

standing in his canoe, sweeps this through the water, and so numerous are they that there is no fear but that a number will be impaled on the points. These are swept behind him into the canoe as a mower uses a scythe, until the canoe is full. Herrings and shoals of all other small fishes are caught likewise in this ingenious mode. Besides those kept for drying or from which oil is made, vast quantities are used in the fresh state for food, and the sudden arrival of the fish, occurring generally just at a time when the Indians' winter stores are nearly finished and they are rather pressed for food, the plethora often proves fatal by producing surfeit.

4. The oil is obtained by putting the fish into water in boxes—generally hollowed out of a solid block of cedar (*Thuja gigantea*, Nutt., *T. Menziesii*, Dougl.), or so closely made as to be water-tight—and then throwing in red-hot stones. This ingenious method of boiling is practised by all the Indians on the north-west coast of America. The oil is then skimmed off the surface and set aside in vessels to cool. The oil is never made by suspending iron vessels (after the more familiar manner of the whites) over the fire, for in that case the fishes would be destroyed, and it would be difficult to separate the broken fragments from the oil. The quality, however, greatly depends upon the care employed, and the amount of heat used to extract the oil from the fatty tissues of the fish. An inferior description is also made by squeezing the fishes out of which the finer oil has already been extracted in the method described, in a cloth against a board.* Properly prepared, the oil is, at a temperature of 60° Fahr., amber-coloured and liquid. At a lower temperature it becomes thick and opaque, increasing in solidity according to the degree of cold; in this state it is whitish in colour and resembles soft lard. The northern tribes keep it in boxes of their own making, but the more southern Indians—such the Quäkwölths, at Fort Rupert (lat. 50° 42' 36" N., long. 127° 25' 07" W.)—preserve it in bottles, made out of the stem of the giant seaweed, *Macrocystis pyrifera*, Ag., squeezing out a little, when required, as a painter does his colours out of the tinfoil tubes.

5. The fish, cooked fresh, is most delicious, and, when salted, is also a very palatable article of food, and held in much request among the Hudson Bay Company's traders and other old residents on the coast. The Indians dry vast

* I have given the general rationale of the process of manufacture. There are, however, various superstitions connected with the *oulachan* (as with everything else which the Indian has to do with), which entail various minute ceremonies. Mr. William Duncan, the excellent missionary at Metlakatlah, thus refers to it in a letter addressed to the Church Missionary Society:—" . . . The process " (of extraction) " is as follows: Make a large fire; place three or four heaps of stones as big as your hand in it; while these are heating, fill a few baskets with rather stale fish, and get a tub of water into the house. When the stones are redhot, bring a deep box, about eighteen inches square, near the fire, and put about half a gallon of the fish into it and as much fresh water, then three or four hot stones, using wooden tongs. Repeat the doses again, then stir up the whole. Repeat them again, stir again: take out the cold stones and place them in the fire. Proceed in this way till the box is nearly full, then let the whole cool, and commence skimming off the grease. While this is cooking prepare another box full in the same way. In doing the third, use, instead of fresh water, the liquid from the first box. On coming to the refuse of the boiled fish in the box, which is still pretty warm, let it be put into a rough willow-basket, then let an old woman, for the purpose of squeezing the liquid from it, lay it on a wooden grate, sufficiently elevated to let a wooden box stand under; then let her lay her naked chest on it, and press with all her weight. On no account must a male undertake to do this. Cast what remains in the basket, anywhere near the house, but take the liquid just saved and use it over again instead of fresh water. The refuse must be allowed to accumulate, and though it will soon become putrid and change into a heap of maggots, and give out a smell almost unendurable, it must not be removed. The filth contracted by those engaged in the work, must not be washed off until all is over; that is, till all the fish are boiled, and this will take about two or three weeks. All these plans must be carried out without any addition or change, otherwise the fish will be *ashamed* " (the Indians think), " and perhaps never come back again."