OF MATTERS PISCATORIAL.

"Wake up, Sir - quick, come on deck quickly" exclaimed my servant Temete in an excited voice, as he gently shook my shoulder. Rather unusually, for the small vessel in which I was travelling was notorious for normally proceeding in a somewhat crablike manner, managing to pitch and roll simultaneously, I had, thanks to a very calm sea, been able to sleep soundly through the night. We had sailed from Suva the previous evening, weaving our way through the islands in the Koro Sea and heading for the Somosomo Straits between the island of Taveuni and the larger island of Vanua Levu (The Great Land).

In response to Temete's urgent plea, I leapt out of my bunk, snatched up my dressing gown and hurried on deck, surmising that the vessel must be on fire, or that some other disaster had taken, or was about to take, place. There being no one on deck on the port side on which I emerged from below, I hurriedly crossed to the starboard side where Temete and most of the crew were hanging over the rail. "Look, Sir" said Temete excitedly, pointing somewhat astern of the vessel. But at first I could make out nothing. We had just emerged from under the lee of Taveuni, the huge bulk of which rises to some 4,000 feet, and the sun which had just risen above the horizon was shining almost directly in my eyes.

However, after a few moments I was able to focus and, following Temete's pointing finger, saw an amazing sight, which left me momentarily speechless. Four immense forms - like submarines without their conning towers, or like big keelless ships bottom up - were ploughing up and down on the same course as our vessel and only some 40 or 50 yards away. I did not need a professional fisherman or a zoologist to identify them for me since they identified themselves as sperm whales in several ways. Thus, the shape, colour and size of these monsters were unmistakable, and they had no dorsal fins. The sperm whale can grow up to 70 feet in length, with its breadth of bulk in proportion to its length. It is the largest animal in the world, with a huge squarish head, usually about one third of the length of its body, and which may weigh some 10 or 15 tons in itself. As Frederick D. Bennett, an English surgeon who voyaged round the world in whaleships in the 1830s, remarked:-

> "Its body can be compared to little else than a huge dark rock, or the bole of some giant tree".

These enormous square heads, like the broad bow of a dumb barge, were clearly identifiable each time that the whales surfaced.

Then there were the little bushy spouts, emanating from the single nostril or blowhole, slightly to the left in each head, one spout for each breath and as regular as the progress of a clock.

Again, from time to time, the leader, the biggest and obviously the old bull whale, dived and let his tail with its enormous flukes, which can measure as much as fourteen feet across, fall flat on the surface of the sea sounding like a 6-inch naval gun being fired.

Further, the four whales maintained, as so often reported by the old whalers, an exact formation, of which the Royal Military Academy would have been proud, with the old bull in front, followed by what old time whalers used to call his "harem" in precise line abreast astern.

Such a group is known as a "pod", and the fact that they travel so precisely spaced and seem to have a sense of belonging to companions of similar age, sex, and breeding experience suggests that perhaps a multitude of signals are constantly reaching their minds through ears, eyes, skin or maybe other unknown perceptual channels.

It may be worth mentioning here, for those who do not know, that the teeth of these magnificent animals are heroic in size; thus, they may protrude between four to six inches from the gums in the lower jaw, and may be of several inches in circumference, tapering to a point and inclined slightly backwards. But, oddly, no mastication is possible as there are no teeth in the upper jaw, but merely sockets where teeth should have been, or may indeed have once been. Nowadays the teeth are used, for example in Fiji, usually as part of ceremonies of welcome for presentation to royalty or other distinguished overseas visitors.

Perhaps we should not have been surprised to see these magnificent creatures for, whilst they never pause and do not need to rest, their journeys in the Pacific carry them from the 'roaring forties' to the Behring Sea at certain well defined periods.

Whales, dolphins and porpoises are all warm-blooded mammals, feeding their offspring on milk and breathing air. They also share with hippopotami and sea-cows the distinction of being the only mammals born under water. And it is their four-year reproduction cycle which calls for them to be in the warm tropical waters of the central Pacific on the Tropic of Cancer between Mexico and the Hawaiian Islands for the birth of their young in the month of September, or sometimes October. We had therefore seen a pod travelling through Fiji waters en route to the birthplace of their young.

But there was no breakfast for us that morning. We were all much too fascinated by the sight of the pod and our breakfast only consisted of cups of coffee as we followed on deck the beautifully synchronized movements of these superb animals who did not seem to be in any way disturbed by the presence of our vessel. Unfortunately we were only doing about five knots, whereas they must have been doing six knots or more. All too soon therefore they drew level with us, and then surged ahead. Later I climbed up on to the bridge and followed their movements with the captain's binoculars until they were lost to view in the distance.

Gradually the nations of the world have come under the pressure of public opinion to cease from catching and killing the sperm whale, and allow these magnificent mammals to roam the oceans of the world freely and in safety. But the Japanese and the Russians still persist in the murder of these huge mammals and I can only say that I hope that this decade will not go down in history as marking the end of life for the largest animal ever to inhabit the earth.

It is impossible to convey in writing the majesty of such monsters but, as I watched, I was reminded of those verses in the Psalms:-

"Those that go down to the sea in ships, that do their business in the great waters; these see the works of the Lord and his wonders in the deep...
the earth is full of thy riches, so is this great and wide sea, wherein are things creeping innumerable, both small and great beasts. There go the ships; there is that leviathan, whom thou has made to play therein".

Before passing on to other items, I do recall one incident, arising out of a whale caught in Tonga, which caused some amusement in relation to the somewhat strict conventional rules of etiquette in those days. There was a large dinner party at Government House in Suva and, after the consommé glacé had been consumed, the next course served appeared to be steak dressed in some kind of sauce. After the vegetables had been served, those present lifted their ordinary forks and knives to enjoy the course, for the Governor in those days was something of a gourmet. A few moments later several of the guests observed that their host was consuming the course with the aid of a fish knife and fork, and were naturally embarrassed in case they (or the Governor) had committed a breach of etiquette by using the wrong knife and fork for the course. The explanation - given amid much laughter, and some relief - was that it was indeed fish, to wit, whale steak. I can only say that I did not find it very attractive; it was very "meaty" flesh, and somewhat tough and flavourless; but it certainly inspired much conversation round the table.

Pursuing our way north-eastwards in the wake of the sperm whales, we came to the island of Wailangilala, one of the objects of the voyage. This island is small but a perfect circular atoll, but with only one small channel connecting the lagoon and sea, the water in it being largely controlled by the rise and fall of the tides over the reef. There is but little land. However, on the north-west corner there is an important lighthouse, which acted as a guide to all shipping entering the group from the north round to the east. It was to bring a relief lighthouse-keeper and stores that we were visiting the island. Nowadays of course this and the other lighthouses in the group are automatically controlled and need no personnel, save for inspecting officers.

The Fijian name of the island means "the beautiful empty water". Certainly it was beautiful - a perfect atoll and enclosed lagoon. I never discovered the origin of the word 'empty' as applied to it; I can only say that I fished on two occasions in the lagoon itself but never even had a bite, though admittedly fish were plentiful in the channel, as also were sharks which mutilated some of the fish which we hooked.

Sailing from thence, we headed for the island of Qelelevu (pronounced Nggelelevu), which had suffered some damage from being on the fringe of a hurricane, and is the most north-easterly island in the group. Having inspected the damage, we discharged some building materials and relief foodstuffs, and anchored for the night in the passage forming the entrance to the lagoon. After supper, we engaged in still-fishing from the vessel and caught a huge quantity of a red fish, the name of which I forget. Travelling on board was the photographer from our Public Relations Office, himself a

keen and very knowledgeable fisherman; but he strongly advised us against eating any of the fish as he averred that most red fish were poisonous and that it would be unwise to take a chance on eating them.

Here I might interpolate that in those days it was not always easy to decide upon which fish to eat or not to eat in relation to the risk of being poisoned; thus, on the then uninhabitable island named Hull in the Phoenix Group, where mullet were plentiful, those caught on one side of the atoll could safely be eaten, whereas those caught on the other side were poisonous. We could only assume that, as the fish were precisely the same, it must have had something to do with the kind or quality of feed off the reef.

I was also fortunate enough to catch here a huge and exceedingly ugly grouper of just over 300 lbs the same night, and next morning we visited the village and handed over the red fish and my grouper (in addition to others caught by my companions) to the villagers, whom we did not think would be deterred from eating the fish on account of their colour.

Shortly after leaving the island, when I was trolling with a feather lure, I caught a superb yellowfin tuna, which would probably have tipped the scales at over 30 lbs. Unfortunately, however, the Aide-de-Camp, who himself insisted on removing the hook from its jaws, failed dismally in so doing and let the fish slip overboard - much to my disappointment as I had hoped to photograph such a marvellous specimen.

Our next stop was the island of Vanuambalavu in the northern Lau Group, where a novel form of fishing was brought to my attention. Here there was a pond some two hundred yards in circumference into which the Fijian fishermen and fisherwomen, after much ceremonial, entered armed with long poles. The Fijians moved quietly around the pond, which was not much more than six or eight feet deep save at the centre, thrusting their poles into the muddy bottom and moving them to and fro. After a while, I noted that a number of fish appeared on the surface, apparently lifeless from the manner in which they floated on their sides. Gradually, their number increased. The explanation of this phenomenon was that the Fijians, by stirring up the muddy bottom, released chemical gases - almost certainly sulphuric - which paralyzed the fish, which then floated to the surface , where they were easily caught by hand. As far as I could judge, the fish were similar to the baneaua fish, cultivated in ponds in the island of Nikunau in the southern Gilbert Group. Those were somewhat oily and very bony as far as their flesh was concerned, and edibly unattractive. But those in Vanuambalavu were not rendered inedible by the manner of their temporary incapacity which I was assured would wear off after a while.

On another voyage, I first visited the large island of Kandavu, lying due south of Suva and, having fulfilled my official duties, saw the curious ceremony of turtle-calling. Garlanded women of Namuana village clustered on a headland in Tavuki Bay and, by chanting, called turtles up out of the sea some two hundred feet below. The women, seated and looking out to sea, began singing an ancient chant, the words of which seemed to have little relevance save that they were addressed to one Raunindalithe, the turtle to whom

the women sang. The sea was like a mirror. On and on the women droned when suddenly the brownish-green back of a large turtle broke the surface. For about a minute it floated quietly on the surface, and then swam smoothly away into the depths. After a brief rest, the women recommenced chanting, calling upon the mother of turtles and almost immediately an enormous turtle, half as big again as the first one, broke surface. Turning its head from side to side, it too floated for about a minute before also smoothly sinking into the depths.

Neither I, nor as far as I have been able to ascertain anyone else, can explain this apparent power of communication by humans with creatures of the sea. Nor is the example which I have recorded above by any means unique; thus at Auki in the island of Malaita in the Solomon Islands, I saw sharks similarly summoned, even though by menfolk, not womenfolk who were not allowed to attend the ceremony. The shark is the totem animal of the place and on that occasion the sharks came swimming slowly in from the open sea into a little cove where they were fed with the blood and guts of a pig. The sharks seemed quite tame and the three old priests of the cult scratched their backs, whilst dangling in front of them a pig's bladder on a stick. Not only the old men but also the natives of the village have no fear of them and swim quite unconcernedly in the shark infested waters. Folks from other islands nearby, however, have been attacked and eaten by sharks. Although I asked to be allowed to scratch or stroke the backs of the sharks, however, the old men would not let me do so.

Reverting to the subject of turtles, I might record two other items. On one occasion in the lagoon at Nanumea we came across a smallish one with a shell about eighteen inches long, and I was encouraged by my native colleagues to dive in and seize it, and bring it aboard the canoe. They are, I was told, easy to catch, but the secret of overpowering them is to turn them upside down. This is much more easily written and said than done. It is probably a knack of which I did not have the secret. However, after a considerable struggle, which caused much amusement to my colleagues, I succeeded in "turning it turtle", and aboard the canoe.

Finally, whilst in Tonga, I came across a tortoise presented by Captain Cook to Queen Salote's forebears in 1773 or 1777, and thus over 200 years old - the oldest animal I had ever seen. He was not large, and named "Tui Malila" ('Tui' means chief) and treated with the respect due to a chief. He lived in the Palace grounds.

Leaving Kandavu, we made for the island of Beqa (pronounced Mbbengga) to see the famous fire-walking ceremony, a brief account of which is worth recording though it has nothing to do with fishes or other animals of the sea. At the edge of the village <u>rara</u> (green) a pit had been dug the evening before, about eighteen feet long, twelve feet wide and several feet deep. It had been filled with stones about the size of a football. Hardwood logs had then been piled on top of the stones, and set alight, and the fire had been left to burn for some eighteen hours, at the end of which the huge logs had been reduced to glowing embers. Nor was there any trickery about this, for the air above the pit shimmered with heat and it was quite impossible to approach the pit closely such was the fierce heat from the fire. From time to time the stones in the pit split and burst with loud reports. The men who were to perform the fire-walking ceremony (who come from only two family groups who jealously guard their secret) approached the pit and cleared away the smouldering logs, until the glowing and white-hot stones were

exposed. They then re-entered the small adjacent hut from which they had emerged and resumed their chanting. A short while later they reappeared - twelve of them - their bodies glistening with scented coconut oil, and wearing skirts made of dyed grass and strips of hibiscus fibre, with garlands of flowers around their necks . They walked silently and steadily in single file circling the pit. Then, neither slowing nor quickening their pace, they walked over the length of the pit filled with the white-hot stones.

Observers of this ceremony have not been able to detect any evidence of trickery, nor could I; they can only guess at the reasons why the fire-walkers never wince with pain nor suffer blisters on their feet. In 1935 fire-walking was performed before two members of the British Medical Association, who examined the men, and especially their feet, both before and after the ceremony. They found that the soles of the men's feet, though toughened through walking barefoot all their life, were not abnormally thickened, nor were they smeared with any unguent or protective coating. Further, the men responded normally when their soles were pricked with pins or touched with lighted cigarettes. Yet they walked quite unharmed on stones hot enough to ignite paper and sticks instantly when thrown on the fire after the ceremony. One physician thought that by repeated practice the men had become inured to heat and could therefore endure temperatures that would be intolerable to ordinary persons. The other was of the opinion that the men were able to perform this rite by reason of auto-suggestion - a kind of self-hypnosis which would seal them off from feeling any pain. But it seems that fire-walking, like turtle or shark calling, cannot be explained by European science.

Only two factors are known, though they do not explain the secret of the fire-walkers; first, no fire-walker may consort with women during four days before the ceremony, nor may he participate if his wife is pregnant or there is a dispute in the family group; secondly, the group of fire-walkers must remain together at night for several days before the ceremony. The first point is of interest since I came across a somewhat similar prohibition in the island of Nanumea in the Ellice Group, as I record below.

After leaving the island of Beqa, we passed along the south coast of the principal island of Viti Levu (Great Fiji) where, at a certain time of the year, the sandy beaches are covered with small fishes, very like whitebait, only smaller. They were excellent to eat.

And so to the island of Vatulele, whose claim to distinction is that it produces the finest tapa (the cloth made from the bark of the mulberry tree) in Fiji or, indeed, in the Pacific. I spent a whole morning watching the manner of its making, but I must not again digress here by describing it.

However, Vatulele has another claim to distinction. Certainly every housewife, and probably every school-child, knows that, when prawns are caught from the sea or river (and they are plentiful in some rivers in Fiji), they are of a brownish colour and that, when cooked, they turn red. But in certain pools in Vatulele they are of a wholly natural scarlet colour when alive that the ordinary prawns only become when cooked. Further, instead of having the usual claws, they have immensely long whiskers or feelers. Here again,

as with the turtles and sharks, these animals were summoned from the depths of the pools with incantations by an elderly Fijian man in some ancient and now forgotten dialect. This continued for some time without effect, until suddenly there was a stirring of the waters and two brilliant scarlet prawns appeared. Later, another pool was filled with these strange creatures, which are tabu. It is said that, if anyone is imprudent enough to break the tabu, ill will befall him, generally in the form of shipwreck. Sir Basil Thomson tells how he defied the tabu by taking away with him three of the prawns in a bottle and of how he was shipwrecked soon afterwards in the Yasawa Islands, not far from Vatulele, although neither the native captain nor crew knew that the forbidden crustacea were on board. Coincidence, or cause and effect ? I know which interpretation the Fijians of Vatulele would have opted for.

Thence we sailed on to our last port of call in the Fiji Group, the island of Viwa, the westernmost island of all. Here I caught two fish which I had never seen before, and have never seen since, aptly named the box-fish or trunk-fish. Apart from their colouration, they were of the same shape, size and peculiar characteristics which give them their name. Both were about eight inches long with dorsal, side and tail fins, but behind their heads their bodies were of a rectangular shape, until sloping inwards and upwards to the tail. Not only were their bodies rectangular like a box, but the box was/might be termed 'armour-plated', with ganoid scales. Diamond shaped and attached to each other by joints, these scales are coated with a substance called ganoin, which gives the fish, under the colouring of its skin, a hard box-like armour. It was an ugly looking fish as the hard plating in the front descended almost vertically from the front edge of the box to the mouth, with a heavy protruding under-lip. One of the fish was coloured a dull red on its back and the top of the tail fin, interspersed with white spots, whilst its sides, snout and the lower part of the tail fin showed a delicate tracery of blue on a black background. Its eyes comprised a black centre surrounded by a vivid orange ring. Only the eyes, mouth and fins protrude from the box which makes it an awkward, vulnerable swimmer. Its brilliant colours are said to warn enemies that its flesh is poisonous. Its whole appearance was sullen, mistrustful and evil. The other fish, another spotted box or trunk-fish, was a deep olive green all over, interspersed with white spots, and with deep blue eyes. It is sometimes known to exude a poison which deters aggressors.

And so to the Ellice Islands, since their independence known as Tuvalu. Not long before reaching the headquarters island of Funafuti, I hooked a dolphin and successfully landed it on deck. It was one of the loveliest fish I have ever seen, in iridescent colours like those of the rainbow, but with green and gold predominating. Alas, however, on death, the colours of fish generally change at once and are often quite different from those they had in life. This is unfortunately only too true of the dolphin. On the near approach of death, the green and gold turned to blue and chalk-white and, after the last quiver of life had ceased, to a dull opaque drab olive. I was so affected by this metamorphosis that I simply had not the heart to eat any of this beautiful fish.

In another story I have told of how I suffered from fish poisoning, once in Ocean Island and once in Funafuti. However, I did not suffer as my police orderly did on one occasion in Funafuti. Folk are doubtless familiar with skate, which appears at times on the slabs in fishmongers' shops. Rays, including sting rays, belong to the same family as skates. They are flat, with large pectoral fins attached to their heads, forming triangular winglike shapes, and with their tails thinned out to the point where are whiplike. They are seabed dwellers and feed on creatures which live on the bottom; they are not normally aggressive. But the ray is armed at the tip of its whiplike tail with a series of bony, brittle, barbed and serrated spines, about five inches long, which are as sharp as needles. Each spine has a narrow groove down the side, along which runs a strip of poisonous tissue. Like sharks' teeth, when a spine wears out another is ready to take its place. The pain from the stings is terrible, causing paralysis, or even death from shock or heart failure. If, therefore, a sting ray is hauled incautiously close by a fisherman before being despatched, the tail and spines may whip from the water and strike the fisherman's body, with dire or fatal results.

On the occasion of which I write, it was a Saturday morning and my orderly and I had decided to walk along the lagoon shore and fish in the north-west passage about 1½ miles away. As I was not quite ready, the orderly set off by himself, casting with his rod and line from the beach. I had only just emerged on to the beach some time later when I heard him give a loud cry and saw him fall on the sand where he seemed to writhe. I and my servant sprinted along the beach to where the orderly lay some 400 yards distant to discover that he had hooked a sting ray, which had whipped him with its tail and left part of a spine in his left calf. It was not long before he was in real agony. Between us we carried and hauled him back as fast as we possibly could to the hospital where fortunately the large, fat, grinning, but highly competent, Native Medical Practitioner, Tutu Tekanene, was in. He wasted no time, filling the orderly up with morphia, anaesthetizing the area around the spine, and then cutting it out; this is never an easy task since the barbs on the spine point backwards so that one cannot simply drag the spine out. Further, being brittle, it would disintegrate and spread the poison further. Although suffering severely from shock, the orderly was fortunate to escape paralysis or worse, partly because, so Tutu informed me, the spine had struck and lodged in the calf muscle and did not penetrate a major blood vessel. Nevertheless, it was a traumatic experience. I might add as a footnote that even gloves guarantee no protection for a spine may go right through them.

I did, however, experience two less worrisome events during my sojourn in Funafuti. On the first occasion the lagoon was invaded by a huge shoal of salala, a fish somewhat like, though slightly smaller than, a herring. As not infrequently happens with fish, the salala seemed to panic when they could no longer find the egress from the lagoon and hurled themselves on the beach or congregated in the shallows, where they were easily netted. Literally thousands of them were caught and, after being split open and cleaned, were either sun-dried or salted - a severe test for the olfactory nerves throughout the village and Government station for a week or two afterwards.

On the second occasion the same phenomenon occurred, only this time it was a small shoal of porpoises who for no apparent reason stranded themselves on the lagoon beach. They were beautiful animals and, though we towed them out into deeper water in the lagoon, they resolutely refused to save themselves and returned to the beach, though this did not entirely disappoint the islanders since they are great fish eaters and, apart from a little pork, rely on fish as their principal source of protein. Such incidents are, however, by no means unique; the same thing has happened in many places elsewhere in the world, even with fish as large as killer whales, though the reasons are far from apparent.

And so to Nanumea, the northernmost and largest island in the Ellice Group, where I experienced three new methods of fishing.

First, flying fishing; some fish can take to the air if only for short distances; thus the garfish skitters along the surface using its tail rather like the propellor of an outboard motor. But flying-fish really do fly. The fish leaves the water with outstretched pectoral fins which, held rigid, serve as wings for a prolonged glide, which it is said may reach as much as thirty-five miles an hour. Prior to the flight, the tail serves as a miniature outboard motor, beating back and forth as much as fifty times a second and helping to lift the fish into the air. They can then skim above the water for up to about a minute and, if there is a good breeze to help them, they may reach a height of ten to twenty feet, planing with their greatly extended and expanded forefins held rigidly out like wings. Flying-fishes often use their aerial skills as a means of escaping from their pursuing enemies. I might add here that the Pacific variety is a good deal larger than those I saw caught off Barbados and other islands in the West Indies; also that, although their flaky flesh is sweet to the taste, they are very bony.

In Nanumea, there are two methods employed for catching them. They can sometimes be caught in large numbers just after sunset, when they appear to be unwilling to fly out of the water or to swim more than a foot or two below the surface. They may then be driven by canoes in thick shoals into pockets on the outer edge of the reef and there be scooped up in 'dipnets' and emptied into the canoes.

The other method - torchlight fishing - is far more exciting, if at times less profitable. Before fishing starts, dry coconut leaves are collected and bound together as torches. Each torch is therefore about nine feet in length, and usually comprises three leaves. A canoe usually carries three or four torches. The 'dipnet' above mentioned is a shallow bag of netting with a mesh of about one inch and with a stiff circular frame round the edge; it is shaped something like a lute. The handle, usually of bamboo, may be up to eight feet in length.

Usually the whole village, and perhaps as many as twenty canoes, participated in the flying fishing. The canoes were drawn up in a line, about eighteen feet apart, at right angles to the reef. In the bows of each canoe stood the bow paddler with his dipnet held horizontally across his front so that the 'bag' was to starboard (the outrigger of a paddling canoe is always on the port side). One member of the crew behind him stands and holds aloft the blazing torch, which it is his duty to keep trimmed and blazing brightly.

When the fishing canoe captain (tautai) gives the word to light the torches , and the light is passed from one canoe to another, the scene is exciting indeed, rather like an undisciplined torchlight tattoo. When all is ready, the tautai then gives the word to move forward and the whole line of canoes advances steadily but slowly. When the fish are running well, the uproar is deafening, though order is maintained.

Fishing techniques are as follows; when a fish is lying dazed on the surface, the mouth of the net is brought down on the water with a resounding smack and in such a manner that the periphery of the bag surrounds the fish which, startled into flight, leaps up into the slack of the bag. Immediately after the smack, the mouth of the bag must be twisted quickly upwards and lifted clear of the water with the fish inside, to be thereafter flung over one's shoulder into the stern of the canoe, a by no means easy exercise. When, however, the fish is swimming, the mouth of the bag is thrust under the water a few inches infront of it in such a manner that it will, unless it changes direction, swim straight into the opening. As soon as the fish enters the bag, the fisherman, in one motion, must twist the mouth upwards and haul straight in towards him. Any attempt to lift the bag straight upwards would put too much strain on the light shaft which forms the handle.

Three points arising from my first essay as a flying fisherman are perhaps worth recording. First, putting the fish we had caught into a large coconut-leaf basket, we adjourned, with others, to the large village meeting house (maneaba) where the customary counting took place. A man performing the duties of a herald called out a number, usually well in excess of the number caught by the most successful canoe, and then decreased that number by ten at a time until a canoe captain called out that he held that number of fish. The fish are then counted out in pairs as the number is claimed. This continues until all the fish are counted . On my first essay, the total caught by the canoe fleet exceeded 1,200 fish,, and I was greatly relieved that my canoe was not at the bottom of the poll, so to speak. The fish were then divided out amongst family groups, taking into account various factors such as the numbers in the group and so on.

The fisherman who had caught least on my first essay was the extremely hefty old Samoan pastor, and his tally was greeted with much laughter and apparent ribaldry. When I later enquired why this was so, I was told that to be successful on such an occasion, a man should not consort with his wife or other female the previous evening - hence the ribaldry concerning what the pastor had been up to the previous evening; however, he took it all in good part; but I was glad I was not bottom of the poll.

Finally, during my initial essay, I tumbled from my canoe. It was at the height of the uproar with flying-fish coming thick and fast in flight at all angles. Now flying-fish have quite hard snouts and, whilst I was scooping up one floating on the surface in front of the canoe, I was suddenly hit very hard by something behind my right ear and sent flying into the water. In fairness I should point out that the average dug-out canoe in the Ellice Iclands is little more than twelve inches wide with only a few inches freeboard, and when in motion, standing with a long-handled 'dipnet' in one's hands , with a few bits of hot coconut leaf probably falling down one's back,

it is not easy to keep one's balance. Being hit by a large, hard-snouted flying-fish in full flight behind the right ear was too much for me and overboard I went, adding greatly to the hilarity of the whole occasion. However I did not think it quite so funny since, as we progressed in the canoe, I had noted that the canoes were accompanied by innumerable large porpoises whom I thought might not take too kindly to my presence amongst them. However, I managed to scramble back into my canoe with the aid of my crew without the porpoises hindering me.

From flying-fishing to fishing for the palu could hardly present a greater contrast - from a noisy, rollicking, hectic and busy fishing on the surface of the sea to a quiet, patient, and technically much more difficult occasional catch in the ocean depths. Except in a few places, the face of the reef descends sharply to the hundred fathom line, and thereafter the soundings become rapidly deeper. Palu frequent the depths between 80 and 250 fathoms and are caught, not on the bottom, but on the sheer face of the reef. Having first collected six or eight flying-fish for use as bait, the crew of three met me on the beach after dusk. One brought a large coconut-leaf basket containing three coils of coconut sennit of about 80 fathoms per coil, whilst the others brought a number of spare hooks (since it is not uncommon to lose some fish through shark attacks when hauling up a palu), several sinkers of stone or scrap metal, and a wooden club. Having shot the canoe over the line of breakers (an adventure in itself, especially as the night was pitch black with no moon), and reached the selected fishing ground, the sinker and hook, baited with a flying-fish, were then cast overboard and allowed to run to a depth of about 80 fathoms. As the bait was not taken, it was then lowered in stages until it reached about 250 fathoms. Failing a bite at that depth, the line was then hauled up to about 150 fathoms. The length of 150 fathoms or so of a thick line, with a heavy wooden hook and sinker, hanging vertically over the side of the canoe, meant that the hook did not move up and down in synchrony with the rise and fall of the canoe on the surface swell, but lagged considerably. I therefore found it extraordinarily difficult to determine, not only whether I had had a bite, but whether I had in fact a palu on my hook. We sat patiently in silence for a long time, when my police orderly asked me to hand him my line, which I did. After a minute or two, during which he raised and lowered his arm several times, he announced that I had a palu on my hook. He bade me pull the line in as quickly as possible to avoid a shark attack. This I did and when the fish was hauled alongside, it was quickly clubbed to death.

The fish was of a reddish-brown colour, with patches of milky-white on its sides. The skin was extremely rough to the touch, and the fish had huge eyes in relation to its size. On being weighed later ashore, it turned the scale at just over 21 lbs, though such fish can grow to six feet in length with a maximum weight of about 60 lbs.

Of the large edible fish caught in the Ellice Islands, however, palu is one of the least sought. The majority of the islanders are generally embarrassed by its pronounced laxative effect, since the flesh is saturated in oil. They are therefore reluctant to eat it in the quantity required to make a satisfactory meal. In fact,

it is "Te ika fakama vale tangata mo fafine" (the fish which makes men and women ashamed). The effect of eating it is identical with that of our medicinal aperients. The flesh is soft and palatable. I did not sample it when cooked in the ordinary way, but steamed it thoroughly, whereafter it tasted excellent - rather like turbot, I thought - but without the usual after effects. Salted, sun-dried, or smoke-cured, I thought it delicious.

The third type of fishing which I experienced at Nanumea was quite different again, more akin to the flying-fishing than the palu-fishing, especially in that it brought out so clearly the character of the Ellice islanders. They are extroverts, persons who look on the bright side of life, and enjoy nothing more than making fiafia or, as we might say, "making whoopee". The fish drive typified this admirably. The whole village (there was only one with a population of several hundred folk), save for some elderly matrons who were left ashore to care for the smaller children, turned out for the fish drive, clearly determined to enjoy every minute of it. Not long after dawn, fifteen canoes set off over the reef, all the canoeists being armed with fish spears as well as long ropes of coconut sennit, to which were attached a number of large conch shells. Opposite the area selected for the finale of the fish drive on the reef, they formed a crescent. Whilst some of the canoeists then slowly paddled in towards the reef, others lowered their conch shells on the ropes and hauled them up and down in the water. This, I was told, would result in a booming noise, thereby driving any fish in the vicinity before them towards the reef.

Meanwhile, all the villagers taking part in the drive entered the water on the shore, and made their way towards the reef which, at its edge was about five or six feet deep. They formed two long lines about 100 yards apart at right angles to the shore. Each person carried either a fish spear or a long pole, and a plaited green coconut leaf. As each line finally reached the edge of the reef, the crescent of canoes closed to meet the two lines. The latter then extended along the edge of the reef and joined up. Thereafter the U-shaped line of the villagers, in which I was a participant, slowly commenced to converge closer and closer to the shore, whilst singing and laughing, splashing the water, shouting frightening cries, pounding the bottom with their long poles or the shafts of their spears, and holding the plaited coconut leaves on the bottom to stop any fish escaping. As the lines slowly converged, they chased the fish in the enclosed area before them. Any fish that escaped between the coconut shields or legs of the fishermen or fisherwomen were speedily impaled on the spears carried by the canoeists who surrounded the closing circle. Finally, when the circle was about 50 yards in circumference, a seine net was run out along one line from the shore and round the rest of the circle and so back to the shore on the opposite side. It was then that the fiafia really started.

Of course, much depends on the number and type of fish within the enclosed area of the net. Sometimes there are few, at other times many. We were fortunate in that, as it turned out, we had a good number of fish within the netted area, and some that clearly took a dim view of their probable fate. Among the latter were four sand sharks, about four feet in length, and some

barracuta, with razorlike teeth;but there were also some rock cod, parrot fish of brilliant red and green, mullet, box-fish, angel fish of fantastic colours, pompanos, salala and others, the names of which I cannot now recall.

Individuals were than handed a fish spear and invited to show their prowess. Unfortunately, as District Officer, I was invited to show my skill first. Although the level of water on the reef and inside the net was now no more than two or three feet deep, and there a plenitude of fish enclosed therein, I found it extraordinarily difficult to spear a fish; however, my performance gave great delight to all the fisherfolk, especially as I lost my footing at times on the reef and subsided into the water. However, I eventually managed to spear one of the sand sharks, which was greeted with great acclaim, before handing my spear over to the next man. But even he missed his strike several times, before spearing a fish. Another was then given the spear in his turn, and so on. By the end of the drive, we had collected a very large number of varieties of fish, and a giant 'fish-fry', coupled with singing and dancing, ended the most enjoyable day.

And so to Tarawa, now the capital of Kiribati (or the Gilbert Islands). So much has been written about sharks that I will confine my remarks to a single experience with them, and advice given to me by Gilbertese about them. I might say that Tarawa was the island where I did most of my shark-fishing since there were always plenty of sharks there. However, wherever I found myself, when sharks attacked and mutilated a fish which I had already hooked and was hauling in, I felt it a point of honour to set out deliberately to catch the destroyer and kill him if possible. A shark is the only animal of which I ever got a savage thrill out of killing.

The typical shark is one of the most beautifully streamlined of all fishes, long and graceful as it cruises through the water, torpedo-like in its whiplash bursts of speed from its powerful propulsive tail. But, from head to tail, it always gave me the impression of being the personification of pure evil. Its mouth is grim and crescent-shaped, curved backwards in what appears to be an unchanging savage snarl beneath its shovel-edged snout. Inside that mouth are row upon row of serrated teeth for seizing, shearing, piercing or crunching - teeth which renew themselves like dragon seed, moving forward to replace those which are worn out, torn out, or which fall out with age. The eyes, set far apart on either side of the head, are fixed in a cold and seemingly pitiless stare, and never seem to close, even in death. The hammerhead shark is, however, a slight exception in that its eyes and nostrils are carried out on wings to either side of the head, giving the creature a more than usually sinister appearance.

The main channel forming the entrance through the reef into the lagoon at Tarawa was one of the favourite places for shark fishing, and I never returned to shore without having caught several - tiger sharks, grey nurse, sand sharks, etc. On one occasion that I recall, I had spent the better part of a day anchored in the channel and by late afternoon we had caught

seven sharks of different kinds and sizes, disembowelled them and thrown the guts over the side where they were greedily seized on by their late companions. Though sharks normally hunt by smell, a large share of the brain being given over to their highly developed function of smelling, blood in the water has a maddening effect upon them. A kind of wild fury overtakes them and they act quite crazily, regardless of all risk and against all opposition. Further, if one of their number is wounded, they will quickly turn on their own kind, attacking it instantly and with great ferocity, tearing it to pieces, as I myself have witnessed.

The sharks we caught that day varied in length from about 4½ to 7 feet, and the first six we hauled into the cutter. The Gilbertese will eat shark flesh and liver, though it is by no means their favourite dish. I tried it once, but not more than two or three mouthfuls as the flesh seemed to me have a strong flavour of ammonia. The liver is very rich in vitamins. As the sharks lay there disembowelled in the cutter, and with unwinking stare, I was reminded of, I think, an Australian saying that a snake never dies until sunset. Nor, I think, does a shark.

Having insufficient space in the cutter, we tied the seventh shark tightly alongside, and sailed back into the small harbour. Arriving there at dead low tide, however, there was little more than two feet of water in the harbour. So I jumped overboard to push the cutter towards the harbour steps. You can imagine my utter astonishment, however, when I slipped and was flung upwards and sideways in a veritable explosion of water, having landed on the back of a huge shark which had trailed us into the harbour owing to the leakage of blood and guts from the shark tied alongside. Fortunately, I think the shark was equally astonished by some 200 lbs suddenly hitting him in the back, for he made off at high speed into the lagoon.

On another occasion, I was preparing to troll outside the lagoon in a canoe, when the elderly Gilbertese who was to accompany me asked, before we left the shore, if I had a piece of red cloth or something of that nature. I replied that I had not, whereat he asked to be excused for a few minutes and disappeared. When he returned, he was holding a rather worn-out red lavalava in one hand and shortly afterwards we started out. I was curious as to why he had asked me for a piece of cloth, especially as he had tied it to the stern of the canoe near the steer-oar. Finally, my curiosity getting the better of me, I asked him. He smiled at me and then told me that, as long as there was something red, preferably a piece of cloth, tied to the stern of the canoe, no shark would attack the canoe. He said that he had never once been attacked whilst fishing, with something red attached to the hull of the canoe. Even on a long journey he once made, when he drifted hundreds of miles from the Gilbert Islands to the Solomon Islands, after a storm had destroyed his mast and sails and he had lost his oar, no shark attacked the canoe showing a piece of red cloth. So I never afterwards made any deep sea canoe voyages without a piece of red cloth tied to

the stern of the canoe, for on more than one occasion I had learned that native traditions, and what we might regard as superstitions, should not be laughed at.

I also asked the same old man one day what to do if one was in the water - swimming, diving, or for any other reason - and one was approached by sharks. He replied that, if one stayed still, the shark would circle and charge one; if one swam away from them in fear, the shark would smell the fear and pursue one; but, if one slowly but fearlessly swam towards the shark, it would be confused and not molest one. Certainly at another lagoon entrance where two canoes were engaged in shark fishing (I was on board one of them), and the other canoe ran out of bait, a Gilbertese in my canoe jumped into the sea with some bait and unhesitatingly swam over to the other canoe some 50 yards away, though the sea below was full of sharks. But he was neither chased nor harmed in any way.

Shouting at sharks, hitting them on the snout, splashing or kicking have all been recommended at one time or other but, if the advice of the old Gilbertese fisherman is not followed, the best solution seems to be to slip out of the water as quietly and quickly as possible. Fortunately, I was never faced with making the horrible choice.

Another common method of catching fish throughout the Gilbert Islands was through traps built on the reef. These were usually constructed of lumps of coral, and took roughly the form of an anchor with the two open ends adjacent to the shaft pointing towards the beach. The fish would enter at high or half tide and then, somewhat inexplicably - though admittedly schools of fish are inclined to panic in unusual situations - find themselves trapped at low tide, and easily caught.

There was a large such trap on the weather reef on the islet of Bairiki, part of the island of Tarawa, built by and for the benefit of the students of the King George V School there. On one occasion when I stayed with the headmaster of the school, we were called out early one morning to find the trap well filled. There were over 500 fish, of a kind called te ikari. These were silvery fish of some 9 to 14 inches long and edible, though the flesh was rather dry and flaky and, I thought, rather tasteless. Nevertheless, after being smoked and sun-dried, they provided welcome daily rations for the schoolboys for a while.

My final memory of fishing at Tarawa was of several expeditions which we undertook in the cutter to harpoon the large manta ray or devil fish. These are shaped like the sting ray, but are far larger, growing up to several feet across in each direction. They too have a whiplike tail, but with no barbs at the base, and are therefore not harmful to human beings. They do, however, have two horn-like projections which have grown outwards and forwards on either side of the mouth, as a funnel-like aid to feeding, but which give it a somewhat nightmarish appearance. They are bottom-feeders, and used to bask fairly frequently on the sandbanks off the south-west shore of Tarawa. I only harpooned one which, though a smallish one,

looked to me like some prehistoric monster in miniature. In fact, rays and sharks are among the most primitive of any living vertebrates, since for 350 million years they have pursued a lonely course down the tumultuous road of evolution. But its capture was a dull affair and, though it sounded twice, it made little serious endeavour to escape.

And so to Ocean Island, the former capital of the Gilbert and Ellice Islands Colony, of which I may cite three recollections. Flying-fish there were by no means so plentiful as in the atolls - I think probably because the feed was not so good - but such fishing did not appeal to me so much in any case. First, it was not a social occasion as that described in the Ellice Islands, and therefore much less fun; secondly, the few times when I did go flying fishing I noticed that there were an unusually large number of sharks following the canoes to pick up flying-fish, the flight of which had ended near a torchlit canoe, or which had stunned themselves on striking the canoes, as not infrequently happened. In the more fragile, clinker-built canoes used in Ocean Island, which were less sturdy than the dug-out canoes used in the Ellice Islands, I thought it safer not to indulge very often in that form of fishing.

Crayfishing, however, provided good, and athletic, sport. The crayfish made a practice of coming on to the reef in the breakers, and then return in the backwash out to sea. We were equipped with 'dipnets' very like a lacrosse racquet, and the trick was to wade along the reef, scoop up the crayfish when the wave had broken at the same time deftly twisting the racquet and then, if successful, transfer it to a sack carried by one of the fisherman. It was hard work, requiring an eagle eye, and no little skill and athleticism, especially as one was soaking wet from head to foot throughout the whole expedition. A full moon or a three-quarters moon was of course necessary for this type of fishing.

An amusing incident happened on one occasion when I had gone crayfishing with my police orderly. At one point he happened to be some 30 to 40 yards in front of me on the reef, chasing a promising looking breaker. On catching a crayfish, and turning round to show me, however, he was suddenly appalled to note that I was nowhere to be seen. A moment later, however, rising from the sea like King Neptune, I shot up from a deep chasm in the coral reef into which I had stepped, as it was hidden in the succession of breakers on the reef and I was in any case intent on catching crayfish rather than worrying about footholds on the reef. Great was his relief at seeing me however.

The final incident in my recollection, however, took place ashore in the maneaba (meeting house) in the village of Tabwewa on Ocean Island. The Banabans, natives of that island, had decided to stage a welcome for me as the first District Officer who had been appointed on the island for a good many years. Amongst the many items at the feast were naturally a large variety of different kinds of fish. After the feast itself and a good many speeches, I was approached by a Banaban girl

bearing something on a coconut-plaited plate, which I could not identify. It was about the size of a ping-pong ball - certainly no smaller than that - with a jet black centre and an orange ring forming the circumference. Out of the side of my mouth, I discreetly asked the Native Magistrate who was sitting next to me what it was. I was appalled when he told me that it was the eye of a large fish called te ingemea and a very special delicacy which I was expected to eat. To say that I was horrified would be a vast understatement. But I had only a few seconds in which to decide what to do, before the girl knelt before me and tendered this bonne bouche. Fortunately, however, I happened to be wearing a shirt with long sleeves, and I hurriedly pulled down the right sleeve until it covered most of my right hand. At that moment the girl knelt down in front of me and held out the plate on which reposed the gift. Trying to look both impressed with the gift and cheerful at the same time, I picked up the eye in my right hand and raised it to my lips, pretending to place it in my mouth; but, at the same time, I managed to dispose of it in my sleeve, all the while masticating madly and trying to grin cheerfully as though I was enjoying every moment of consuming this piece de resistance.

Unfortunately long speeches followed, to which I had to reply, and thereafter many dances, the while the eye of te ingemea reposed somewhat glutinously in my right sleeve. I had to press the sleeve tightly against my body to ensure that the eye did not fall out since, if it became apparent that my consumption of the eye had been faked, I would have been the subject of much opprobrium. Eventually, however, but none too soon for me, I thankfully escaped from the ceremonies and quickly disposed of the eye in the bush, taking great care to ensure that no native was watching. But, even to uphold the reputation and honour of the Colonial Administrative Service, I do not think that I could have chewed that eye which was in any case much too large to swallow whole like an oyster.