I

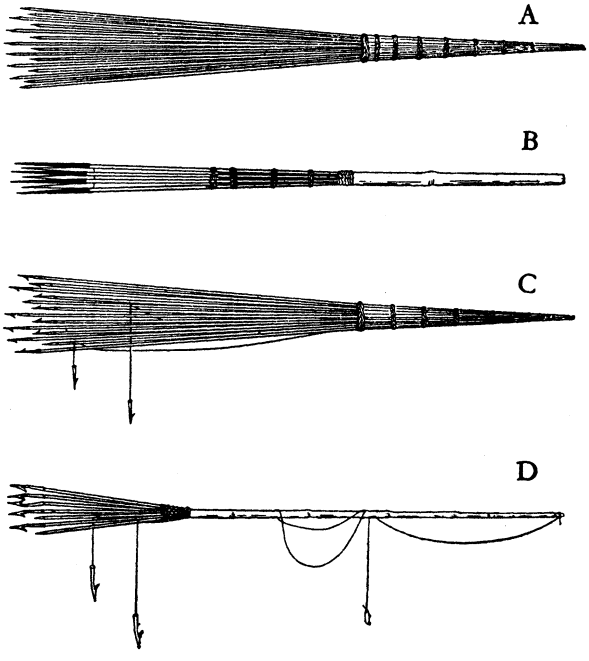
WEAPONS OF THE CHASE BORROWED BY THE FISHERMAN

I. THE SPEAR AND THE HARPOON

STUDY of present-day primitive races still living in the Stone Age, proves without the possibility of doubt that the first men to attempt the capture of fishes other than by means of their bare hands were those in the hunting stage of civilization. The devices employed by the prehistoric men who first turned their attention to this art were the ordinary equipment of the chase, the selfsame weapons as they used in the pursuit of the animals of the forests and the plains. Little by little as experience increased and skill advanced among the various tribes, modifications of the original weapons were devised to increase their efficiency under the specialized conditions encountered when pursuing prey with peculiar advantages for escape, not possessed by animals that run on foot upon the land. The primitive spear, in its simplest form of a pole with sharpened point perhaps hardened by charring in the flames, was the first implement used. But this and its improved successor, the spear with a two-edged cutting blade of flint or of obsidian lashed to the outer end of the shaft, while effective enough against an animal that may be patiently tracked for hours, if wounded, are of little service in the case of a fish. The latter, when hurt even to the death, if once it slips off the spear-point is seldom retrieved; a little strength left will carry it to a safe retreat under rocks and stones, or into deep water or the soft mud at the bottom. Hence the earliest modifications of the primitive hunting spear were designed to overcome this defect. The first of these was to arm the simple spear-head with one or several barbs; these ensured that the fish would be held fast once the barbed point pierced the body. The next improvement was to increase the number of points by forming a number of thin spears into a bundle by tying the shafts together for some distance from the butts, and arranging the prong-like free and pointed ends in such a way as to cause them to diverge from one another and so become a missile instrument extremely well adapted to pin a fish down when struck, or entangle it between the prongs (Text-fig. 1, A). Another variation was to tie a bunch of pointed hardwood spikes in a single or double circle around the end of an ordinary spear-shaft, a very effective contrivance for the capture of the smaller kinds of fish, particularly of those that go in shoals (Text-fig. 1, B).

The next advance was to increase the number of prongs in the barbed fishing-lance to two, three or even more, producing two-, three-, or many-

pronged spears—the bident, trident and multident forms. The first is characteristic of fishing scenes depicted in frescoes found in ancient Egypt, where fish-spearing was a favourite sport of the nobles; many charming pictures have come down to us, painted or worked in bas-relief on the walls of tombs. The majority are touching domestic scenes, depicting the great man, accompanied by his wife, and sometimes a favoured child, afloat in a marsh through which they thread their way in a pretty skiff made by tying bundles of the long stems of the papyrus sedge into a



TEXT-FIG. 1. Indian multidentate fishing-spears; in order from above they are: A, the ordinary form of Bengal *konch*. B, the Nadiya *konch*. C, the *jutiyā*, a harpoon variety. D, the *pacha* of Patna and Mymensingh.

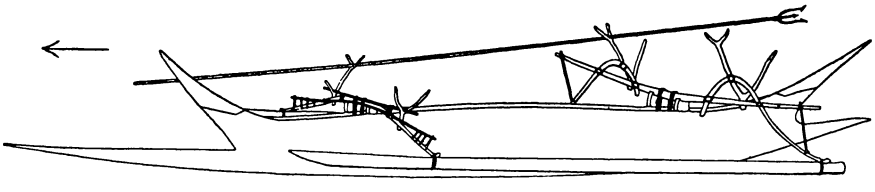
floating platform, half raft, half canoe. The husband stands erect and eager, a two-pronged spear in his hand, ready to strike whenever a fish comes within range (Text-fig. 2). Sometimes he is shown with two fishes transfixed upon his spear. In other scenes where the quarry is the hippopotamus,[1] the spears used are fitted with a retrieving line attached near the distal end of the shaft—a transitional stage in the evolution of the true harpoon.

To-day in Egypt the spear has been abandoned for more profitable methods of fishing; a noble class, leisured and passionately addicted to the chase, has disappeared, its place taken by busy officials and a wealthy plutocracy without time or inclination for the country pursuits so keenly enjoyed by the old-time aristocrats.

1 Tomb of Mereruka at Saqqara, dating from the beginning of the VIth Dynasty.

For some obscure reason the Greeks and Romans of the classic period preferred the trident to the bident; they employed it as we do to-day in the allegorical treatment of scenes representing sea-gods and sea-power. No classic weapon is more familiar to us than the trident of Neptune, now held in the hands of Britannia as stamped upon our bronze coins (Text-fig. 3).

TEXT-FIG. 2. An Egyptian nobleman of dynastic times spearing fish with a bident.



TEXT-FIG. 3. A fishing canoe of Menado in the Celebes; a trident spear rests in crutches on the outrigger.

The ingenuity of early man, having invented various forms of the compound spear, next designed the harpoon, a spear with a detachable head, socketed upon the end of the shaft, and connected to it by means of a strong, thin thong or cord. By this arrangement, when the barbed head penetrates the victim's body, the shaft comes loose; floating on the surface, it serves as a buoy to indicate the position of the wounded fish. It acts also as a check upon its movements, and helps materially to hasten its exhaustion and eventual capture. The utility of this device must have been very early realized, for barbed harpoon-heads, usually made of deer's horn, have been

discovered among the refuse of some of the shelters of palaeolithic man in Europe. The final stage of evolution was reached when a mechanical contrivance was devised for propelling short light spears with greater force and accuracy than the average man could attain with mere arm power. This invention we know by the name of 'bow and arrow'; in its turn it was superseded by the cross-bow.

All these methods, in a thousand and one local variations, are still to be met with on the mainland of India, particularly in the lowlands of the Gangetic plain and delta subject to widespread annual inundation. Every little hut there has some of these weapons lying about or stowed away in safety according to the season. Their constant occurrence bespeaks the value set upon them as effective instruments for supplying the daily wants of families too poor to afford the capital necessary to buy the comparatively costly outfit requisite for net-fishing. The hunter's instinct must also be reckoned with. The excitement of the chase is a legacy from our savage ancestors and when this can be combined with profit, need we wonder at the continued popularity of the fish-spear and harpoon?

The simple lance with sharpened unbarbed point is little in evidence in the Gangetic region, but examples are occasionally met with, as in the twenty-four Parganas, having a bamboo shaft tipped with iron. A usual length for the shaft is slightly over 7 feet; that of the point $5\frac{1}{2}$ inches.

The compound spear made up of numerous simple lances firmly bunched together towards the butts but divergent and free for more than half their length are much in evidence throughout the low-country, where it is known generally as *konch* (Text-fig. 1, A and B). It varies in details locally, particularly in regard to the way in which the shaft bundle is secured and in the number of spears bound together. A typical *konch* consists of from ten to sixteen separate split bamboo spears with shafts between $4\frac{1}{2}$ and 6 feet in length. The proximal portions of the shafts are formed into a tapering bundle and secured tightly in position in various ways. In one (at Nadiya) a joint of bamboo, $1\frac{1}{2}$ feet in length, is split through along half its length into four pieces, and slipped over the pointed end of the long conical handle in such wise as to embrace it, and then is tied firmly in this position (Text-fig. 1, B). In some the bundle of butts is bound round with iron rings (twenty-four Parganas) and in others by cord or fibre (Text-fig. 1, A). Each of the numerous shafts is tipped with a short conical iron point, usually not more than $1\frac{1}{2}$ inches long. The *konch* is a heavy weapon requiring considerable strength to hurl. It is generally thrown by a man standing at the prow of a boat, sometimes from the bank of a stream.

The harpoon form of the simple spear is by far the more common of the two. Invariably the harpoon is barbed either single or double. The shaft consists of a bamboo, 9–10 feet long. The barbed point, 9 inches or so in length, is usually fitted to a short wooden handle and this in turn

into the hollow end of the bamboo shaft. A cord connects the wooden base of the harpoon point with the shaft.

This form of harpoon (*ek-katyā*) is used principally in the pursuit of tortoises and large fish; the simple unbarbed spears for tortoises only.

The *konch* or compound spear has also its harpoon form, when it is known as *juti* or *jutiyā* (Text-fig. 1, c). It is used in the same way as its prototype but having barbs on the small iron spear-heads, which are attached by thin cords to the long conical 'handle', the prey is more securely held when struck; if the fish is large and puts up a hard fight in its attempt to escape, the great basal cone serves as a buoy easily kept in view by the pursuing boat (Text-fig. 1, c). A variation of this compound harpoon is the *pacha* of Patna and Mymensingh (Text-fig. 1, D). Here the heavy cone-shaped handle of the *jutiyā* is replaced by a single light bamboo shaft, bearing (usually) seven short spears capped by singly barbed iron points, attached harpoon-wise to the main bamboo shaft by thin cords (Text-fig. 1, D).

The fork-shaped spears formed by a number of barbed iron prongs rising from a common base and arranged typically and commonly in one plane, form a distinct class, known in English under the term 'grains'. Usually the forked iron head is secured to the shaft by a cord. The number of barbed prongs varies widely, from two to thirteen; the names have even greater diversity, both according to the number of prongs and to the locality. *Chal* and *pāchkā* are perhaps the most common of these. The bident form of two prongs is not common; it is represented by the *dūkāthi* of Malda. Tridents are much more frequently seen, under the name of *āora* or *ātor* in Bakarganj and Faridpur and *kātā* in Jalpaiguri. The *pāchkā* of Malda has, as its name implies, five prongs, but that of Patna is variable in the number and may have from five to eight. The *sāt-phalā* of Pabna has seven prongs.

In some forms, as in the *tentā* of Nadiya, the iron prongs are bunched together, and in the *pāchā* of Mymensingh the prongs are short straight pieces of split bamboo, inserted in one plane in a divergent manner at the head of a bamboo shaft. Each prong is tipped with a short iron barbed harpoon point, attached by a line to the head of the main shaft (Text-fig. 1, D).

Spearing fish by torchlight is frequently practised. A lighted torch made of dry jute stems or other cheap combustible is placed at the fore-end of a boat, usually a dugout. The paddler at the stern propels it slowly and quietly along while his companion, statuesque and immobile at the prow, rests a long harpoon spear on his left hand, the right holding the butt end ready to launch it at any fish that approaches, attracted by the blaze.

But to see primitive spearing methods employed in a perfected form and on a large scale we must voyage to the Laccadive Islands. The inhabitants

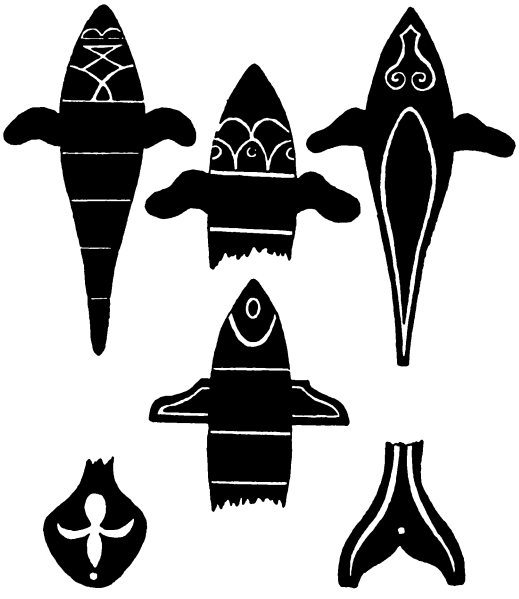
of this little archipelago, lying about 200 miles west of the Malabar coast, in race and speech are similar to the people of the adjacent mainland. At an early date they became converted to the Muhammadan faith; the period of Arab sea-power was their golden age.

Their knowledge of the world to-day is limited. Once a year, provided a suitable steamer is available, the Collector of Malabar or his deputy is accustomed to visit the islands, settle disputes, try prisoners for major offences (there seldom are any), see that the islanders continue to maintain the periodical communal rat-hunts, and then return home to prepare a report on his inspection for the edification of the local government. Not infrequently, if the officer be young and enthusiastic, anxious to see 'progress' made and the islanders wakened out of their easygoing philosophic attitude towards life, he prepares an elaborate scheme for the improvement of the material and moral condition of the people; he may wish to see a modern system of agriculture introduced, new fishing methods tried; he may aspire to enlighten the islanders on matters educational and hygienic. This report in due course is commented upon sagely by youthful under-secretaries whose *dicta*, almost invariably adverse, are usually endorsed by government in the orders passed on the report. The primrose path in these circumstances is agreement with opinions that entail no struggle with the treasury authorities. Thereafter the report is printed, and consigned to oblivion in the official archives.

But if the crop of coconuts has been good and the season favourable for fishing, the islanders are quite happy to be forgotten. No tax-gatherer comes to harry them, and the paternal government, to protect them from the rapacity of the mainland traders, buys all the coconut fibre they manufacture at a fair market price. The island sea-going craft make an annual voyage to the mainland with this produce and bring back in exchange rice and curry stuffs, a little kerosene oil and the petty sundries that constitute the islanders' luxuries. Being good Muhammadans, prohibition is their unquestioned custom; so their needs are still further lessened.

In fishing, the harpoon and the many-pronged spear are in everyday employment. By means of the former, the mighty swordfish, voracious enemy of all fishes smaller than himself, is frequently captured. The iron head of the harpoon, usually armed with a single barb, is socketed upon the extremity of a long wooden shaft and attached to it by a length of line so that when the fish is struck and the harpoon-head dislodged, the fisherman may retrieve the fish when its strength is exhausted by the struggle, by hauling upon this line. But first the fish must be lured within striking distance. To effect this, a bait is played on the surface of the water. When possible a real flying-fish is employed, dangled from a short line at the end of a primitive fishing-rod; often such a bait is not available, so the ingenuity of the islanders has evolved a wooden imitation which serves equally well

or possibly better. This dummy fish is quite large, usually about 10 inches long. The form is conventional, the body being torpedo-shaped, with two lug-like projections towards the thicker end, to represent the pectoral fins, and a widened tail-like expansion at the narrow end. To increase resemblance to the real flying-fish, the dummy is painted black, with incised patterns picked out in white made with a mixture of lime, resin and oil. In some, a few white bands encircle the body at equidistant intervals; in others the white lines run lengthwise; some have rounded tails, some are bilobed. Individual fancy and a well-developed artistic sense, partial to symmetry and arabesques, find plenty of play in the decoration of these wooden lures (Text-fig. 4).



TEXT-FIG. 4. Types of the ornamentation of the wooden 'bonito' lures used in the Laccadive Islands in the swordfish fishery. The two figures at the bottom are side-views of the tails of two of these lures.

Each family is said to possess its own particular conventional pattern, an advantage in establishing the ownership of these objects if they be lost and then found by others. When fishing, the fisherman stands in the bow of his boat, the long-shafted harpoon poised ready to strike in his right hand, while he plays the 'false fish' (*poëmin* as it is called in Malayali) on the surface of the sea by means of a short rod and line held in his left hand, making it to skip and dart over the waves in as realistic a fashion as he can manage (Pl. 1, fig. A).

The swordfish comes with a swirling rush and expert must be the harpooner to strike at the precise moment the great fish flashes within reach. An instant's hesitation or unsteady aim and the work of a day

may be thrown away; the swordfish though fairly common in these seas, is not to be lured within reach at the beck and call of any impatient fisherman. The game has to be played out with infinite patience on the part of the man, who cannot afford to be discouraged even by several days of failure. The reward is great when it arrives.

The Laccadive islander has still much of our primitive prehistoric ancestor in his make-up; he goes to his fishing with a sense of enjoyment seldom met with in his mainland brethren who too often lead a poverty-stricken and circumscribed life in crowded and insanitary villages. The islander is perhaps equally poor, but his is a freer existence; he owns a few coconut trees and his house stands in its own little compound, well apart from his neighbours. His freedom begets a sporting love of fishing that furnishes him with keen enjoyment when he puts to sea in his graceful little sewn-plank boat in pursuit of the great swordfish or when at night-time he sets forth to spear the elusive flying-fish; on the latter occasion the weapon used is the compound spear, here consisting of two concentrically disposed circlets of pointed sticks at the end of the spear-shaft. To attract the fishes within striking distance great torches made of bundles of coconut leaves are burned, the light bringing the fish round the boat in such numbers that often 100 to 150 may be taken in a single night by one boat.

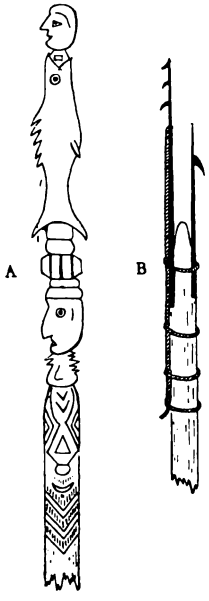
Nearer home we find the swordfish hunted and harpooned in much the same fashion in the Strait of Messina. As the Strait shrinks to a narrow passage only 2 miles wide at the northern end, the terror of the swirling tidal eddies of Charybdis made this a place of dread to the mariners of the early classic period, navigating in small craft without charts, or pilots or sailing directions. Here, too, a cold current wells up from below and the two influences combine to make these narrows famous for the richness of their fisheries. Among these, the chase of the swordfish ranks high. The most expert fishermen are those of Faro, the little fishing village strung out along the beach near the slender lighthouse or *faro*, from which it takes its name.

These men work in small open boats, manned by a crew of six. Amidships, a high look-out pole provided with a foothold about 3 feet below the top, serves a watcher as a stance when searching for signs of the great fish—the flurry made as it sends a frightened shoal of small fishes racing wildly in flight or the sight of its big dorsal fin cutting the waves. Awaiting his warning cry, another man stands on a short, gunwale-high, fore-decking, harpoon in hand; to right and to left is a vertical board fitted with two half-round hollows cut in the upper edge, rests for harpoon and long-handled gaff when these are not in use (Pl. 1, fig. B).

Another area where spear and harpoon are of notable economic importance in the lives of the people is Melanesia. In 1918 when cruising along the north coast of the Dutch section of New Guinea, I found the dominant

fishing methods to be spearing and shooting with bow and arrows. At Wake Island and at Manokwari where I had special opportunities to observe the methods in use, the fishermen are expert in the spearing of fish; the variety in size and in the arming of these weapons is particularly notable.

For large fishes and for turtle two heavy spears, remarkable for their length and for the carved ornamentation of the shafts, are carried in every canoe. The head is quite unusual in form, armed as it is with two barbed spear-prongs, set parallel on opposite sides of the shaft (Text-fig. 5, B). The butt is also richly carved for a length of some 2½ feet. Designs vary greatly; in one instance the end of one of the pair of spears (they are not harpoons) was carved into semblance of a nude female figure, the other being geometrical and fanciful. In many, fishes and human heads are often combined—a fish swallowing a man is a favourite motive (Text-fig. 5, A).



TEXT-FIG. 5. A, the butt of a turtle spear from the north coast of New Guinea, fancifully carved. B, head of another, armed with two barbed spear-heads.

In small canoes these formidable weapons are replaced by smaller ones, still of considerable size and strength. Some have but a single lance-shaped head, made from a stout sliver of bamboo, sharply pointed; mostly there are several of these bamboo prongs, three, four or five in number, with the prongs set slightly divergent.

At Manokwari, the majority of the spears are of similar type; a considerable number are rendered even more formidable by the serration of both edges of the prongs.

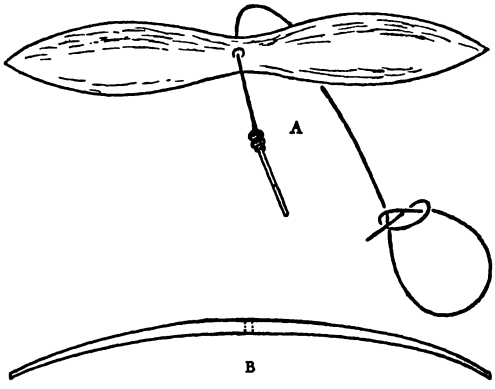
Iron-headed harpoons are in use by the fishermen of every village along Geelvink Bay and in the Schouten Islands, for the purpose of securing turtle, dozing or lazing on the surface of the sea. The shaft is of heavy black wood, slighter at the butt than at the middle or at the head end, in order to give proper balance at the point where it is held at the moment when it is to be thrown. To the butt is tied a piece of tortoiseshell, about 2½ inches long, with a perforated knob at one end, a primitive ring.

The short harpoon-head, single barbed, is of iron, with a conical cupping in the base, enabling it to fit upon the tapered end of the shaft. The retrieving line, attached to the barbed head, passes first to the tortoiseshell ring through which it is rove and then is taken back half-way along the shaft, where it is stopped by means of a slip-knot. This arrangement allows the harpoon-head to remain in place until a turtle or a fish is struck,

whereupon the tension set up on the line when the victim makes its first rush releases the slip-knot and brings the line back to the butt.

To shorten the time required to exhaust the turtle or fish after it has been struck, two wooden disks, which we may call stops or retarders, are threaded upon the line; the resistance they offer when drawn at speed through the water affords immense help to the fisherman whilst playing his catch. If the animal be a fighter and strong in its rushes, a second line may be tied to the end of the first; as this is also provided with retarders, the hooked catch finds the brake on its rushes so much increased that it is forced to succumb quickly.

When a line is rove through the central hole of a retarder disk, a strong wooden pin is passed transversely between two of the strands to secure the



TEXT-FIG. 6. A, propeller-shaped 'retarder' or brake used in the islands off the north coast of New Guinea when fishing for turtle or large fishes. B, longitudinal section through the retarder to show its curvature.

disk in position; alternatively a knot may be made on the line on the proximal side (Text-fig. 6).

The usual form, that of a circular disk, has some geometric pattern cut on one surface; in one example which I obtained, the motive was cruciform, suggestive of a four-leaved clover leaf; another retarder was cut into eight radiating petal-like lobes, with a lozenge-shaped fragment of a china plate inlaid at the centre of each lobe (Text-fig. 7, B (*b*)).

Sometimes the second disk is given a specialized and rather larger form than the first, being carved into the conventionalized form of a predatory bird or of a ray-fish. One of those seen was easily recognizable as intended to represent the horned ox-ray, a fish more feared than the shark by the pearl-divers of the East (Text-fig. 7, A).

In other parts of the world, especially in Africa and America, spearing and harpooning of fish are common practices but nowhere do these methods attain the wonderful diversity and general usage met with in Bengal and