club may have suggested the stone top, though its shape is never like a split pea except in one specimen from Mer noted on p. 192. Tops spun with the hand occur in North Queensland (Roth, p. 18), and in the Papuan Gulf (Holmes, p. 281).

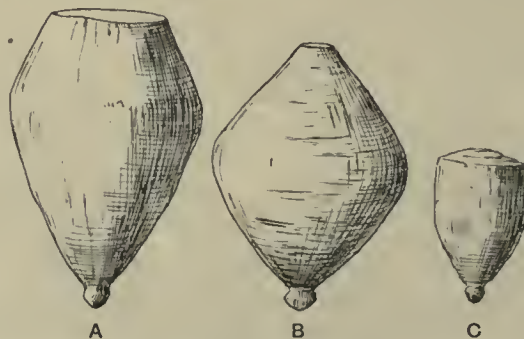


FIG. 262. Peg-tops, Mer. A, 81 mm. long, weight $3\frac{1}{2}$ oz. B, 90 mm. long, weight $4\frac{1}{2}$ oz. C, 50 mm. long, weight $\frac{3}{4}$ oz.

Two kinds of top spun by means of string were collected by us, the most common being the peg-top (fig. 262), which is also called *kolap*. The form is variable, being

¹ The absence of specimens of particular objects, especially a trivial object like a toy, in museums or the omission of their occurrence from the accounts of travellers is negative evidence of extremely little value.

either conical or biconical, the apex in the latter case is frequently truncate; the point is knob-like. It is made of *enoa* (Mimusops) wood. Three other specimens measure 70×40 mm., 77×39 mm., and 84×45 mm. Those which we obtained in Mer were introduced from Mabuig where they were said to be native, but this is I think improbable. The form of some of them is like that of European peg-tops, others resemble the common form of Malay top (*gasing*) which is found in the Malay Peninsula and throughout the East Indian Archipelago, but as the *kolap* is spun in the European way I think it must have been derived from European and not from Malayan sources.

The second kind of top spun by a string is without doubt of foreign design, though it appears to have been locally made. It consists of a disc of lead 4 cm. in diameter, in a hole in the centre is fastened a cane tube within which is inserted a wooden stick, 148 mm. long, with a swollen conical point (fig. 263). I obtained it at Mabuig where it was called *wana*; I saw only this one specimen.

I did not come across any whip-tops, but they occur in the Mekeo and Kabadi Districts of British New Guinea, where they certainly seem to be indigenous (cf. *Head-Hunters: Black, White, and Brown*, 1901, pp. 272, 273).

The Islanders had a pastime of throwing stieks along the sand-beach when walking. This is alluded to in a folk-tale (v. p. 45), where Bia threw "a *dukun*, a simple toy spear made of the hard *dukun* wood, but he only played where there was a sand-beach, and not where there were plenty of stones." The toy consists of a thin rod of hard wood with a swollen fusiform end, something like a miniature dugong harpoon. In Mer we obtained two objects that were used for this mildly competitive game (fig. 264); the rods of our specimens have probably been broken, but if so the fracture was of ancient date. They are called *omaiter* or *aipersi lu*, sliding thing; the word *omaiter* is used also in another sense (figs. 367—370). Similar sticks, commonly known as *wit-wit*, or "kangaroo rat," are used in Australia for the same purpose (cf. N. W. Thomas, *Natives of Australia*, 1906, p. 140, and Roth, p. 18).



FIG. 263. Lead spinning top, Mabuig.

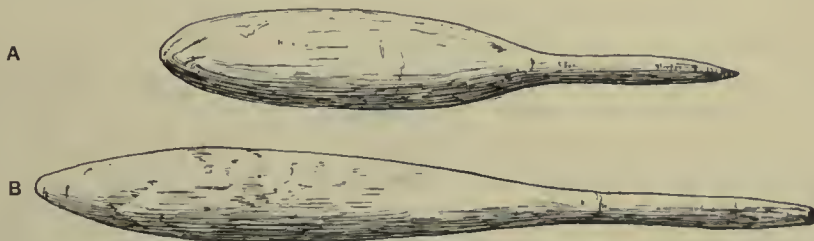


FIG. 264. Toy throw-sticks, *omaiter*, Mer. A, head end 11 cm. long, 31 mm. diam.; total length 16.5 cm. B, head end 14—15 cm. long, 29 mm. diam.; total length 21.8 cm.

The men sometimes had shooting matches with bows and arrows; in the western islands javelin hurling competitions were held. I have also heard of sham fights with blunt arrows.

4. Games of imitation.

Here as elsewhere children delight in imitating the occupations of their elders, and this mimicry forms a not unimportant part of their education. That this was so in the past is evident from the injunction of lads at initiation in Tutu to abstain in future from playing with play canoes and toy spears. Not only are models of canoes still made for boys to play with (*Album*, I. pl. 346, No. 9), but I have seen in Mer fully rigged models of luggers and schooners with which the young men amused themselves, and the spirit of emulation was gratified by racing one against another (cf. Holmes, p. 283).

Toy bows and arrows of *esese* grass stems were made by the boys. Dr Wilson (*Voy.* 1835, p. 311) noticed boys in Mer, "some of them very young, amusing themselves, shooting with bows and arrows, suited to their strength."

On Yam I came across two small heaps of ruddled clam and other shells among some bushes where the boys played at "*augud*" or "*kwod*." The great totem shrines in the *kwod* of that island are described in Vol. v. pp. 373—378. The ceremonies connected with these now obsolete shrines were the most sacred of their religious ceremonies. In this case the boys cannot be said to have exactly mimicked their elders, as they did not know what the real *augud* was like nor how the ceremonies had been conducted, but they "made believe" to their own satisfaction. Heaps of shells are a common feature in the *kwod* of the Western Islanders.

5. Game of divination.

The only divinatory game known to me is that called *koko* in Mer, which is played by girls only. A number of girls bind their heads with bands of leaves or vines and flowers like a garland, or they make a rough sort of leaf basket which they put on their heads, or wear a fillet of a strip of palm leaf to which are fastened vertical or horizontal palm-leaf rings—in fact they adopt as fantastic an erection of leaves and flowers as they can devise. They then walk into the sea until only their heads and shoulders are above the water, form into a line each placing her hand on the shoulder of the one in front of her, and repeatedly sing "*Koko, koko, kaiap wageb*," keeping time to the music by bobbing their heads up and down. Later they resort to the sand-beach and sitting down in a ring or semi-circle sing "*Kegu-a bamu-a gared-gep*," at the same time they push their hands backwards and forwards palms downwards in the sand (this is called *tag ditiari*, hand shoving), and mutter "*Lar-teregu tarasawem, kwoieru tarasawem, kegu terasawem*" (with fish teeth rub me, with bamboo knife rub me, with charcoal rub me). Finally they examine their hands to see whether they have been cut or whether the bit of charcoal held by each one has made one or two streaks on their palms (pl. XXVIII. figs. 3, 4). Should there be two marks they cry out, "Ah! *keg* has killed a man," and begin again. *Koko* literally means, according to Mr Bruce, to carry on the back as a mother carries her child, it also is the name of a fine weather omen bird

(VI. p. 260), *kokokoko* is a wood used to make fire-sticks, and *kogkog* or *koko* is marital intercourse; *kaiep*, probably the same as *kaip*, a small shell used for seraping food; *wageb*, a Cyrena shell used for the same purpose; *kegu* or *keg*, charcoal (cf. VI. p. 146). Mr Bruce states that *bamu*, *gared*, *gep* are in this instance only sounds with no meaning; it may be noted however that *bam* is turmeric and *gared*, south. This game is alluded to in the folk-tale "Markep and Sarkep" (VI. p. 54).

I think I can state definitely that the following games did not occur in Torres Straits: chuck-stones or dice of any kind, gambling games, kite flying.

6. Various Toys.

A "pea-shooter" is made in Mer out of a small bamboo, Abrus seeds ("crabs' eyes") being used as pellets.



FIG. 265. Toy bird made of board, Mer. Tail, wing, ring round neck, and eye red; length 52 cm., breadth 23 cm.



FIG. 266. Toy rat, Mer; 32 cm. long.

Toys for making a noise are described under Sound-producing Instruments. I obtained in Mer a piece of water-worn board carved to represent a bird

(fig. 265). A hole was burnt in the board through which, so I was informed, a string was threaded and knotted on the other side. The bird, *ebur*, was put in the sea and the player holding one end of the string ran along the beach. There is a similar specimen with a small central hole, also from Mer, in the Vienna Museum (24,104).

A root which had been slightly touched up so as to make it resemble a rat (fig. 266) was a plaything with some children on Mer. It is quite possible that simple carvings were sometimes made to amuse children. In the British Museum there is a model of a crocodile's head carved in wood, painted red, white and blue, and fastened to a piece of spiral wire, which is evidently a toy. I also obtained in Mer a piece of wood carved to represent a human face with a very protuberant nose (fig. 267), it was merely a toy.

Miriam children play in the sea with the spathes of the leaves of coco-nut palms (fig. 208), pretending they are small canoes. Toy canoes were frequently made for children throughout the islands; I collected one at Mabuiag in 1888 (*Album*, I. pl. 346, No. 9) which is 615 mm. long and is decorated with simple patterns by charring the wood.



FIG. 267. Grotesque head as a toy, 25.5 cm. long, Mer.

7. String Figures and Tricks.

String figures, *wome* (W.), *kamut* (E.), allied to our cat's-cradle, are universally played by the children and sometimes by adults, but it seems to be dying out¹. Usually one person plays it alone, in some cases using the toes as well as the fingers, and often bringing the mouth into requisition. The patterns are very varied, and many are extremely complicated in manipulation although the final result may be simple. They are all intended to be realistic; in some cases the object represented is obvious, in others the imagination must be called into play, but other natives invariably recognise them and different islanders make the same figures. There are a large number of undescribed figures in addition to those described below, among which may be mentioned: one child; two children; a woman micturating; coition; a dog; crow *korkor*

¹ I first drew attention to this pastime in 1890 (*J.A.I.* xix. p. 361). In 1898 Dr Rivers and I devised a system of nomenclature for recording the movements which we published in *Man* (II. 1902, No. 109, p. 147); this paper gave a stimulus to the subject. Several investigators have adopted the useless plan of publishing drawings of the completed figures without any indication of how they are formed. For further information the reader is referred to *String Figures* by Mrs Jayne (1906) and to *Cat's Cradles from many Lands* by Kathleen Haddon (1911), both of which deal with the distribution of the various figures and tricks. I am indebted to the courtesy of Messrs Longmans Green and Co. for the loan of figs. 268—276, 278—284, 294 from the last-mentioned book. The string figures and tricks were collected by Drs Rivers, MacDougall, Mr Ray and myself. I have to thank my daughter for the final form of many of them and Mr W. Innes Pocock for re-writing Nos. 19, 24, and 29 and for other assistance.

(W.); the *pearku* fish; a small fish, *zermoi* (W.), which accompanies sharks; a crayfish, *kaiar* (W.); the larva of the ant-lion, *gobai* (W.); a mouth, *gud* (W.); liana or other climber, *ngal ngal* (W.). The names of the various islands are given where we obtained the figures, but doubtless they occur everywhere in the Straits.

Various movements appropriate to the object represented are also made, thus swinging movements are given to the limbs of the crayfish, other moving figures are mentioned below. In some cases the figures are accompanied with songs, *kamut wed* (E.), which are sung in a low tone. For the translation of these I am indebted, as usual, to Mr Ray, but the words are frequently obscure and cannot be translated with certainty.

The term "string figure" is employed in those cases in which it is intended to represent certain objects or operations. The cat's-cradle of our childhood belongs to this category. "Tricks" are generally knots or complicated arrangements of the string which run out freely when pulled. Sometimes it is difficult to decide which name should be applied.

A piece of smooth, pliable string should be selected which is not liable to kink. A length of about 2 m. (6 ft. 6 in.) is usually the most convenient; the ends should be tied in a reef knot and then trimmed, or sewn together with cotton, or, best of all, spliced.

A string passed over a digit is termed a loop. A loop consists of two strings. Anatomically, anything on the thumb aspect of the hand is termed "radial," and anything on the little-finger side is called "ulnar," thus every loop is composed of a radial string and an ulnar string. By employing the terms thumb, index, middle-finger, ring-finger, little-finger, and right and left, it is possible to designate any one of the twenty strings that may extend between the two hands.

A string lying across the front of the hand is a palmar string, and one lying across the back of the hand is a dorsal string.

Sometimes there are two loops on a digit, one of which is nearer the finger-tip than the other. Anatomically, that which is nearer to the point of attachment is "proximal," that which is nearer the free end is "distal." Thus of two loops on a digit the one which is nearer the hand is the proximal loop, that which is nearer the tip of the digit is the distal loop; similarly we can speak of a proximal string and a distal string.

In all cases various parts of the string figures are transferred from one digit or set of digits to another or others. This is done by inserting a digit (or digits) into certain loops of the figure and then restoring the digit (or digits) to the original position so that they bring with it (or them) one string or both strings of the loop. This operation will be described as follows: "Pass the digit into such and such a loop, take up such and such a string, and return." In rare cases a string is taken up between thumb and index. A digit may be inserted into a loop from the proximal or distal side, and in passing to a given loop the digit may pass to the distal or proximal side of other loops. We use these expressions as a general rule instead of "over" and "under," "above" and "below," because the applicability of the latter terms depends on the way in which the figures are held. If the figures are held horizontally, "over" and "above" will correspond as a general rule to the distal side, while "under"

and "below" will correspond to the proximal side. In some cases, when there is no possibility of confusion, we have used the shorter terminology.

A given string may be taken up by a digit so that it lies on the front or palmar aspect of the finger, or so that it lies on the back or dorsal aspect. In nearly all cases it will be found that when a string is taken up by inserting the digit from the distal side into a loop, the string will have been taken up by the palmar aspect, and that the insertion from the proximal side into the loop involves taking up the string by the dorsal aspect of the digit.

Other operations are those of transferring strings from one digit to another and dropping or releasing the strings from a given digit or digits.

The manipulation consists of a series of movements, after each of which the figure should be extended by drawing the hands apart and separating the digits. In some cases, when this would interfere with the formation of the figure, a special instruction will be given that the figure is not to be extended. Usually it is advisable to keep the loops as near the tips of the digits as possible.

There are certain opening positions and movements which are common to many figures. To save trouble these may receive conventional names; the use of these will soon be apparent, but it is better to repeat descriptions than to run any risk of obscurity.

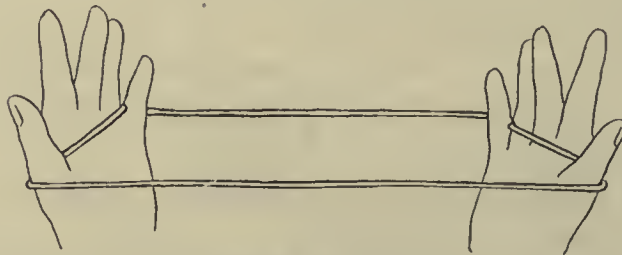


FIG. 268. Position I.

Position I.—This name may be applied to the position in which the string is placed on the hands when beginning the great majority of the figures.

Place the string over the thumbs and little-fingers of both hands so that on each hand the string passes from the ulnar side of the hand round the back of the little-finger, then between the little- and ring-fingers and across the palm; then between the index and thumb and round the back of the thumb to the radial side of the hand. When the hands are drawn apart the result is a single radial thumb string and a single ulnar little-finger string on each hand with a string lying across the palm.

This position differs from the opening position of the English cat's-cradle in which the string is wound round the hand so that one string lies across the palm and two across the back of the hand with a single radial index string and a single ulnar little-finger string.

Opening A.—This name may be applied to the manipulation which forms the most frequent starting point of the various figures. Place string on hands in Position I. With the back of the index of the right hand take up from proximal side (or from below) the left palmar string and return. There will now be a loop on the right

index, formed by strings passing from the radial side of the little-finger and the ulnar side of the thumb of the left hand, i.e. the radial little-finger strings and the ulnar thumb strings respectively.

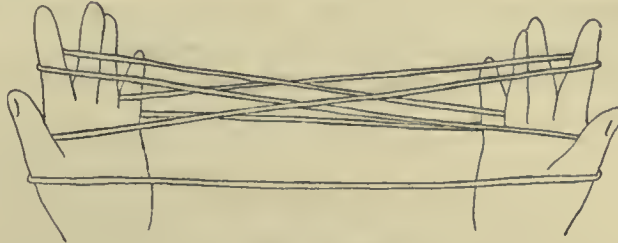


FIG. 269. Opening A.

With the back of the index of left hand take up from proximal side (or from below) the right palmar string and return, keeping the index with the right index loop all the time so that the strings now joining the loop on the left index lie within the right index loop.

The figure now consists of six loops on the thumb, index, and little-finger of the two hands. The radial little-finger string of each hand crosses in the centre of the figure to form the ulnar index strings of the other hand, and similarly the ulnar thumb string of one hand crosses and becomes the radial index string of the other hand.

The places where the strings cross in the centre of the figure may be termed the crosses of Opening A.

In some finished figures if the strings are pulled apart carelessly a hopeless tangle is the result. To avoid this take the top and bottom straight strings of the figure and pull them apart, and the string will usually resolve itself into a simple loop.

String figures.

1. *Baur*, a fish-spear with several prongs, Mer.

Position I.

Take up with the right index the transverse string on the left palm from its proximal side, give it one twist and return. Pass the left index through the right index loop from the distal side, and take up the transverse string of the right hand from the proximal side and return through the loop.

Drop the thumb and little-finger loops of the right hand and draw the hands apart.



FIG. 270. Fish-spear.

2. *Dab*, spear¹, Mer.

Opening A. (Left palmar string must be taken up first.)

Transfer right index loop to left index, and the original left index loop to the right index, passing it over the one just transferred.

Release right index and the spear flies to the left; by bringing the right thumb and little-finger close together the handle of the spear appears.

Pick up on right index the string just dropped, and release left index; the spear then flies to the right.

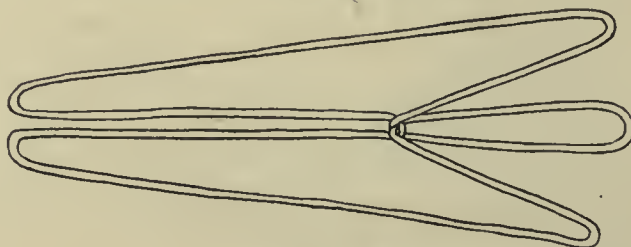


FIG. 271. Spear.

3. *U. Mer, urab*, Mabuiag. The coco-nut palm.

Pass fingers from the distal side into thumb loops and close hands.

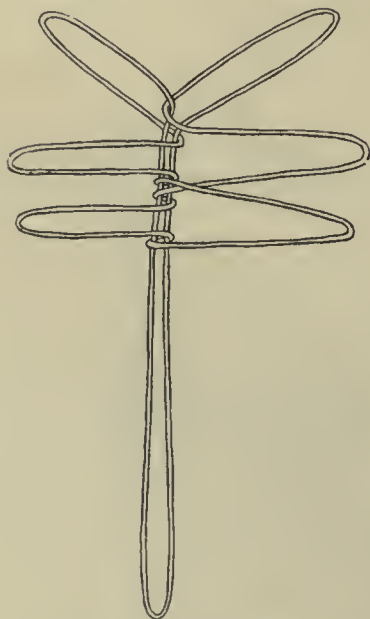


FIG. 272. Coco-nut palm.

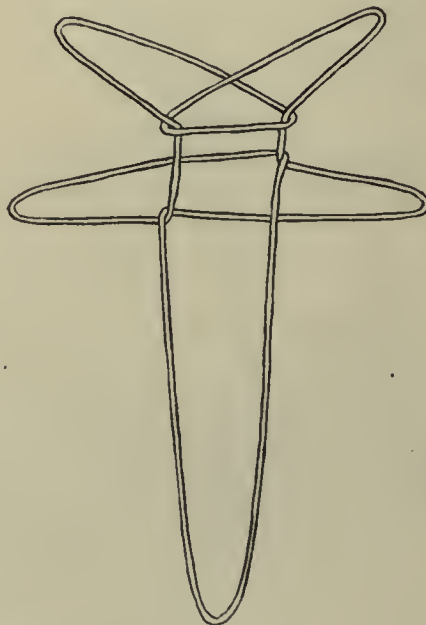


FIG. 273. Tern.

¹ The name given for this figure was *dab*, which seems to be a misnomer, as the *dab* is a simple spear (p. 156), whereas the figure represents a pronged spear. "Throwing the fish-spear" would be a more appropriate name. The same figure occurs at Princess Charlotte Bay and middle Palmer River, N. Queensland, where it is called "Duck in flight." Walter E. Roth, *N. Queensland Eth. Bull.* No. 4, 1902, pl. V. fig. 6.

Put toe¹ from the distal side into thumb loops, drawing radial thumb string over all other strings, and holding it down.

Exchange loops on little-fingers, the right passing over the left.

Repeat with indices.

Draw tight and work the strings up to form the crown at the head of the tree.

4. *Sirar*, the tern (*Sterna Bergii*), Mer.

Opening A.

Hold ulnar side of little-finger loop with toe.

With little-fingers take up ulnar strings of index loops from the proximal side, returning proximal to the ulnar strings of the little-finger loop.

Hold radial thumb string with the mouth.

With thumbs take up from the proximal side the radial strings of the index loops and return proximal to the radial strings of the thumb loop.

Release indices and mouth.

Move the hands inward and outward, and the strings will imitate the movements of the tern's wings.

Sing: *O Sirara lubaluba sirara lubaluba neidge kari-gedge doali dogosili.*

Tern feathers on rock on my land.

5. *Le sik*, the bed, Mer.

Opening A.

Put thumbs proximal to index loops and into little-finger loops from the proximal side; take up on the backs of thumbs the radial strings and return under index loops.

Pass little-fingers through the index loops from the distal side and into the thumb loops from the proximal side; with backs of little-fingers pick up ulnar thumb string and return through index loops.

Release indices.

Sing: *le sikge, le sikge, ut-eidi, ut-eidi, sik erapei.*

man on a bed, man on a bed, asleep lies, asleep lies, bed breaks.

At the word "*erapei*" release little-fingers and the figure disappears.

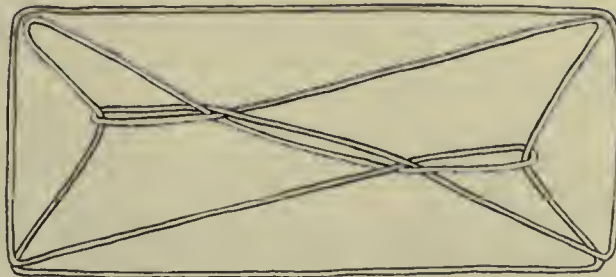


FIG. 274. Bed.

¹ The native method of manipulation is given in each case, but although a foot may frequently be used, it is often more satisfactory to get the help of another person, or hook the string on some object.

6. *Tup*, a small fish (p. 155), Mer.

Hold part of the string between the thumbs and indices, the hands being about six inches apart; make a small loop by bringing the right hand towards you and to the left. Hold the loop between the thumbs and indices so that both the loops hang down, and pass both indices towards you through both loops. Draw the hands apart and turn indices up.

There should now be two loops on each index, with the two radial strings running straight across, while the two ulnar strings cross.

Pass thumbs into the proximal index loop from the distal side, and with backs of thumbs pick up the proximal ulnar index string.

Pass thumbs into the distal index loop from the distal side, and with backs of thumbs pick up the distal ulnar index string.

Pass little-fingers distal to the distal radial index string and proximal to the proximal radial index string; with backs of little-fingers take up this string and return.

Each little-finger is now in a triangle. Pass the indices from the distal side into this triangle, and by turning them up towards you, pick up on their tips the slanting string, i.e. the distal radial index string.

Release thumbs and extend, by turning the palms away from you.

Sing: *Tup igoli umi Waierge, Waier kesge, Waierge Waier*

Tup swim round to Waier, Waier in the channel, to Waier Waier

kesge.

in the channel.

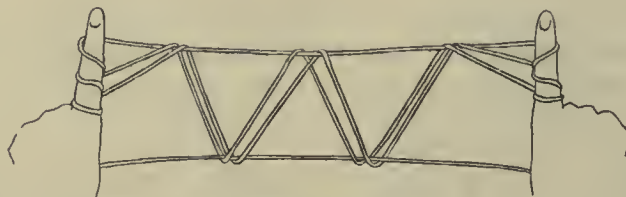


FIG. 275. *Tup*.

7. *Geigi*, king fish, Mer (fig. 314; cf. vi. p. 18); *Dangal*, dugong, Mabuiag.

Opening A.

Release right index and draw out; bend left index into its own loop, thus holding down to palm the string running from left thumb to little-finger.

Release left thumb and little-finger and draw tight.

Put string over left hand as in Position I.

Pass left index over the transverse string of the right hand, and return, twisting the index towards you and up.

Pass right index into right thumb loop from the distal side, and turning the finger up away from you, pick up the ulnar thumb string.

Pass right index into right little-finger loop from above, and by bending it towards you and up, pick up the radial little-finger string, allowing the string just picked up from the thumb to slip off.

Pass right little-finger towards you into the triangle just formed, and hook down

against the palm the ulnar thumb string, allowing the original little-finger loop to slip off.

Similarly, with the left little-finger hook down the left ulnar index string. Release thumbs and extend.

Another person puts a hand into the central diamond. If the manipulator leaves go with the left hand and pulls with the right, the fish will be caught; but if he leaves go with the right hand and pulls with the left, the fish will escape.

Sing: *Geigi usar perkori karem-lar ko-ditidare.*
deep-sea fish.

Each word is repeated twice, the last word was said to mean, He poke your fin (VI. p. 16).

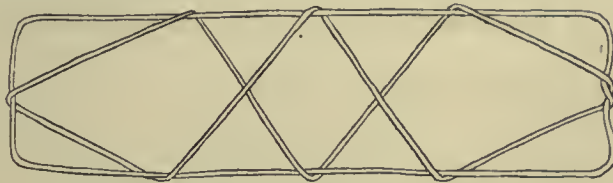


FIG. 276. King fish.

8. *Laiplaip neur*, girl with large ears, Mer. Make *geigi*.

The figure consists of three lozenges, the outer strings of each lateral lozenge may be described as the upper and lower lozenge strings respectively.

Pass thumbs of each hand above the upper lozenge strings and, drawing these strings backwards, pass thumbs below the lower lozenge strings and take these up and return.

In middle of each half of figure there is now an axial string passing to point of junction of thumb, index, and little-finger loops.

With back of little-fingers from above take up the axial strings and drop indices.

A new figure is produced also consisting of three lozenges.

Pass little-fingers on distal side of lower lozenge strings, take up these strings from above and return.

Sing: *laiplaip neur tarabuli urpi le a kolam*

big ear girl both come down fire-ash person and through sexual intercourse
tarabuli.
both come down.

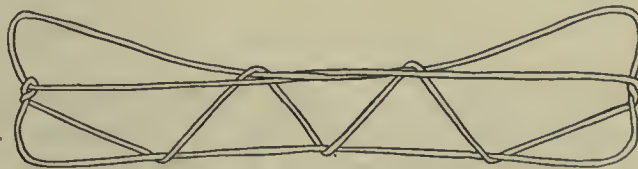


FIG. 277. Girl with big ears.

9. *Nar*, canoe with two masts, Mer.

Opening A.

Another person must pass his hand distal to the ulnar string, and proximal to the

ulnar pair of crossed strings, and take up from above the radial pair of crossed strings at their point of junction, and draw them well out. (The natives perform this action with their right big toe; the loop is therefore called the "toe loop.")

Bend down the right middle-finger through the loop on the right index, and take up the ulnar thumb string on its dorsal surface and return.

Repeat with left middle-finger.

Release thumb, index, and little-finger of each hand.

Draw out large the loop remaining on the middle-fingers and with this go through Opening A.

Pass middle-fingers distal to the little-finger loops and into the toe loops from the proximal side. Then pass them distal to all the transverse strings except the radial thumb string; take up this string on their dorsal aspect, releasing thumbs, and return through toe loops.

Release toe loops and indices and draw tight.

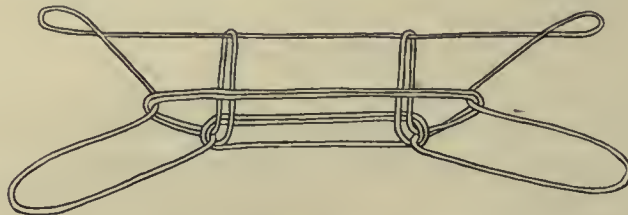


FIG. 278. Canoe with two masts.

10. *Pagi*, Mer, *ger*, Mabuig, a sea-snake.

Opening A.

Pass the right hand round the left hand so that all the strings cross the back of the left hand from the ulnar to the radial side.

Pass the left hand and its strings from the distal side into the right index loop and bring it out proximal to the ulnar index string. Release right index.

Unwind the left hand, bringing the right hand back to its usual position. Release left index.

There is now a single transverse string on the right palm, and a single transverse string on the back of the left hand.

With left index take up from the proximal side the transverse string on the right palm.

Transfer the string from the back of the left hand to its palm and draw tight.

Release left thumb, transfer the left index loop to the left thumb.

Put each index into its little-finger loop from the distal side and take up the ulnar string with the back of the index.

Hold the hands pointing away from the body with the index fingers uppermost. Withdraw left thumb, and with it gently press down the radial little-finger string until the "snake" appears. Gently draw out the right hand and the snake will swim.

It is interesting to note that instead of the pointed tail characteristic of land-snakes, *Pagi* has the broad flat tail peculiar to sea-snakes.

Sing: *Pagia mai nagedim upi etauerida kai amarem¹ pekem.*
Sea-snake you to where tail strikes I to side.



FIG. 279. Sea-snake.

11. *Ti meta*, the nest of the *ti* (the sun bird, *Nectarinia australis*, vi. p. 8), Mer. *Gul*, canoe, Mabuiag.

Opening A.

Insert each index into the little-finger loop from the distal side; bend it towards you and pass it to the proximal side of the radial little-finger string, and bring it back to its original position by passing it between the ulnar thumb string and the radial index string. Release little-fingers.

There are now two loops on each index and a large loop passing round both thumbs. Insert the little-fingers from the distal side into the index loops and pull down the two ulnar index strings. (End of *Ti meta* opening.)

Let go both thumbs gently and insert them into the same loop in the opposite direction to which they had been previously (i.e. change the direction of the thumbs in their loops).

With the dorsal aspect of the thumbs take up from the palmar side the strings passing obliquely from the radial side of the indices to the ulnar little-finger strings, and extend. The inverted pyramid in the centre represents the nest.

Sing: *Ti ti ti mari kesa diteredi kari kesa diteredi.*

This is very obscure, it may mean *Ti* thee property choose, me property choose.

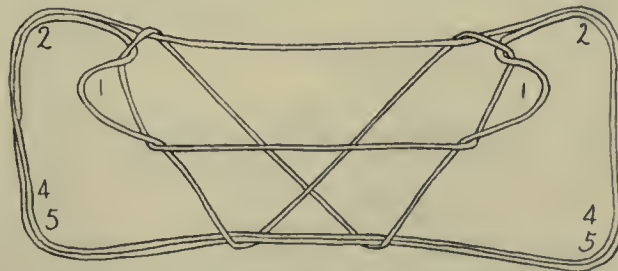


FIG. 280. Nest of the sun bird.

12. *Nageg*, the trigger-fish or leather-jacket (*Monacanthus*, pl. XXXVIII. fig. 4; see vi. p. 19), Mer.

Ti meta opening.

Drop right thumb loop without pulling tight, and pass right thumb into the upper

¹ ? *emarmuli*, rolls about.

central triangle, and press the two strings of the loop just dropped by the thumb towards the right.

Take up with the thumb, from the proximal side, the oblique radial index string and return, letting the two original loops slide off the thumb.

Take right thumb out of its loop and insert again in the opposite direction.

With dorsal aspect of thumb take up the two ulnar index strings and bring them through the thumb loop.

Take out the right little-finger from its loop and place it in the right thumb loop from the proximal side, withdrawing thumb.

Take up with the right thumb from below, and close to the index, the radial index string that passes across to the radial side of the left index. Withdraw index from both loops. (End of *Nageg* opening.)

The loop released by the index will form part of the head of the fish, and the short loop above it is the dorsal spine.

Drop left thumb string without drawing tight.

A big loop is now left which will form the tail of the fish.

Press down with the left thumb, from above, the oblique string from the radial side of the left index till it is below the two straight strings connecting the figure.

Release thumb, and pass it above the straight strings and take up from the far side of the two strings, and from below, the string just pressed down, and extend, keeping the left thumb string in the middle line of the figure.

This string represents the row of spines on the fish's tail.

Sing: *Nageg upi seker dike, abele lar upige seker dike.*

Nageg tail comb¹ it is here that fish on the tail comb it is there.

Another version is *Nagegera* (*Nageg's*) *erakai upige* (on tail) *seker* (comb).

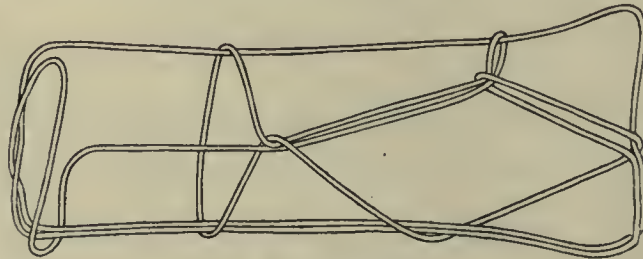


FIG. 281. Trigger-fish.

13. *Saper*, the flying-fox (*Pteropus*), Mer.

Repeat the previous figure *Nageg* to the end of the *Nageg* opening, only using both hands all through; the figure is then symmetrical.

Extend by passing each index into its thumb loop from the distal side, and picking up on its tip the radial string. Release thumbs.

Say: *a au*, which is the noise made by the flying-fox.

¹ This has reference to the series of small spines at the base of the tail of the *nageg* fish; in the folk-tale *Nageg* is the mother of *Geigi*.

14. *Lem baraigida*, the setting sun, Mer; *Dògai*, a star, Mabuiag.
Opening A.

Pass little-fingers distal to index loop and insert them into the thumb loops from the distal side. With backs of little-fingers take up the radial thumb string and return. Release thumbs.

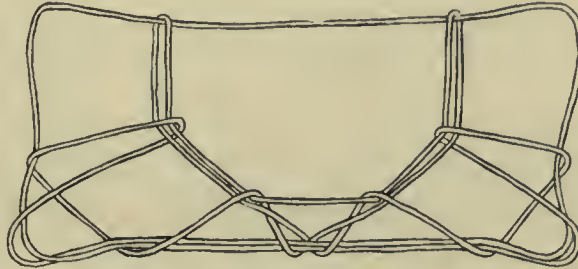


FIG. 282. Flying-fox.

Pass thumbs proximal to the index loops and into the little-finger loops from the proximal side. With backs of thumbs take up the two radial little-finger strings and return. Release little-fingers. By this movement the little-finger loops have been transferred to the thumbs.

Pass little-fingers distal to the index loops and into the thumb loops from the proximal side. With backs of little-fingers take up the two ulnar thumb strings and return. (End of *Lem* opening.)

Transfer loop of left index to right index and loop of right index to left index, passing it over the loop just transferred.

Pass middle-fingers from the distal side through the index loop and take up from the proximal side the two ulnar thumb strings and return through index loops.

Release thumbs and indices.

Pass the thumbs from the proximal side into the middle-finger loops and withdraw middle-fingers, thus transferring the middle-finger loops to the thumbs.

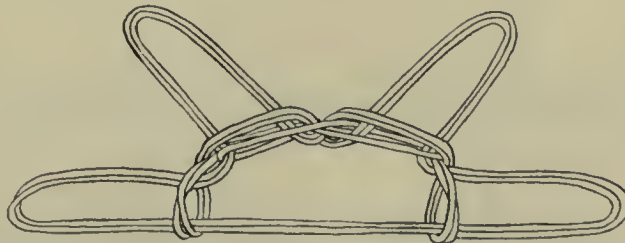


FIG. 283. Setting sun.

Extend the figure with the thumbs towards you; there will then be a St Andrew's cross in the centre of the figure. Insert the indices from the distal side into the lateral spaces of the cross, and into the inverted triangle (the one farthest from you)

from the proximal side. With backs of indices take up the respective arms of the cross and return.

Pass middle-fingers through the index loops from the distal side and take up from the proximal side the two ulnar thumb strings and return through the index loops.

Release thumbs and indices, and with the thumbs manipulate the figure so as to make an approximate semicircle with four diverging loops (rays).

Drop middle-fingers and draw out gently and the sun will set.

Sing: *Lem a lem a gair lager-lager tag a lager-lager kokesa kokesa.*

Sun and many ropes hand and ropes.

Lager, rope, *lager-lager* may mean stringy (rays of the setting sun); the last three words may be *lagelag*, wishing, *kogiz kogiz*, much sexual intercourse.

15. *Ares*, fight (two men fighting), Mer.

Lem opening.

There is now a triangle in the centre of the figure; into this insert the indices from the proximal side, and with the back of each index take up its respective side (the radial thumb strings).

Pass the proximal index loop of both hands over the two distal loops on to its palmar aspect (in other words, Navaho the proximal index loop, cf. *Cat's Cradles from many Lands*, p. 5).

Release thumbs, twist the index loops three times to make the "men," and release indices.

Insert the four fingers into the little-finger loops and draw slowly apart. After the two men meet in the centre only the left string should be pulled, until this becomes free; the remaining man may then be pulled to the right.

This figure represents a Murray Island man and a Dauar man who meet and begin to fight, and they "fight, fight, fight" (which the performer repeats) until the Murray Island man kills the Dauar man (when the left loop falls), and being a head-hunter, he cuts off his enemy's head and runs home with it (the hindermost loop (fig. 284 B) representing the head).

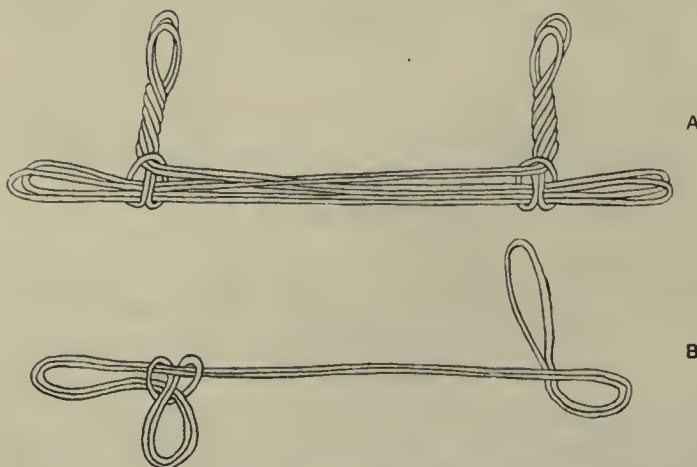


FIG. 284. Two men fighting, Mer.

16. *Lar gole*, cuttle-fish, Mer.

Opening A.

Pass fingers from above into the thumb loops and close hands.

Put toe from above into the thumb loops drawing the radial thumb string over the other strings.

Pass thumbs under the index and little-finger strings and draw back the ulnar little-finger strings on the backs of the thumbs, returning through the thumb loops.

Release the little-fingers.

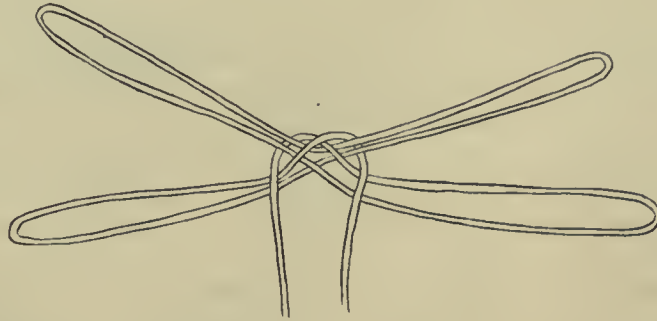


FIG. 285. Cuttle fish.

17. *Epei*, a basket, or *Kanaur*, a Shell (? *kanai*, the mitre shell, Mitra), Mer.

Opening A.

Pass thumbs proximal to the index and little-finger loops and take up the ulnar strings of the little-finger loops and return.

Take up the straight string between the thumbs in the teeth, and lift it over the tips of both thumbs.

Release little-fingers.

Pass little-fingers proximal to the index loops into the thumb loops, bend them towards you over the radial thumb strings and return, thus picking up these strings.

Release string held by the teeth.

Release indices and the figure disappears.

Sing: *Kanaurede kanaurede epei tuepeli kerisor topaidili* (? *tapaiteredili*).
 basket shell spill again.

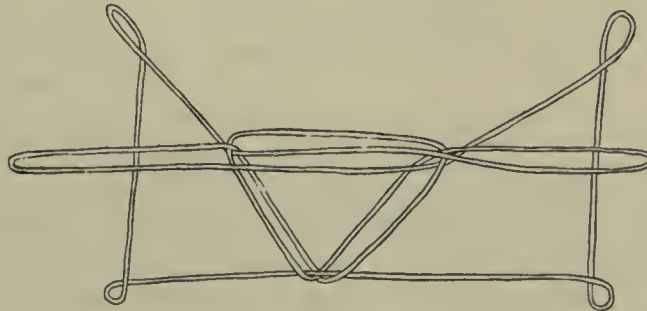


FIG. 286. Basket.

18. *Omasher*, children, and Gazir and Kiam, Mer.

Opening A.

Pass thumbs proximal to the index and little-finger loops, hook back both little-finger strings on their dorsal aspect and return.

Pass each little finger over its index loop, take up the ulnar thumb string from its proximal side and return.

Release all thumb strings.

Pass thumbs over index loops, and insert proximally into proximal little-finger loops, hook up ulnar strings of distal little-finger loops and return through the proximal loop.

Release little-finger loops without extending the figure, and passing little-fingers over the index loops insert them in the thumb loops in the same direction as the thumbs.

Stretch thumbs and little-fingers widely apart and alternately raise and lower each hand. The row of "children" will then dance.

Sing: *Omasher segur batuglei segur ki bau waba dada wabawaba waipeda*

Children play two go round play we you middle yourselves go round?
utimdeda¹ wa mo wa ma sigezima sigazema² wa mo ma sigezima.

throw away? yes.

This was explained as, Children play and sing and run away and hide.

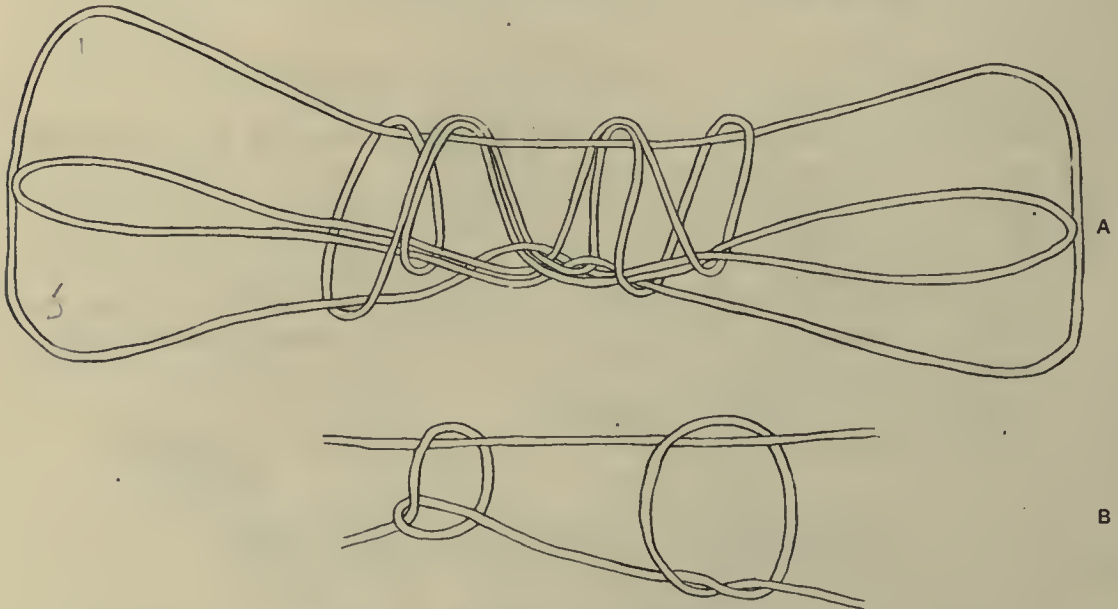


FIG. 287. A, Children. B, Gazir and Kiam.

Drop the index loops, one a little before the other, and draw the hands apart.

Two rings will be left on the strings, one of which is larger than the other. The larger one is Gazir, the smaller, Kiam, these are the sacred grounds in Mer at which the Bomai-Malu masks were exhibited (VI. p. 284); the ceremonies performed at Gazir and Kiam were of a similar nature, but the former were the more important.

¹ Perhaps *itimdeda*, shoot.

² Perhaps *sigazi* (W.) from afar, or *sizarima* (W.) come up.

Recite: *Kiam kebi gaire Gazir au gaire.*

Kiam small lot Gazir large lot.

19. *Tamer atkamer le.* Tamer snatching man, Mer.

Extend loop with both hands and place the middle of both strings round the big toe. Keeping the strings parallel, pass the right loop of the string through the left, and the one now on the right through the other.

Let go strings and pick up through the loops the portion of the loop that was left on the toe and play.

Sing: *Bua! Bua! Bua!* (or *Bub! Bub! Bub!*) *He! He! He!*

The figure was described as "two legs and no body." It is intended to represent the passing of one of the sacred Malu clubs (*Tamera*) (vi. p. 296) from one *Beizam boai* to another during Bomai-Malu ceremony at Las (vi. p. 310).

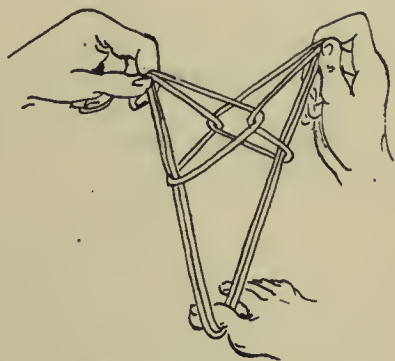


FIG. 288. Man passing the Malu club *tamer*.



FIG. 289. Cough.

20. *Kobek*, cough, Mer.

Stretch the string and place it behind the neck, bringing the ends in front.

Opening A.

Pass middle-fingers through the index loops from above, take up the palmar strings and return through the index loops.

Release all except middle-fingers, and make a coughing noise.

Sing: *Kobek dawěna¹ kapumita² dawěna kobek idid lu sabsab lu.*

Cough

greasy thing sour thing.

¹ ? *ada-waean* from *adaka wai* (W.), send away.

² Said to be a song-word with no meaning, but perhaps (W.) *kapu*, good, *mita*, taste.

21. *Kuper*, maggots, Mer.

Opening A.

Release right index and draw tight.

Pass middle-finger of left hand under the index loop, hook from above the radial thumb string and return.

Release thumb and little-finger of left hand.

Insert left thumb proximally into the index loop of the left hand.

Pass left index distally into the right little-finger loop, hook up from below the radial little-finger string and return.

Pass left thumb distally into the right thumb loop, hook up from below the ulnar thumb string and return.

Pass proximal loop on left index and thumb over the tips of both digits.

Apply the point of the left thumb to that of the index and transfer the index loop to the thumb.

Insert right thumb in its loop in the opposite direction.

Take right thumb and little-finger loops on all the fingers of that hand.

Replace left middle-finger by left little-finger in the opposite direction.

Take out left thumb from its loops, pull with right hand, and the maggot goes along to the right.

Slue round right hand pulling smartly and the maggot disappears.

Sing: *Kupera zariz¹ zariz upi eupamada.*

Maggots go along jump up.

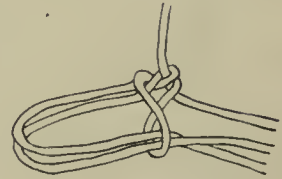


FIG. 290. Maggots.

22. *Kai*, ball (playing ball), Mer.

Opening A.

Release thumb loops.

Twist index of right hand.

Twist little-finger of right hand.

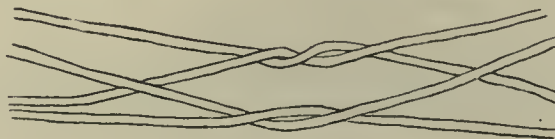
Transfer little-finger loop of right hand to index, and take up both loops in the four fingers of that hand.

Insert left index from distal side into the little-finger loop, and transfer it to index. Take up both loops in the four fingers of that hand.

Holding the strings taut, work the figure up and down by moving the hands.

Sing: *Kai tupitari kai tupitari abu-kak kai o atimed-kak kai o.*

Ball they hit back ball not falling ball not throwing ball.

FIG. 291. *Kai*.

¹ Evidently the Western *uzariz*, goes along. The song was explained as "Fruit he stink, maggot jump inside."

23. *Azrik le*, man going backwards, Mer.

Position I.

Pass left index over the ulnar string, take it up from below on tip of finger and return.

Let go right hand.

Pass little-finger of right hand under the oblique string from the little-finger to the index of left hand. Hook down ulnar index string and draw out.

Retaining loop on right little-finger pass right index distally into left index loop, pick up on dorsal surface the palmar string from thumb to little-finger and draw out.

Release indices and little-fingers of both hands gently.

Insert left little-finger into thumb loop.

With right hand draw the figure along by the central strings.

Sing: *Lokoi dirmeda, Lokoi itimeda.*

(a man's name) Lokoi shoots.

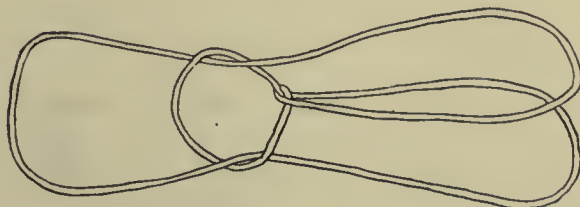
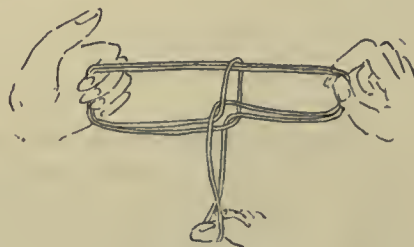


FIG. 292. Man going backwards.

FIG. 293. *Sinaur*.24. *Sinaur*, Mer.

Opening A.

Pass the right foot between the right thumb and index loops and pull down the radial index string with the big toe.

Release right index, stretch the toe string, and drop the other right hand loops, letting them hang loose.

Insert right thumb and index into the left index loop and pick up the ulnar thumb and little-finger radial strings and return.

Drop the index loop and put all the left hand fingers through the thumb and little-finger loops.

Work the loop up and down the strings. This gives a sawing movement, the hands approach as they rise and are drawn apart as they sink.

25. *Kokowa*, a land crab, Saguane, Kiwai Island.

(This figure was collected by Mr S. H. Ray.)

Make *Ti meta* (No. 11).

Put the little-fingers from the proximal side into the thumb loops. Release thumbs.

Pass thumbs away from you through little-finger loops and to the palmar side of the double strings running from index to little-finger. With backs of thumbs take up these strings, returning through little-finger loops. Release little-fingers.

Pass little-fingers from the proximal side into the thumb loops, and release thumbs.

A straight string passes from index to index. Take up this string from the proximal side, close to the indices, with the thumbs. Release indices.

Put indices into thumb loops towards you and withdraw thumbs.

A loop passes from the centre of each palmar string to the outer angle of the central lozenges; take up with the thumbs from the proximal side the string of this loop that lies nearest to you.

Bring thumbs together, tip to tip, and exchange the loops, the left passing under the right.

Pass the middle-fingers distal to the index loops and take up the ulnar thumb string from the proximal side.

Release thumbs and pass them into the middle-finger loop from the distal side, and take up the ulnar middle-finger string from the proximal side. Release middle-fingers.

By these two movements the thumb loops are taken off the thumbs, twisted once, and replaced.

With the thumbs take up from the proximal side the radial index strings, and return through the thumb loops, allowing original thumb loops to slip off. Release indices.

Pass indices from the proximal side into the thumb loops and withdraw thumbs.

One of the two radial little-finger strings of each hand goes across the figure and crosses the corresponding string from the other little-finger in the middle within a central triangle. (If not apparent this triangle will become so by a slight manipulation.)

Take up these strings from the proximal side at the point at which they cross the triangle with both thumbs, so that there is a double string running from thumb to thumb.

With the thumbs, from the proximal side, take up the radial index strings and return through the thumb loops, allowing original thumb loops to slip off.

Release indices and extend.

This figure represents a land crab with its nippers held up.

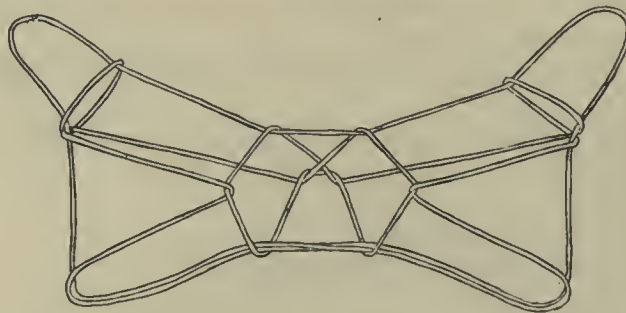


FIG. 294. Land crab.

Tricks.

26. *Mònan*, a lizard, Mer; *Maita*, intestines of a turtle, Mabuiag.

Hold the string in the left hand so that the loop hangs down from it.

Pass the right hand through the loop away from you, then turn the fingers downwards and pass them round the right string towards you; pass the hand between the hanging strings and your body, and bring it forward to the left of the left string; turn the fingers up and bring it back towards you between the two strings.

Pull the hands apart and the right hand is released.

Sing: *Mònan bapitili Peibriem enau enau aroem.*

Lizard rolls to Peibri a fruit (p. 133) for eating.

27. *Kebi mokeis*, the mouse, Mer.

Hold the left hand with the thumb uppermost and the fingers directed to the front. Put the whole left hand through the string letting the loop fall down its dorsal and palmar aspects from the radial side of the thumb. There will then be a pendant palmar and dorsal string on the left hand.

Pass index of right hand beneath the palmar string and between the thumb and index of the left hand, then hook it over the dorsal pendant string, bringing it out between the thumb and index of the left hand. Give the loop thus made a twist clockwise and place it over the left index. Pull tight the pendant strings.

Again pass right index beneath the pendant palmar string and between the index and middle-fingers; hook it over the dorsal string as before; bring this string out, twist the loop clockwise and put it over the middle-finger. Pull tight.

Repeat so as to make similar loops over the ring- and little-fingers. Pull all the strings tight.

Remove the loop from the left thumb and put it between left thumb and index.

This loop represents the ear of the mouse appearing through a crack. Make a squeaking noise, and, when another person (the cat) attempts to catch the mouse, pull the palmar string with the right hand and make the mouse disappear suddenly.

28. *Au mokeis*, the rat (*Uromys cervinipes*, Gould), Mer.

Hold one end of the loop with the right hand and the other end down with the wrist of the left hand, palm downwards.

Pass both strings between index and middle-finger of the left hand.

Release strings of right hand, and, keeping strings parallel, take up the transverse string of the palm through the others and pull tight.

Pass loop with right hand over the whole left hand, and pull tight.

Bring back both strings between index and middle-finger.

Pass both strings between thumb and index and round thumb to palm, and back between index and middle-finger, keeping radial string uppermost all the time.

Bring together index and middle-finger to hold the strings in place, and bring the loop forward over the whole hand, passing the radial string to the radial side of the hand. Draw tight.

Pass loop over from distal to proximal side beneath the transverse palmar string.

Pull tight and pass the loop backwards over the whole hand.

Release loop.

Take off the two distal loops of the thumb, and doubling them back, hold the ends firmly between index and middle-finger.

Take hold of the loose string on the back of the hand, squeak and pull tight, releasing the loops held between the thumb and index. The string will run out.

29. *Zermoi*, the pilot fish (*Naucrates*) that accompanies a shark, *Mabuiag*.

Put the loop on the left middle-finger, the strings lying midway on the back of the hand.

Put the free end of the loop over the left little-finger, without twisting the loop, so that the two fingers have the same radial string.

Bring the little-finger loop over across the other loop and round between the thumb and index to the palmar side, drawing it tight. Bring the middle-finger loop over the middle-finger to the palmar side, so that the dorsal cross strings are nipped by a simple loop on either side of the middle-finger.

Turn the palm towards you. Take up a small loop of the middle-finger ulnar string and pass it proximally through the little-finger loop. Through the new loop thus formed take up a small loop of the middle-finger radial string.

Repeat successively with the distal and proximal strings which pass between thumb and index. Put the last loop on the thumb and pull the free strings till the figure is tight.

Pat the face with the left hand and sing:

Zermoi zermoi kozia wara daka nguzi wara daka nguzi aigitaian.

Repeat five times on each side of the face and head and also the top of the head.

Release the thumb, keep on pulling and sing while the figure dissolves:

Ziai ninu guba, e Waura ninu guba, e Naigai ninu guba, e Kuki ninu guba.

South thy wind, East thy wind, North thy wind, West thy wind.

Take the loop off the little-finger and gently pull out the two strings which pass round the index to the back of the hand and sing:

Tabu tabua wada gudua sugu gudua iangeta mata niz.

Snake fish (p. 157) mouth octopus mouth.

Release the string from middle-finger, keeping it in its cup-like loop, put the chin in the small loop and bobbing it up and down sing:

Ibu ibua waruna ibua boina ibua dangarau ibua kaitena ibua.

Chin turtle dugong.

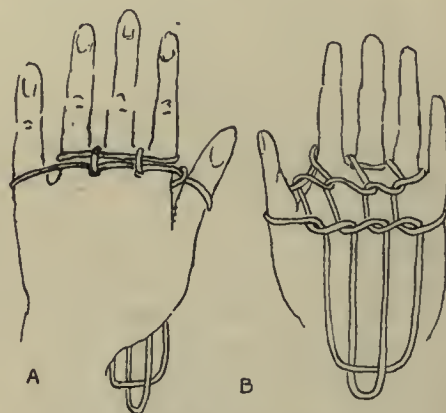


FIG. 295. Pilot fish.

30. *Lewer*, food, Mer; *Ai*, food, Mabuiag.

Position I.

Pass indices over the little-finger strings and take them up from below. Return, bringing the part raised in an oblique line across the fingers.

With thumbs take up this oblique string from below and return below thumb string.

Pass little-fingers over the ulnar index string, and take up from below with the backs of the little-fingers the radial string of the oblong.

With thumbs take up from below the remaining string of the oblong (now become the radial string) and return.

Release index loop of left hand, letting it lie loosely on the palm.

Offer it to another person and say "Will you have a yam?" when he says, "Have you any food for me?" pull the strings and the yam disappears, and say at the same time, "I hav'nt any."

Repeat with right hand.

31. *Buli*, a fly, Mabuiag.

Hold the string between the index and thumb of each hand about 6 inches apart. Make a small circle by bringing the right hand towards you and to the left, and place the string it has been holding between the left index and thumb to the near side of the string already held.

Put this double string between the teeth with the small loop hanging down and hold the long loop straight out with the left hand.

Put the right index from below into the long loop, then bending it towards you, hook it over the small ring, the tip pointing downwards.

Turn the finger up towards you and to the right until it points upwards, then bring it between the two strings of the long loop from below and put the tip on your nose.

Release the strings held in the mouth; at the same time pulling the long loop and protruding the tongue. The string should come off the right index.

XVIII. DECORATIVE, PICTORIAL AND GLYPTIC ART

THE decorative art of the Islanders is so closely connected with that of the natives of the adjacent mainland of New Guinea (Daudai) and of the islands at the mouth of the Fly River, especially Kiwai, that it is impossible to study them apart. As far as possible I shall state where a given specimen comes from, but it must be remembered that many decorated objects have been imported from New Guinea to Torres Straits and possibly a few have passed in the reverse direction. In the case of many museum specimens no provenience is given.

The artistic sense of a people is exhibited alike in the forms of objects, the designs employed, and the scheme of decoration, but for the sake of clearness I have thought it better to keep these last two subjects distinct. On looking at a large number of artifacts it is evident that the natives have a decided feeling for form. It must be remembered that a hundred years ago iron was unknown, and carving was done solely with stone and shell tools. There is every reason to suppose that all the forms and all the characteristic patterns were established before the coming of Europeans. The technical skill and sense of contour and proportion exhibited by such objects as the dugong harpoon and the drums are of no mean order when we bear in mind the tools with which they were executed. The following subjects are dealt with in this section:

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TECHNIQUE.

The ornamentation of flat surfaces is usually accomplished by one of two methods:

I. By the patterns being carved or cut in the wood or turtle-shell (tortoiseshell) of which the object is made. This carving is typically in low relief and the designs are simple in character. The intaglio portions are frequently filled in with lime, but other pigments may be employed (figs. 298—300 A, 348—350, 354, 359, 360, pls. X. figs. 4, 7, 11, 13, XI. fig. 7, XXX.—XXXII., XXXV. fig. 1).

II. By drawings or patterns composed of finely cut, scratched or punctate lines. Of these there are three main varieties: (A) Simple incised lines, such as the animals engraved on drums (figs. 351—353, 355, 356) and engravings on canoes (figs. 209—211) or on objects made of shell (figs. 60, 204, pl. IX. fig. 21; Vol. v. pl. XI. fig. 1); they are also cut on turtle-shell (fig. 300 B, C, pl. XI. figs. 9, 10, 15, 16) and rarely on bamboo (figs. 43, 372).



FIG. 296. Rubbings of zigzag lines on bamboo tobacco pipes. Nat. size. A, remarkably minute zigzagged lines on a pipe in the British Museum, said to be from Cape York, but certainly of Straits workmanship. B, coarser design on a pipe obtained by Jukes from Erub (British Museum 46. 7—31). C, from a pipe from the Fly River (Dresden 4489).

(B) Fine zigzagged lines are very characteristic of the islands and the adjacent portion of New Guinea. The zigzags may be extremely small and close together (fig. 296 A), or they may be boldly rendered (fig. 296 B); all gradations between these two occur in Torres Straits. At the mouth of the Fly River the zigzags are usually coarse and may be very large (fig. 296 C).

(C) Even more characteristic are the designs engraved in punctate lines. Although objects decorated with punctate lines have been brought from Daudai (fig. 297), this method appears to be pre-eminently characteristic of the islands.

Finely engraved zigzag and punctate lines are employed in the decoration of many objects which have a smooth polished surface, mainly on those made of bamboo; they are rather rare on objects made of turtle-shell (pl. XI. figs. 5, 8, 14). This technique is never employed on wooden objects, neither does pearl-shell seem to be adapted for it, as simple incised lines alone are used for its decoration (figs. 74, 308, pl. IX. fig. 21).

In some cases, as in fig. 300 B, C, the incised lines constitute the pattern, but more frequently the cut out portion of these comparatively coarse patterns is filled in with lime, and as the carved surface is usually blackened the designs stand out in bold relief, as in figs. 300 A, 349, 354. This form of decoration is applied to wooden objects such as combs (p. 361), drums (p. 364), dugong harpoons (p. 373) and the like. Portions of masks and other objects made of turtle-shell are often ornamented with patterns of this nature (pls. XXXV. fig. 1, VII. fig. 4, XI. fig. 7).

The pattern very rarely varies in the same band as in figs. 300 B, 356 B. On comparing the band shewn in fig. 300 B with that on the left side of the mask, which represents a human face (A. B. Meyer, *Masken von Neu Guinea*, etc., Taf. II.), it will be seen that the two sides are practically symmetrical with each other; it is probable

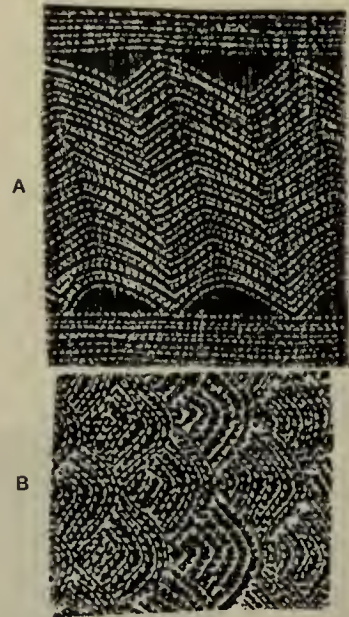


FIG. 297. Punctate lines on pipes. A, rubbing of part of a band pattern on a pipe from Mawata in the British Museum (9978). B, from the bowl of the same pipe. Nat. size.

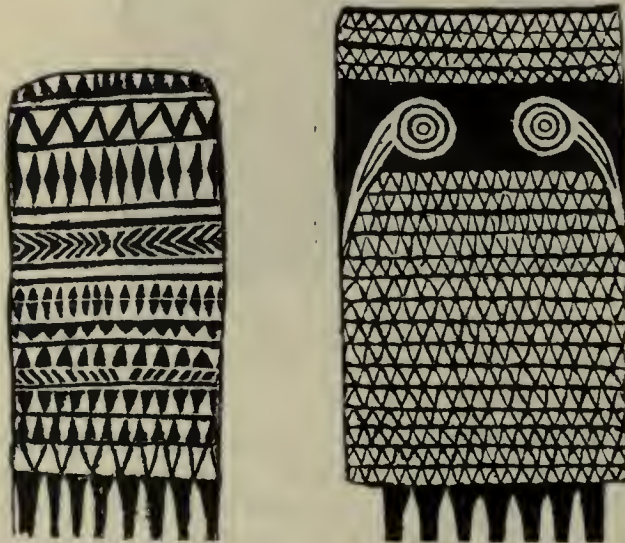


FIG. 298.

FIG. 299.

Rubbings of the handles of two wooden combs from Mer; $\frac{2}{3}$ nat. size. Fig. 298, in author's collection. Fig. 299, in British Museum (see pl. X. fig. 11).



FIG. 300. Rubbings of patterns cut in turtle-shell objects, $\frac{1}{2}$. A, from side of a face on a mask from Mabuig (Dresden, 6396). B, central part of a *sabagorar*¹ (British Museum). C, upper end of a *ter*. British Museum (pl. XI. fig. 16).

¹ In Mer the comb-like markings were called *mi tereg war*, clam-shell (*Tridacna*) tooth pattern.

that the zigzag line which surrounds the ehin is intended to indicate a beard. The lozenges of this figure were called *piau* in Mer (p. 36) and thus probably represent a frontlet of nautilus nacre. This mask is referred to on p. 299.

DECORATIVE AND PICTORIAL MOTIVES.

Patterns and Designs.

By far the greater number of patterns consist of straight lines, zigzags, triangles, lozenges and chevrons, all of which are shewn in fig. 298. The Islanders share the common Papuan custom of inscribing their patterns within parallel lines, these are first drawn and then the pattern is delineated.

Patterns carved in low relief or cut with broad or fine lines are always of a simple character. The commonest pattern is the ubiquitous zigzag, which is nearly always cut in low relief, the intaglio triangles usually being filled in with powdered lime, which further emphasises the dark zigzag band. Occasionally the alternate triangles are painted in colours, in which an alternation, say of red and blue, is not uncommon. It is obvious that when several rows of zigzags are drawn, as in fig. 299, the base of a triangle of one row will so coincide with that of a contiguous row as to form a diamond or lozenge. I am inclined to believe that this is one way in which this simple form was discovered in the district. Even now, after generations upon generations of designers carving the same simple patterns, the lozenge is most frequently made by drawing a median horizontal line parallel to the boundary lines and then cutting a more or less symmetrical triangle on each side of it (figs. 298, 299, 370).

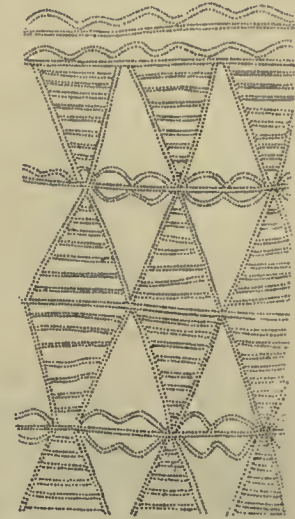


FIG. 301. Pattern engraved on a bamboo tobacco box said to come from Cape York but certainly made by a Torres Straits Islander (Brit. Mus. 6950, Kennett Col.); reduced by $\frac{1}{4}$.

If the suggestion of Professor J. L. Myres (*Report, Brit. Association, 1907, p. 655*) be adopted it may be stated that the essential feature of the patterns of the Torres Straits Islanders is that they are limited by transverse or encircling bands. Each band typically is filled by a zigzag line forming a single series of triangles which are alternately enhanced internally with horizontal hatches, rarely are they enhanced internally from the left or right and in no case is this oblique hatching parallel with one of the sides of the triangle. Triangles or lozenges may be enhanced by internal repetition (figs. 328, 356 A).

We also find what Prof. Myres terms "between parallel lines, a convergent series of recurrent opposite triangles," in rare cases the apices may not touch (fig. 296 A), or they may be confluent (fig. 375), but most frequently the apices are separated by a line (as in the lowest design but one of fig. 298).

Rarely can a pattern be described as "between parallel lines, a convergent series of recurrent alternate triangles," thus forming an intermediate zigzag space. That is, in Torres Straits zigzags are always intentional and not incidental.

Representations of Scenery and Natural Phenomena.

I know of only two objects decorated with a landscape, both of which are pipes. One in the Oxford Museum, which I obtained at Mabuiag, is evidently a representation of that hilly island. The provenience of the second (fig. 302) is unknown, but I have little doubt that the island of Mer is here intended, on account of the shape of the hill and the presence of dome-shaped structures which I take to be the bee-hive huts



FIG. 302. Tracing of a landscape engraved on a tobacco pipe in Berlin (vi. 860). A little less than $\frac{1}{2}$ orig. size (198 mm.).

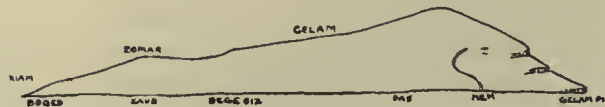


FIG. 303. Sketch of Mer from the south-west by west, shewing the hill Gelam.

which characterise the Eastern Islanders. I add, for comparison, a rough sketch (fig. 303) which I took of this island as seen from the south-west by west. The natives have a legend that this hill, Gelam, was originally a dugong (Vols. III. p. 248, v. p. 38, VI. p. 23). The eye in the native drawing indicates the prominent block of rock which forms what the natives term the eye of Gelam, the projection at the extreme left of the drawing is evidently intended for the small jutting rocky escarpment at the Gelam *pit*, Gelam's nose, at the south end of the island (see map, VI. p. 170). The break in the ground, below the foremost bird, probably indicates the hill Korkor, which occurs at the beginning of the tail of the dugong in my sketch and marks the further side of the original crater. The part extending beyond this is the lava-flow which forms the north-eastern half of the island. The vegetation is suggested in a very perfunctory manner. I do not know what the lines that stream from the apex of the hill are intended for, one informant called them *atwer*, smoke, probably they represent a cloud. I should add that to make it approximately accurate the native picture should be reversed, assuming my identification to be correct. The view is suggestive but it is an impossible one from any one standpoint, and it appears to me that this is characteristic of a great deal of the pictorial art of savages.

I have quite a considerable number of native drawings of islands, and maps of islands and coral reefs drawn by natives (p. 229). The map of Mabuiag by Waria in Vol. v. p. 163 may be compared with that on p. 7, and so may the profile of that island on p. 60, where also a plan is given of a series of coral reefs.

Allusion has previously been made to the representation of waves (fig. 338), ripples (fig. 305 G) and footprints (figs. 326, 332).

At our request various natives made drawings of constellations and other heavenly bodies with variable success (figs. 215—223), and Gizu drew for us rain falling from a dark cloud and waterspouts (v. figs. 75, 78).

Representations of Plants.

It rarely happened that a native spontaneously made representations of plants, a notable exception occurs on the pipe figured on pl. XXXVII. fig. 2 and examples on two other pipes have just been mentioned. In some of the drawings made for us trees or other vegetation are represented (v. figs. 6, 47, 56). Fig. 304 may represent a plant form, but this is doubtful, it occurs on the same pipe as fig. 302.



FIG. 304. Scroll in engraved zigzag lines on a pipe in Berlin (vi. 860), nat. size.

Representations of Animals.

In the following account I shall enumerate in a systematic manner the animal forms depicted by the Islanders and shall only refer incidentally to the objects on which they occur; further information on this point will be found in the explanations of the figures.

Owing to the absence of indigenous mammals in the islands (with the exception of rats and bats) and the paucity of birds, it is not surprising that these are poorly represented in decorative art. Almost the whole of the animal food of the natives is obtained from the sea, and consequently they have a considerable acquaintance with marine animals. This satisfactorily explains the preponderance of marine forms that are represented, a parallel to which can be found in Early Ægean and Cretan art and the ceramic decoration of the ancient Yungas of the coast of Peru.

Not many invertebrate animals are depicted; the following is a fairly complete list of those I have come across. On a pipe from Muralug (British Museum 6521; *Album*, I. pl. 318, No. 3) two objects are engraved, one appears to be a jelly-fish, one of the *Leptomedusæ* (fig. 305 A), and the other a sea-urchin or sun-star (fig. 305 B). Especially common on the reefs of Mer are the large blue starfish, *Linckia lævigata*, *titui-titui* (W.), *sauri-sauri* (E.), which unlike other starfish very frequently have only four instead of five arms. As these are very noticeable objects at low tides, it is not surprising that they have been copied; a pipe formerly in the Museum of the London Missionary Society is covered with a number of these starfish, nearly all of which have four arms; they also occur on a pipe from "Cape York" in the British Museum. A starfish, one of the *Asteroidea*, is drawn on another pipe in the British Museum from Parama (fig. 305 c).

On the large Saibai drum (p. 367) there are two representations of a man holding in one hand a fish, which was identified in Mabuig as a *gaigai* (p. 352), and in the other a spiny lobster or crayfish (*Palinurus*), *kaiar*; at the tail end of each crayfish is a rosette-like figure, which was said to be a *gangar*, or hole in a rock, from which the

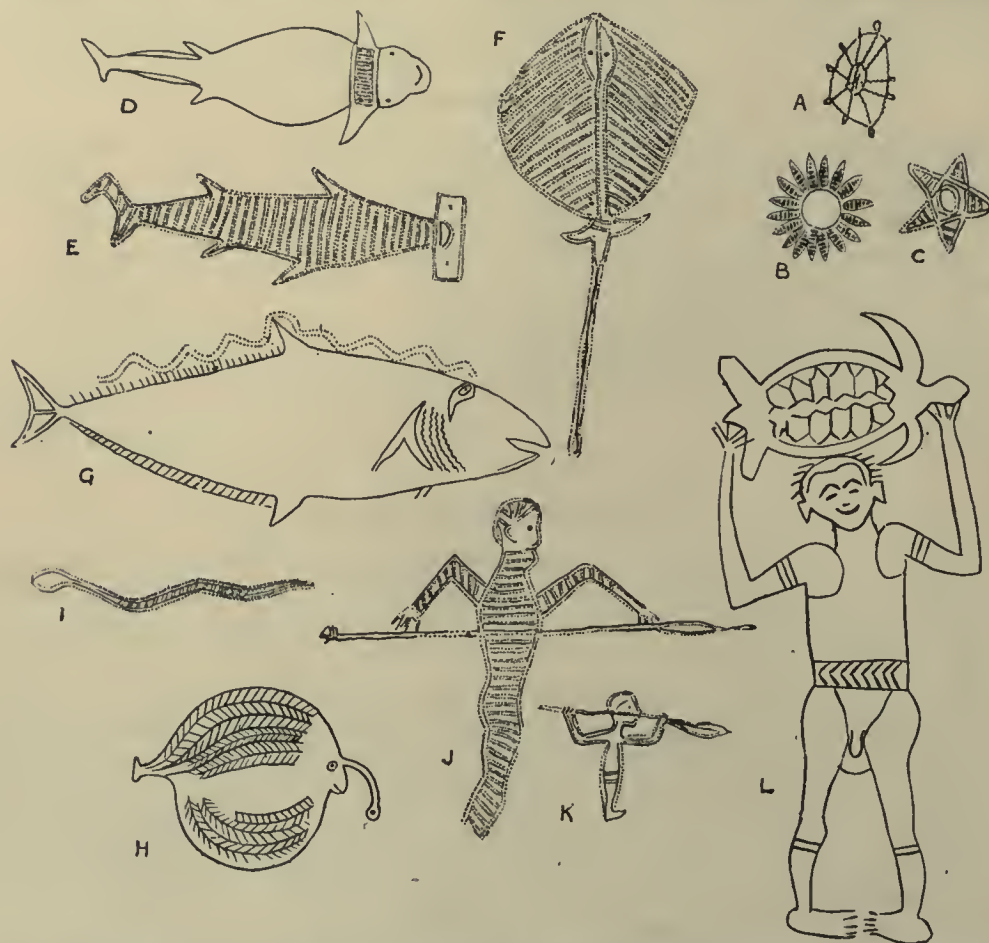


FIG. 305. Engravings of animals and men on bamboo and wooden objects, reduced abt. $\frac{1}{2}$. A, jelly-fish, and B, sun-star, Muralug. C, sea-urchin or starfish, Parama. D, tiger shark. E, hammer-headed shark, Parama. F, sting-ray, Parama. G, king- or queen-fish, Muralug. H, sun-fish, Mer. I, sea snake, Parama. J, K, men with dngong harpoon, Parama. L, man with turtle, Saibai. All are on pipes except H which is on a comb and L on a drum. British Museum.

man is pulling the crustacean. Gizu drew for me a *kaiar* (fig. 306) in which the biramous antennules, the large spiny antennæ and the five pairs of ambulatory appendages are correctly indicated, the great nippers characteristic of true lobsters have been correctly omitted.

On learning that a design on a Mabuig mat (p. 66, pl. XIII. fig. 2) was called *baidamau ipi* (or *ipilnga*), shark's wife, I asked Gizu to draw one for me, and he made

two drawings (fig. 307) of what is evidently an Isopod which is ecto-parasitic on sharks; the design appears to be concerned only with the feet of the crustacean. The uppermost design on the mat might very well have been mistaken for the sucker of a *gapu* (figs. 316, 317, 351).

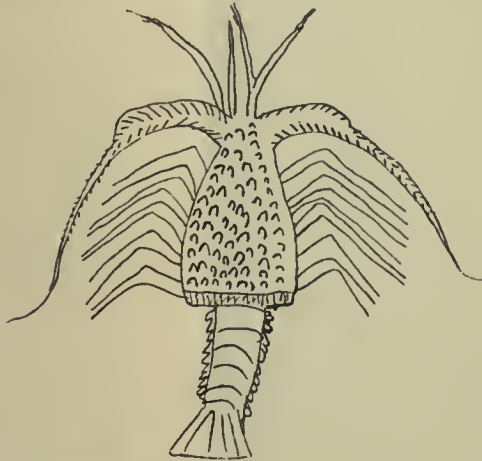


FIG. 306. Drawing of a *kaiar* by Gizu, reduced $\frac{1}{2}$.

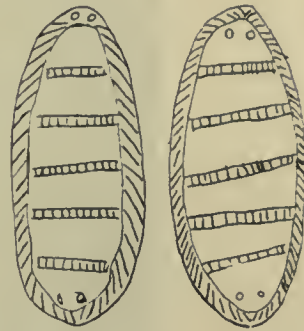


FIG. 307. Drawing by Gizu of an Isopod parasitic on sharks, $\frac{1}{2}$.

So far as I am aware the centipede (Scolopendra), *sag* (W.), *isi* (E.), is the only terrestrial invertebrate that is delineated. It occurs on two or three *omaiter* or dugong harpoons (figs. 365, 367) that are employed in nefarious magic (vi. p. 224). It was also employed by women as a scarification design in Mer (fig. 15) and Daudai (fig. 42).

Gizu drew for us several invertebrates such as a spider in its web, a cuttle-fish, squid, etc.

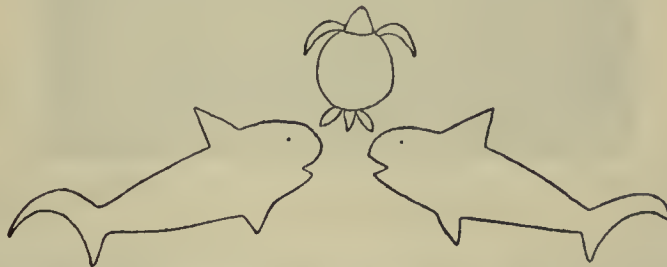


FIG. 308. Two sharks (? *Charcarodon rondeletii*) and a turtle engraved on a pearl-shell, Berlin Museum (vi. 657), see fig. 74; $\frac{1}{2}$.

Amongst the vertebrates fish are very frequently represented, especially sharks and rays. Two sharks (fig. 308) are engraved in plain lines on a pearl-shell. I believe that the shark, *baidam* (W.), *beizam* (E.), which plays a considerable part in the magico-religious life of the people is the handsome striped or spotted "zebra-" or "tiger-shark" *Stegostoma tigrinum*¹, at all events this species is drawn three times on a pipe

¹ But the sharks of fig. 308 were also identified by natives as *baidam* or *beizam*, so perhaps this name was not confined to any one species.

in the British Museum (fig. 305 D) and twice on a pipe in the Dover Museum (fig. 374); it was also represented by masks (fig. 255 A).

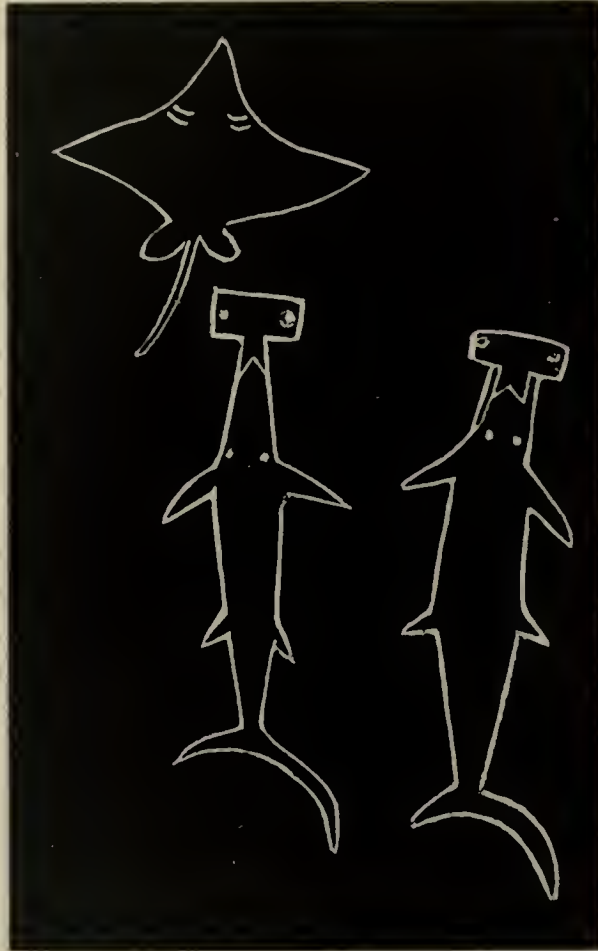


FIG. 309. Rubbing of a sting-ray (*Pteroplatea*) and two hammer-headed sharks on a *buruburu* drum. Cambridge Museum (O. III. 92), $\frac{1}{2}$.

The hammer-headed shark (*Zygæna*), *kursi* (W.), *irwapap* (E.), from its strange appearance naturally excites interest, and probably for this reason it enters largely into the magico-religious system of the natives. Drawings of it occur on pipes in the British Museum (figs. 305 E) and Cambridge Museum (pl. XXXVII. fig. 1); two are engraved on a drum in the latter museum (fig. 309). I also give a drawing by Gizu (fig. 310).

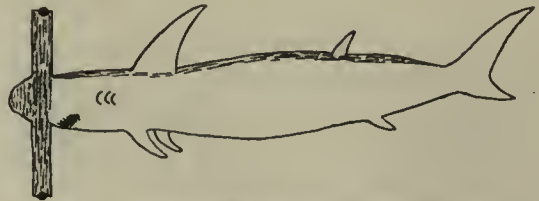


FIG. 310. Hammer-headed shark drawn by Gizu, $\frac{1}{2}$.

This shark formed the main feature of certain Western and Eastern masks (figs. 255 c, 256 A, cf. also Vols. v. pp. 54, 374, pl. XXII.; vi. p. 291, pls. XXIX., XXX.; A. B. Meyer, *Masken*, etc. p. 4, Taf. iii.).

Skates and rays are frequently represented. The shovel-nosed skate (figs. 60, 311, 312) (*Rhinobatus*), *kaigas* (W.), *werpirupiru* (E.), was a totem in the west (v. pp. 154, 164, 305). I know of several drawings of the sting-ray (*Trygon*), *gwiar* or *gwier*, *taimer*, etc. (W.), *goar*, *tapim* (E.); the spines can be seen at the base of the tail in fig. 305 F. Another sting-ray (fig. 309) is probably a *Pteroplatea*, it was identified as *pukai* (W.) and *kumasar* (E.).

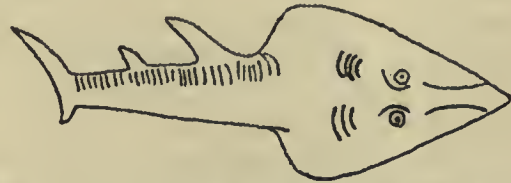


FIG. 311. Shovel-nosed skate engraved on a tobacco pipe (Exeter Museum, eth. 115^a), $\frac{1}{2}$.

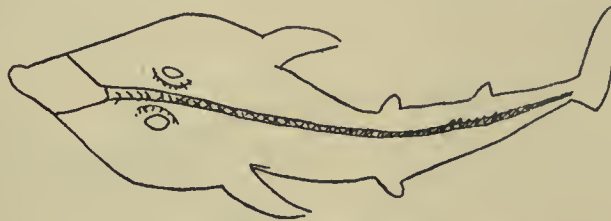


FIG. 312. Shovel-nosed skate drawn by Gizu, $\frac{1}{2}$.

The largest of the Teleostean food fishes of Torres Straits are those which are called by the Europeans king-fish (*Cybius commersoni*, one of the mackerels), and queen-fish (*Chorinemus lysan*, a horse-mackerel); but there are other large species

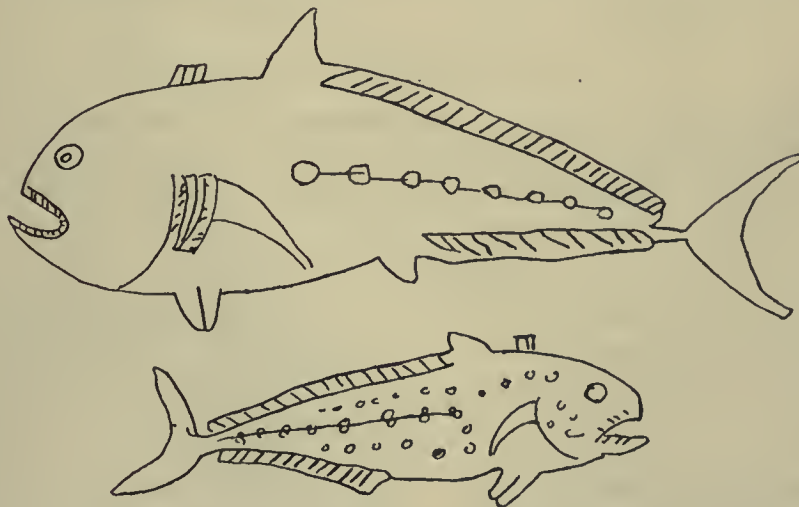


FIG. 313. *Gaigai* (bonito, *Thynnus*), drawn by Gizu, $\frac{2}{3}$.

belonging to the Carangidæ or horse-mackerel family and to the Scombridæ or mackerel family; in the latter the genus *Thynnus* (tunny) is well represented, the bonito

(*T. pelamys*, or *T. McCoyi*) and the albacore, with long pectoral fins (*T. germo*), being common forms in the Pacific. As all these are esteemed for food the natives are familiar with them. The one most frequently mentioned in folk-tales is the *gaigai* (W.), *geigi* (E.), called by the natives the "king-fish," which appears to be the English name they give to most of these large fish; anyhow fig. 305 G was identified by Western and Eastern Islanders as *gaigai* or *geigi*, but in form it more closely resembles the queen-fish. The zigzag line above the fish represents the ripple of the water caused by the projection of the dorsal fin above the surface. It occurs on a pipe in the British Museum (*Album*, i. pl. 318, No. 3).

Gizu of Mabuiag, who was not a very good draughtsman, made for me a drawing of two so-called *gaigai* (fig. 313), but an ichthyologist has identified these drawings as most likely representing a bonito, probably *Thynnus McCoyi* (pl. XXXV. fig. 1). Gizu also drew for me a *dabor*, *dabu*, *dēbu* (W.), *dabor* (E.) (fig. 314), this has been identified as *Cybium commersoni* and would therefore be the king-fish of the Europeans; other drawings of this fish are seen in fig. 255 B.

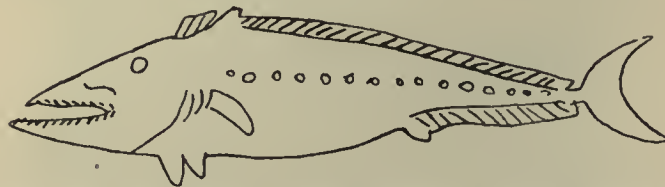


FIG. 314. *Dabor* (king-fish, *Cybium commersoni*), drawn by Gizu, $\frac{3}{4}$.



FIG. 315. *Mugarir* (? *Cybium* sp.), drawn by Gizu, $\frac{3}{4}$.

Another drawing of Gizu's (fig. 315) represents a *mugarir*, which is probably a species of *Cybium*; this drawing was also identified as a barracuda by a native, but this name is applied to more than one kind of large fish by sailors and other white men.

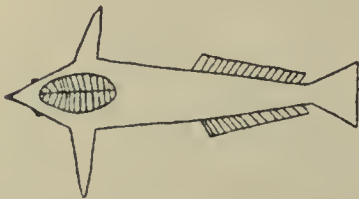


FIG. 316. Sucker-fish, *gapu*, engraved on a pearl-shell, Berlin Museum, see fig. 74.

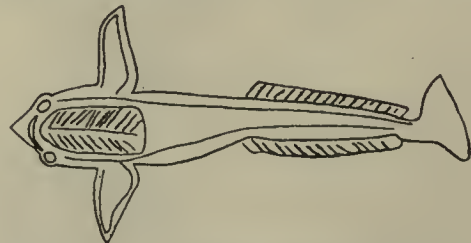


FIG. 317. Sucker-fish, drawn by Gizu, $\frac{1}{2}$.

A queer-looking fish (fig. 305 H) is cut on the back of a comb (fig. 299). It was identified in Mer as a *korèg*, a small species of sun-fish the skin of which is sometimes used for the tympanum of drums.

In some respects the most interesting of the bony fishes of this district is the sucker-fish (*Echineis naucrates*), *gapu* (W.), *gèp* (E.). The method by which turtle are caught with the aid of this fish is described on pp. 162—165. A *gapu* is cleverly engraved on a pearl-shell (figs. 74, 316), and it or its sucker is occasionally represented on other objects (pl. XXXIII. fig. 3 B).

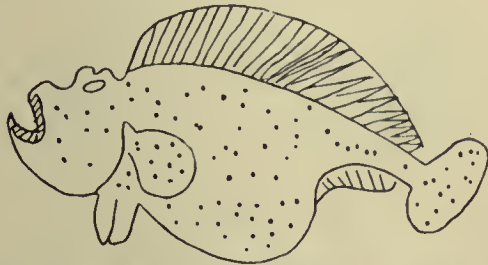


FIG. 318. *Uzi*, stone fish (*Synanceia* sp.), drawn by Gizu, $\frac{1}{2}$.



FIG. 319. A, *Uzi*, stone fish (? Pelor), drawn by Waria, $\frac{3}{4}$. B, *Uzi*, stone fish (a Scorpaenoid), drawn by Waria, $\frac{3}{4}$.

As my informants in Mabuiag continually referred to *uzi*, which when speaking English they termed "stone fish," I had some drawings made of them (figs. 318, 319). They proved to be members of the Scorpaenidæ, many of which are grotesque in form and provided with spines and skinny appendages resembling the fronds of seaweeds. Another fish that lives in crevices of the rocks is the blue-spotted *wad* (fig. 320). In fig. 171 a man is seen catching one of these fish with a hook, and another man is spearing a *poadi*, pig-faced bream (*Lethrinus rostratus*).



FIG. 320. *Wad*, a kind of blenny, drawn by Waria, $\frac{3}{4}$.

A few unidentified fish occur on one or two pipes.

The only Amphibian I saw in Torres Straits was the common tree-frog, *Hyla* (*Pelodryas*) *cœrulea*. *katak* (W.), *goai* (E.), several representations of which are known to me. A tree-frog is placed on each side of the bowl-hole of a pipe in the Oxford Museum which almost certainly came from Mer (*Dec. Art B.N.G.* pl. III. fig. 32¹). When I shewed rubbings of this pipe to some Miriam men I was told that only the *Beizam boai* (vi. pp. 172, 286) might have it on their pipes, one added, "*Lamar* (a ghost or spirit) takes *goai* and squeezes it, then it cries out 'goai.'" Models of *goai* were attached to the Malu mask (vi. p. 291). There is a frog associated with a centipede on the head of an *omaiter* or *maid wap* in the British Museum (C.C. 3283, *Dec. Art B.N.G.* pl. IV. fig. 61); other examples are given in figs. 365—367. I do not know why the frog is sometimes associated with the centipede; as the *omaiter* is a form of dugong harpoon, *wap*, (probably often an old one) that is used for sorcery, *maid* (vi. pp. 222—225), the representation of the poisonous centipede would be very appropriate; probably the frog is also credited with harmful powers.

Reptiles are represented in art by turtles, snakes and crocodiles.

¹ See also A. C. Haddon, *Evolution in Art*, 1895, fig. 3 G.

The species of turtle that occur in Torres Straits are described on pp. 159—160. The green turtle, *waru*, is incised several times on the large Saibai drum in the British Museum (figs. 305 L, 321), and on one in the Oxford Museum. Gizu of Mabuig drew one for me (fig. 322). A turtle is engraved on a Miriam club (fig. 196) and on a pearl-shell (fig. 308).

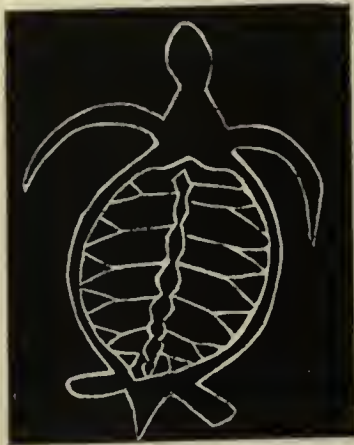


FIG. 321. Turtle, incised on a *warup* drum, Saibai (British Museum+3401), $\frac{2}{3}$.

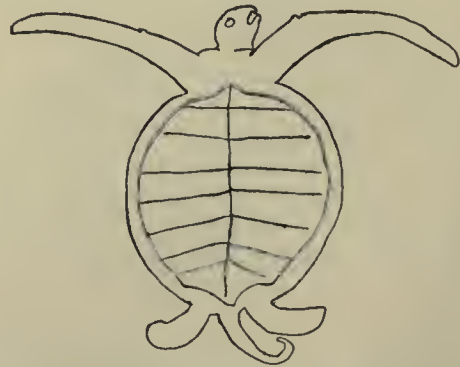


FIG. 322. Turtle drawn by Gizu, $\frac{1}{3}$.

I am not sure that lizards were ever delineated by the Islanders, but Gizu drew for me three monitor lizards (*Varanus*), *karum* (fig. 323). The only spontaneous representations of lizards known to me are two engravings on a drum probably from Daudai (fig. 356), and two carvings in high relief, one on a drum from Tutu (pl. XXVII. fig. 2), and the other on an arrow from Mer, both of which however were made in Daudai; these I gave to the British Museum in 1889. Some arrows are carved with crocodiles which have been modified into lizards (p. 190).

Two coiled snakes, *tabu* (W.), are engraved in punctate lines on either side of the bowl-hole of a bamboo tobacco pipe (figs. 324, 370 B). On the Parama pipe which I gave to the British Museum is drawn what I take to be a marine snake, *pagi* or *ger* (fig. 305 1). A long snake with a large head is engraved on the Exeter pipe. Gizu drew for me the *tabu* shewn in fig. 325, this drawing is evidently one of a Viperine snake. One woman had two snakes cut on her back (pl. IV. fig. 2).

The crocodile (*Crocodylus porosus*), *kodal* (W.), *kodal*, *kadal* (E.), is the most formidable animal in New Guinea, and it has impressed itself on the art of the Papuans



FIG. 323. Monitor Lizards drawn by Gizu, $\frac{1}{3}$.

in most places where it occurs. A decorative rendering of one is engraved on a drum (p. 367; fig. 326); that this reptile is represented as lying on its back is proved by the fact that the cloaca is shewn and also the elongated openings of the musk glands on

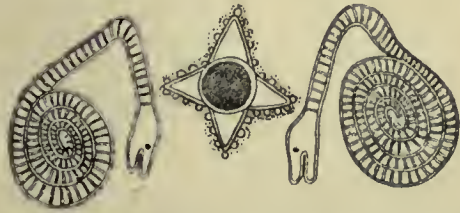


FIG. 324. Snakes engraved on a pipe, said to come from Cape York but really from Torres Straits (British Museum 6520), $\frac{1}{2}$.



FIG. 325. Snake, *tabu*, drawn by Gizu, $\frac{1}{3}$.



FIG. 326. Crocodile incised on a *warup* drum, Saibai (British Museum +3401), $\frac{1}{2}$.



FIG. 327. One of four crocodiles engraved on a pipe, probably from Daudai or Kiwai (Liverpool Museum 5010 M), $\frac{1}{3}$.

the under side of the snout, and additional realism is lent by the representation of the reptile's tracks. A single crocodile is engraved in punctate lines on a pipe which I collected in Saibai (fig. 328), the animal is again evidently represented lying on its back with the head turned somewhat to one side; the black spot is the hole for the bowl. Four crocodiles are engraved in zigzag lines (fig. 327) on a pipe that probably came

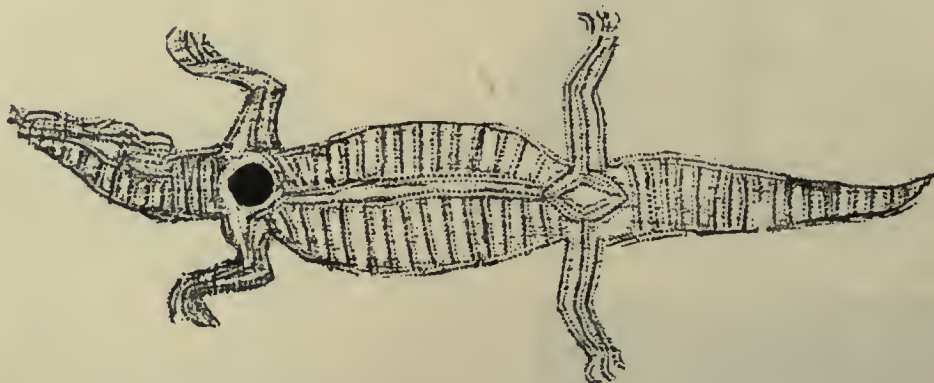


FIG. 328. Engraving of a crocodile on a tobacco pipe from Saibai (Cambridge), $\frac{1}{2}$.



FIG. 329. Crocodile drawn by Gizu, $\frac{1}{2}$.



FIG. 330. Sea-eagle, engraved on a tobacco pipe (British Museum 6521).

from Daudai; the black spot is the hole for the bowl; a human head and arms are associated with each crocodile. A side view of a crocodile is shewn in a drawing of Gizu's (fig. 329).

Birds, with the exception of the cassowary, are very seldom drawn. Two sea-eagles (*Haliæetus*), *ngagalaig* (W.), *waridub* (E.), which have captured fish (fig. 330) are engraved on a pipe in the British Museum and two flying birds (identified in Mabuiag as the frigate bird) occur on a pipe in Berlin (fig. 302). Gizu of Mabuiag drew for me a frigate bird (fig. 331) (*Fregata minor*), *womer* (W.), *waumer*, *omer*, *karor* (E.).

The cassowary (*Casuaris*), *sam*, does not live on the islands but it is often found engraved on drums (fig. 352), which however are imported from New Guinea. The birds are generally well drawn and their salient features carefully noted, such as the casque on the head, neck wattle, abortive



FIG. 331. Frigate bird drawn by Gizu, $\frac{1}{2}$.

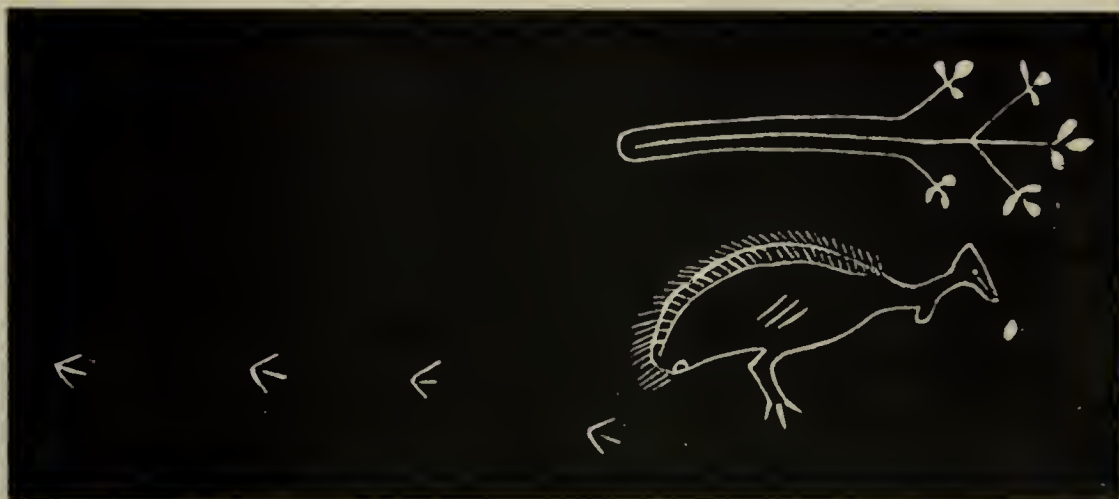


FIG. 332. Cassowary, with footprints; above are the leaves of the *waiā kap*, on the fruit of which the cassowary feeds as it is seen here doing. Incised on a *buruburu* drum, Cambridge Museum (fig. 352 c), $\frac{1}{2}$.

wing with long bare quills, etc. A *buruburu* drum in Cambridge has on each side of the tympanic end a representation of a cassowary pecking at a fruit *waiā kap*, the leaves of which are also shewn (figs. 332, 352 c).

A rubbing of two cassowaries in a corresponding position on another *buruburu* drum is shewn in fig. 355. Gizu's drawing of a cassowary (fig. 333) has a good deal of character although it is incorrect in most details.

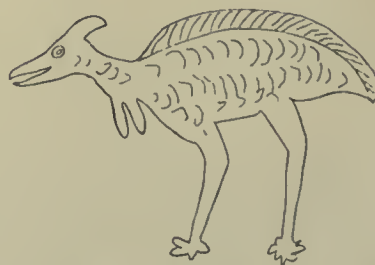


FIG. 333. Cassowary drawn by Gizu, $\frac{1}{2}$.

Terrestrial mammals are rare in Torres Straits, they include the domestic dog, bats, and rats and mice, and of these the only one that is drawn is the dog (*Canis dingo*), *umai* (W.), *omai* (E.).

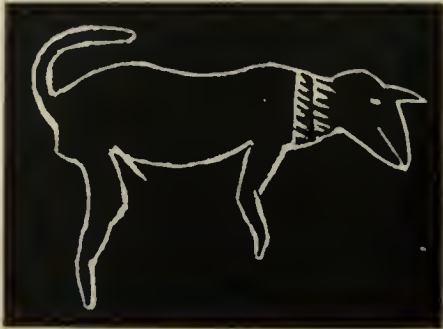


FIG. 334. Dog engraved on a *warup* drum (British Museum 3401), $\frac{1}{2}$.

Two dogs (fig. 334) are engraved on a drum from Saibai in the British Museum. Gizu drew for me the two dogs shewn in fig. 335 and also the fruit-eating bat or flying fox (*Pteropus*), *sapur* (W.), *saper* (E.), shewn in fig. 336.



FIG. 335. Dogs drawn by Gizu of Mabuiag, $\frac{1}{4}$.



FIG. 336. Flying fox (*Pteropus*) drawn by Gizu, $\frac{1}{4}$.



FIG. 337. Dolphin engraved on a pipe in the British Museum, $\frac{1}{4}$.

A capital outline of a dolphin (*Delphinus*), *bid*, occurs on a pipe in the British Museum (fig. 337).



FIG. 338. Dugong incised on a drum from Saibai, $\frac{1}{2}$.

The dugong (*Halicore australis*), *dangal* (W.), *deger* (E.), is the only mammal which is frequently represented in art. On a *warup* drum the outlines of two dugong are incised (figs. 338, 347), the characteristic shape of the tail is accurately reproduced, and the spouting is conventionally represented by three lines, as is also done in the cicatrices on the backs of two women (pl. IV. figs. 3, 4). On the drum the waves of

the sea are also indicated. A pair of dugong are engraved on a pipe in the Edinburgh Museum (fig. 372). On the Parama pipe there is a rough drawing (*Dec. Art B.N.G.* pl. III. fig. 40) of a dugong with a rope lashed to its tail. I also give a drawing by Gizu (fig. 339).



FIG. 339. Dugong drawn by Gizu, $\frac{1}{2}$.

On going over the rubbings and tracings of the animal drawings which I have collected, excluding all those that were made for me, I find that about twenty-five different animals are represented, the number of drawings being nearly one hundred. On looking at those here reproduced it will be seen that they are drawn with a very fair degree of accuracy, so that in most cases it is perfectly easy to identify the genus of the animal portrayed. There are numerous little touches which will appeal to the eye of the naturalist as indicating keen observation on the part of the artists, for example: the sharks are almost invariably drawn with heterocercal tails; the line running across the caudal fin in fig. 305 G represents "a longitudinal keel on each side of the tail" (see also pl. XXXV. fig. 1); I have alluded to the characteristic details which are generally well brought out in the cassowaries.

On the other hand, there are several anatomical mistakes, as for instance giving several shark-like gill-slits to a teleostean fish (figs. 305 G, 314, 315), the artist evidently knew that gill-slits are present, but they are hidden by the operculum; I have seen similar gill-slits given to a crocodile.

Representations of Human Beings.

Drawings of themselves by the natives, as usually among savage peoples, are on the whole less successful than their representations of animals, and spontaneous drawings are by no means common.

On the Parama pipe in the British Museum are two figures of men drawn in the act of harpooning dugong (fig. 305 J, K), in the smaller figure part of the rope fastened to the detachable head, *kwiuru*, is also drawn.

On the large Saibai drum in the British Museum two men are engraved, one holding a turtle (fig. 305 L) and the other¹ a large mackerel-like fish. A man decked for a secular dance (fig. 349) is carved on each side of a *warup* drum. The most interesting, though highly conventional, is the representation given in Vol. v. p. 257, fig. 40 A of a man dressed up as a *markai* for a funeral ceremony.

Various pictographs on rocks are shewn in Vol. v. figs. 1, 2.

All the other representations of human beings that I have are drawings made for me. Maino of Tutu drew for me in 1888 a warrior with his accoutrements (fig. 202);

¹ A. C. Haddon, *Evolution in Art*, 1895, fig. 3 o.

it is worth noting that he drew the right side of the figure with his right hand and the left side with his left hand. Other drawings will be found in figs. 171, 172, 176, 205, 214, 216, 217, 253, 254, 257, 378, 380—382 and Vols. v. figs. 29, 34, 36—41, 56, 63, 82; vi. pl. XXVII. figs. 1, 3, 5 (fig. 1 is especially interesting as it is intended to represent a number of men piled on top of one another, the position of the arms is similar to that shewn in pl. XXXVIII. fig. 3), and *Album*, i. pl. 319, Nos. 1, 2.

Representations of Various Objects.

On tobacco pipes and a few other instruments made of bamboo various objects are delineated, for example: masks (fig. 256), canoes (one with two mat sails is shewn in fig. 340), sailing boats (engraved in punctate lines, figs. 153, 341), dugong platforms, a flagstaff, and so forth.



FIG. 340. A canoe with two mat sails, a flag and other ornaments (pp. 213—217) engraved in zigzag lines on a pipe in the British Museum.

The upper flat surfaces of the stone tops of Miriam are frequently painted with representations of objects, living beings and scenes of various kinds, some of which are shewn in figs. 378—383, pl. XXXVII. figs. 3, 4 (see also C. H. Read, *Journ. Anth. Inst.* xvii. pl. IV. fig. 1, and *Album*, i. pl. 319, Nos. 1, 2). On one top that I gave to the British Museum in 1889 a pearl-sheller's lugger is depicted, containing a pumping-engine with its handles and the tender; below is the diver holding a bag in one hand and the life-line in the other; the air-tube is also drawn.

When requested to do so the natives readily made very creditable drawings of objects and scenes; of these many examples are given in Vols. v. and vi. They perfectly understood what we required and entered heartily into the spirit of it. Attention may here be drawn to the remarkable fact that two natives of Mabuig on their own initiative drew an elevation and ground plan, Waria of a turtle-platform and Sunday of a certain shrine (v. figs. 50, 56).

The effect of the Mission and Government schools is shewn by the decoration of a few objects with printed names. In 1888 I obtained a wooden comb on which a Mabuig woman had cut her name NAGU (pl. X. fig. 6), and on the same island I bought a

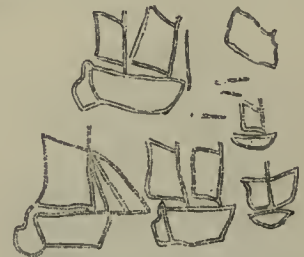


FIG. 341. European boats engraved on a bamboo receptacle (fig. 153), $\frac{1}{2}$, Mer.

pipe, with $\Pi A \Pi A$ on one side and $M \ddot{O} R A P$ on the other; the latter is the name for a bamboo pipe, and the former I was told was the name of the place in Daudai where the owner had cut the bamboo from which he made the pipe. This name is printed backwards with the final ν upside down. The pipe is now in the National Museum at Washington, U.S.A. There is a comb inscribed $\Pi A T A$ (fig. 343 C), perhaps this is another example of so-called mirror-writing, but it may only be a case of a reversed R. I have no record of any proper name which corresponds to this word whichever way it is read. I suspect that the occasional reversing of words is due to the method of counting on the fingers which these people employ. They always begin with the little-finger of the left hand, and pass from the thumb of the left hand to that of the right. If a man were spelling a word letter by letter as if he were counting he might readily fall into the error of putting down the first letter in a place corresponding to the little-finger of the left hand palm inwards, and so on. If the man who carved the former pipe began with RIRAU, that word would utilise all the digits of the left hand, and so $M \ddot{O} R A P$ would come right-end foremost on the right hand.

THE DECORATION OF SPECIAL OBJECTS.

In this section I deal only with certain objects which are decorated by the cutting of their surfaces, such as combs, drums, dugong harpoons and tobacco pipes, and with the painted surfaces of tops.

Combs.

Decorated combs (p. 32) are made of bamboo or wood; in both there is a tendency for the handle to be divided into transverse bands, the patterns thus running across the comb. The decoration of fig. 43 is very slight and consists of careless cross-hatchings in fine scratched lines; in the simple decoration of a bamboo comb from Erub and in the bowed lines of one from Mabuiag zigzag lines are employed (pl. X. figs. 8, 9).

The decoration of the handles of wooden combs usually consists of simple patterns carved in low relief, the intaglio portions being as a rule filled in with lime, but other pigments may be employed (fig. 298; pl. X. figs. 7, 11). In one comb from Mer (fig. 299) the design though simple is elegant, in this specimen conventional eyes are represented which may be compared with those in fig. 354, and a grotesque fish (p. 352, fig. 305 H) is engraved on the back. A ray is engraved on the handle of a wooden comb from Yam (fig. 342).

Some combs from Mabuiag (figs. 343, 344) indicate that foreign influences are at work, the hearts have almost certainly been copied from playing cards and the lettering is obviously modern.

Very different in form from the ordinary island combs and perhaps shewing foreign



FIG. 342. Rubbing of a comb, *ialpat*, from Yam which belonged to Mami, a woman who had the *Tapimul augud*, $\frac{1}{2}$ nat. size.

influence is a wooden comb, *ialpat* (fig. 343 D), which I obtained at Dauan in 1888 and gave to the American Museum of Natural History, New York; the handle is broken and indifferently carved. The comb has a total length of 17.5 cm.

In Mer the zigzags of fig. 298 were called *mi war*, clam shell (*Tridacna*) mark (p. 386 and Vol. VI. pl. XXI. fig. 12), in Mabuiag *dɔgai*, and in Saibai *dang wazi* or *dang wasipa*, teeth lie about (?). The black lozenges were called *piau war* (p. 36) in Mer and *susul kwikwir urukam* in Mabuiag. The >< pattern was called *tole dup* in Mer (*dub* or *dup* is a scar and *tole* a bird, p. 16), and *gapu natar*, the sucker of the *gapu* (p. 353), in Mabuiag. The zigzags of fig. 299 were called *mi war* in Mer, and the eyes *kɔpokɔpo*, probably from *etkopolu*, to decorate.



FIG. 343. Rubbings of wooden combs, $\frac{1}{3}$ nat. size. A, B, two sides of a comb made by Waria, Mabuiag. C, Mabuiag. D, Dauan.

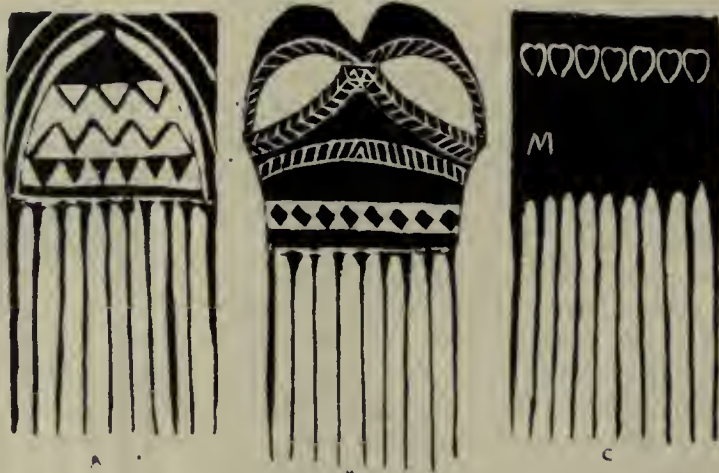


FIG. 344. Rubbings of wooden combs from Mabuiag, $\frac{1}{3}$ nat. size. A, C, front and back of the same comb. B, made by Peter.

In Mabuiag the lozenges of fig. 343 A, B were called *kaura danau minar*, nautilus eye-of mark (pp. 36, 386), and the triangles *buruburu minar*, drum mark. The scroll of A is the printer's \sim , the hearts of B are also of European origin, the stars, *titui*, are native. The pattern of C was called *isau war*, honeycomb pattern, in Mer.

The zigzags of fig. 344 A were called by the maker of the comb *awaial*, and represented pelicans flying (cf. fig. 38); the uppermost curves of B were called *bɛgai*, a cloud like a hill that denotes fine weather (cf. pp. 231, 295).

The <<>> pattern of pl. X. fig. 7 was called *ese war*, centipede mark, in Mer; and the designs pl. X. fig. 9 *nano dup*, breast scars.

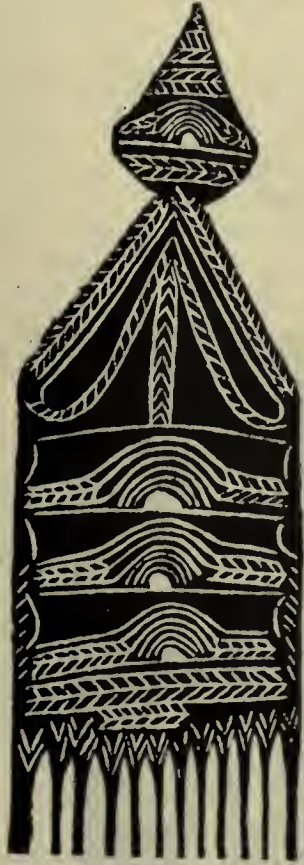


FIG. 345. Rubbing of the handle of a wooden comb, *ipogi*, from Daudai, in the British Museum, $\frac{1}{2}$ nat. size; the total length of the comb is 31 cm.



FIG. 346. Rubbing of a wooden comb, *ialsak*, from Iasa, Kiwai, length 24 cm.

There is considerable diversity in the form and decoration of the handles of combs from the adjacent regions of New Guinea—as a rule the handles are higher and the teeth are longer than those of the islands; the handles also usually taper to the top, figs. 345, 346 illustrate two common types.

The decoration of the Daudai combs bears a close resemblance to that on combs from the islands, but a very characteristic feature of the former is the presence of bands with a central bow as in fig. 345, the details of which vary; this bow appears to me to be derived from the lines which encircle the scars on bamboo pipes (p. 380, pl. XXXVII. figs. 1, 2). A pair of eyes is also frequently carved. At Kiwai the following names were obtained for fig. 346, star, *oii*; fish, *daburo* (fig. 308); curved lines, *dau pasa*, sago leaf.

Drums.

The two types of drum, *warup* and *buruburu*, that occur in Torres Straits are described on pp. 278—280. On the former there are invariably present a pattern which margins the upper jaw, and a band saddling the drum near the tympanum.



FIG. 347. Typical ornamentation of a *warup* drum.

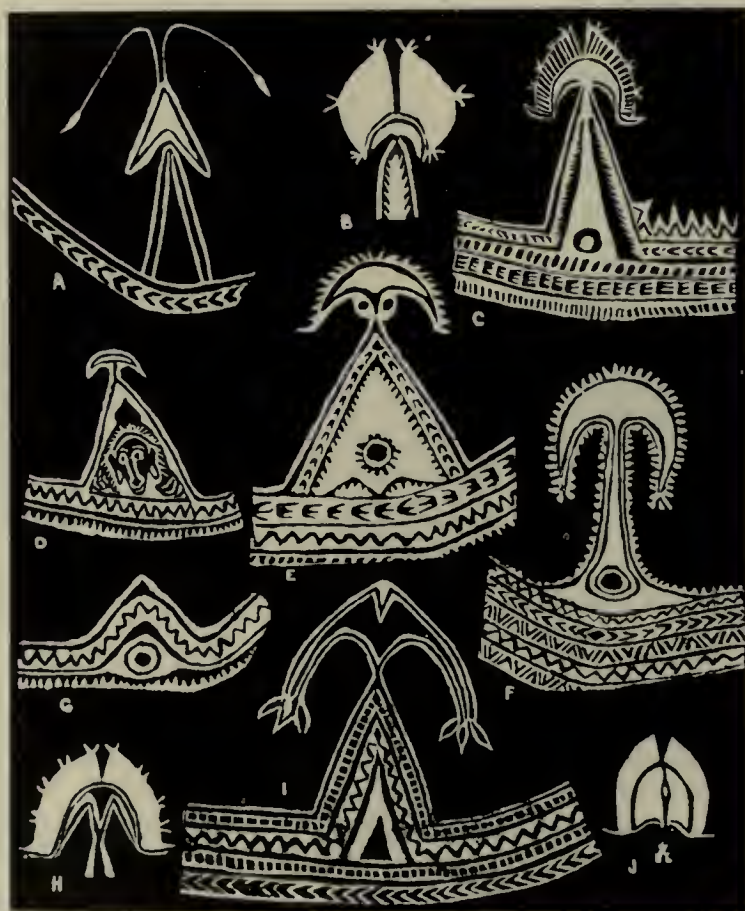


FIG. 348. The *dēri* design and other patterns on *warup* drums, $\frac{1}{3}$ nat. size. A, Saibai, Goldie coll. B, Glasgow Museum. C, Edinburgh Museum. D, Cambridge Museum. E, formerly in Diddington Hall (on same drum as fig. 351 A). F, Tud, British Museum (pl. XXVII. fig. 2). G, Muralug, British Museum. H, Mer, formerly in Prof. C. Stewart's coll. I, Nagir (from Mawata via Tutu), Edge Partington coll. J, Nagir, A. C. H. coll.

The jaw band (figs. 347—349, pl. XXVII. fig. 2) consists of the geometric patterns characteristic of this district. About the middle of the jaw is a triangular design, the apex of which often terminates in a crescent. Within the triangle and near its base is usually a circle or black spot. Rarely is this replaced by a triangle (fig. 348 I), and in a drum in the Cambridge Museum (fig. 348 D) there is a human face.

Formerly in the Museum of the London Missionary Society, London, there was a *warup* in which there is at this spot a representation of a man dressed for a secular dance, *kap*, wearing a *děri* head-dress, crescentic pearl-shell chest ornament, a belt, leaves are inserted in his armlets, below the knee are the *makamak* leglets, round the ankles are palm-leaf bands, and in his hands he holds leaves (fig. 349). A similarly accoutred man occurs on a drum in the Leipzig Museum, but he is drawn in a more spirited attitude.

I have copied (fig. 241) a drawing given by Jukes of a *warup* from Erub: assuming it to be accurate, there can be no doubt that what I have termed the jaws of the drum are really intended to represent the jaws of some animal, probably those of a crocodile. The geometric patterns represent the teeth; the continuous zigzag line along both jaws in Jukes' figure is present as part of the design in most of the *warup* I have examined, but only on the upper jaw; the teeth of the Malu drum (pl. XII. fig. 2) also occur only on the upper jaw; a definite tooth pattern is frequently present (fig. 348 D, E, G). The spot in the triangular area of most drums is the homologue of the large simple eye of fig. 241 and of the smaller one of the Malu drum. Connecting links between these eyes and the ordinary design are found in a *warup* in the British Museum (fig. 348 G) and in a somewhat similar one at Oxford (129. N. 5).

However conventional or degenerate it might be the crescentic design over the eye-triangle was nearly always called a *děri* by the natives, and in many examples there is no ambiguity about its representing one or other of the two types of that head-dress (pp. 37—39). I have no facts to offer as to the genesis of this design. Probably a curved line was placed above the triangle surrounding the eye, by suggestion this may have been developed into a *děri*, and finally a man was carved to wear it. If this be so, it is an example of the relatively rare process of the building up of a complex design from a simple origin.

There is considerable variation in the patterns of the band at the tympanic end of the *warup*; their general character is sufficiently illustrated in fig. 350. I have no doubt that this design is derived from a necklace or frontlet, in which case the rounded ends would be the more primitive. In those cases where the elements of the pattern lend themselves to it, the central point is specially marked (figs. 350 A, G, 351 A). The central appendages, when present, vary in every drum. The three lanceolate designs of



FIG. 349. Rubbing of part of the ornamentation of a *warup* (99 cm. long) from Saibai, $\frac{1}{2}$ nat. size.

fig. 350 G evidently represent kangaroo's teeth (pl. IX. fig. 5), and I was told in 1888 that this band was a *kuik uru*, the frontlet of a young man (p. 35).

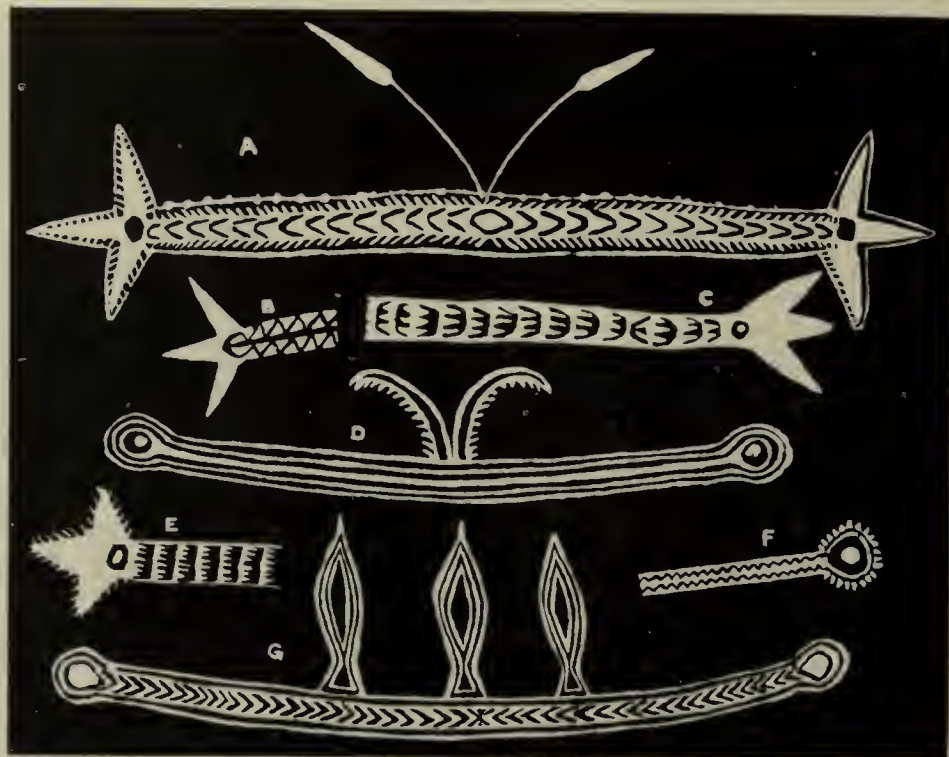


FIG. 350. Band patterns on *warup* drums, $\frac{1}{3}$ nat. size. A, Lond. Miss. Soc. coll. B, Glasgow Museum. C, Mer, formerly in Prof. C. Stewart's coll. D, Nagir, A. C. H. coll. E, Lond. Miss. Soc. coll. F, Tutu, British Museum (pl. XXVII. fig. 2). G, Nagir, Edge Partington coll.

In addition to these two patterns, which as I have mentioned are invariably present, a totem animal is occasionally engraved on each side of the tympanic end of the *warup* (fig. 347). Two specimens, once in the possession of the late Lord Amherst of Hackney, have a sucker-fish attached to the ends of the band. In one (fig. 351 A), 90 cm. long, the simple band has a fish at each end; in the other, 92 cm. long, the band is also provided with three lanceolate designs, one at each end and one in the middle, and between two of them there is a third sucker-fish. On a specimen in the Cambridge Museum a pair of hammer-headed sharks are engraved on the upper side of the swollen portion of the tympanic end, and in the middle line there is a ray (fig. 309).



FIG. 351. Sucker-fish attached to the ends of band patterns on *warup* drums; formerly at Didlington Hall; $\frac{1}{3}$ nat. size. (A is on the same drum as fig. 348 E.)

The dorsal median line of the upper jaw is also sometimes decorated with totem animal designs. In the Oxford Museum is a very fine *warup* from Muralug in which this region is incised with a turtle the head of which is enclosed in a sort of nimbus, the meaning of this is unknown to me. A few *warup* have animals carved in relief in this position. At Tutu I obtained one with a lizard in high relief, which I gave to the British Museum (pl. XXVII. fig. 2). In the Trocadero Museum, Paris, there is a lizard in low relief, in the sagittal line in front of it are numerous holes. The example shewn in fig. 347 has a shovel-nosed skate (p. 351) along the back of which are holes for the insertion of cassowary feathers; this is naturally in low relief. In the museum of the London Missionary Society there was a *warup* (cf. fig. 349) from Saibai with a Periophthalmus, *kewe* (W.), at this spot; this little fish is readily recognisable from the prominent eyes and elbowed pectoral fins.

What I believe to be a unique decoration occurs in a specimen in the Oxford Museum, in which each side of the jaw end has two engraved panels enclosed within two square frames; this may be compared with the decoration of the pipe shewn in fig. 377.

A pair of cassowaries occur in a position corresponding to that of the dugong of fig. 347 on a large *warup* from Saibai in the British Museum (C.C. 3401), this is the only *warup* I have seen that has cassowaries. As I have more than once referred to this drum I may as well give its history. I was informed by the natives that just before the Rev. Dr S. MacFarlane finally left Torres Straits he gave special instructions to the chief of Saibai to have a large and well decorated drum made for him. The order was executed in Daudai, and the drum is a remarkably fine specimen, being the largest I have ever seen—107 cm. (42½ in.) in length and 28 cm. in greatest diameter at the mouth end. In addition to the typical ornamentation of this type of drum, in the present case exaggeratedly ornate, this example is crowded with various figures of considerable interest from an artistic point of view but quite out of place on a drum (cf. *Album*, i. pl. 332). The crowding of the figures and their inappropriateness evidently prove an endeavour on the part of the artist to make his drum as "flash" as possible. The outer border of the tympanic band has added to it the busts of two human figures in a strained attitude and three oval medallion faces encircled by two lines, the latter are evidently copies of English postage stamps embossed on envelopes. The oblique transverse bands on the upper jaws are peculiar to this individual drum. There are engraved on the drum several men (fig. 305 L, *Evolution in Art*, fig. 3 o), 2 dogs (fig. 334), 2 cassowaries, 2 crocodiles (fig. 326), 2 turtle (fig. 321), 4 fish, and 2 crayfish.

The normal decoration of the *buruburu* drum is somewhat more variable than that of the *warup*.

The handle is plain or ornamented with straight or angled lines constituting a very simple pattern, which is sometimes extended directly on to the body of the drum (figs. 352, 356).

At the tympanic end there is usually a band design, the details of which are similar to those of the bands in the corresponding position on the *warup* drums.

Greater variation occurs at the opposite end. In most of the specimens there are two bands usually consisting of parallel lines and terminating in three leaf-like markings (figs. 352, 353). When on Saibai in 1898 the natives identified these designs as

representing the *daibau*, a tuber-bearing plant, which was described as a "wild yam," it appears to be the same as the *deabu* (p. 135).

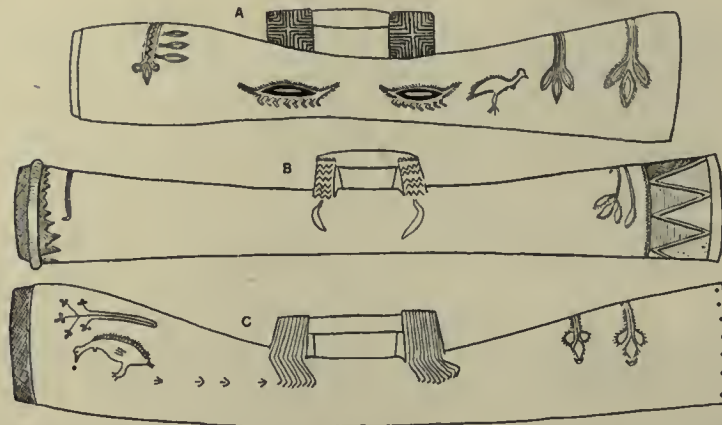


FIG. 352. Sketches of the decoration of three *buruburu* drums. A, formerly in the possession of the Rev. E. B. Savage, from Daudai. B, Dresden (6400), 94 cm. long. C, Cambridge (O. 111. 86. 71), 95 cm. long.

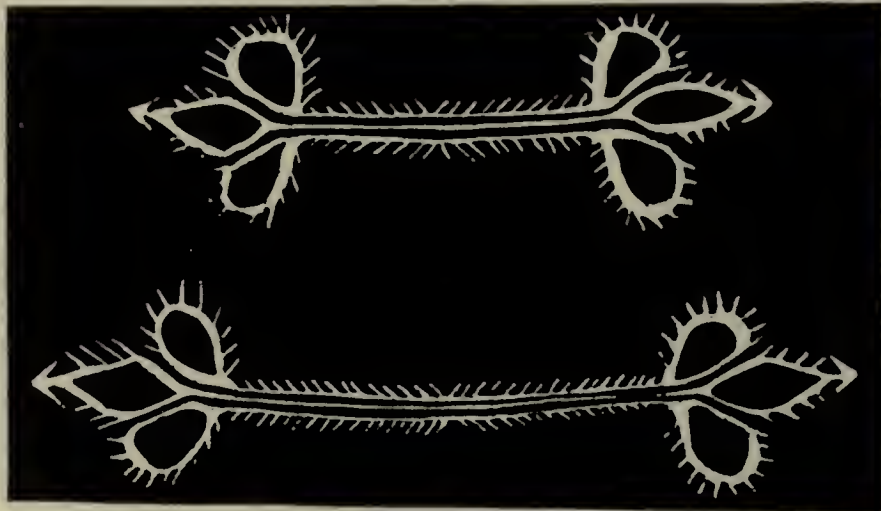


FIG. 353. *Daibau* incised on a *buruburu* drum, Cambridge (O. 111. 86. 71). $\frac{1}{2}$.

Finally a broad band may encircle the open end of the drum, as in a specimen in Dresden (fig. 352 B), in this particular case a zigzag line divides the band into triangular intaglio spaces which are painted black, red, yellow and white.

I obtained a *buruburu* at Yam which was said to have been made at Mawata; the band (fig. 354) is narrow, consisting of black lozenges on a white ground—this was called *kaura dan* (p. 36)—and in the median dorsal line there are two eyes, *gaigai*

dan, king-fish eye. In this drum, which is 73 cm. (29 in.) long, the handle is placed very close to the open end.

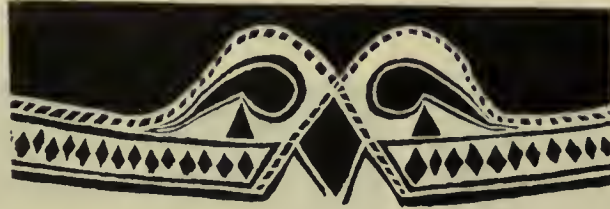


FIG. 354. Rubbing of a carved band on a *buruburu*, Yam, British Museum, $\frac{1}{3}$.

Occasionally a cassowary, *sam*, is engraved on each side of one of these drums (fig. 355). The design of figs. 332 and 352 c, was described as "*Sam* come to eat *waia kap*," a fruit on which the cassowary feeds; above the bird are represented the leaves of the plant. The band of fig. 355 was called in Saibai *wakau minar*, belt pattern, and the crescent *gege mai*, the shell which is used for carving drums.

The central objects of fig. 352 A have caused me a good deal of trouble. I was told in 1898 in Saibai that the drum was made by Kupai of Saibai, and that they were *iata*, hair on chin and jaw; Kupai was a member of the *sam* clan, as were doubtless the owners of other drums on which that bird is engraved.

The decoration of a very large *buruburu* of the type of fig. 352 A is shown in fig. 356. This is the only example known to me of a lizard incised on a drum.

The Kiwai *gama* (fig. 242 A, B) as a rule is very simply ornamented. The typical decoration of the three-jawed type consists of a simple band pattern (of which fig. 357 is characteristic) that encircles the drum just behind the jaws. A drum with two jaws which I saw at Iasa had the margins of the jaws very simply decorated, but one collected by Chalmers is profusely ornamented with zigzags on the jaws (fig. 358).

Baton of Mer made for himself a small three-jawed drum of the Kiwai *gama* type, the decoration of the mouth end is shown in fig. 20; the band at the other end contains zigzags; the execution is very poor.

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FIG. 355. *Daibau* and cassowaries incised on a *buruburu*, $\frac{1}{3}$.

The ornamentation of the *Dibiri gama* (figs. 242 c, d, 359) consists of bold, deep carving, the intaglio portions are alternately painted red and white, the drum itself being made of a very dark wood and usually blackened. There can be but little doubt that the drums were originally carved in imitation of the head of some animal, probably the crocodile. In

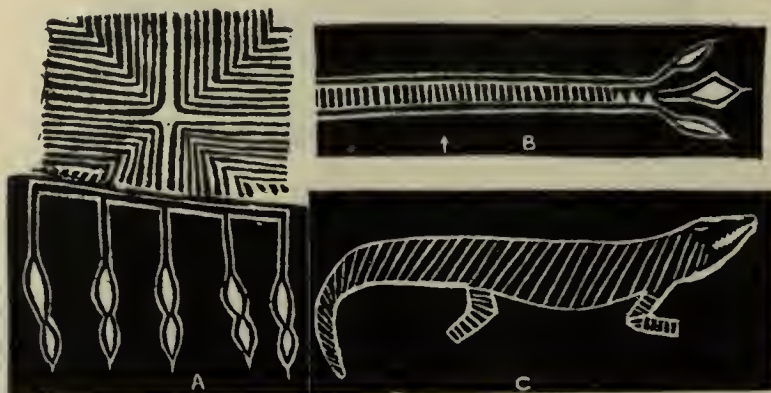


FIG. 356. Details of decoration of a *buruburu* drum, Vienna Museum (43305), $\frac{1}{3}$ nat. size. A, ornamentation of the handle and its extension on to the drum. B, band at tympanic end, the central spot marked by \uparrow . C, lizard at the open end, there is one on each side.



FIG. 357. Decoration of a *Kiwai gama*, rubbed at Iasa; reduced to $\frac{1}{3}$.

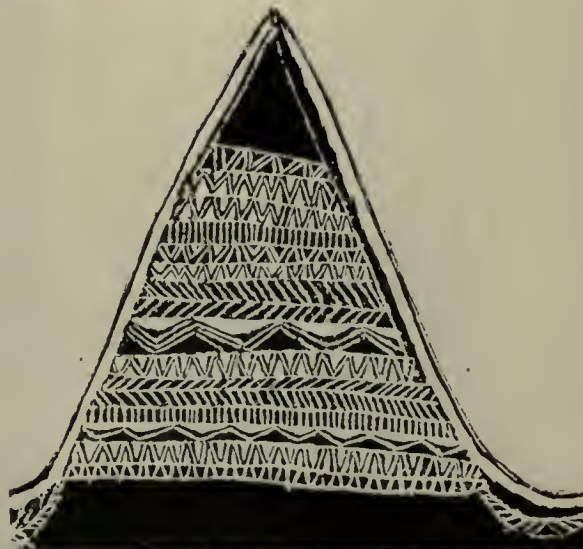


FIG. 358. Rubbing of the *gama* shewn in fig. 242 b, reduced to $\frac{1}{3}$.

a drum in the Glasgow Museum (89—67 em.) the jaws are cut with that peculiar waved line which is so characteristic of the crocodile's snout (fig. 359 F). Behind the jaws, in the neck, there is usually a band pattern which repeats the design on the jaws. Sometimes the ornamentation takes the form of scrolls (fig. 360), but these are evidently derived from a realistic design. Details of five drums are shewn in fig. 359, D is the Pigville drum which

is also figured by Jukes (i. p. 274), Ratzel (*Völkerkunde*, II. p. 228, *Hist. of Mankind*, I. p. 221), and Partington (*Album*, I. pl. 332, No. 2).



FIG. 359. Decoration of *Dibiri gama*. A, B, collected by the Rev. E. B. Savage at Samaiut, Kiwai; coloured black, white and red. C, the drum shewn in fig. 242 c, coloured black and white. D, the Pigville drum (p. 281), coloured black, white and red. E, F, a drum in the Glasgow Museum (8833), the body of E should shew the black and white carving seen in F. G, H, collected at the same time as A; coloured black and white.



FIG. 360. Decoration of the *Dibiri gama* shewn in fig. 242 d, rubbed at Iasa, Kiwai; reduced to $\frac{1}{2}$.



FIG. 361. Rubbing of left half of the decoration of the drum shewn in fig. 243, $\frac{1}{4}$ nat. size. (The right half is shewn in *Dec. Art B.N.G.* pl. V. fig. 32).



FIG. 362. Rubbing of half the decoration of a Fly River Drum (Rome, 2575), $\frac{1}{4}$ nat. size.



FIG. 363. Rubbing of part of the decoration of a bamboo tobacco pipe from the Fly River (Rome, 2529), about $\frac{1}{4}$.

Two drums from about 380 miles up the Fly River from its mouth are carved in low relief with designs which are compounded of crescentic lines, leaf-like and triradiate elements, and spirals (figs. 361, 362). Doubtless they are plant motives, and some appear to represent leaves of the croton or dracæna; these plants are cultivated by the natives of the Fly for use as decorations in their dances. Some bamboo tobacco pipes in Rome (fig. 363) presumably from the same region are decorated with similar designs (*Dec. Art B.N.G.* pl. V. fig. 84).

The art of this Middle Region of the Fly River (above its junction with Strickland River) is certainly very distinctive, and the leaf-like designs and free treatment of curved lines and spirals are quite unlike the decorative designs of Torres Straits or of Daudai and the delta of the Fly. Spirals are common in the Papuan Gulf district, but the free use of leaf-like figures is practically unknown from any part of British New Guinea, though plant designs do occur as we have seen on some Daudai drums. The means do not at present exist for elucidating the significance of these designs, but as we now know that plant totems occur in Daudai and in the delta of the Fly, and as we have seen that the natives frequently decorate their drums, pipes, and other objects with representations of their totems, we may provisionally assume that these designs also may have a totemic significance. On the other hand they may be due to some influence from the north, for we find that leaf designs are employed in the north of Netherlands New Guinea. Dr Uhle¹ states that, "The influence of the plant ornamentation of the East Indian Archipelago is also found in West New Guinea. Although it is essentially characteristic of the western portion of the East Indian Archipelago, isolated examples are not wanting in the ornamentation of the eastern." He thinks he can trace the plant motive in south-west New Guinea as far as Wamuka River.

The spirals of this region appear to be derived from two sources: those of figs. 361—363 are evidently plant tendrils. On the other hand other spirals, such as those of the carving on the bark of a tree (*Dec. Art B.N.G.* pl. V. fig. 76), are representations of human hair, as is the case with most of the spirals from the Papuan Gulf, though eyes and other features are sometimes represented by spirals in the latter region.

The Tugeri drums (p. 281), which are of the *buruburu* type, are boldly carved at the open end. There are encircling raised bands, the intervening spaces being occupied by bold raised zigzags, some of which end in spirals; the size of the triangles formed by the large zigzags is usually very irregular. There may also be narrow bands of small zigzags and a spiral wave pattern as well. The intaglio triangles are painted red and white. The supports of the handle are generally carved with zigzags or a wave pattern. Rarely there is a pattern saddling the tympanic end. The significance of the Tugeri spirals, which occur on arrows as well, must await investigation on the spot.

Dugong Harpoons.

A description of the dugong harpoon, *wap*, is given on p. 169; most of those I have seen have a band-like decoration round the neck, and usually associated with this are a couple of loops (as in the bird bolt, fig. 186). When I first saw two elaborately carved dugong harpoons in Tutu, one of which is represented in fig. 364 c, the idea at once occurred to me that possibly this ornament represented a lashing and the two loops indicated the ends of the string which were tucked under the binding. In the

¹ "Holz- und Bambus-Geräthe aus Nordwest Neu Guinea," *Publicationen aus dem Königl. Ethnogr. Mus. zu Dresden*, vi. 1886.

other Tutu harpoon the loops were replaced by triangles, as they are in the carved dance *wap* of fig. 29. The decoration is simplified in most harpoons (fig. 364 B, pl. XXIII. fig. 3). In a *kab wap*, or miniature harpoon used in dancing, from Mer (p. 294) there is a broad, slightly raised band round the neck, which is ornamented with cross-hatching and chevrons, while the loops are replaced by ends (fig. 364 D). Lastly, the pattern may be reduced to a few encircling lines (fig. 177), or even these may be absent.

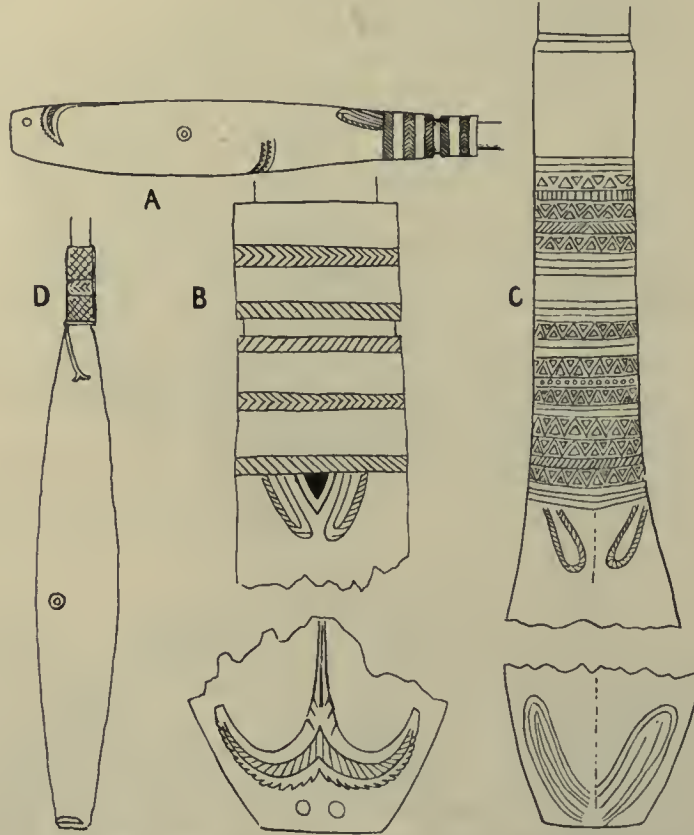


FIG. 364. Butt-end of dugong harpoons. A, B, Mabuiag, length of head and neck 59 cm., vertical diameter 79 mm., British Museum (*Album*, i. pl. 326, No. 5). C, sketched at Tutu in 1888. D, dance *wap*, Mer, $\frac{1}{2}$.

I feel some diffidence in putting forward the hypothesis that this ornamental band represents a lashing, as there is no direct evidence in support of it. Judging from the practice of most backward people it is improbable that the head was originally distinct from the shaft, in which case it would necessarily have been fastened to the shaft by a strong lashing. Possibly the harpoons as at present constructed may have a tendency to break at this spot, but a harpoon to which a head or butt was lashed would be a very ineffective implement. More probably the harpoon might split or spring at this point, in which case a lashing would certainly prolong its utility. I cannot help feeling that this band has a significance beyond being merely an ornamental device.

There is another decoration on the *wap* which for a long time remained an enigma to me. On every harpoon I came across in 1888 there was a pair of divergent oval marks at the end of the butt on its upper surface (figs. 177, 364); this orientation could be determined by the position of the shells and rattles which are occasionally employed in the decoration of these implements.

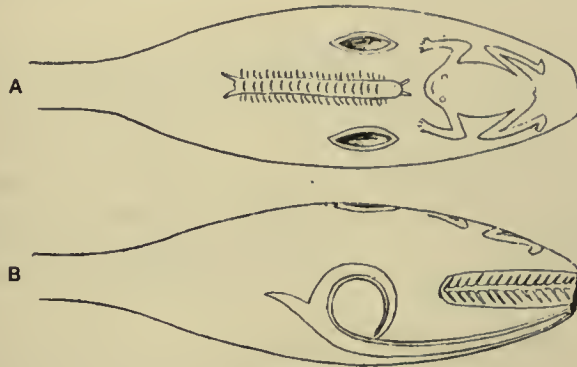


FIG. 365.

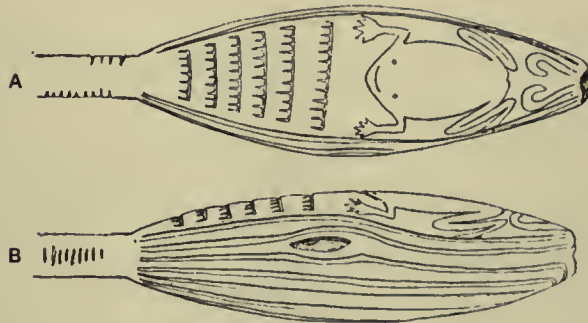


FIG. 366.

FIGS. 365, 366. Upper and side views of the butt-end of two *omaiter* or *maid wap* in the Cambridge Museum. The incised contours of the tree-frogs and the body of the centipede are red, most of the other incised lines are alternately red and blue. The grooves at the beginning of the shaft in fig. 366 are a tally of the number of persons injured by the implement¹.

I was able to account for these marks as nostrils when in 1889 I obtained at Mer an old worn butt-end of an *omaiter* or *maid wap*, "sorcery harpoon" (fig. 368), which as a matter of fact was then being used for pounding roasted bananas. Specimens of *omaiter* occur in several museums (figs. 365—367), and their use is described in Vol. vi, p. 223. Since then I have seen more than one true dugong harpoon with a head indicated on the butt-end.

¹ The total length of each *omaiter* is about 3 m. (9 ft. 8 in. and 9 ft. 9½ in.), and the average diameter 27 mm. The butt of fig. 365 measures 255 × 85 × 79 mm., and that of fig. 366 233 × 72 × 63 mm. The former weighs 6 lbs. and the latter 5 lbs.

It is unnecessary to adduce more evidence in favour of the view that the terminal dorsal markings on the butt-end of all harpoons are intended to represent nostrils which alone have persisted after the disappearance of the other features. What animal it was desired to represent is very doubtful; naturally one would imagine a dugong's head to be most appropriate as coinciding with the idea of sympathetic magic, but the shape

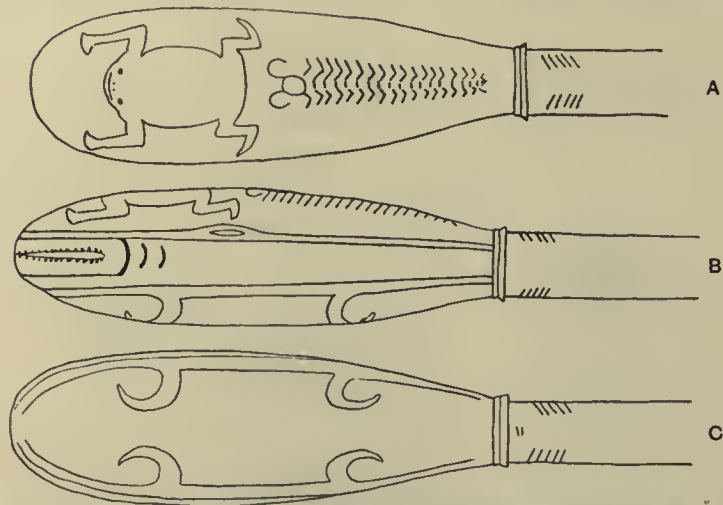


FIG. 367. Upper, side and under view of the head of an *omaiter*, Mer, given by Mr R. Bruce to the Glasgow Museum (89, 67, al).

of the head and the presence of a slit-like mouth beset with numerous teeth negative this interpretation. I have no suggestion to offer, but would merely point out that the word *omaiter* may be partly derived from *omai*, a dog; but on the other hand the nostrils are not very unlike those of the dugong.

In figs. 364 A, 367 B curved lines are engraved on the side of the head; when these are indicated on drawings of fish their meaning is evident, but in some cases, as in certain drawings of crocodiles, they certainly are not gill-slits, but may be merely the expression of the tendency to reduplicate the last motive or design—in this case the angle of the mouth—which is characteristic of decorative artists; but on the other hand it may be simply an example of a transference of features from one animal to another. I sketched a *Parama wap* in which a fish's gills and pectoral fin were unmistakably carved (fig. 369).



FIG. 368. Broken-off head of an old *omaiter*, 24 cm. in length. Collected in Mer in 1889. British Museum.



FIG. 369. Butt-end of a *wap*, *Parama* (Bampton I.); the length of the *wap* was 4.12 m. (13 ft. 6 in.).

On the upper surface of three *omaiter* shewn in figs. 365—367 and on one in the British Museum (C.C. 3283) a tree-frog is incised, and on three of them a centipede as well. I do not know the significance of the scrolls in fig. 367 B, C, probably they are indications of limbs, but that suggestion would hardly account for those in fig. 365 B.

Tobacco Pipes.

Tobacco pipes (p. 141) readily lend themselves to decoration, and on them we find the same kind of ornamentation as occurs on other objects but treated in a different and freer manner, which is clearly due to the ease with which designs can be scratched on the smooth rind of the bamboo. This has led the artists to employ more complex patterns, and even to attempt freehand drawing. Designs are most frequently engraved in zigzag or punctate lines (figs. 296, 297), and are but rarely cut deeply into the bamboo and then only at the bowl end, even more seldom do simple scratched lines occur (fig. 373).

The bowls are generally quite plain, but occasionally simple ornamentation of the usual character is made. A bowl of a pipe from Mawata is covered with an imbricate design (fig. 297 B). The bowls from the neighbouring region of New Guinea frequently have a central band cut as a moulding or beads.

For the sake of convenience of description the following areas may be distinguished in a pipe: (1) The front end, or the portion between the blind end and its node. (2) The bowl area, or the space between the node and the hole for the bowl. (3) The bowl band, or that band which includes the hole. (4) The body of the pipe; in the longer pipes this is interrupted by a node, in which case a pre-nodal and a post-nodal body may be distinguished. (5) The hind end, or that portion between the open end and its node. Thus pipe A fig. 370 may be described as having the rind entire, all



FIG. 370. Sketches, drawn to scale, of two bamboo tobacco pipes in the British Museum. A, no locality (E. a. 4). B, "Cape York" (6520); for details see figs. 256, 317, 378.

the surface except the hind end is decorated, the bowl area has a band of small diamonds and the bowl band contains large concentric diamonds. Pipe B has the rind entire, is wholly decorated, the front end and bowl area with designs used in chest scarification, a snake occurs on each side of the bowl band, the pre-nodal body is ornamented with geometric patterns, the post-nodal body with isolated designs consisting of masks and panels, and the hind end with eye-like panels.

Bamboo pipes are sometimes quite plain. When only a little ornamentation is made it first occurs at the front end, as in a pipe in the British Museum from Erub

(fig. 165). I gave a similar one to the British Museum from Tutu (fig. 371). In these two pipes the pattern is cut deeply into the bamboo.

The remainder of the pipe may be partially or wholly covered with geometric designs, in the latter case the rind is left entire, but in the former the undecorated portion frequently has the rind scraped off which gives it a dull appearance. For example, in the Museum of the Royal Institution of Cornwall at Truro there is a pipe (fig. 377) 66 cm. in length, at the front end a distance of 45 mm. is scraped, the skin is intact from the node for 175 mm. and the last 440 mm. is scraped, a node occurring in this portion is also carefully smoothed down. We obtained at Mer a stumpy pipe, 34.4 cm. long, the two ends of which are scraped, leaving a central broad band of whole skin on which are engraved in zigzag lines poorly executed triangles of the ordinary description. It was said to have come from New Guinea, and a few weeks later we obtained a very similar pipe at Iasa. We also obtained a Parama (Bampton Island) pipe which is scraped for 14.5 cm. from the blind end, then follow an unscraped band 22.2 cm., scraped 13 cm., unscraped 24 cm.; the decoration of the unscraped areas consists of the usual triangles, but in this case the alternate triangles are not hatched but are enhanced by burning. We came across one or two other examples of enhancing a pattern by charring it; this technique practically does not occur in Torres Straits and is not common at the mouth of the Fly River, where it may be aboriginal; but it must be remembered that a number of the native constabulary who are recruited in this district have been employed elsewhere in New Guinea and that the charring of designs on bamboo tobacco pipes and on gourds is universal throughout the Central District.

In the Edinburgh Museum (1887, 508) is a pipe, 77.5 cm. long, in which the rind has been removed except for a band 65 mm. wide at the bowl end. The scanty ornamentation is in zigzag lines, but on each side of the hole a dugong is engraved in simple incised lines (fig. 372); the lines on it indicate the method of carving the dugong (p. 138, pl. XXII. fig. 2).

In one pipe in the Dublin Museum (989, 1884) from the "Fly River," the rind of the bamboo is removed from the post-nodal body and along the median ventral line of the pre-nodal body, the rind in the latter area therefore appearing thus \bigcirc in section; the decoration consists of the usual triangles and lozenges. In a pipe that I collected in Mer in 1889 all the rind is removed except for a panel on each side of the bowl, this is engraved in punctate lines with a highly conventionalised fish¹ (fig. 373). There are two narrow panels decorated with very coarse zigzags on a pipe in the Dresden



FIG. 371. Rubbing of the carved decoration at the front end of a pipe in the British Museum; Tutu, $\frac{1}{2}$.



FIG. 372. Rubbing of a dugong engraved on a pipe, $\frac{2}{3}$ nat. size.

¹ This design was called in Mer, *nar lar war*, canoe cheek marking, it evidently is reminiscent of a fish that was engraved or painted on the bows of Miriam canoes; it may be compared with the decoration of the Mabuig canoes (figs. 209—211).

Museum (4489), in which also the rind of all the rest of the pipe has been scraped off; it is labelled "Fly River," and the coarse zigzags and the bowl with seven central transverse ridges suggest a New Guinea origin.

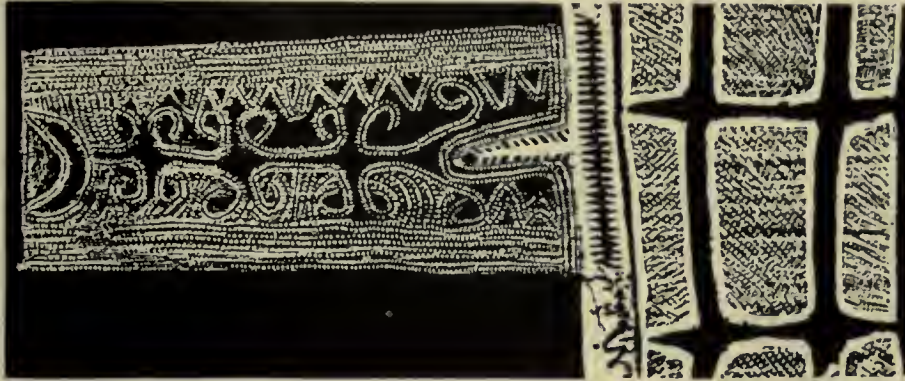


FIG. 373. Rubbing of one side of the decoration of a pipe, Mer, $\frac{1}{2}$ nat. size.

The bowl area is usually decorated in a manner that marks it off from the general scheme of ornamentation. The hole is evidently regarded as the central point in all those pipes which have been decorated by skilful artists. Frequently a rosette or other design is engraved around it (fig. 370 B), or it may occur in the centre of one of a series of diamonds as in fig. 370 A or of a band (pl. XXXVII. fig. 1).

The bowl band in certain pipes is adorned with an animal figure such as a dugong (fig. 372), snake (fig. 370 B), tree-frog (p. 353), or a highly conventionalised fish, probably a king-fish (fig. 373). In a pipe in the Exeter Museum a shovel-nosed skate (fig. 311) faces the hole in the middle line, and in a British Museum pipe the hole occurs at the junction of two fishes' tails. In a few pipes a panel decoration is found on each side extending from the bowl band well into the pre-nodal body.

The pre-nodal body almost always has its rind more or less entire and is frequently decorated with geometric patterns, but these are absent in several pipes in which there are scattered devices mainly of animal forms (fig. 374). In one pipe there is an elongated panel on each side, and the under surface is decorated with a number of coco-nut palms engraved in punctate lines (pl. XXXVII. figs. 1, 2). The post-nodal body may be quite plain, or else decorated with geometric patterns, occasionally with isolated designs (fig. 370 B) or with animal figures (pl. XXXVII. fig. 1).

There is an interesting pipe in the Dover Museum (fig. 374) which deserves special mention. It is stated to have come from Kambala, near Kukéwe, Africa, and was presented to the Museum by the Rev. Dan Greatorex, having been previously the property of the late Capt. V. Lovett Cameron, R.A.; it was collected in or before 1876. Despite this statement no one who is acquainted with African ethnology would admit that this pipe was made in Africa, and there is no doubt that it is a typical Torres Straits pipe and belonged to a man of the *Baidam* clan. It is 788 mm. (2 ft. 7 in.) long and is engraved with punctate lines. The front end has a series of arcs composed

of short lines; the bowl area has typical triangles; there is a simple bowl band; the pre-nodal body is occupied mainly by two tiger-sharks (p. 349), above the head of each is a small dugong and below is what looks like a devil-fish or eagle-ray (*Aëtobatis*) and two fishes which I cannot identify; the post-nodal body contains several simple patterns and a series of large diamonds enhanced with transverse hatches between two bands of coarse cross-hatching, there are also several problematical elongated ovals; the hind end has a simple pattern.



FIG. 374. Sketch of a pipe in the Dover Museum by Mr Gray¹, about 79 cm. long. The shark on the other side of the pipe is provided with two gill slits.

I think I can definitely state that there is no example of a Torres Straits pipe in which the scheme of decoration has relation solely to its length.

The encircling scar which occurs at each node and marks the origin of a leaf undoubtedly had a direct influence in determining the encircling character of the decoration, and as most pipes are composed of two whole internodes there are three annulations to be taken into account when decorating a pipe. What is more natural than to repeat these encircling lines so as to break up the intervening spaces into areas that can be easily dealt with when patterns are to be employed? Thus there is provided a series of bands of varying widths running round the pipe. As a rule there is considerable irregularity in the patterns of contiguous bands, as for example in fig. 370 A. The pipe shewn in fig. 370 B exhibits a somewhat remarkable balance of decoration in the pre-nodal body, indeed this specimen may be regarded as one of the most skilfully decorated objects that have come from this district. In both the pipes of fig. 370 there are bands in which the patterns run lengthwise, but this is not very common.

The rounded scar of the base of the leaf extends beyond the nodal annulation, and deflects encircling lines in its neighbourhood (fig. 370 B, pl. XXXVII. figs. 1, 2).

As in the combs the fundamental patterns are zigzags and triangles. Frequently one series of triangles is plain and the other shaded or enhanced with transverse lines (figs. 165, 301, 374, 375), and this may be regarded as the typical pattern of this district. In other cases one series of triangles is enhanced by straight lines while the other is treated in a very different manner (fig. 370 A, B, 376 A, B).

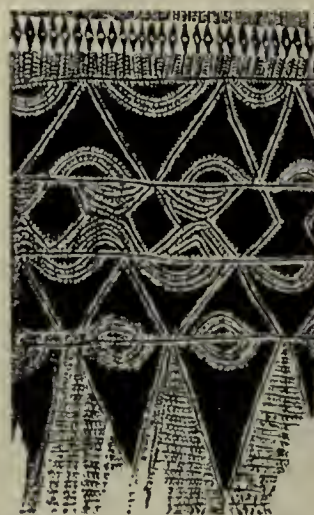


FIG. 375. Rubbing of a pipe from Mer, the pattern was called *kar*, a fence; $\frac{1}{2}$.

¹ I am indebted to Mr J. Barnes, Hon. Curator of the Museum, for sending me this drawing, and for other help.

A single or multiple curve (figs. 301, 375) frequently projects into a plain triangle from its base. A series of similar curved lines, several of which are usually placed one within the other, may project into a plain band (figs. 370 A, 376 A). When these coincide on each side of a boundary line a series of more or less oval designs results. If

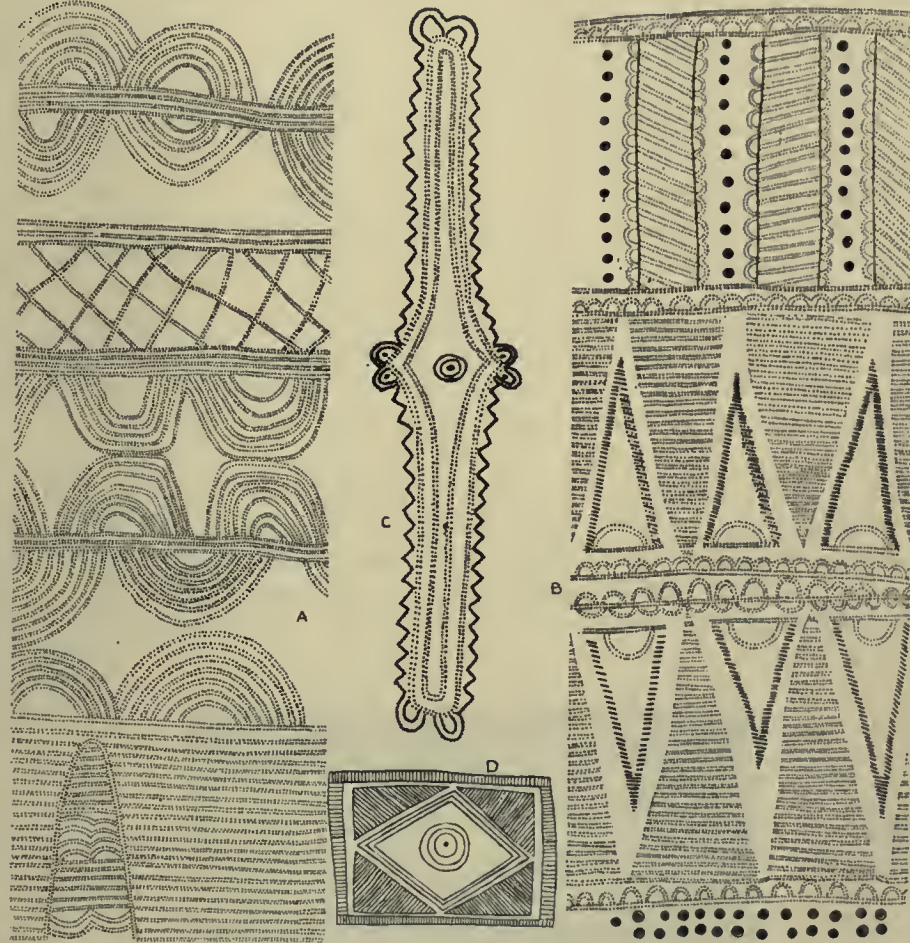


FIG. 376. Designs engraved on bamboo pipes in the British Museum; red. about $\frac{1}{3}$. A, see fig. 370 A. B, see fig. 370 B. C, panel, Douglas coll. D, panel in very fine zigzags said to come from Cape York, but undoubtedly made by a Torres Straits Islander.

however the ends of the bases do not coincide, and especially if they alternate, a wavy pattern is produced which bears some resemblance to a guilloche or rope pattern; but this suggestion does not appear to have been adopted as no coherent pattern of this kind has been evolved. Concentric bowed lines may fill a whole band¹ (fig. 297 A),

¹ This pipe was obtained by the Rev. Dr W. Wyatt Gill at Mawata. The pattern consists of broad transverse bands, each band being separated from its neighbour by a few lines and itself filled up with a series of encircling zigzag lines with rounded apices all of which point towards the bowl end; the whole is very neatly and regularly executed in punctate lines.

and in the bowl of the same pipe (fig. 297 B) an imbricated scale pattern has been achieved. I should not be at all surprised if this pipe had been imported from Torres Straits as the technique of its decoration is more characteristic of the islands than, so far as we know, of the mainland. From an examination of many specimens I am inclined to regard these curved lines as being essentially rounded triangles.

Although, as seen in their pictorial designs, the natives can draw sigmoid curves and spirals, there is a remarkable absence of these elements in their patterns, indeed I do not remember to have seen one case of the former, and of the latter but few incipient examples occur, as in fig. 370 A; they are however more numerous on scarifications (figs. 13, 19, 33). It is quite possible that all the scrolls on pipes are derived from scarifications as several examples of such copying occur, for instance the breast scarifications at the bowl end of fig. 370 B. The only scroll-like design known to me is found on a pipe in the Berlin Museum (fig. 304), it is not associated with anything and may be intended for a representation of a plant form.

Small and moderately large circles are common, the former frequently have a black central spot and the latter may consist of several concentric circles with or without a central spot. When a circle is inscribed within a lozenge-shaped design (figs. 370 B, 376 C) it may represent the iris and pupil of an eye; circles by themselves may also represent eyes.

There is a considerable amount of variation in the lozenge-shaped designs on pipes to which allusion has just been made. Sometimes they are without a central circle, and the contained area may be enhanced. In some cases two ends of the diamond may be greatly prolonged so as practically to give a new form (fig. 376 C).

A diamond or lozenge, or more than one, may be inscribed within a square, thus resulting in what may be described as a panel (fig. 376 D).

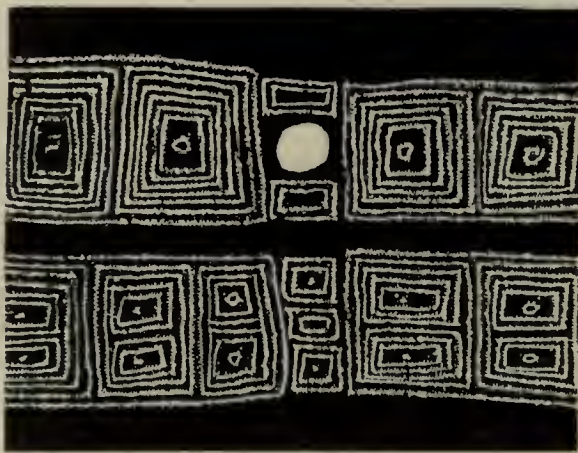


FIG. 377. Rubbing of the decoration of the Truro pipe, p. 378, $\frac{1}{2}$.

A panel decoration which is unique as far as I am aware occurs on a pipe (fig. 377) collected many years ago by Lt. G. B. Kempthorne (p. 305). It consists of a bowl band composed of a line enclosing an oblong space which is broken only on each side of

the hole; it encloses a series of concentric squares. Behind this is a similar oblong enclosing twinned squares. The median line is emphasised by independent squares. The end of the whole skin is marked by four encircling lines. All the lines are fine zigzags.

The design shewn in the upper part of fig. 376 B occurs on more than one object. It consists of an oblong arca traversed by oblique lines, along the outer edge of each side is a series of semi-circles which bear no definite relation to the enclosed lines.

Most of the other patterns on pipes are of a very elementary character, and do not call for special mention.

The animals represented on the pipes appear to fall into two categories: (1) Those which occur in pairs, usually one on each side of the orifice for the bowl, seem to be for the most part totemic animals, and we need have no hesitation in ascribing the owners of these pipes to those clans which have these animals as their totems. (2) Those animals which are scattered about the body of a pipe may be the totems of various clans, but I doubt if they have here any special significance; I regard them as analogous to the representations of ships, masks and so forth, which are to be found in a similar position and are simply ornamental or casual.

Almost the sole example of a representation of vegetable forms is to be found in the beautiful pipe shewn in pl. XXXVII. fig. 2. The tree forms are probably coco-nut palms, as is unquestionably the horizontal one to the left of the figure.

The two landscapes known to occur on pipes are described on p. 346.

In illustration of the diversity of the subjects that are represented on the pipes I may mention the following examples in the British Museum:—No. + 477, a feather head-dress (*děri*), two *koimai*, a two-masted ship, a dog, dugong, snake and turtle, two sharks, two hammer-headed sharks each with a ray in front facing them (see pl. XXXVII. fig. 1, and Vol. v. p. 374, pl. XXII.), two suckers of the *gapu*, and other objects. No. 6520 from Muralug ("Cape York" Armit. coll., but it is certainly an island pipe), two masks (fig. 256 A, B), two *koimai* (fig. 28), several \wedge -shaped designs which look like breast scarifications (being very like the outermost portion of fig. 13) but were identified by one Western man as *begai* (p. 301), two snakes (figs. 324, 370 B). No. 6521, Muralug, Armit. coll., a canoe (fig. 340), a *markai* (v. p. 257, fig. 40 A), two sea-eagles with fish in their claws (fig. 330), a king-fish or queen-fish shewing the ripple which the dorsal fin makes on the surface of the water, a sucker of a *gapu*, a starfish, a jelly-fish, etc. (fig. 305 A, B, G; see *Album*, I. pl. 318, No. 3). One from Parama was given to me by the Rev. E. B. Savage, to whom it was given by the Miriam teacher who was then stationed at Parama or Parem (Bampton Island) and I gave it to the British Museum. The pre-nodal body is decorated with two bands of large lozenges, enhanced by internal repetition and the triangular interspaces by horizontal lines interrupted in the middle, the style (cf. fig. 328) and the coarse zigzag lines point to a provenience from Daudai or the Fly River delta. The numerous isolated figures on the post-nodal body are engraved in punctate lines and consist of two men with harpoons, two dugong, one crocodile, snake, shark and hammer-headed shark, two ray and two starfish (fig. 305 C, E, F, I, J, K).

Tops.

It is interesting to note how a circular area is decorated, and fortunately we have a number of examples of this in the flat upper surface of the stone tops (p. 315). There is generally a simple or double coloured ring round the periphery and round the central hole. The whole upper surface is rarely uniformly coloured or particoloured, in one example in the collection one half of the disc is painted white and the other half red¹. Red, white, yellow and blue are the colours employed.

Most frequently a design is painted on the disc, objects or incidents of everyday life being often portrayed, but not infrequently folk-tales are illustrated.

On a top in the Pitt-Rivers Museum at Farnham a fishing scene is depicted; a man holds two *werir* (p. 155), in front of him stands a woman in the act of scooping up fish in a *weres* (p. 156), and below is a child who appears to be holding up a basket. Another top in the same museum represents a person, two dogs, a fish (?) and some rounded objects. One top which we collected (fig. 378) has a representation in red and blue² of a man in European clothes who is touched by the tongue of a snake, which has a blue head, pink body and outline in yellow. A frog outlined in blue is seen in fig. 379. The masked figure on one top (pl. XXXVII. fig. 4) is blue outlined



FIG. 378. Tracing of a man and snake on a stone top, Mer, 151 mm. in diam., 44 mm. thick, weight 2 lbs.



FIG. 379. Outline in blue of a frog on a stone top, Mer, 145 mm. in diam., 46 mm. thick, weight 2 lbs.

in yellow, he is wearing a dance petticoat and from behind there projects a tuft of cassowary feathers; a blue line margins the periphery. Dr C. H. Read described the ornamentation of two tops in the British Museum (*Journ. Anth. Inst.* xvii. 1887, p. 85); the one which he figures represents a man dressed for a dance, the other is figured in the *Album*, I. pl. 319, Nos. 1, 2. Also in the British Museum there is a top which is decorated with what appear to be a tooth or shell necklace, a pearl-shell crescent and a forehead ornament (*Album*, II. pl. 204, No. 3).

¹ This top is 145 mm. in diam., 40 mm. thick, and weighs 2 lbs.

² In these figures red is indicated by vertical shading, and blue by black.

One top (pl. XXXVII. fig. 3) represents incidents in the story of Nageg and Geigi: Iriam Moris is seen eating a *weres* (p. 156), in front of him are two *werir*, behind his feet are four stones, *irmad*, on which cooking is done, and behind him there are five small boys poking Geigi (who was then a king-fish) in the eyes and otherwise maltreating him (VI. pp. 16, 17). The two sun- and moon-like figures represent two fires and wind-screens, *mad*, perhaps the two circles above the man's head are coco-nut water vessels, or they may be *irmad*.



FIG. 380. Tracing of the Nageg top, Mer, 130 mm. in diam., 45 mm. thick, weight 1½ lbs.



FIG. 381. Tracing of the Kultut top, Mer, 140 mm. in diam., 61 mm. thick, weight 2½ lbs., ½.

On the disc of another top (fig. 380) is written the name of Nageg, who is represented wearing what looks like a European skirt; she holds in her hand a strip of pandanus leaf for mat-making, in front of her is the mat she was making when Geigi disappeared (VI. p. 16), and beyond it is probably the shell scraper which is employed to make the leaves supple (fig. 82); below are a basket and two coco-nut water vessels



FIG. 382. Tracing of the Meidu top, Mer, 109 mm. in diam., 46 mm. thick, weight 1½ lbs.



FIG. 383. Tracing of the Wakai and Kuskus top, 150 mm. diam., 44 mm. thick, weight 2 lbs.

connected by a handle; behind her are three dots for the stones to support a shell saucepan (p. 121) beside which is the fire.

Other tales are also illustrated: The long-armed Kultut (vi. p. 12), who wears a feather head-dress, is seen in fig. 381; above his hand is his earth-oven. In fig. 382 the human figure is wearing a feather head-dress, in front of the person is written the word Meidu, but there is nothing else to connect it with the tale about the woman of that name (vi. p. 13); the top is painted in blue and white. The two figures on the top shewn in fig. 383 were said to be Wakai and Kuskus, or rather the masks which represented them (vi. p. 46).

NAMES AND SIGNIFICANCE OF PATTERNS AND DESIGNS.

Although I made enquiries concerning the meaning of the decoration of objects and the names of the several designs and patterns, the information I obtained was so meagre that it seems evident that their history is forgotten. In some cases I am doubtful whether the word given was the recognised name for that pattern or whether it was given because the pattern resembled that particular object. As I have given the explanation of the several patterns when describing them (pp. 15—29, 66, 214, 362, 363, 365, 366, 368, 373—376, 380) only a few general remarks are here necessary.

A zigzag or serrated pattern was called *dang wazi* or *dang wasipa* (Sabai), teeth lie about (?); *mi war* (Mer), clam mark, from the serrated edges of the *Tridacna* shell (see Vol. vi. pls. III. fig. 3, XIII. fig. 10), but it may also represent pelicans flying (figs. 38, 344 A); and one Mabuig man called it *dōgai*.

Triangles alternately shaded or plain (fig. 298) were also called *mi war* (Mer), but more frequently *war*, mark, pattern, carving, writing (a modern extension of the term) and *minar* in the west, which has the same meaning.

Lozenges or diamonds when forming a band were usually identified as representing a forehead band of nautilus nacre (p. 36, pl. IX. fig. 2), hence the names *kwik uru* (W.) and *piau war* (E.). One Mabuig informant called them *kaura danau minar*, nautilus eye-of mark, that is a pattern of the lozenge-shaped artificial eyes of nautilus nacre that were inserted in decorated skulls (v. pl. XV. fig. 1).

Oblique shading lines were called *user* (p. 15) in Mer; the pattern of rings or circles was called *kotin* in Saibai; scattered circles consisting of an outer and inner ring and a central spot were called *dibidibi war* in Mer (p. 43).

Regarding the significance of patterns and designs I have very little to say. I think it may be granted that the preponderance of straight and angled lines is probably due to suggestion stimulated by plaitwork and basketry, if not in some instances to the actual copying of patterns on textiles. I have hazarded the hypothesis that the decoration of the shaft of many dugong harpoons is in imitation of lashing. There is no reason to believe that patterns on artifacts have a magico-religious significance, the simple patterns, or rather designs, that are scarified on the person (pp. 13—29) belong however to a different category, their significance is mentioned on p. 14. The copying of such designs on pipes or other objects may be regarded on the other hand as purely decorative.

The paired animals scarified on the person (pl. IV.), incised on drums (figs. 309, 347, 351—356), or engraved on pipes (figs. 324, 370 B, 372—374, pl. XXXVII. fig. 1), and on pearl-shell (fig. 308, Vol. v. pl. XI. fig. 1) are almost certainly totemic, but this is probably not the case for the scattered representations of animals on pipes, though single engravings such as pl. XXXIII. fig. 3 B and the four crocodiles of fig. 327 may be regarded as totemic.

TREATMENT OF DECORATED SURFACES.

A few points may be noted with regard to the scheme of the decoration of varied objects. There is an obvious tendency to confine the decoration to the upper or attached (proximal) end of objects (figs. 204, 233, 300 c, pls. VII. fig. 4, XI. figs. 11—16); the same is noticeable in pipes, where the bowl end is treated as the upper end.

The artists have a distinct feeling for symmetry which prompts them to design their patterns with regard to the middle or sagittal line of the object (fig. 377 for example), even though the middle line may not be indicated structurally (figs. 204, 298, 343, 350, pl. VII. fig. 4).

The balancing of similar designs with one another is illustrated in the paired designs on drums and pipes, the scarification on pl. IV., and other examples, but I do not recall any balancing of dissimilar designs.

There seems to be an appreciation of "areas of repose" as in many objects a considerable area is left unornamented (fig. 204, pl. VII. fig. 4). The drums (figs. 347, 352, pl. XXVII. fig. 2) also illustrate the artistic value of blank spaces; that this is so is proved by the vulgar over-ornamentation of the drum mentioned on p. 367, which is a pitiable example of an endeavour to decorate an object so as to please the supposed taste of a European.

An interesting distinction seems to be drawn between the value of holes. In the tobacco pipes—figs. 324, 370 and pl. XXXVII. fig. 1 are instances, but my remarks are based upon a very much larger number of examples—the hole for the bowl is usually taken into account and a pattern is so designed that the hole fits into an appropriate place, or a rosette or other device may be disposed around the hole which thus fits into the scheme of decoration characteristic of pipes. In the stone tops the artists have to deal with a disc of moderate size in which there is a central hole. On comparing figs. 380—382, pl. XXXVII. fig. 3 it will be noted at once that the central hole for the stick has no appreciable effect upon the design, but in a few cases, as in figs. 378, 379, the elements of the design are more or less grouped around it. In other words, the disc of the top is utilised for a picture, good use is made of the area at the disposal of the artist, and the existence of a central hole is practically ignored in the composition; in no case does a design radiate from the hole nor is it made the central feature of a design. The central holes in the pearl-shell discs (p. 46, pl. X., figs. 15—17) are treated in a very different manner but the two holes in the groin-shells (fig. 204) are ignored.

PIGMENTS.

The methods of colouring objects consist of dyeing, painting and charring.

Dyeing was employed for colouring materials used in textiles, but whenever possible a naturally coloured vegetable strand or fibre was utilised. The methods of dyeing are described on pp. 61, 62, the colours obtained were red, reddish brown, yellow and black. The processes have become practically obsolete as all clothing is now obtained from Europeans.

The following pigments are used in painting:—

White, *dai* (W.), *giaud*, *gidd*, *kiaur* (E.), is a lime obtained by rubbing down burnt shells (vi. p. 219). A greyish white, *bud* (W.), is made of crushed coral; this was more particularly used for painting the person when in mourning (v. 262). The mourning *bud* of the Miriam was said to be a dark grey alluvial soil found upon the roots of drifted trees from the Fly River, but doubtless coral mud was also employed. In the tale of Gelam (v. p. 38; vi. p. 23), his mother painted herself with coral mud to represent a *ddgai* or *lamar*.

Black, *kubikubi* (W.), *golegole* (E.), is usually obtained from charcoal or soot. *Kubi* (W.), *keg* (E.) is made from the husk or shell of the coco-nut (vi. 35, 146); *boat*, *buat*, *bdt* (W.) is a charcoal made from the roots of the *tapi* tree (v. p. 213); *gole* is the cuttle-fish, but I do not know that its ink was utilised. Occasionally the surface of wood is charred, a technique which also occurs though rarely on bamboo tobacco pipes. The charring of wood is common in the Papuan Gulf and I have seen patterns charred on the inside of canoes, but this was done by the Fly River makers.

Bluish grey, *kobegud* (E.), a grey clay with a slight bluish tinge¹, is said to come from Terker and Werbad in Mer, but it was also imported from New Guinea. A similar clayey stone, *gdd* (W.), was very rare and much prized in the west, as it was the nearest approach the natives had to a blue; it was imported from New Guinea. Blue pigment is now bought from Europeans, and its value is enhanced from the fact that it was an impossible colour for them to obtain from their own resources.

Yellow is obtained from an earth or ochre, *mur* (W.), *siu* (E.).

Red is obtained from red ochre, *paruma* (W.), *mair* (E.). At Mabuiag this was said to come from Saibai and Kiwai where it was burnt in a fire of mangrove bark. D'Albertis states that the natives of Erub (March 1875) "adorn themselves by tinting their skins with a red clay which they procure from New Guinea, and which they esteem highly. This they previously bake in the fire, using for the purpose a special kind of wood. While this operation is going on, they put the flowers of the hibiscus suspended on small reeds, on the fire" (*New Guinea*, i. p. 239). It is very probable that the scarlet flowers of the hibiscus were employed to make the clay assume a more brilliant colour, on the principle of what is termed sympathetic magic. *Mair* is the general name for red paint in Mer, a special name for a local red stone is *mair lid*.

¹ Mr A. Livingstone Oke, of the Royal College of Science, Dublin, kindly examined a piece of *kobegud* for me in 1900. He reports that the blue colour suggests Vivianite (phosphate of iron). The colour is removed on heating leaving a white residue, hence it is not due to any iron compound, there being but the merest trace of iron. Microscopic red specks can be seen in the white residue. It therefore appears to be a clay, the colouring of which is organic.

Mair was often kept in bailer-shells (fig. 384), and was rubbed down between any convenient stones. Coeo-nut oil, *idi* (W.), *id* (E.), was employed with pigment when painting the body (vi. p. 35). Oil paint obtained from Europeans generally now disfigures painted woodwork. There is no varnish or laequer. Any suitable object serves as a brush, fragments of the frayed husk of a coeo-nut and the dried drupe of a Pandanus (fig. 164) are those in most common use.

The colours in most frequent use were black, white and red; at the present day red lead and washing blue are in general use. Red seems to have been the favourite colour and sacred objects were usually painted to a greater or less extent with that colour, masks representing a human face, for example, are frequently completely ruddled.

Red colour was associated with the culture hero Bomai (vi. pp. 38—40, 42) and with the *nam zogo* (vi. pp. 48, 49). The participants in certain ceremonies (v. p. 65, vi. pp. 274, 289, 292—294) were painted red all over, and so were champions (p. 200). Ireland informed Capt. Lewis that the spirits, *lammoor*, of deceased persons are painted over with red ochre, and "that he has both seen and heard them by day and night" in Mer (*Naut. Mag.* 1837, p. 755).

For colour terminology see Mr Ray's Vocabularies in Vol. III. and more especially Vol. II. pp. 53—64, which forms part of the article on Colour Vision by Dr Rivers.



FIG. 384. Melo shell containing *mair* from New Guinea used in the *bubarup* ceremony (vi. p. 211), Mer, 19.5 cm. long.

CARVINGS IN THE ROUND.

The natives carve very cleverly in the round, but naturally some are better craftsmen than others. Examples of animal forms carved in wood or cut out of turtle-shell have been obtained from most of the islands, and in all cases they appear to have a magico-religious significance.

One class of these objects consists of earrings of totem animals, frequently in wood but sometimes in turtle-shell (in which case they are flat), they were worn as pendants by the totem clansmen among the Western Islanders (v. pp. 162—171). In most of these islands there is a *tapimul* or *tapi* totem, which appears to be a generic term for various species of ray; a beautifully carved specimen of what may be a *Urogymnus* is shewn on pl. XL. figs. 1, 2, on the underside of which the mouth and the soft wall of the abdominal cavity are indicated. I obtained a less carefully carved specimen at Tutu in 1888 (pl. XL. fig. 3). A ray cut out of turtle-shell is shewn in Vol. v. pl. XI. fig. 7. Among other totem fish models were the shovel-nosed skate (*Rhinobatus*), *kaigas*, of which I know of only one pendant (pl. XL. fig. 4), collected by the Rev. James Chalmers at the mouth of the Fly River, and the suker-fish, *gapu*; a very well

carved wooden representation of the head of this fish is in the British Museum (pl. XL fig. 5), it came from Nagir (cf. Vol. v. p. 336).

Analogous objects to the foregoing have been obtained from Mer. I acquired a turtle-shell model of a ray, *tapim* (Vol. v. pl. XI. fig. 7), which is now in the Cambridge Museum, it is 104 mm. long; and I collected a somewhat similar specimen in 1889 which is in the Oxford Museum (Vol. vi. pl. XXIV. fig. 4), it is ovoid in form, without fins, and the tail is broken off, it is about 48 mm. long. There is also in the Liverpool Museum a well carved wooden model in the round of a basking shark (*Cetorhinus maximus*)¹, 171 mm. in length, which was collected by J. Duncan-Stoward before 1885 (pl. XXXVII. fig. 5, and vi. pl. XXIV. figs. 6, 7). I have shown (Vol. vi. pp. 254—257) that totemism does not now occur among the Miriam though it undoubtedly did in former days, therefore these objects have had no totemic significance in quite recent times and were probably employed for the purpose of what is termed "homœopathic magic." It is indeed highly probable that all the specimens of this class of objects, in the western and eastern islands alike, were employed in this manner.

I collected in Tutu in 1888 an old carving of a turtle (pl. XL fig. 6) which was executed with great feeling and is one of the finest works of art that has come from this district; it was fastened to the bow of a canoe when employed in turtling in order that by magical constraint the turtle might come to be caught. The *surlal* illustrated in Vol. v. pl. XVI. fig. 6 doubtless had a similar significance. I should like here to draw attention to an exceedingly well carved wooden turtle in the Stepney Borough Museum, London, E., which was collected by Mr Thompson, chief officer of the *William Cole*, in 1866; although proof is lacking I have no doubt that it comes from this district.

Dugongs were frequently carved in wood by the Western and Eastern Islanders, and I gave two specimens (v. pl. XVI. figs. 1, 2, 3) and one example in stone from Moa and Mabuiag to the British Museum. The illustrations on pl. XL figs. 7—10 will shew how excellently these models were carved in Mer.

In 1888 I obtained in Masig a large coral (*Mæandrina*) figure of a Torres Straits pigeon (p. 152, pl. XII. fig. 6). I saw a somewhat similar one in Mer, and there is one in the Vienna Museum.

Human figures were also carved in wood. The largest of which there is any record is that described and figured by Jukes (i. p. 185). One Miriam man to whom I shewed the illustration called it "*Daido siriam, belong zogo*," *Daido* being the name of the place in Erub where it was erected. (Various *siriam* in Mer are described in Vol. vi. pp. 141—143, 216, 273.) It consisted of a more or less squared stump of wood about 1.68 m. high rudely carved to represent a woman, it had holes apparently for ears and arms to be affixed, a band of scalloped carving represented a petticoat, the eyes were of nacre, and the figure was painted red; in front of it were some old shells and on each side a series of split coco-nut husks. In the British Museum is a human figure 94 cm. (3 ft. 1 in.) high (*Album*, i. pl. 329, No. 3), the exact provenience of which is not known. Mr J. Bruce had two models made for him of wooden images, 305 and 266 mm.

¹ I am indebted to my friend Dr H. O. Forbes for this identification.

high, of a man and woman coated with beeswax, which he gave to the Cambridge Museum (vi. p. 231, pl. XXII. figs. 1, 2). He also gave us six wooden models of *ad giz*, or ancestral figures (vi. p. 258, pl. XXII. figs. 3—5), and one of the hero Waitet (vi. p. 277, pl. XXII. fig. 6); these range from 337—460 mm. (13¼—18½ in.) in height.



Tobacco charms from the Murray Islands.

FIG. 385. ¼ nat. size, 42 cm. high.

FIG. 386. ¼ nat. size,
62 cm. high.

FIG. 387. ½ nat.
size, 265 cm.
high.

FIG. 388. Model of
a tobacco charm,
Mabuiag, ¼ nat.
size.

I had a model of a *madub* made for me in Mabuiag, which is 76 cm. (30 in.) high (Vol. v. pl. XX. fig. 4). The business of the *madub* was to take charge of the garden beside which it was placed and to give good crops of yams, sweet-potatoes, bananas and sugar-cane (v. pp. 345—347). The *madub* were of both sexes. A special kind, *sukub madub* (W.), *sokop madup* (E.), was placed for similar purposes in tobacco gardens. These tobacco charms (figs. 385—388) consist of a narrow slab of wood carved to represent a man. Some old ones from Dauar, one of the Murray Islands, although much worn shew considerable skill on the part of the artist in giving characteristic contours to the

face (Vol. vi. pl. XIII. figs. 6—8). Probably these were painted, as are the more modern specimens; they measure respectively 217, 545, 435 mm. in length, I have seen finer specimens than these. For further information the reader is referred to Vol. v. pp. 346, 347; Vol. vi. pp. 207—209.

Small portable human figures were generally fairly well carved, and were employed for various purposes. One which we obtained at Mer (fig. 389) was a wooden image of a man, 19 cm. in height, with a single leg and hands clasped over the chest. There are traces of red paint on the face and in the grooves bounding the arms, the chest is reddened. This *madub* was employed in maleficent magic (vi. p. 232). Another figure of a man (fig. 390) from the same island is 215 mm. high, it was cleverly carved by Gobai of Warve in hard wood to represent a deformed man named Abos who used to walk with his left arm behind his back, the hand clasping the right arm. This was described as a *neur madub*, girl *madub*, that is to say a girl- or love-charm (vi. p. 222).



FIG. 389. *Madub*, Mer.

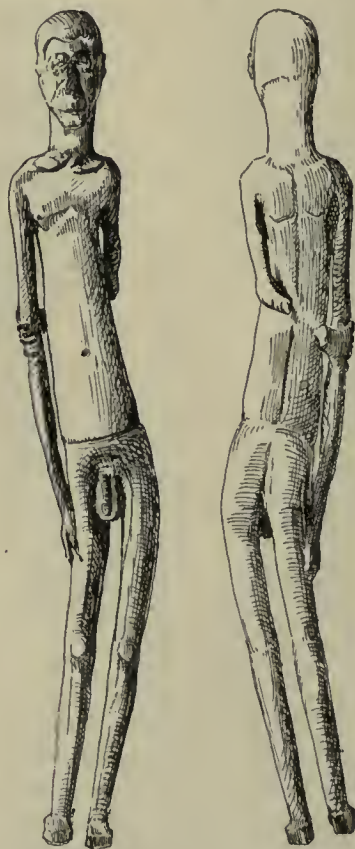


FIG. 390. *Neur madub*, Mer.

In 1889 I collected two wooden figures of nude girls which are more typical *neur madub* (pl. III. fig. 4), one from Mer, the other from Erub though it was said to come

from Masig; both specimens are in the British Museum, their scarifications have already been described (p. 17).

Numerous small wooden figures have been collected by various people in Daudai and at the mouth of the Fly River, two of which are shewn in Vol. v. fig. 30. The old Torres Straits images were doubtless very similar to these:

There is in the British Museum a strange figure from Erub of a man carrying a smaller one on his shoulder (*Album*, I. pl. 329, fig. 5). It is carved out of a solid piece of light wood and wound round with a braided cord of rolled leaf (? tobacco). The label says there is a tradition in the Straits that twins were born joined together in this way. In the story of Sida we hear of two women in Mibu who were joined together back to back (v. p. 32), but I did not hear of any other case. I suspect this figure merely represents a man carrying a child.

Numerous stone figures of human and animal form are figured in Vol. vi. pls. III.—XIV., XIX., XX., and XXVIII. Some of these represent individuals mentioned in the folk-tales, others are associated with the fertility of gardens, some are rain-, fire- or fish-charms, while others are sorcery stones. The ceremonies connected with these rude figures in some instances appear to belong to the borderland between those observances which we usually speak of as magical and religious.



FIG. 1. Deformation of an infant's head by manual pressure. From a drawing by Dr Otto Finsch made in Mabuiag in 1882 (pp. 7, 10, 30).



FIG. 5. Ulai, Mer (p. 10).



FIG. 2. Deformed head of an infant: Dr O. Finsch (p. 7).



FIG. 3. Mammoos (pp. 23, 30, 31, 55).

FIG. 4. Garia (pp. 9, 32, 40, 41).

Natives of Masig. After Harden S. Melville from Jukes, Vol. 1. p. 159.



FIG. 6. Gizu of Muralug wearing a wig (pp. 31, 43, 52).



FIG. 1. Alalan, Badu. FIG. 2. Gaiba, Mabuig (pp. 9, 10, 30).
From a photograph by Dr Otto Finsch, 1882.



FIG. 5. Deau, Mer (pp. 30, 33).



FIGS. 3, 4. Aigaga, Mabuig (pp. 10, 30, 55). From photographs
by Dr Otto Finsch, 1882.



FIG. 6. Kausa, Mabuig (pp. 10, 15).



FIG. 1. Coco-nut water vessels engraved with a *kip sor koima*.
Horniman Museum (pp. 22, 86, 123).



FIG. 2. Breast scarification of Bonel of Saibai,
after R. Bruce (pp. 10, 17).

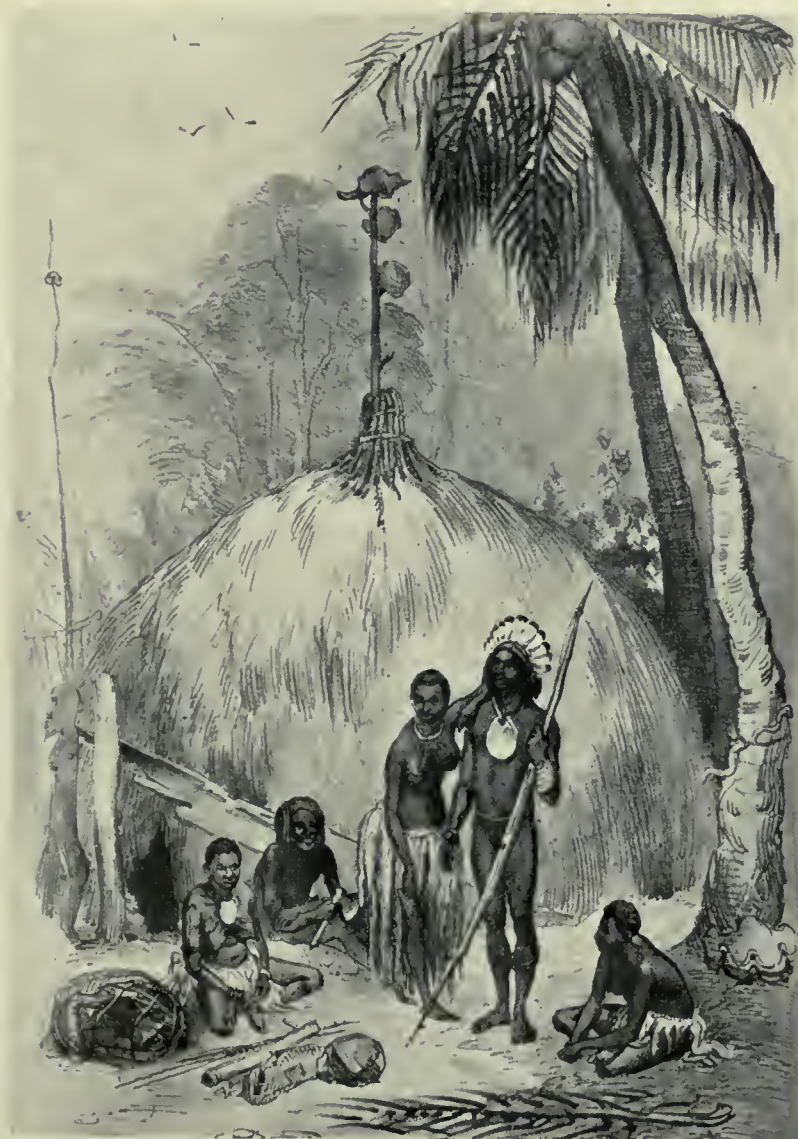


FIG. 3. Round house at Erub, with (from left to right) a New Guinea woman, old Duppa, Areg, young Duppa and Mogor; from H. S. Melville, "Sketches," Pl. XVIII. (pp. 17, 26, 37, 59, 105, 141, 151).



FIG. 4. *Neur madub*, images used in erotic magic:
A. Mer, 345 mm. high. British Museum.
B. Masig, 215 mm. high. British Museum.
(pp. 17, 20, 22, 26, 392.)



FIG. 1. Mēke of Tutu; with a *baibesam* cut on her back (pp. 22, 387).



FIG. 2. Patagam of Mabuig; *Tabu*, *Dangal* clan, with two *Tabu* cut on her back (pp. 21, 354, 387).



FIG. 3. Ađo of Badu, with two *Dangal* cut on her back; the three lines above the head of the dugong represent the spouting, the triangular flap below is the fore-limb or paddle (pp. 22, 358, 387).



FIG. 4. Wagud, formerly of Mabuig, later of Tutu, *Tabu*, *Dangal* clan, with two *Dangal* cut on her back (pp. 21, 68, 358, 387).



FIG. 1. Esaka.

FIG. 2. Nawe.

FIG. 3. Piwini.

FIG. 4. Tibi.

All of Badu (p. 30).



FIG. 10. Maino of Tutu dressed for a war-dance (pp. 35, 52, 55, 56, 59).



FIG. 5. Gupi.

FIG. 6. Monday.

FIG. 7. Bagari.

All of Mabuig (pp. 10, 30).



FIG. 8. Bablo.

FIG. 9. Canoe.

Both of Mer (pp. 9, 10, 30).

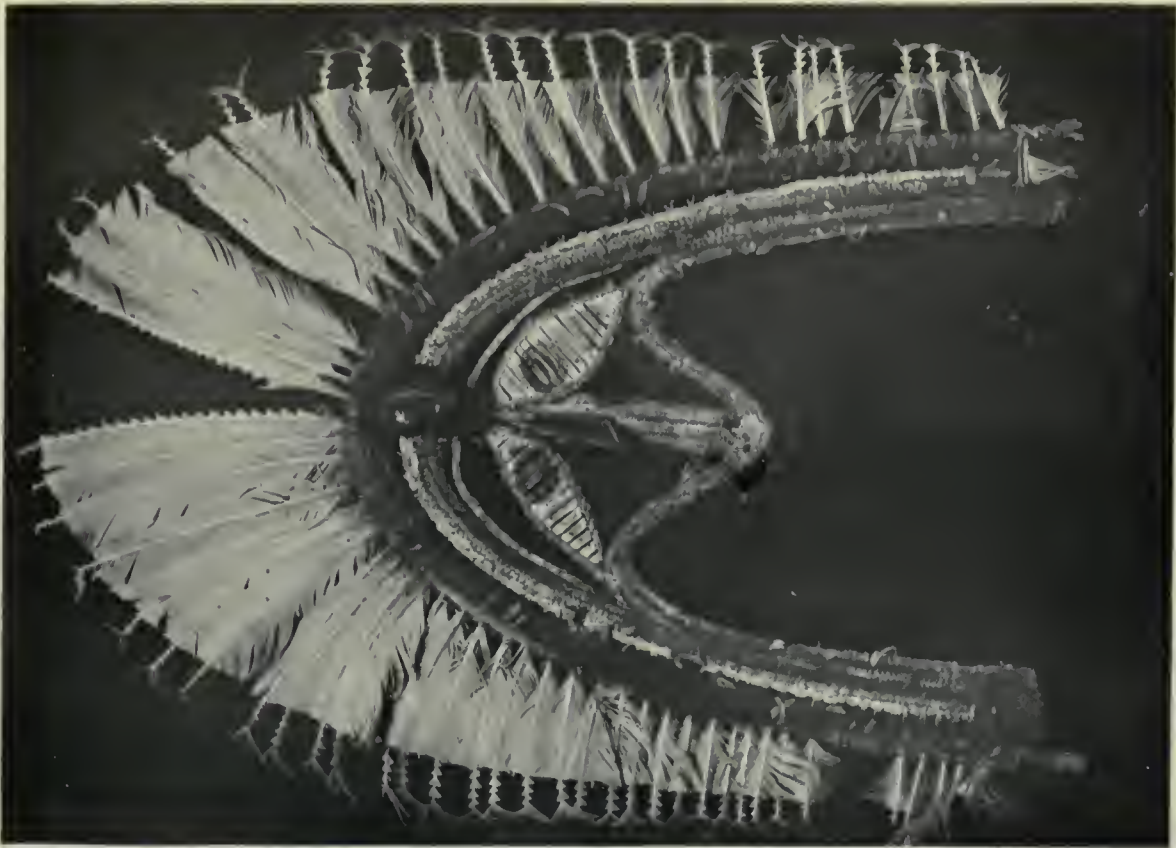


FIG. 2. *Dari, Mer*. Ht. 50 cm. (19½ in.), br. 37 cm. (14½ in.)
(pp. 37, 38, 364, 365).

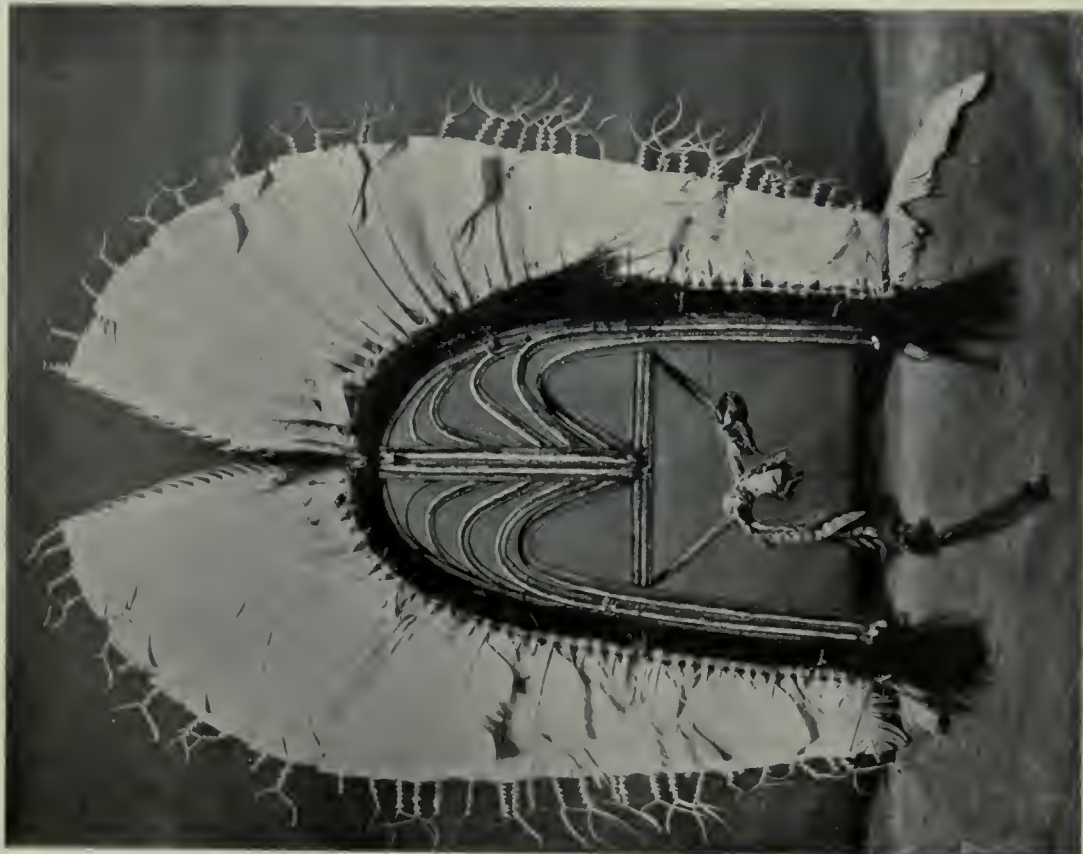


FIG. 1. *Déri, Tutu*. British Museum. Ht. 56 cm. (22 in.),
br. 38 cm. (15 in.) (pp. 37, 38, 364, 365).



FIG. 1. Cassowary feather head-dress (p. 36). FIG. 2. Head-dress of plumes of bird-of-paradise (p. 37), both in the British Museum.



FIG. 3. War head-dress of Kebisu of Tutu. British Museum (p. 201).



FIG. 4. Decorated triangle of turtle shell. Truro Museum (pp. 31, 344, 387).



FIG. 5. *Nasi saud*, Mer. British Museum (p. 51).



FIG. 6. Man with *veres*, Mer (pp. 155, 156).



FIG. 1. Gadodo.

FIG. 2. Mamai.

FIG. 3. Pasi.



FIG. 4. Gadodo.

FIG. 5. Mamai.

FIG. 6. Pasi.

Natives of Mer dressed for a dance (pp. 9, 36-59, 204, 293, 294).

PLATE IX.

PERSONAL ORNAMENTS IN THE BRITISH MUSEUM.

FIG.

1. Fillet decorated with Coix seeds, Tutu (p. 35).
2. Frontlet of Nautilus nacre 380 mm., Mer (pp. 36, 386 and Pl. VIII. fig. 2).
3. " " " Mer (p. 36).
4. Coronet of dogs' teeth, Mabuiag (p. 35).
5. Coronet of kangaroos' teeth, length of band 18 cm., Mabuiag (pp. 35, 366).
6. Nose-stick of Tridacna 22 mm., Mer (pp. 39, 40).
7. " (flat in section) 58 mm., Mer "
8. " of Tridacna 143 mm., Mer "
9. " of Tridacna 130 mm., Mer "
10. "
11. " 178 mm., Badu "
12. " of Tridacna 247 mm., Mer "
13. Ear pendant of pearl-shell, width from tip to tip 45 mm., Mer (p. 40).
14. " " " 66 mm., Mer "
15. " " " 80 mm., Mer "
16. " " " 36 mm., Mer "
17. " of Nautilus nacre, total width 24 mm., Mer "
18. Necklace of *waraz* shells, Mer (p. 41).
19. *Dibidibi* pendant on bead necklace, Nagir, shell 95 mm. in diam. (p. 44).
20. Crescentic pearl-shell pendant (p. 43).
21. " " " 158 mm., Mer (pp. 43, 343, 344).
22. " " " , Muralug (p. 43).
23. Pearl-shell breast ornament, Nagir (p. 43).
24. Pendant of pearl-shell in form of a tree frog 47 mm., Mer (p. 45).
25. " " 63 mm., Mer "
26. " " 85 mm., Mer "

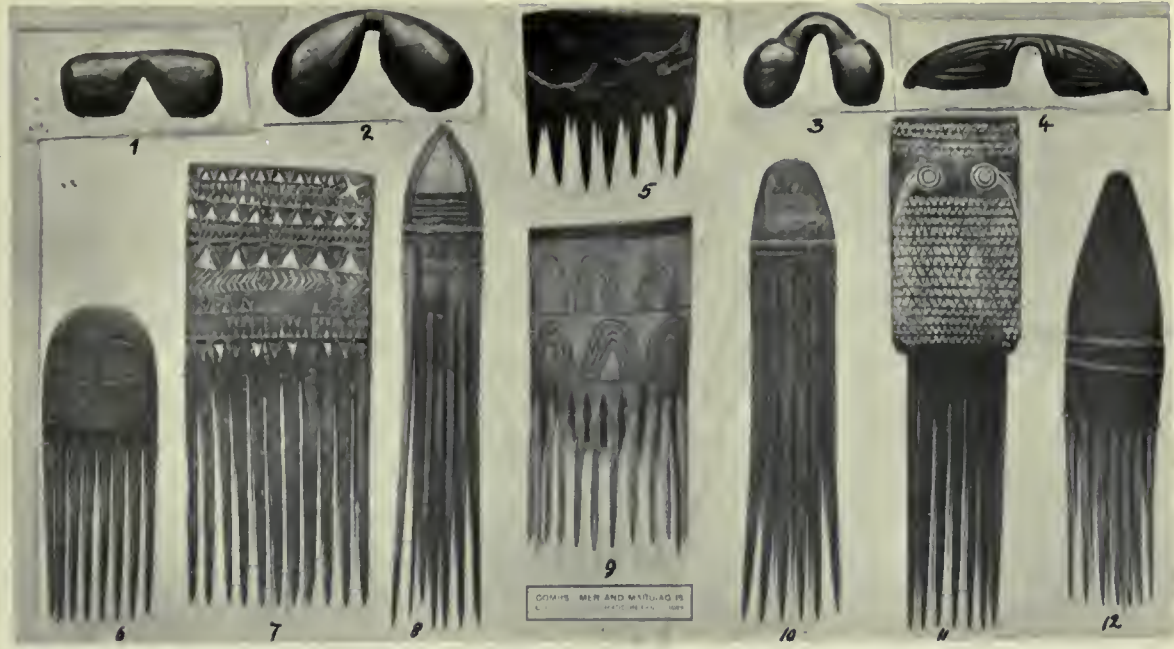


Personal ornaments, British Museum (pp. 35-58).

PLATE X.

FIG.

1. Ear-weights, British Museum (p. 11).
2. " " "
3. " " "
4. " Badu, length 10 cm., British Museum (pp. 11, 343).
5. Turtle-shell comb, Mabuiag, length 76 mm., British Museum (p. 32).
6. Wooden comb, "NAGU," Mabuiag, length 130 mm., British Museum (pp. 32, 360).
7. " " Mer, length 188 mm., British Museum (pp. 32, 343).
8. Bamboo " Erub, " 216 mm., " " "
9. " " Mabuiag, length 136 mm., " " "
10. " " Erub, length 190 mm., " " "
11. Wooden " Mer, length 220 mm., " (pp. 32, 343, 344).
12. Bamboo " Mabuiag, length 187 mm., " " "
13. Ear-weight, height 11 cm., breadth 175 cm., weight 11 oz., Liverpool Museum (pp. 11, 12, 343).
14. *Sabagorar*, " 146 mm. " 119 mm., " " (p. 48).
15. Chest ornament worn by the *geregere le* of Mer, Cambridge Museum (pp. 46, 387).
16. " " " Glasgow Museum (pp. 46, 387).
17. " " " British Museum (pp. 46, 387).



Figs. 1—4. Ear-weights, British Museum (p. 11). Figs. 5—12. Combs.



FIG. 15.



FIG. 13. Ear-weight.



FIG. 14. Sabagorar.

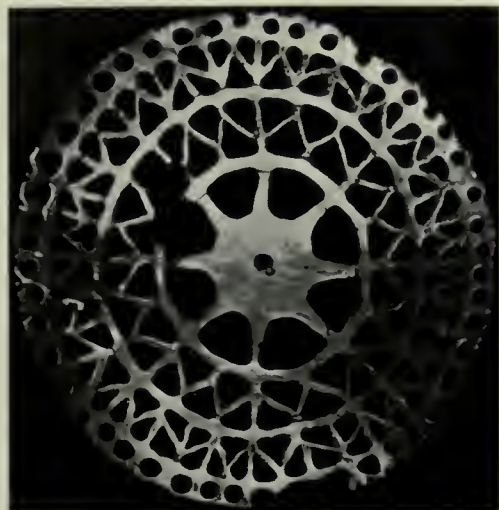


FIG. 16. Perforated pearl-shell ornament (p. 46).

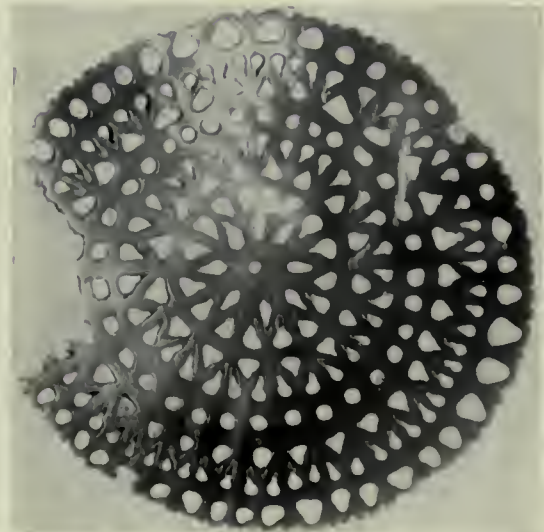


FIG. 17 (p. 46).

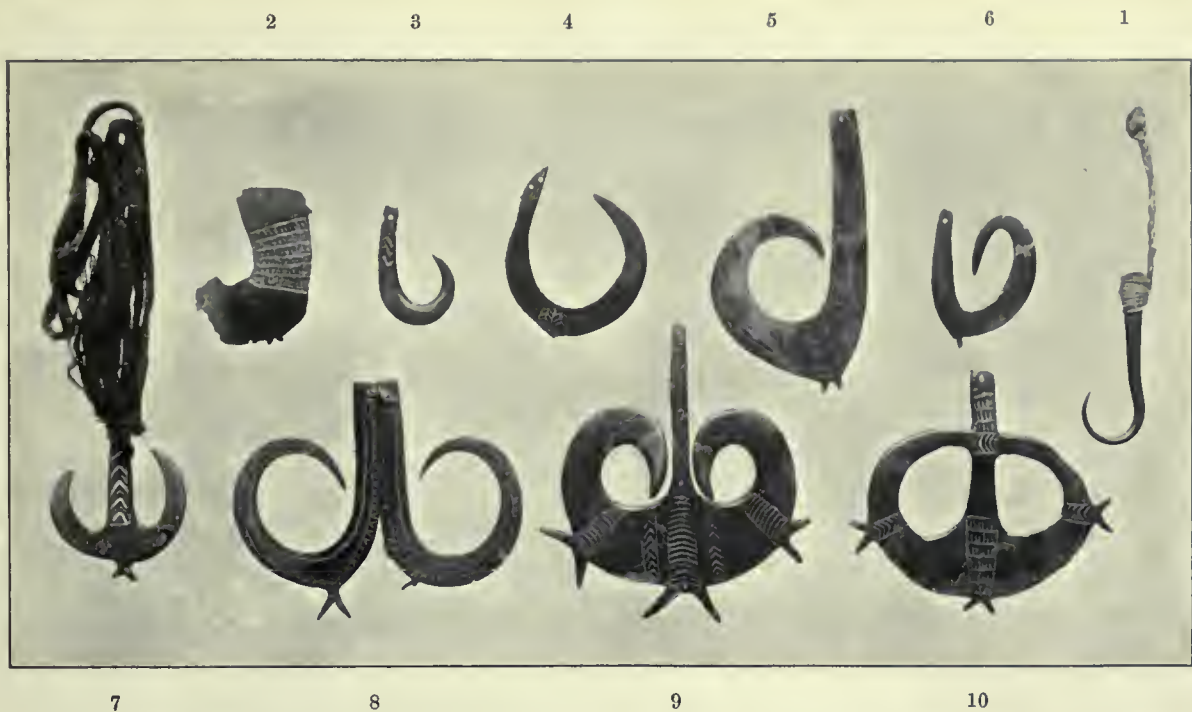


FIG. 1. A fish-hook, Mer (pp. 49, 155, 343). Figs. 2—10. *Sabagorar*, turtle-shell ornaments worn by brides, Mer (British Museum), reduced about $\frac{1}{2}$ (pp. 48, 49, 343, 344).



FIGS. 11—17. Turtle-shell bodkins, *ter*, Mer (British Museum) (pp. 10, 49, 127, 343, 344, 387). No. 13, 298 mm., and No. 16, 234 mm. long.



FIG. 18. Necklace made of dogs' teeth, Mer. Length of portion with teeth 1.7 m. (67 in.) (p. 41).



FIG. 1. Sporran, Mer (pp. 68, 86, 88).



FIG. 4. Amulets of tusks held in the mouth when fighting, Tutu. British Museum (p. 203).

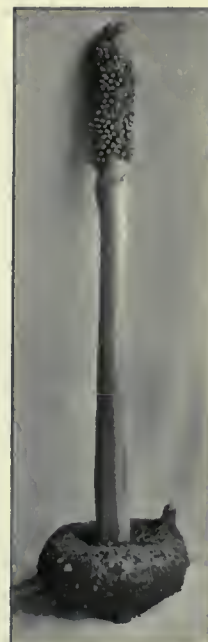


FIG. 5. Ager (p. 136).

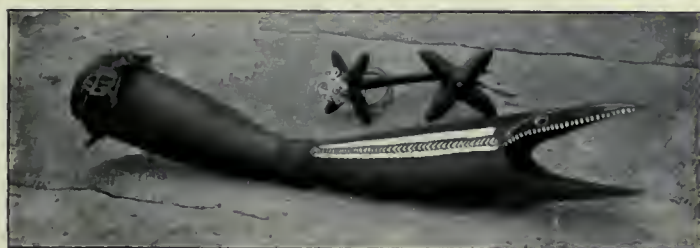


FIG. 2. "Wasikor," the sacred Malu drum, and two Malu stone-headed clubs, Mer (pp. 192, 279).



FIG. 7. Model of a bull-roarer (*wanes*) as used at initiation, Muralug, British Museum. Length 165 mm. (p. 276).



FIG. 3. Finial of a Mirian house, Mer (pp. 101, 109).



FIG. 6. Carving in coral of a Torres Straits pigeon, Masig (p. 153).



FIG. 8. Model of a bull-roarer (*bigu*) as used in turtle ceremonies, Moa. British Museum. Length 401 mm. (p. 276).

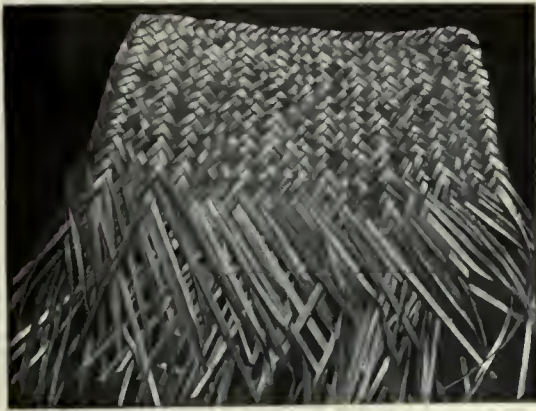


FIG. 1. Mat, "crabs' footprints," Mabuia (p. 66).



FIG. 4. Mat, "like a glass bottle," Mabuia (p. 67).



FIG. 3. Mat, "bending spirit," Mabuia (p. 67).

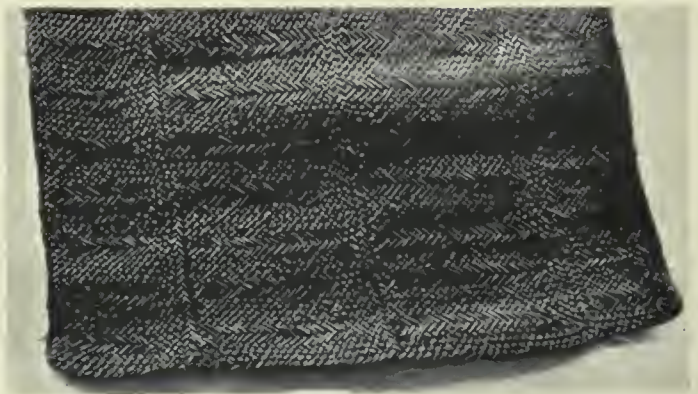


FIG. 7. Portion of a mat, 69 cm. x 38 cm. (p. 67).



FIG. 2. Mat, "shark's wife," Mabuia (pp. 66, 348).

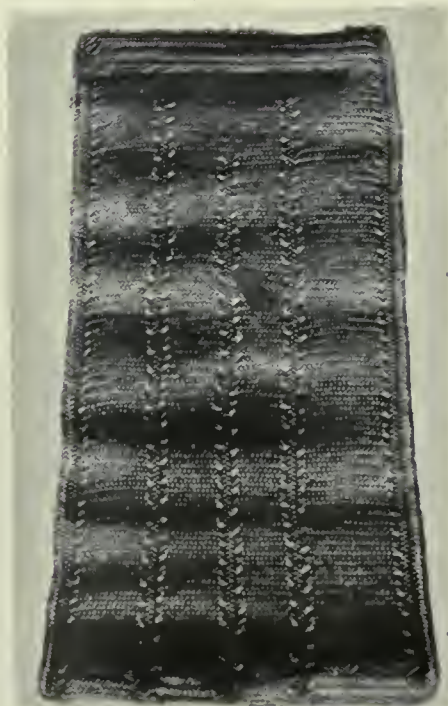


FIG. 5. Baby's mat, Mer, 67 cm. x 34 cm. (pp. 65, 67).



FIG. 6. Baby's mat, Mer, 45 cm. x 20 cm. (pp. 65, 67).



FIG. 1. Belt imported from New Guinea, length 1.24 m., breadth 5 cm. (pp. 68, 69).

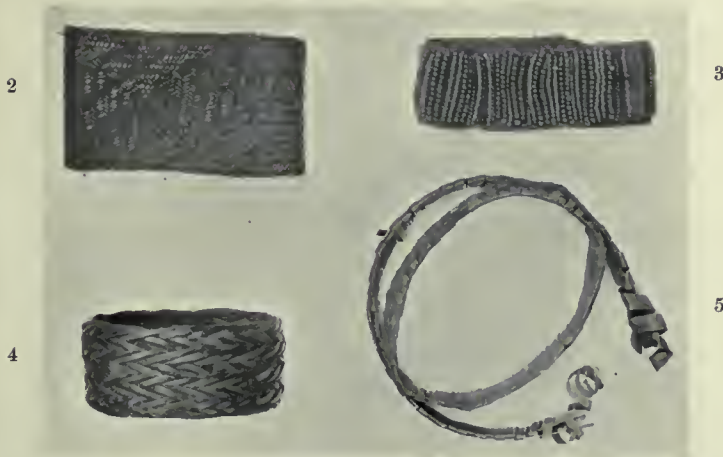


9 10

Bracers (pp. 56, 71, 174, 201).

FIG. 9, ht. 20 cm., circ. 25.8 cm.

FIG. 10, ht. 26 cm., circ. 24.8 cm.



FIGS. 2—8. Armlets (pp. 55, 69—71).

FIG. 2, ht. 7 cm., circ. 12 cm. FIGS. 6, 7, ht. 15 cm., circ. 26—27 cm.

FIG. 8, ht. 13 cm., circ. 28 cm.



11 12

Dance bracers, Mer (pp. 56, 71).

FIG. 11, ht. 29.5 cm., circ. 24.6 cm.

FIG. 12, ht. 21 cm., circ. 24.8 cm.

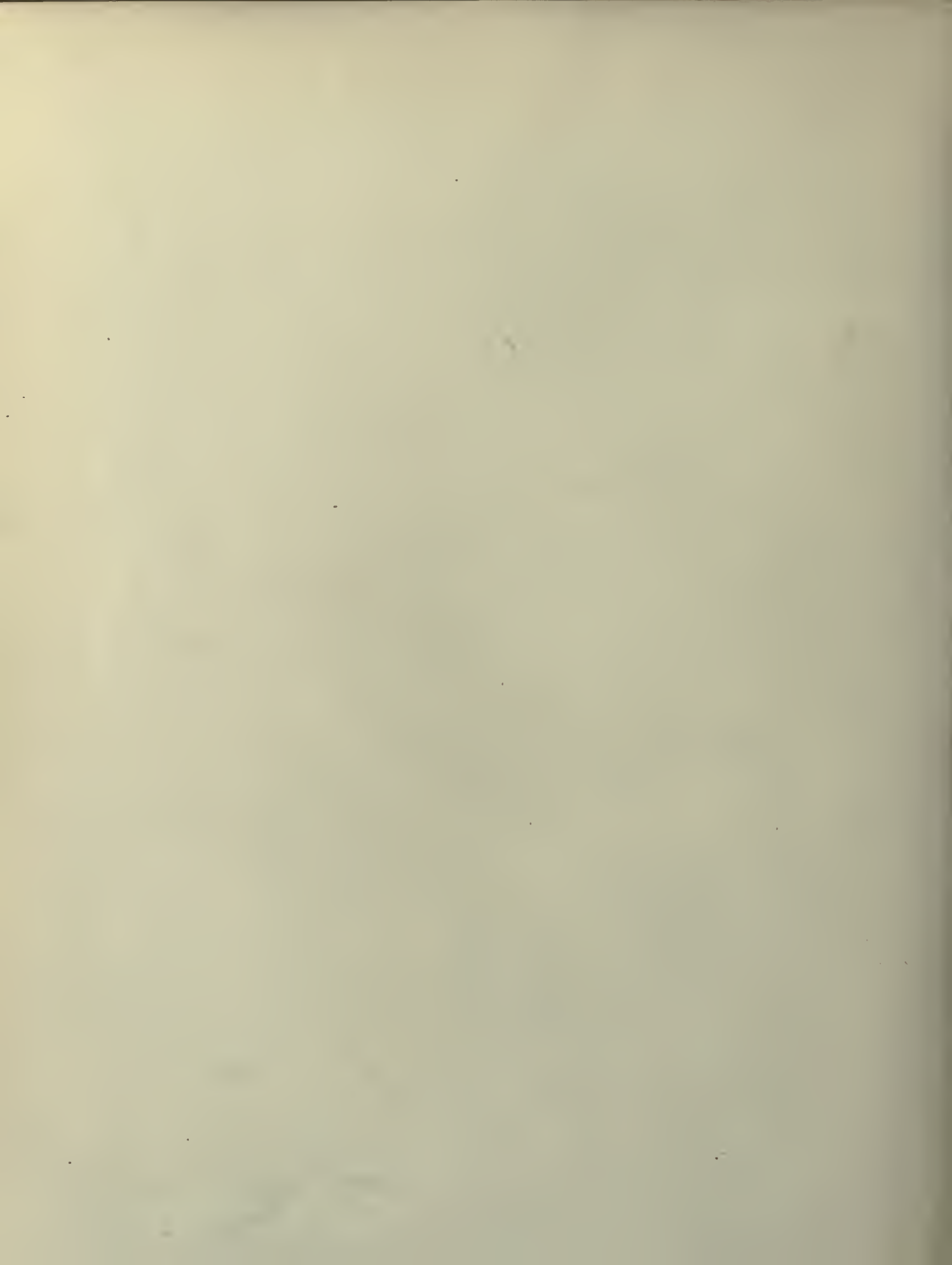


PLATE XV. (A. H. Q.)

- FIG. 1. Check basket made of pandanus. Woman's basket for carrying yams.
Ht. 37 cm., circum. 116 cm. Formula (p. 75) I, 1. A., 2. B. c., 3. A.
- FIG. 2. Twilled basket of pandanus, *gerer epei*, Mer. Man's basket for fishing line.
Ht. 12 cm., circum. 48 cm. Formula I, 1. B. b., 2. A. b. B. b., 3. B. ii. a.
- FIG. 3. Twilled basket of coco-nut palm leaf.
Ht. 10 cm., circum. 56 cm. Formula I, 1. B. a., 2. A. b., 3. B. ii. c.
- FIG. 4. Twilled basket of pandanus.
Ht. 18 cm., circum. 66 cm. Formula I, 1. A., 2. B. d., 3. A. B. i. ii. b.
- FIG. 5. Twilled basket of pandanus, Mabuiag.
Ht. 14 cm., circum. 43 cm. Formula I, 1. B. b., 2. A. b., B. a., 3. B. i. a.
- FIG. 6. Twilled basket of coco-nut palm leaf, *aipus* or *epei*, Mer.
Ht. 16 cm., circum. 97 cm. Formula I, 1. B. a., 2. A. b., 3. B. ii. a.

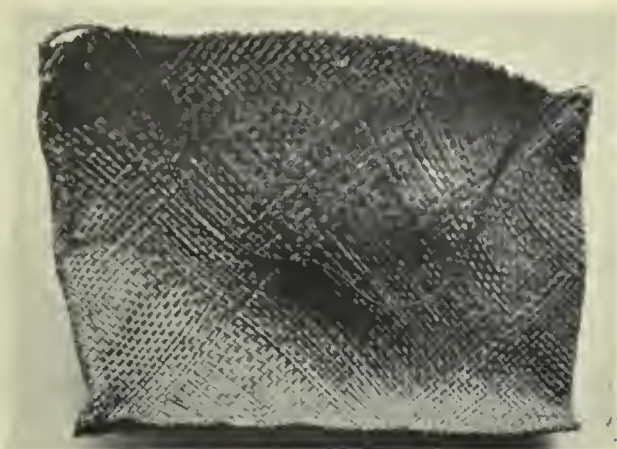


FIG. 1. Woman's basket made of pandanus (pp. 64, 73, 78, 82, 85).



FIG. 2. *Gerer epei*, Mer (pp. 72, 78, 83, 84).

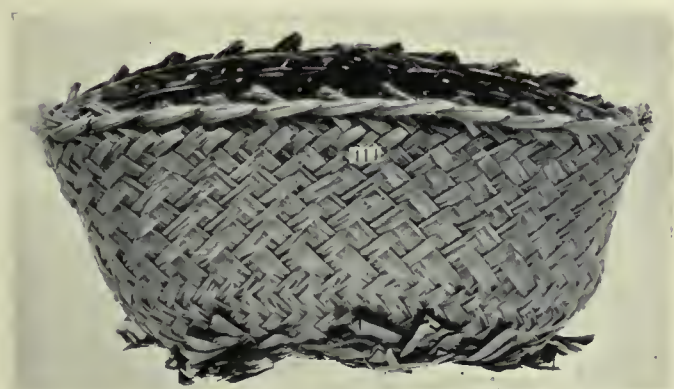


FIG. 3. Twilled basket made of coco-palm leaf (pp. 73, 76, 82, 84).



FIG. 4. Twilled basket made of pandanus (pp. 78, 81, 83, 85).

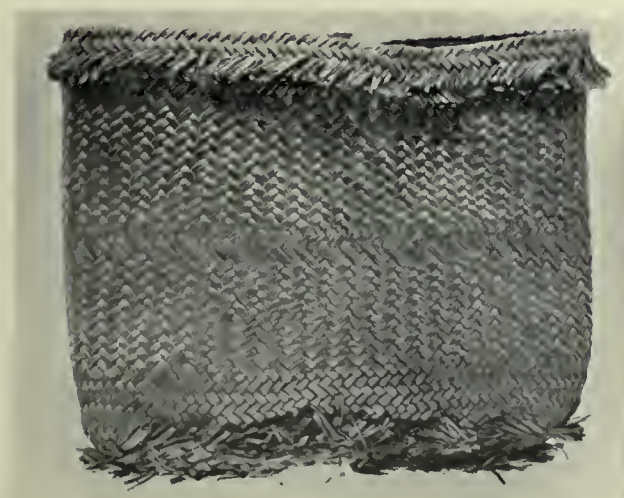


FIG. 5. Twilled basket of pandanus, Mabuiaq (pp. 73, 78, 83, 84).

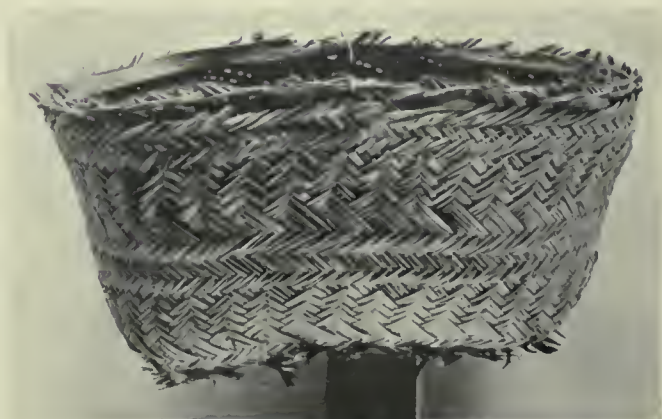


FIG. 6. *Aipus* or *epei*, Mer (pp. 72, 73, 76, 81, 83, 84).

PLATE XVI. (A. H. Q.)

- FIG. 1. Twilled basket of pandanus, *gerer epei*, Mer. Man's basket for fishing line.
Ht. 19 cm., circum. 72 cm. Formula I, 1. B. b., 2. A. b. B. a., 3. B. ii. d.
- FIG. 2. Twilled basket of pandanus, *burua iena*, Mabuiag.
Ht. 11 cm., circum. 37 cm. Formula I, 1. A., 2. B. d., 3. B. ii. d.
- FIG. 3. Twilled basket, *li*, Moa. Woman's basket.
Ht. 20 cm., circum. 68 cm. Formula I, 1. A., 2. B. b., 3. B. ii. d.
- FIG. 4. Saucer-shaped tray of coco-nut palm leaf, collected in 1888 at Erub. It is quite possible that this form is not indigenous but has been introduced by South Sea people.
Circum. 80 cm. Formula I, 1. B. a., 2. A. b., 3. B. ii. c.
- FIG. 5. Lined basket of dry pandanus leaf, *gerer epei*, Mer.
Ht. 15 cm., circum. 105 cm. Formula I, 1. A., 2. B. d., 3. A. B. i.
- FIG. 6. Samoan method of beginning basket, Badu.



FIG. 1. *Gerer epei*, Mer (pp. 73, 80, 83, 84).

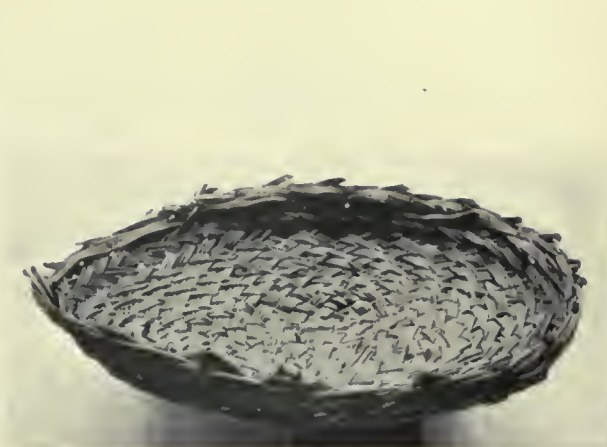


FIG. 4. Tray, Erub (pp. 73, 74, 76).



FIG. 2. *Burua iena*, Mabuiag (pp. 73, 83, 85).

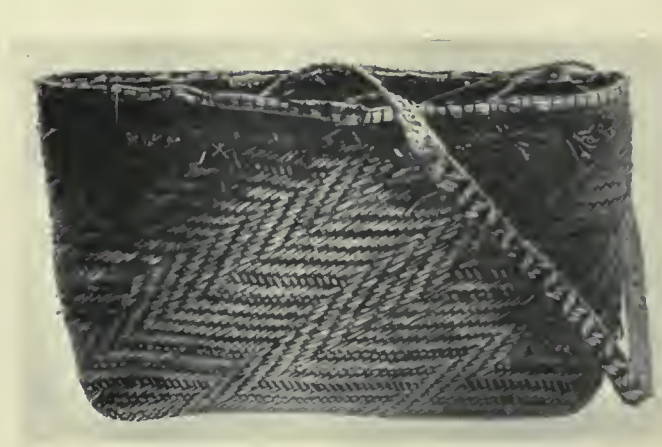


FIG. 3. *Li*, Moa (pp. 72, 73, 80, 83, 84, 85).

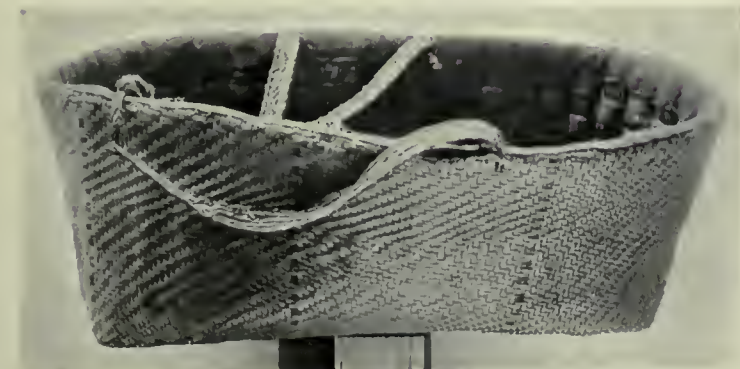


FIG. 5. *Gerer epei*, a lined basket, Mer (pp. 73, 82, 84, 85).

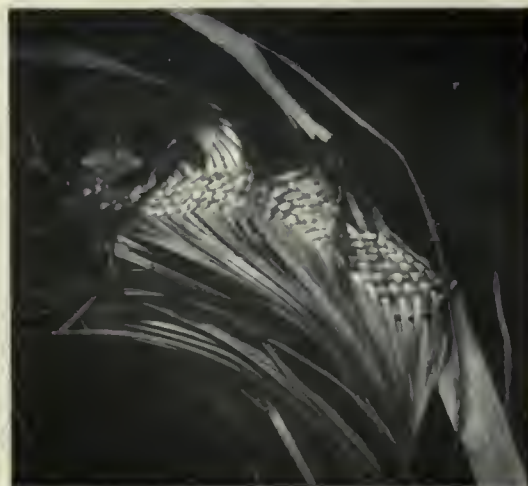


FIG. 6. Samoan method of beginning a basket (p. 76).

PLATE XVII. (A. H. Q.)

FIG. 1. Check basket, *kuta*, Mabuiag, said to come from New Guinea and Saibai. Woman's basket for carrying yams.

Ht. 31 cm., circum. 115 cm. Formula I, 1. A., 2. B. d., 3. A.

FIG. 2. Check basket of *Flagellaria*, *buzili epei*, Mer.

Ht. 17 cm., circum. 63 cm. Formula I, 1. A., 2. B. d., 3. A.

FIG. 3. Twilled basket of coco-nut palm leaf, with pink tufts.

Ht. 21 cm., circum. 85 cm. Formula I, 1. B. b., 2. A. a., 3. B. ii.

FIG. 4. Coiled basket for a top, Mer.

Ht. 6 cm., circum. 52.5 cm.

FIG. 5. Fitched basket of *Xerotes Banksii*, *walsi*.

Ht. 45 cm., circum. 147 cm. Formula I, 1. A., 2. B. c., 3. C. i. ii.

FIG. 6. Fitched basket of *Xerotes Banksii*, *walsi li*, Muralug.

Ht. 18 cm., circum. 42 cm. Formula I, 1. A., 2. B. c., 3. C. i.



FIG. 1. *Kuta*, Mabuiag (pp. 72, 73, 84, 85).



FIG. 2. *Buzili epei*, Mer (pp. 72, 73, 84).

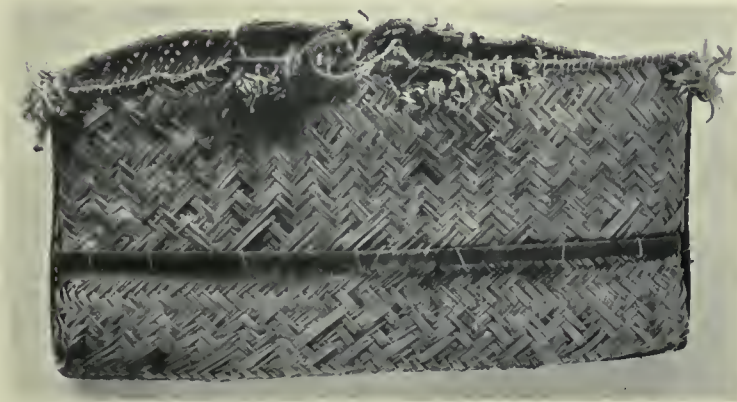


FIG. 3. Twilled basket (pp. 73, 78, 83, 84, 85).



FIG. 4. Coiled basket for a top, Mer (pp. 64, 82).

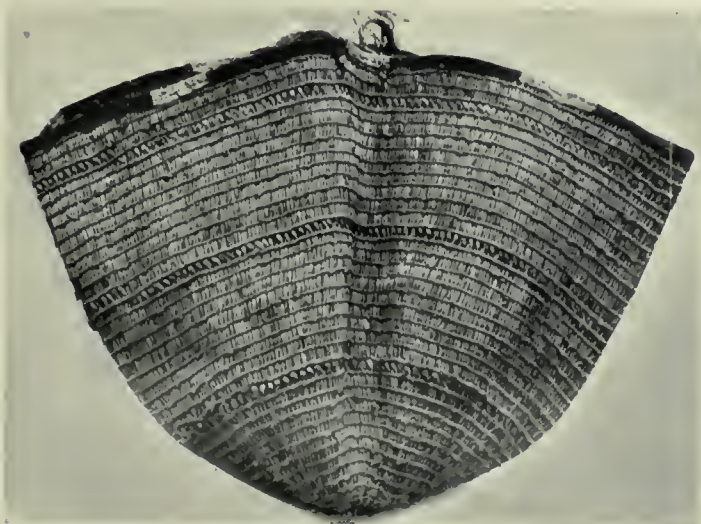


FIG. 5. *Walsi* (pp. 74, 78, 81, 82, 84, 85).



FIG. 6. *Walsi li*, Muralug (pp. 72, 74, 81, 82, 85).



FIG. 2. *Ome nesur*, petticoat made of Ficus bark, Mer, 55 x 50 cm. (pp. 61, 86).

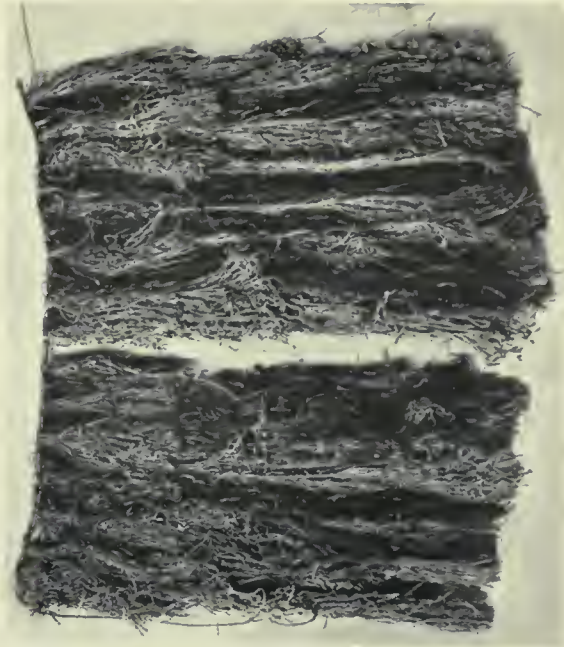


FIG. 4. Petticoat, *zazi*, made of banana leaves and Ficus bark, Dauan, 1888, 60 x 46 cm. (pp. 60, 61, 86).



FIG. 1. Girl's petticoat made of Ficus bark and *teid* leaves, Mer, 46 x 33 cm. (pp. 61, 86, 88).

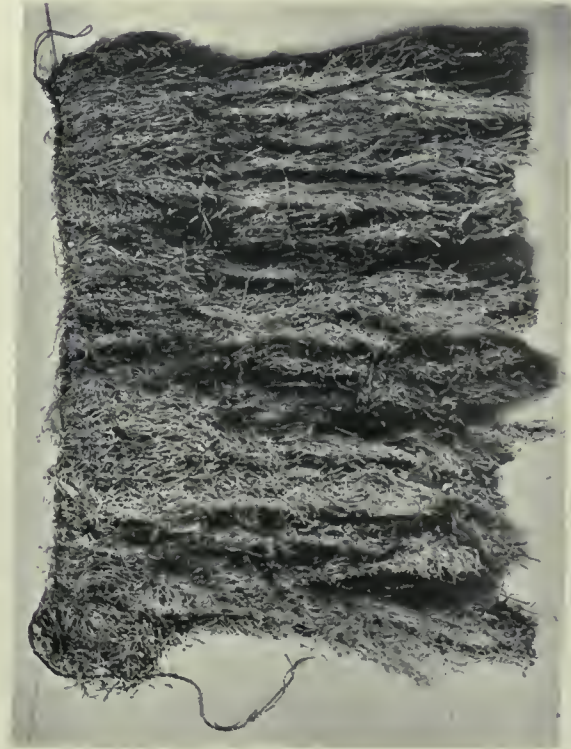


FIG. 3. *Kaba nesur*, petticoat made of banana leaves, Mer, 72 x 60 cm. (pp. 61, 86).



FIG. 1. Huts, Old Mawata, Daudai (p. 116).



FIG. 2. Huts, Old Mawata, Daudai (p. 116).



FIG. 3. Huts, Tutu (pp. 95, 97).



FIG. 4. Old hut, Mer (pp. 103, 104).



FIG. 2. Pile-dwelling, Saibai (pp. 99, 100, 208).



FIG. 4. Interior of old hut, Mer (p. 104).



FIG. 1. Pile-dwellings, Saibai (pp. 99, 100).



FIG. 3. Round house, Ulag, Mer (p. 101).



FIG. 1. Pile-dwelling and *sopsop* banana, Mer (pp. 89, 109, 147).



FIG. 2. Long house and woman, Iasa, Kiwai (pp. 60, 87, 111, see also pl. XXXIX., fig. 2).



FIG. 3. Group on beach, Dauar (pp. 119, 122, 123, 141, 156, 315).

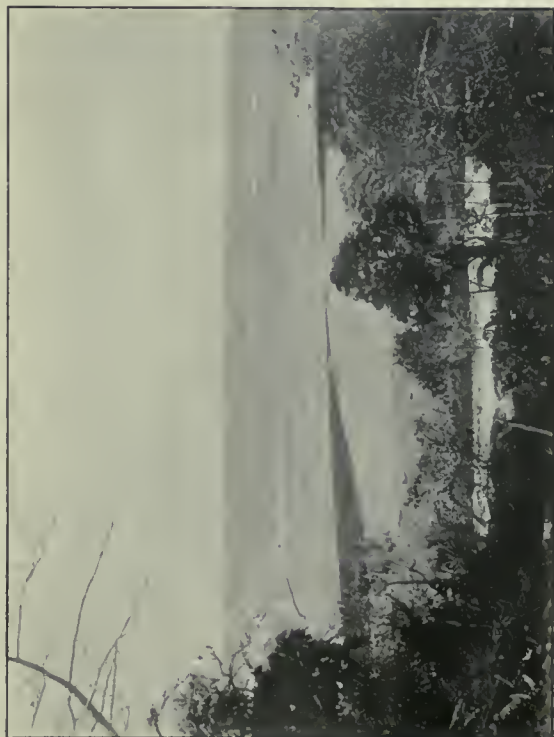


FIG. 1. Sai or fish-weirs, Mer (pp. 119, 152, 158).



FIG. 2. Method of carving a dugong, Mabuiag (p. 138, see also fig. 372).



FIG. 3. A feast, Mer (p. 131).



FIG. 4. Removing sand from an earth-oven, Mer (p. 132).



FIG. 1. Man holding a dugong harpoon and standing on a platform (pp. 166—169).

FIG. 2. Heads of dugong harpoons (p. 170).



FIG. 3. Butt-end of a dugong harpoon, Liverpool Museum (p. 169).



FIG. 4. Nomoa, chief of Mabuiaq with two dugong (pp. 166—169).



FIG. 1. "Accurate sketch of a large canoe, Darnley Island; monstrous mouth at bow" from H. S. Melville: "Sketches," pl. XIX. (pp. 123, 155, 205—208, 214, 216).



FIG. 2. Western Island huts, Damut, with Mammoosa, Garia (with pipe) and Gedaer (with bow) from H. S. Melville: "Sketches," pl. XVI. (pp. 23, 30, 31, 96).



FIG. 1. Canoe with single outrigger, Mer (pp. 211, 213).



FIG. 2. Canoe (named "Adi") with double outrigger, Mabuiag (pp. 205, 207-210, 215, 216).



FIG. 3. Stern of the canoe "Adi" (pp. 215, 216).



FIG. 4. Bow of the canoe "Adi" (pp. 205, 207, 208, 210, 213, 215).

EXPLANATION OF PLATE XXVI.

FIG. 1. The man to the left standing on the fore-pole, *buai tug*, of the port outrigger is the *tugu-kwiku-garka*, in front of him the *gawal uru* stretches from the end of the *buai tug* to the end of the port mast, *rangad*. Also from the end of this mast a backstay, *rangadal uru*, passes through the gromet on the front sail and through another (which is not visible in the photograph) on the back sail, and is fastened to the port erate, it is held by two men: the one on the left is the *saldanau-garka*, bilge-water man, and the one on the right is the *amu-garka*, whose business it is to attend to the rope, *am*, used in dugong fishing. In front of the former is seen the *parungaizinga* or pole which presses the front sail against the masts (the *karas* mast is not visible); in front of the latter is seen the *dada waku parungaizinga* which props up the back sail, *dada waku*. In front standing in the hull is seen the *buai-garka*. The third mast, *paupa tarai*, which supports the *dada waku*, is seen projecting through the gromet on the starboard side of that sail, through which also passes the *karasil uru* which the right-hand man on the platform is holding; he and the men with paddles form the crew, *pazara*. The *tugu-kwiku-garka* has his foot on a rope which is probably tied to the *buai tug*, it appears to be a sheet, probably that of the front sail.

FIG. 2. The *karas* mast can be seen supporting the front sail, *waku*, to it is attached the backstay, *karasil uru*, which passes through the gromet of the sail and through that of the back sail, and is fastened to the starboard erate; it is held by one of the crew. The lower end of the pole, *parungaizinga*, is seen under the middle of the back sail, its upper end pressing against the front sail. Above it, in the interval between the sails, the guy, *gawal uru*, can be seen passing from the head of the *rangad* (which is not visible) behind the back sail towards the port outrigger. Between the guy and the *karasil uru* is the *rangadal uru*, this stay is fastened to the end of the *rangad* and to the hinder thwart-pole in the centre of the platform, it is steadied by the left hand of the *saldanau-garka*. The third mast, *paupa tarai*, supports the back sail, *dada waku*, its upper end passing through the gromet on the starboard side of that sail (through which the *karasil uru* also passes). This sail is pressed against the *paupa tarai* by the pole, *dada waku parungaizinga*, the upper end of which passes through the port gromet of the *dada waku*, and the extremity of which can be seen projecting beyond the sail between the *karasil uru* and *rangadal uru*; by its base stands the *buai-garka* in the hull. The sheet, *kupal uru*, passes from the lower starboard corner of the *dada waku* to the platform. In both photographs the *tugu-kwiku-garka* is seen steadying himself on the fore-pole of the port outrigger by means of a pole that he presses against the base of the crate.



FIG. 1. Midships view of a Mabuiag canoe with mat sails, 1888 (pp. 205, 207—213).



FIG. 2. Side view of a Mabuiag canoe with mat sails, 1888 (pp. 205, 207—213).



FIG. 1. Figure-head (*dōgai*) of a canoe, Saibai. Length 415 mm. (p. 215).



FIG. 2. *Warup* drum, Tutu, made in Daudai, British Museum. Length 99 cm. (3 ft. 3 in.) (pp. 354, 364—367, 387).



FIG. 3. Wooden club, Mer, British Museum. Length 58 cm. (nearly 23 in.) (p. 193).



FIG. 2. Modern houses of "South Sea" type, Mer (pp. 108, 109).



FIG. 4. The same.



FIG. 1. Top spinning, Mer (pp. 30, 315, 316).



FIG. 3. A divination game, *koko*, Mer (p. 318).



FIG. 1. Men dressed for a war-dance, Muralug (pp. 54, 56, 58, 59, 174, 293).

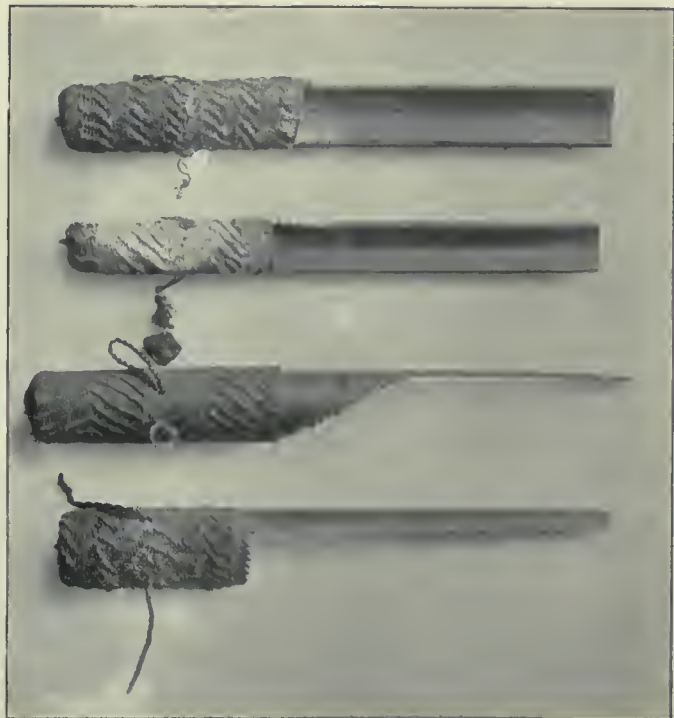


FIG. 2. Men shooting with bow and arrow, Mer (p. 174).



FIG. 3. Stone head of club with 11 rays; No. 6402; Torres Straits.

FIG. 4. Stone head of club with 4 rays; No. 6403; Daudai. Roy. Ethnogr. Mus. Dresden. $\frac{1}{4}$ nat. size (p. 192).



FIGS. 5—8. Bamboo beheading knives, Mouth of Fly River, Horniman Museum, 398, 380, 434 and 390 mm. long respectively (p. 199).

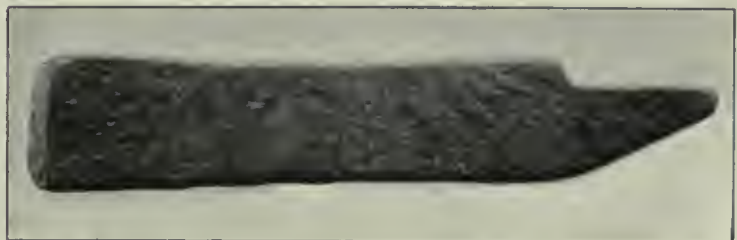
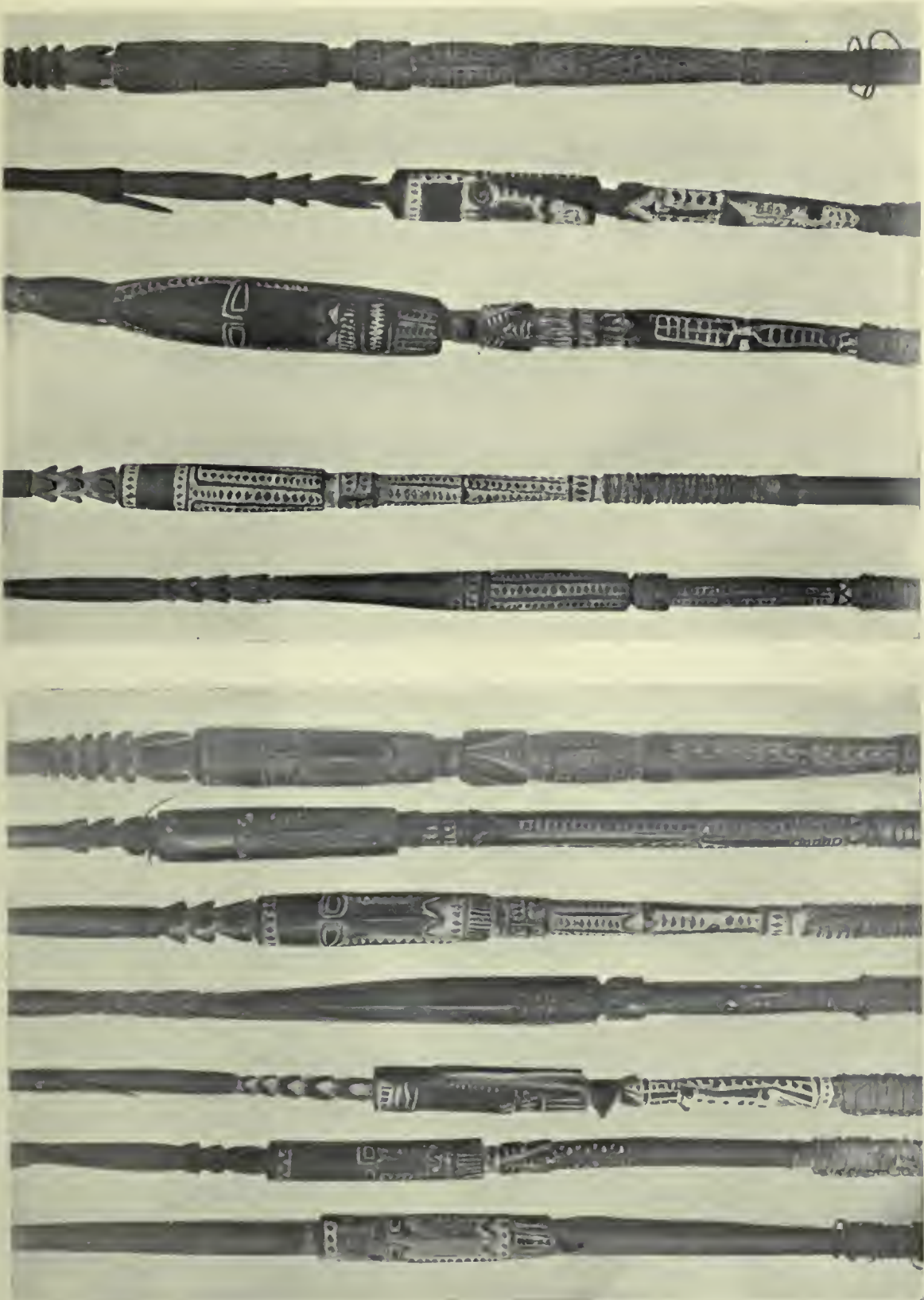


FIG. 9. Stone club used in initiation ceremonies, Mer (p. 193).

PLATE XXX.

ARROWS CARVED TO REPRESENT A MAN.

1. Human head only.
2. A slender warped arrow, with head, arms, chest and abdomen only.
3. A carelessly carved arrow, with the eyes on the forehead, no arms or chest, and with two pairs of knee-caps.
4. A tapering type; the mouth is represented by a zigzag; there is a long beard, but no "Adam's apple," and no abdomen or belt.
5. The grooves between the face and hair are represented by an oval perforation from side to side; the arms are absent, the navel indicated.
6. The nose is carved out, there are no arms or chest; the five squares at the end of the right leg may represent toes, as may also the eight squares within the oblong at the base of the left leg.
7. A well-carved man with a navel, and in this case probably a penis.
8. Back view of 4, shewing the zigzag in the shoulder-area.
9. Back view of 5.
10. A fine example of a tapering head, with well-marked moustache and beard.
11. The only example in the collection with unmistakable feet; no toes are indicated.
12. Back view of 7.



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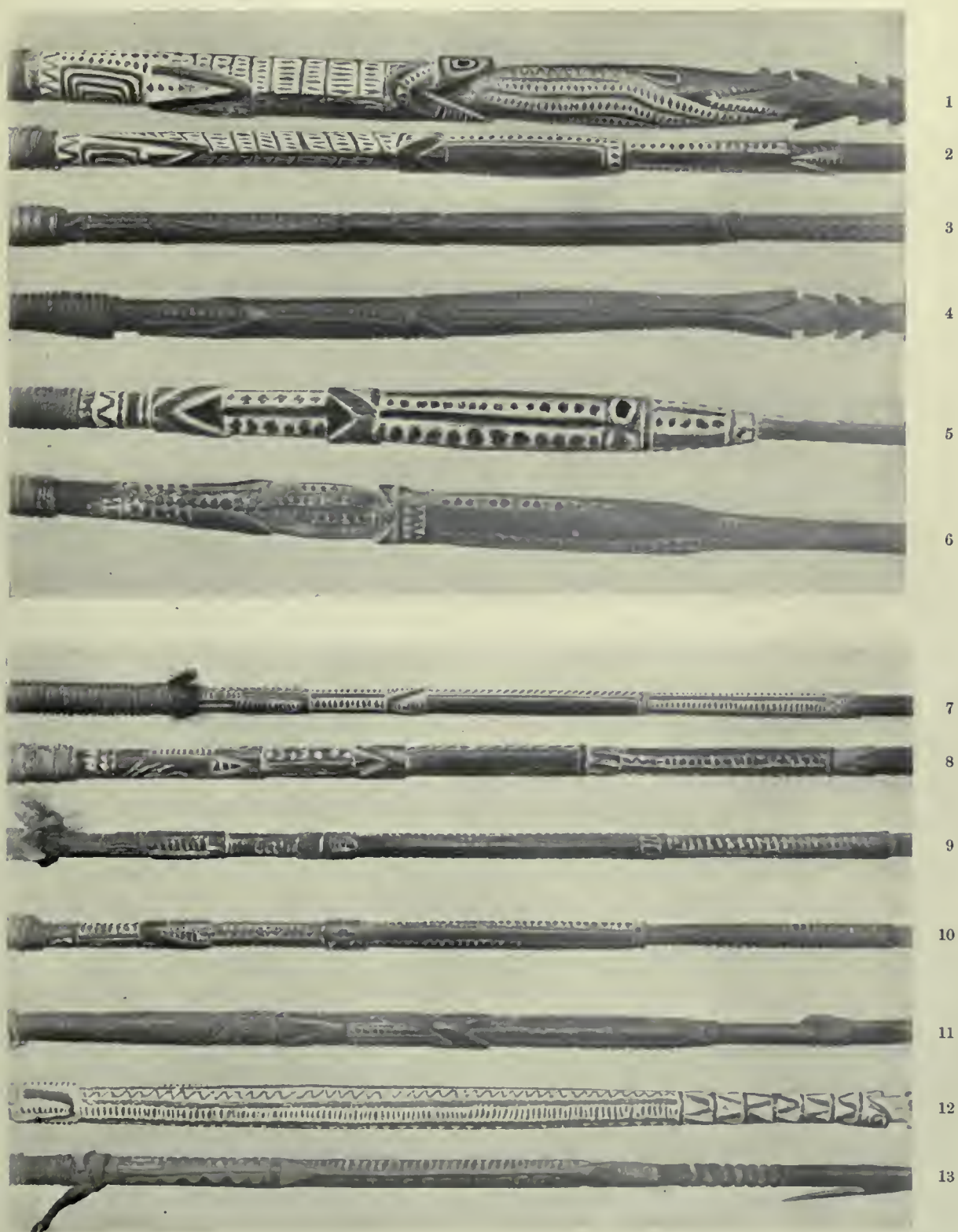
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Arrows carved to represent a man (pp. 184-186, 343).

PLATE XXXI.

ARROWS CARVED TO REPRESENT A CROCODILE.

1. A complete crocodile with a single nostril and prominent eye-marks on the shoulder.
2. A modified crocodile with the body, tail and hind-legs of a lizard; the body is diamond-shaped in section; the nostril is slightly prominent.
3. A modified crocodile, with a prominent nostril; the closed up jaws are represented by a double zigzag.
4. A modified crocodile with no nostril; the closed up portion of the jaws is indicated by a groove; there is a small triangular eye.
5. Ventral view of a flattened crocodile, very much modified and carelessly carved; the nostril is moderately prominent; to the right of the photograph is seen the under side of the long closed up snout; the usual small band in front of the eye-panels is here much elongated; above and below the front end of each eye-panel is a large eye-spot; the eye-panels can just be seen at the edge of the photograph; the three transverse bands behind the hind-limbs indicate the cloaca.
6. A modified flattened crocodile type seen from above; there is no nostril, but two eye-depressions in the open portion of the snout; the posterior halves of the sides of the closed up snout possess two rows of teeth; immediately behind these are the long narrow eye-panels; the tail scutes are very prominent.
7. A slender modified crocodile with all the features complete; a lock of human hair is tied round the end of the carving.
8. A slender modified crocodile with eye-spots at the open end of the mouth and a broad zigzag in front of the eye-panel; the cloaca is circular in this specimen.
9. A slender modified crocodile, rather more flattened than usual at the eye-area; there is a ring of cuscus fur at the end of the carving.
10. A slender modified crocodile, flattened at the eye-area.
11. A modified crocodile without jaws or snout; the eye-area is nicked.
12. A modified crocodile; the open jaws have each an eye-spot; there is no snout or eye-panel area recognisable as such; the fore-limbs are absent, the body very much elongated, the hind-limbs, tail and cloaca normal. (Snake type.)
13. Placed upside down by inadvertence. A modified crocodile with short toothed jaws behind which is a simple eye and probably the ear-hole; the fore-limbs are absent; the body is diamond-shaped in section; the hind-limbs are absent; the tail is represented by zigzags.



Arrows carved to represent a crocodile (pp. 186—190, 343).

PLATE XXXII.

DEGENERATE CROCODILE ARROWS.

1. A badly carved, modified crocodile, without a snout; the eye-panel area is very much elongated; the design is irregularly twisted; the fore-limbs are represented by a beading of raised bars; the hind-limbs are indistinctly carved; there is no tail or cloaca.
2. A modified crocodile with open jaws and single nostril, followed by a long carved area (this probably represents the snout and eye-area), on the dorsal side of which is a plain panel with two eyes in front; the fore-limbs are absent; the hind-limbs are represented by a bold zigzag; the tail and cloaca are absent.
3. A modified crocodile, the snout square in section, and large eye-panels followed by hind-limbs, tail and cloaca; there are no fore-limbs or body.
4. A modified crocodile with nostril, and eye-area followed by hind-limbs, tail and cloaca; there are no fore-limbs or body.
5. Placed upside down by inadvertence. A modified crocodile with long toothed jaws, two nostrils and triangular eye, followed by simple patterns; there are no limbs, etc. In front the whorls of bracts consist of two instead of four elements, each of which is placed at right angles to its neighbour.
- 6, 7. Modified crocodiles with open jaws, nostril and snout, followed by a barrel-like bead which contains a large eye-panel, hind-limbs and tail; this again is followed by simple patterns. There are no fore-limbs, body or cloaca.

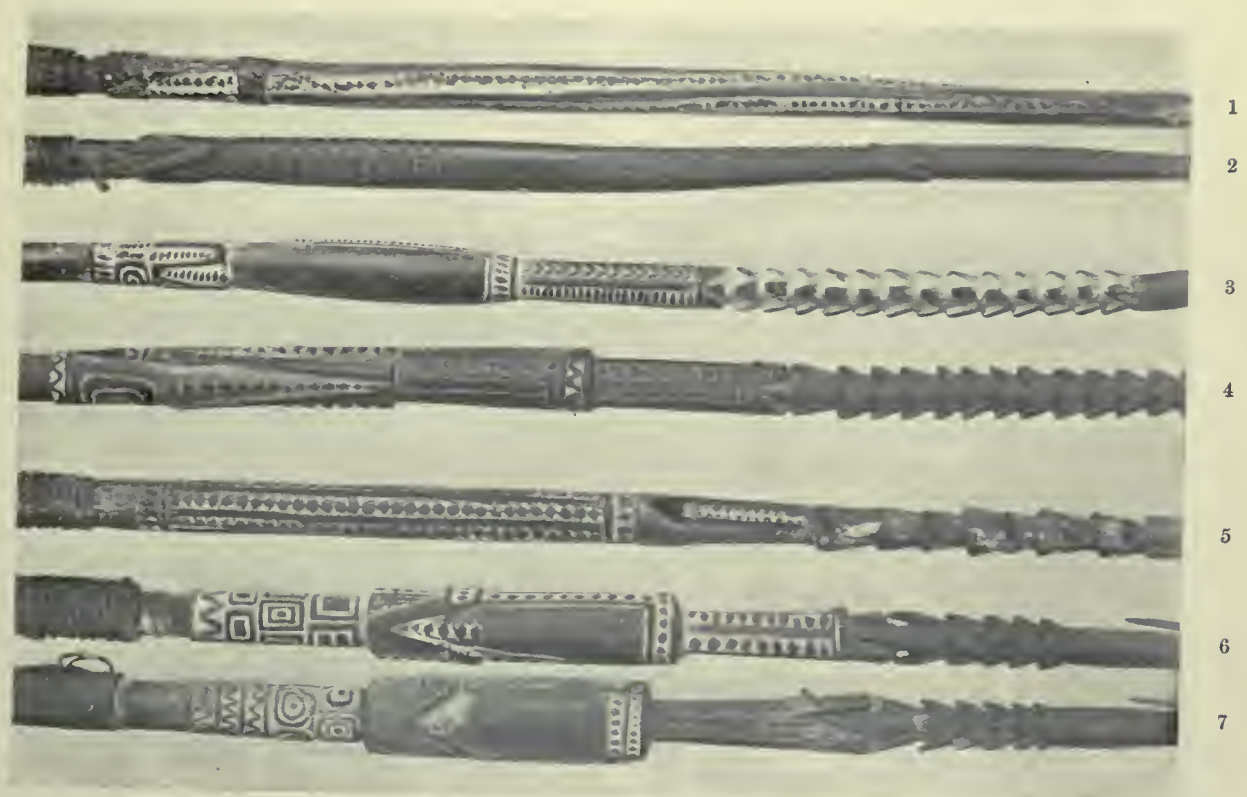
CLAW ARROWS.

With bead:

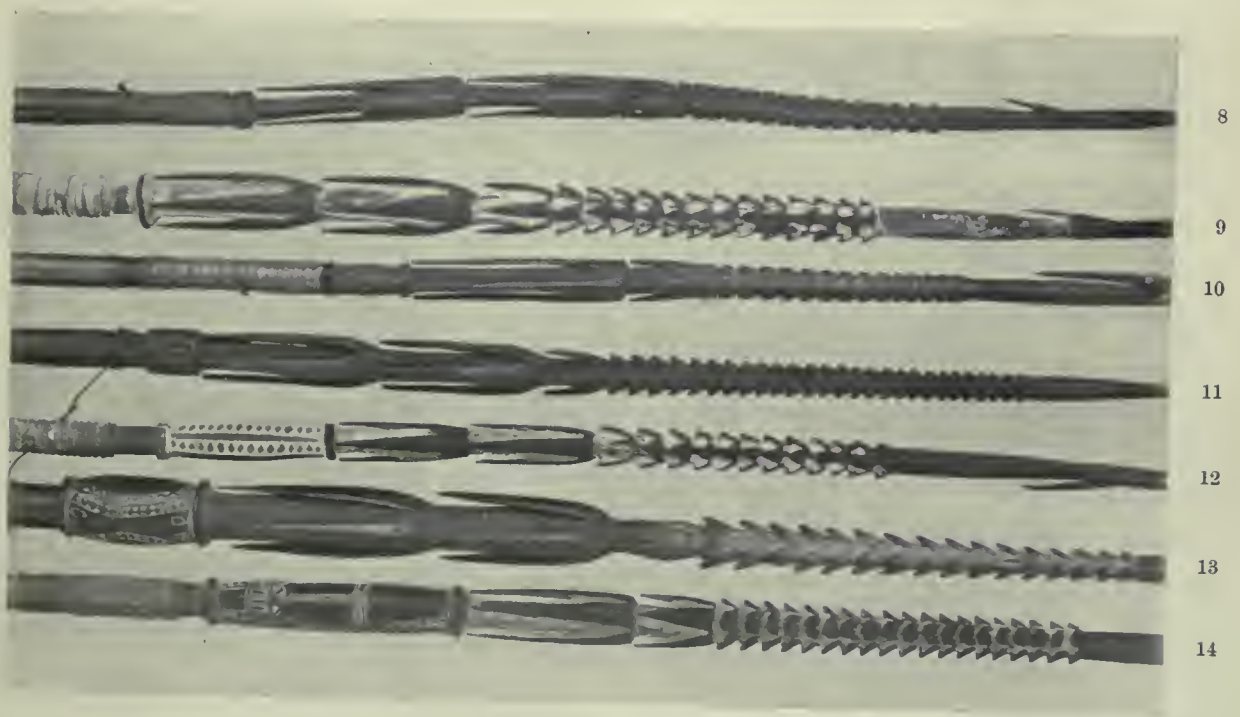
8. Grooved beading; a lock of human hair between the first and second whorls of claws; the bracts and claws are black, and the undercut portions stained red.
9. A simple bead; the bracts and claws are red, the rest white.

With cylindrical or barrel-shaped swelling:

10. The bracts are uncoloured, the two whorls of claws black; a broad lashing of pandanus leaf below the carving.
11. Black all over.
12. The bracts and claws are red, the rest white, the pattern black and white.
- 13, 14. Originally the bracts and claws were blackened and the rest white.



Degenerate crocodile arrows (pp. 189, 343).



Claw arrows (pp. 183, 184, 343).



A

B

FIG. 3. Ornaments held in the hand when dancing, Tutu. British Museum (pp. 295, 353, 387).

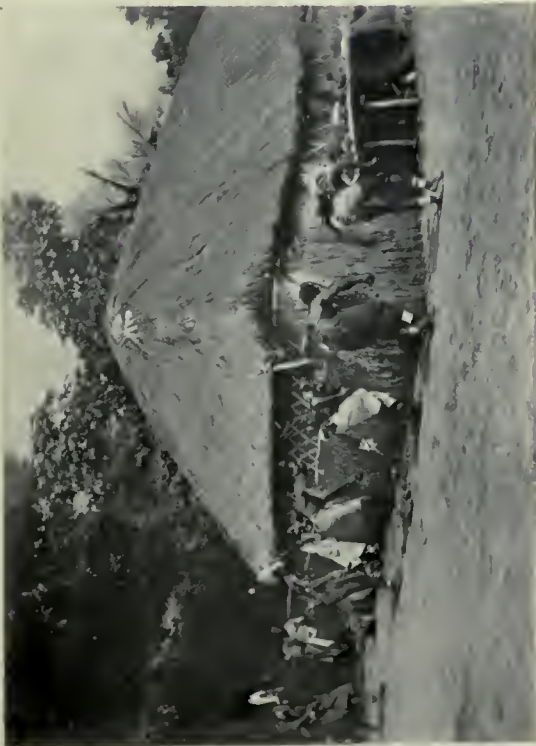


FIG. 1. Secular dance, Mer (pp. 108, 109, 292).



FIG. 2. Secular dance, Mer (pp. 108, 109, 292).



FIG. 1. Side view of a mask from Yam. British Museum (p. 302).



FIG. 2. Upper view of the same mask.



FIG. 1. Box-mask with a bonito, made in Moa, obtained in Nagir. British Museum.
The fish is 71 cm. (28 in.) long (pp. 304, 343, 344, 352, 359).



FIG. 2. Turtle-shell fish mask, Mabuig. British Museum. 127 cm. (50 in.) long (p. 301).

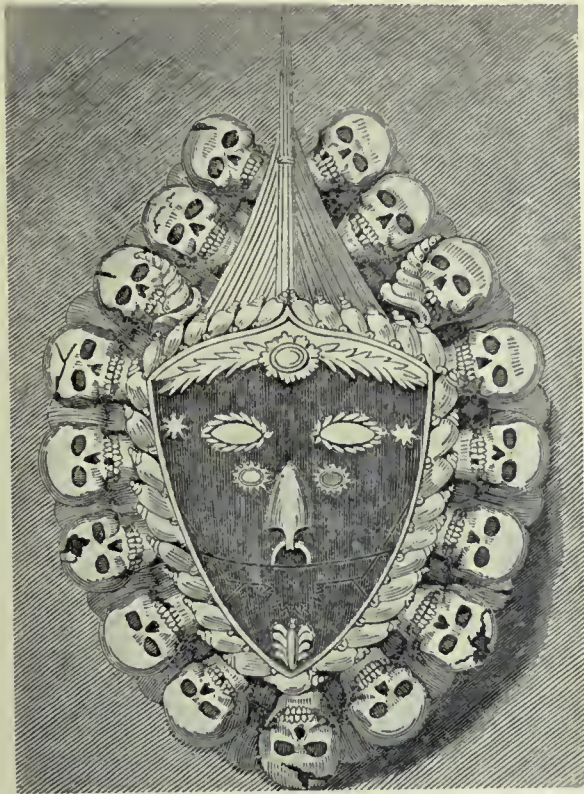


FIG. 1. Mask from Aurid (p. 299).



FIG. 4. Funeral mask, Mer. British Museum.
38 cm. high (p. 298).

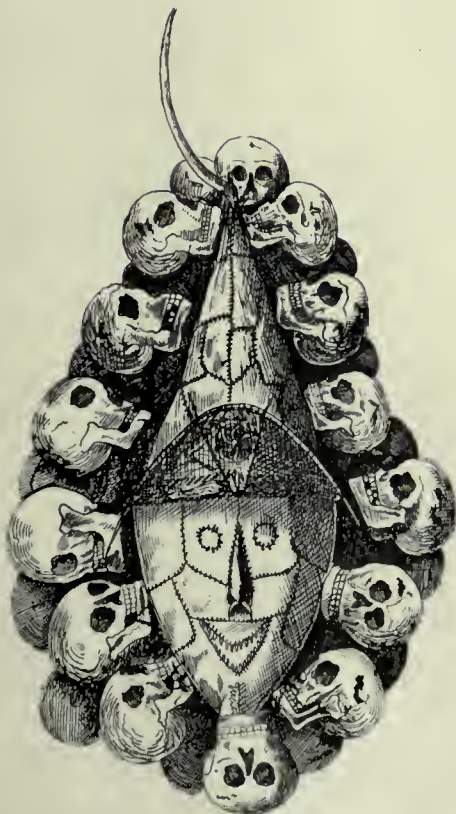


FIG. 2. The same from Brockett.



FIG. 3. Front view of mask on Pl. XXXV. fig. 1.

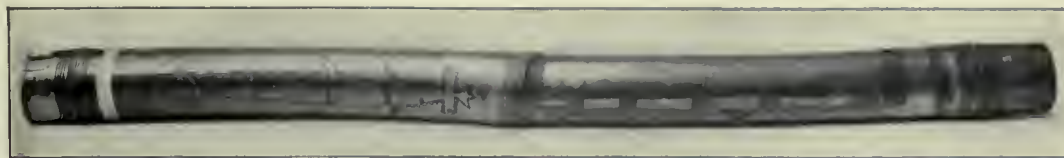


FIG. 1. Bamboo tobacco pipe with an engraving of the *kursi augud*. Cambridge Museum (98. 66). (pp. 350, 379, 380, 383, 387).



FIG. 2. The under side of the bowl end of the same pipe (pp. 347, 379, 380, 383).



FIG. 3. Stone top in its basket, Mer (pp. 121, 156, 315, 360, 385, 387).



FIG. 4. Masked dancer painted on a stone top, Mer (pp. 300, 315, 360, 384).



FIG. 5. Wooden model of a shark, Mer. Liverpool Museum. 171 mm. long (p. 390).



FIG. 1. Turtle-shell mask, Horniman Museum. Length 112 cm. (44 in.) (p. 300).



FIG. 2. Turtle-shell mask, Peek Museum, Rousdon. 135 cm. (4 ft. 5 in.) long (p. 300).



FIG. 3. Engraved pattern on the back of the mask shown in fig. 2 (pp. 300, 360)



FIG. 4. Trigger-fish or leather-jacket, *Monacanthus* (p. 329).



FIG. 1. Canoe at Dirimu, Binaturi River, Daudai, photographed by Mr J. Bruce Freshwater of the Papuan Industries, Ltd. (p. 207).



FIG. 2. Long house and canoe at Madiri, Fly River, photographed by Mr J. Bruce Freshwater (pp. 119, 207).



FIG. 3. Side view of a turtle-shell effigy in the form of an insect, 30 in. long, Mer. Truro Museum (p. 305).



FIG. 4. Under view of same.



FIGS. 1, 2. Upper and under side of a ray carved in wood. British Museum. Length 224 mm. (p. 389).



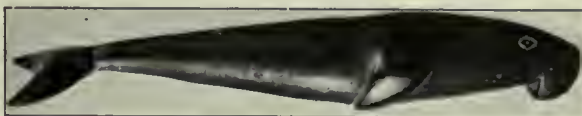
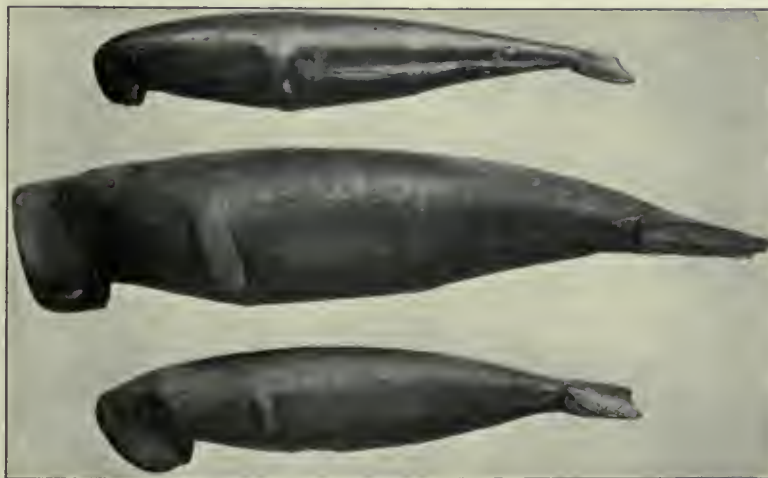
FIG. 3. Ray carved in wood, Tutu. British Museum. Length 122 mm. (p. 389).



FIG. 4. Shovel-nosed skate carved in wood, Mouth of Fly River. Length 180 mm. (p. 389).



FIG. 6. Turtle charm carved in wood, Tutu. British Museum. Length 190 mm. (p. 390).



FIGS. 7, 8, 9, 10. Deger, dugong charms, Mer (pp. 171, 390).



FIG. 5. Head of sucker-fish in wood, Nagir. British Museum. Length 154 mm. (p. 390).

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