



"Fast fisk!" is the cry as the harpoon goes home

Whales and Whaling in the Western Pacific

By R. J. A. W. Lever

The literature of whaling deals either with the early efforts in the Arctic with the hand-harpooning of Greenland whales from open boats or with the much later campaigns in the Antarctic against the blue whales, using harpoon guns from chaser ships. In fact, however, during the last 70 years or so, the term "whaling" suggests killing by explosive shells and then the mechanical flensing in the attendant factory ship in southern polar regions. The classics—Melville's "Moby Dick" and Bullen's "The Cachalot"—occupy a unique place in literature but descriptions of whaling in the Western Pacific are scattered in various books and journals and are not easy to find. This article attempts to give an account of whaling activities in Melanesia and Polynesia which it is hoped will be of some value.

Early History

IT is generally accepted that the first whalers in the Western Pacific were operated on a small scale by the British in 1775, but serious whaling did not begin till the voyage in 1789 of the *Amelia* shortly after the arrival of Phillip's "First Fleet" in New South Wales. The powerful East India Com-

pany was able to prevent British whalers from operating in the Pacific Ocean at this time—and it wasn't until 1802 that these powers were finally relinquished. Naturally, these limitations encouraged the American whaling fleets, who became supreme in this area from the end of the eighteenth century till about 1860, except for the three years of the War of 1812. Few groups of islands in Polynesia went

unvisited by the Nantucket and New Bedford whalers, who reached their heyday in 1846 with no less than 730 vessels engaged in this trade and taking £1,400,000 worth of whale products in that one year alone. The ultimate effect of this immense onslaught on the whale population will be dealt with later.

Because of the annual arrival of large numbers of the Southern right whales in Tasmania and New Zealand, there developed so-called "bay" or "shore" whaling in these countries in which the whales were captured only short distances from the coast.

Types of Whales Hunted

Only three species were hunted on a really large scale; the sperm, Southern right, and humpback whales. The sperm or cachalot (*Physeter catodon*) reaches a length of 60 feet in the male but only 30 to 35 feet in the female and has a very narrow sledge-like lower jaw with from 20 to 25 pairs of teeth, which provide the "ivory" described later. In the head also were the gummy, fatty spermaceti from the lower or "junk" part and the very valuable sperm oil from the "case" in the upper portion. This sperm oil was the source of the spermaceti candles from which the original unit of light, "candle power," was calculated.

It is interesting to note that the term "sperm whale" is derived from the odd idea of the old-time whalers that the spermaceti was actually the creature's sperm—the French were less imaginative and used the word "cachalot." The average quantity of oil obtained from one whale was six tons but a figure of 15 tons was sometimes reached. Finally, there was the more valuable ambergris, secreted in the whale's intestine, not in the stomach as some authors state. Even to this day, chemists have not been able to synthesize this product on which perfumers still depend and which costs in the vicinity of £4 per ounce!

The food of the sperm whale is confined to squid, giant specimens of which, obtained from very great depths, have been found in whales' stomachs. Dives of 400 fathoms are quite usual and up to 600 fathoms recorded. This whale is a lover of warm tropical seas and sperms found beyond 40°N or 40°S usually prove to be rogue males banished from the herd, as sometimes also happens with elephants. In the early whaling days, schools or "pods" numbered up to 100, but extensive hunting, in which nursing mothers and young were not spared, soon reduced this figure to about 15.

"Moby Dick," written in 1851, was based on actual incidents which occurred on board the U.S. whaler *Essex* in 1820 when sailing near the small Hender-

son Island, just off Pitcairn. An interesting habit of whales is quoted by Derrick (1) in which a small government vessel at anchor in a bay in Koro Island, Fiji, was chosen by two whales as a convenient object for rubbing their sides against so as to scrape off their barnacles—the reaction and language of the skipper is not recorded!

When dealing with the Southern right whale (*Balaena antipodarum*)* practically everything applicable to the sperm whale is found not to apply. The Southern right male rarely reaches more than 50 feet in length. It has huge lower jaws devoid of teeth, and from the roof of the upper jaw it has blankets of whalebone or baleen. Unable to chew, the whale obtains the large quantities of food it requires by swimming open-mouthed through shoals of shrimp-like "krill" or Euphausians, which are swallowed as the water is strained through the fringe of baleen. These Crustacea, about 2½ inches in length, do not occur in tropical seas, so the right whale in turn frequents both the South Polar regions and the waters around New Zealand and southern Australia, where they migrate to breed in sheltered inlets. Over a number of years at Twofold Bay near Eden, N.S.W., there was the remarkable occurrence of porpoise-like killer whales (*Orcinus orca*) which drove the much larger right whales into shallow water and attacked them there, to the great satisfaction of the bay whalers.

The third species of whale is the humpback (*Megaptera novaeangliae*) which reaches a length of 45 to 50 feet in both sexes and has very long flippers up to 14 feet long. It is very prone to attack by both lice and barnacles. Its distribution during the whaling days was restricted to Tonga, western New Caledonia, off the northern tip of New Zealand, and in the Cook Strait. Early records show that it was usually the first whale to be hunted when new fields were opened up, but it soon moved to other regions, either from fright or intelligent anticipation.

Main Whaling Grounds and Island Bases

Most British and American whalers entered the Pacific via Cape Horn, sailed up the coasts of Chile and Peru to the Galapagos Islands, then along the equator and so down to the Marquesas. There was also some movement of American vessels coming south from Hawaii. Certainly by 1813 there were a number of bases, described as forts, in the various sheltered bays of Nukuhiva and Hiva Oa, the scene of Melville's "Typee." This was written in 1846, just after the

* The writer has followed Burton's recent classification (2) in which *B. antipodarum* is used for the Southern right whale and the more usual *B. australis* reserved for the South Atlantic whale.



The whale is inflated with air to facilitate towing. Strokes cut in the tail indicate the catcher's identity and the number of the catch for the day.

first French occupation of the Marquesas. Other bases were at Tahiti and Moorea in the Society Group, of which Cook's associate, Sir Joseph Banks, commented that, in the forty years prior to 1806, the human population had been decimated since the arrival of the European—and for this the whalers must bear their share of guilt.

One of the most intensive areas of whaling activity was the extensive equatorial belt stretching as far west as the Gilbert Islands, and known as the "On the Line" whaling ground, with the ships at work there throughout the year. By contrast, the waters around northern New Guinea and the Solomon Islands had a season restricted to the months from October to March. Further east in Fijian, Tongan, and Samoan seas there was again year-round sperm whaling. To the south, in the region frequented by the Southern right whale, most activity occurred east

of the Kermadecs, the Cook Strait, and off the South Island of New Zealand. The vicinity of the Kermadecs was given the name of the "Vasquez Ground," in which both sperm and right whales were taken.

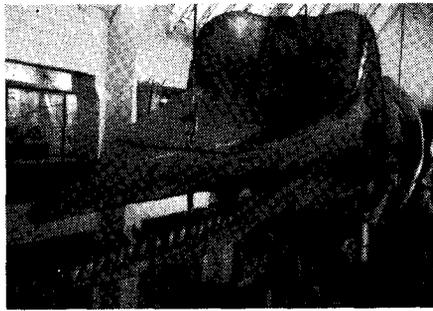
Credit for the first serious attempts to plot the most fruitful whaling grounds belongs to Commander C. Wilkes of the U.S. Exploring Expedition of 1838-42. Nearly a century later, his fellow-countryman, C. H. Townsend, made a careful study of the log books of 1,665 whalers, and recorded the sites where nearly 54,000 whales had been harpooned. Far too little attention has been paid by British writers to his paper (3) with its four large maps showing the capture of the economic whales on a month-by-month basis throughout the whole world. The map accompanying this article has been re-drawn to summarize the very detailed information

compiled by Townsend from the original sources.

Some of the favourite localities used as bases by the early whaling ships were Levuka and Kandavu in Fiji, Rotuma Island, Nuku'alofa and Vava'u in Tonga, and Pago Pago Harbour and Apia Roadstead in Samoa before its division into American and British spheres. Further south, whalers by the beginning of the 18th century were using Hobart and Launceston in Tasmania, and Port Jackson, Twofold Bay, and Portland Bay in Australia. Similar bases were soon established in New Zealand, of which Kororareka (Russell) in the Bay of Islands, Akaroa in the Banks Peninsula, Kapiti Island and Cloudy Bay in Cook Strait, and Dunedin are among the best known. Darwin landed at Kororareka when H.M.S. *Beagle* called there in 1835—at that time between thirty and forty ships were at anchor. What would one have given for a photographic record of these vessels and their tall timbers, now only a memory?

Blowing or Spouting

It is only within the last ten years that a reasonably satisfactory explanation has been given about the blowing of whales. It is many years since the early erroneous belief that sea water was spouted from the blowhole, but one problem still re-



Skull of sperm whale

mained to be solved. If the spouting was actually the whale's breath, how did one account for it being clearly visible in hot tropical latitudes? Because, to be seen so easily, there should be a very marked difference in temperature, familiar to us all in cold weather. The explanation, given as recently as 1955, by Fraser and Purves (4), proved that the column of exhaled breath from the whale's lungs contained a nitrogen-charged foam, expelled in droplet or emulsion form so as to be visible even on the hottest tropical day.

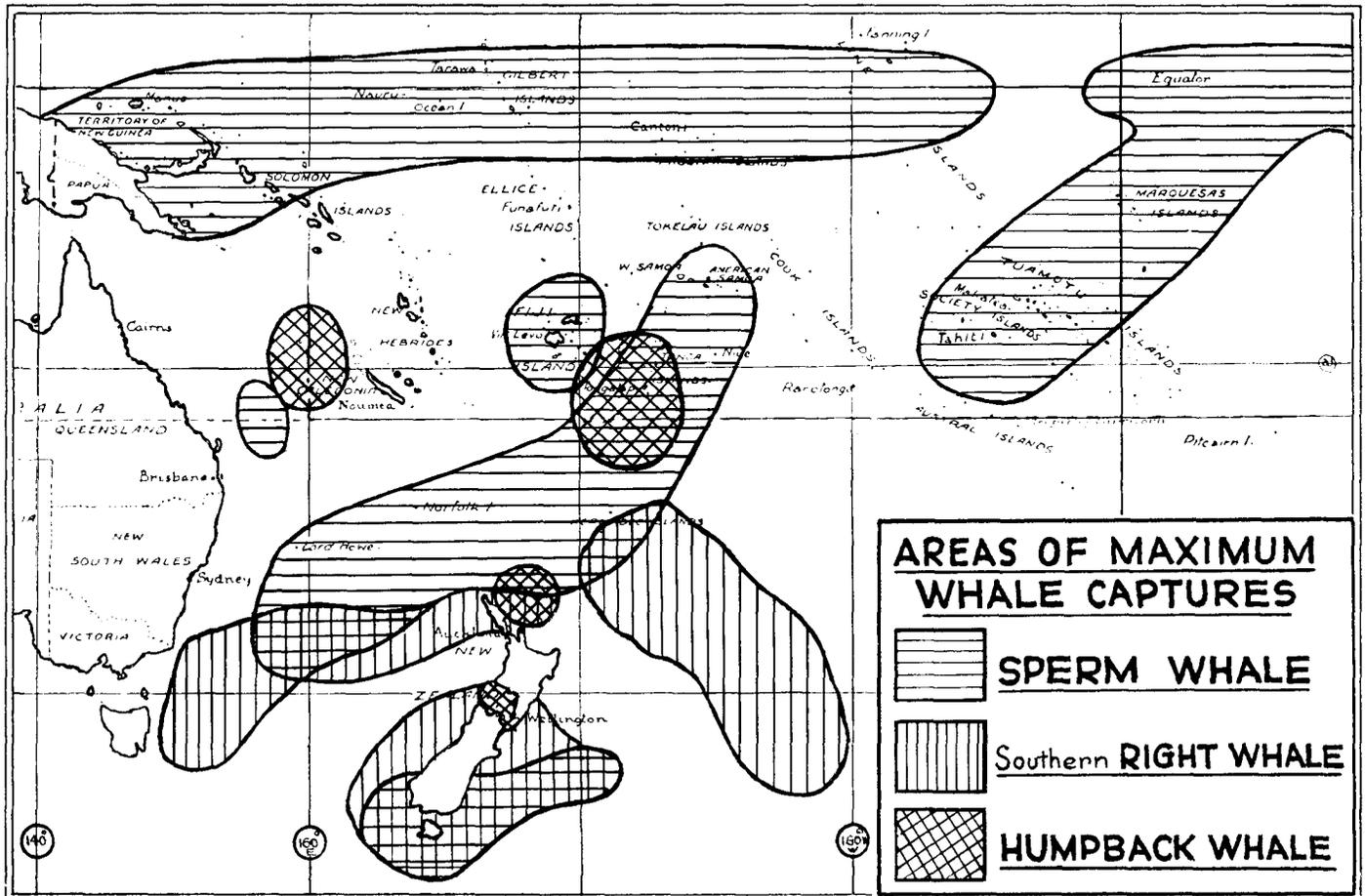
Differences in the types of spouting enable one to recognize the species of whale. The sperm whale's spouting issues from a single serpentine slit near the

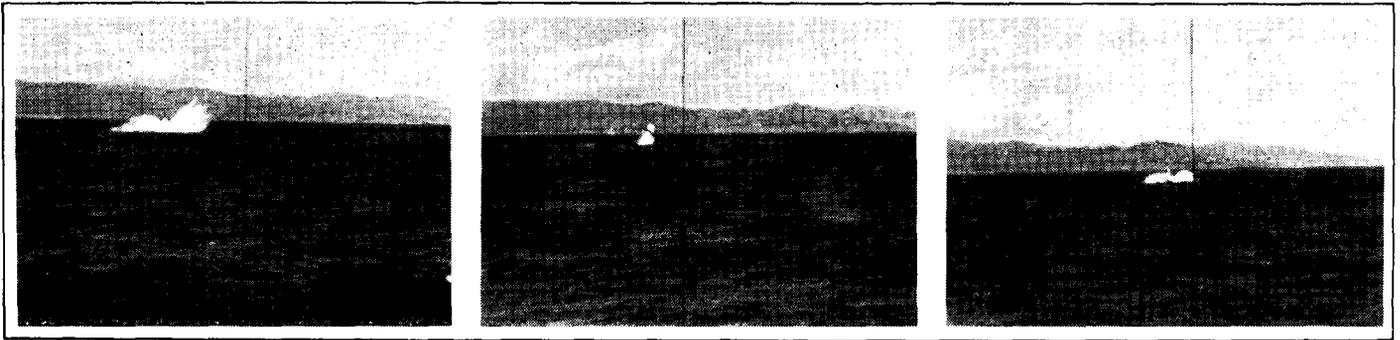
snout in the form of a column at an angle of 45°, whereas in the right whale, a nearly vertical double spout comes from a pair of parallel blowholes placed much further back on the head. Respiration in the sperm whale is regular with six breaths per minute for ten minutes followed by a diving period of 50 minutes. Departures from these times have been recorded, e.g. Slijper (5) quotes dives of 1½ hours. The series of photographs accompanying this article were taken by the author off the island of Kandavu, Fiji, and are enlargements from a sequence on 16 mm. cine film showing a whale splashing, taken from as near as the skipper was prepared to sail; this whale did not blow.

Whale Ivory

Besides spermaceti and ambergris already mentioned, sperm whales also provide ivory from the teeth in the lower jaw. To relieve the monotony of long periods of enforced idleness at sea, the old-time whaler spent many hours on what was called scrimshaw. This involved smoothing the teeth with a file or grindstone, followed either by engraving a pattern with a sail needle or actually carving the teeth, and finally polishing with wood ash.

In Fiji, the islanders still attach a high





Splashes caused by a humpback whale after jumping out of the sea off Kandavu Island, Fiji; these pictures were enlarged from a sequence of cine film shot by the author.

value to the polished teeth of the sperm whale, which are pierced at both ends and threaded with coir fibre. These *tambua* play an essential part in tribal ceremonies, and on recent Royal visits it was difficult to obtain enough of these teeth, largely as a result of their acquisition by New Zealand and American servicemen during the war.

In former times, the teeth were laboriously sliced lengthwise into pointed sections which were then made into necklaces. These were sometimes mistakenly believed to be dogs' teeth.

The Decline of Whaling in the Pacific

The period of intensive whaling in the Western Pacific lasted about 70 years, from 1790 till 1860, with a brief golden age from 1830 to 1845. The decline in the industry was because of a combination of events beginning with a financial crisis in the U.S.A. in 1857, followed four years later by the Civil War.

The short-sighted policy of ruthless slaughter caused the number of whales to be drastically reduced, and they were only saved from virtual extinction by the discovery of petroleum in Pennsylvania in 1859. Between 1830-40, no less than 41½ million gallons of oil were obtained from the sperm whale (6). The number of Southern right whales killed between 1804 and 1817 by American whalers alone, reached the fantastic total of 193,000, or a yearly average of nearly 15,000, a mortality rate no animal could stand for long. Similar casualties inflicted in Australia and New Zealand, coupled with the withdrawal by Britain in 1842 of a protective tariff on foreign oil, led to the end of bay whaling. Petroleum replaced whale oil in the manufacture of candles and its use as oil for lamps; whaling then went into a rapid decline intensified by the substitution of flexible steel for whale bone in the corset industry. The respite for the whale came just in time to enable the population to rebuild and recover in much the same way as with bison on the land.

The effects of the whalers themselves on the native population were grave and

far reaching. The introduction to primitive and isolated people of gin, rum, muskets, and new diseases (tubercular, venereal, and measles) began in the Pacific when the whalers, sandalwood traders, and recruiters first called at the islands. Of all the European types one's sympathy is most with the whalers as they landed on the beaches, after perhaps three years at sea without fresh meat, fruit, or vegetables, and in need of drinking water, firewood, and women. Unfortunately, with the ending of large-scale whaling in the 1860s, the effects of these first contacts were too deep-seated to be removed. Happily, a balance was later reached and the native population, with the exception of a few areas, made a recovery in numbers.



Sperm whale teeth or "tambua" from Fiji

References

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Economic Development in the South Pacific

(Continued from page 20)

assembly of the total product, in many cases involving collection from a large number of small producers, the preparation of the product for the final consumer, and the actual distribution to the consumer. Increased efficiency in the field of marketing demands improved transport facilities, technical advances in the storage and processing of those products which cannot be marketed in their original state, and greater efficiency in both professional and non-professional marketing organizations to ensure a more advantageous disposal of the product and a satisfactory return to the producer. Progress in this direction has been significant but much still remains to be done.

Continued efforts in these several directions are a necessity, with improvements in the efficiency of labour and capital by improved training methods and the creation of incentives, by advances in technology, and by more efficient organization and leadership. The success of any plan for economic development depends, of course, not only on the extension of existing economic activities but also on improvements in the quality of the people themselves by extended health services and by education and training.

Leadership

The requirement for experienced leadership is not unimportant. It has been almost fundamental in administered territories that the knowledge and skill necessary for this leadership should be centred in the administrations of these territories, with growing emphasis on the transfer of administrative authority to local inhabitants. It follows that this leadership will come mainly from the administrations but it must be designed, perhaps with a greater use of bodies such as local councils and village meetings, in such a way as to avoid the tendency towards over-reliance on continued leadership or "follow-the-leadership" but rather to promote the creation of individual or collective initiative for the maintenance and extension of existing standards.