

by the whale-fishers. It is boiled twice in salt water, about ten minutes each time. This is the more expeditious way of cooking, but it necessitates a longer smoking, as it will not cure thoroughly after it in less than eight days, and after all never resists the damp so well as that which has been steamed in the oven. A third and most effective system is to put the bêche-de-mer into a hogshead or close box, into which a steam pipe is introduced from a boiler. This is a very expeditious plan, and most to be recommended. When sufficiently smoke-dried the fish is packed into strong baskets of nikau, which it is not desirable to have stitched up until the time of shipment, for the reason that it is advisable to occasionally spread it out, so as to give it the advantage of a thorough scorching in the hot sun, and to give opportunity to pick out any soft or imperfectly-cured sample. It must be borne in mind that its preservation depends entirely on its being thoroughly dried. Bêche-de-mer, when properly cured, should be of the consistency of sole-leather, and unless this result is attained it is the most precarious kind of merchandise to deal in. The ultimate destiny of most bêche-de-mer being the Chinese market, which involves long transport, unless perfectly cured it can never reach the end of its voyage without becoming greatly depreciated and sometimes altogether destroyed by decomposition. I have seen whole cargoes in Guam and elsewhere thrown into the sea from this cause. In every instance where such has been the case, it has been the result of ignorance or negligence. It is not only quite possible, but with due care and precaution perfectly easy, to preserve bêche-de-mer in such a manner that it will keep without injury, not only during a voyage to China, but, if need be, until the day of resurrection; as thus: If the bêche-de-mer be cured thoroughly, as it is bound to be if it is smoked sufficiently and dried in the hot sun till it rattles like a bag of walnuts (which is no more than any trader expects who has been used to deal in it with success); then, if any one be afraid of transport in damp weather or leaky decks, put it into iron tanks (a tank will hold 30 cwt.), plaster the lid round with white-lead, and one might rest on the assurance that the bêche-de-mer would be secure from decay as long as the iron was not penetrated by the atmosphere, which would not happen for some years at all events. The difficulty of preserving bêche-de-mer consists in this: If not thoroughly divested of its juices, or if subjected to damp, or brought into contact with fresh water, it speedily dissolves into a glutinous fluid, of an appearance like molasses, and of an odour like decayed eggs.

I.—Trade and trading arrangements: Mr. Sterndale.

#### NO. XII.—BÊCHE-DE-MER, SPONGE, AND TURTLE FISHING.

I have already observed that from some unexplained reason bêche-de-mer is not found in the same abundance upon every part of a coral reef or sandy lagoon, although there may be no apparent difference in the depth of water or other local condition. On some islands it is very generally distributed over the whole surface of the shoals; on others it occurs only in patches. There is also another fact to be borne in mind. On most of the atolls of the Pacific are to be found in the shallow water, where it is not more than knee-deep at low tide (and consequently during the day very warm), both on the sand and on the flat coral, immense quantities of a sort of black bêche-de-mer from six inches to a foot in length, which is of no use whatever in commerce, inasmuch as it consists only of a gelatinous skin filled with water, and cannot be preserved since it has no solid substance, and when cooked almost wholly dissolves. When lying in the water, it does not much differ in appearance from the marketable black kind, excepting in so far that it is rather more slender in proportion to its length; also, that around its mouth it exhibits small tentacles resembling the horns of a snail. It has frequently happened that men void of experience, seeing the great abundance of this creature upon coral reefs, have reported such localities as being productive in the true black bêche-de-mer of commerce, when at the same time there was nothing of the kind to be found there.

There is to be met with frequently among bêche-de-mer a marine animal of a very singular aspect. It is called by the natives of Tokerau "taumata" (that is to say, skull cap, from the fact of its being sometimes converted to that use). It is about the size of a man's head, or somewhat larger. As concerns its shape, if you take a square piece of paper and double down the corners in such a manner that the points meet in the middle, that will represent it very nearly, excepting that the form will be more rounded. The under-side, where the foldings take place, lies flat upon the rock or sand; the upper is concave, and of a reddish-brown colour, so that it looks like a loaf of bread. It is of a gristly consistence, and covered with small warts. It has no appearance of eyes or power of locomotion so far as one can discern, and therefore seems to represent one of the lowest forms of animal life. (I should like to know Mr. Darwin's opinion as to the ultimate future of such an organism as this.) The bêche-de-mer, blind and helpless as it seems to be, may be regarded as an intelligent animal in comparison. It appears to live upon suction. When taken out of the water, it can exist a very considerable time, if not absolutely exposed to the hot sun. There may possibly be a use for this thing, if one only knew it (it is not regarded as edible); but the only purpose to which savages devote it is for the making of a kind of skull cap or helmet, which they effect by cutting round the under-side (for it cannot be opened by any violence) and scooping out the inside. When dry it becomes as hard as bone. Bêche-de-mer fishers frequently cut these creatures into strips, and cure them with their bêche-de-mer, on the principle that "all is fish that comes to the net;" but the practice is dishonest, and ought never to be permitted, if for no other reason, from the mere fact that it has a tendency to depreciate the article in the Chinese market.

Among the profitable industries of the coral seas, the collection of sponges is not the least important. It is said that the sponges of the Pacific are of a kind inferior to those of the Levant or Red Sea. It may be so, but I believe not in every case, as sponges are met with occasionally in the Pacific as large and well shaped, and apparently as soft, as any that are to be found in the market. I am of opinion that the Turks and Arabs have some peculiar mode of preparing their sponges with which the fishers of the South Sea are not acquainted, and that this really constitutes the difference. Sponges of a superior kind are gathered in great quantities in the Gulf of Mexico,