

beams of the sunshine cause the water to glow with the colours of the opal, and the innumerable species of zoophytes clinging to the rocks to glisten like gems, while between the huge caverned masses are wide spaces floored with sand perfectly level and white as snow, upon which the great green mounds covered with coral trees throw fantastic shadows, so that in leaning over the side of a canoe and contemplating these so remarkable appearances, one cannot escape being reminded of the fabled grove of Aladdin, or of that garden which Don Quixote imagined himself to have seen in the grotto of Montesinos, "El mas bello amenoy delatose, que puede criar la naturaleza." Amongst all this are to be seen great multitudes of fishes of the most extraordinary shape and hues, gold and purple and violet and scarlet, jet black, mottled, and every shade of green.

In some of the enclosed lagoons of the Paumotu all the fish, without exception, are poisonous, of which the reason is unknown. Sharks are in great plenty, very bold and greedy, but quite harmless as a general rule to man, by reason of their natural food being in so great abundance. The pearl-divers take no heed of them. A much more disagreeable enemy is the veki or great squid, the "pieuvre" of Victor Hugo, which he so graphically describes in his "Travailleurs de la Mer." This horrible creature, who possesses the extraordinary faculty of being able within five minutes to change himself into fifty different forms, none resembling the other, but each more hideous than the last, is fortunately of a retiring disposition and excessively timid, otherwise he would constitute a most dangerous antagonist. He stretches out his long arms and seizes whatsoever comes within his grasp. But his most objectionable practice is that, when disturbed, he vomits a quantity of inky fluid, which renders the surrounding water intensely dark, so that the diver who may chance to encounter him under some overhanging shelf or coral cave, may become entangled in the gloom, and so lose his way to the surface or strike himself against the rocks. Fortunately within the lagoons these are small, and so incapable of mischief; but in the deep sea, outside the coral reefs, they grow to enormous size, and on exposed fisheries, such as those of Panama, are a great source of dread to the Americans and Europeans, who dive in armour. Taking pearl-fishing in the coral islands of the Pacific upon the whole, I do not know any occupation connected with the sea in which the men engaged are so little liable to accident. Of course it can only be successfully practised by persons of experience: the divers must be amphibious—born to it; the directors, men acquainted with their language, habits, and wants. The employment of diving apparatus has frequently been suggested; it is used on the coasts of Colombia and Guatemala; in the Pacific Isles it has never yet been tried in pearl fishery, and, except in a few instances, it will not answer; the nature of the bottom will not permit it. I will explain this hereafter, when describing more minutely the mode of procedure.

Referring to the origin of coral atolls, like those of Paumotu, it seems most probable, as has been suggested by Darwin, that they are relics of an ancient continent, the peaks of a sierra, which, having been undermined by volcanic fires, have sunk down and left behind them their fringing reefs or coral crusts, which, during ages of their existence, had accumulated around them. This metamorphosis may have been effected at once, or gradually in the course of many centuries; in some cases comparatively recently, as in the instance of one island of Tokerau, where the bottom of the lagoon is still strewn with the trunks of gigantic timber which formerly grew upon the land of which it has usurped the place. That coral will not grow at vast depths in the ocean is now well known: consequently the reefs which appear on the surface of the waters have been deposited upon and around submarine eminences which have in many cases settled down and disappeared. Some are of opinion that all lagoon reefs have been built upon crater lips, which cannot have been the case, from the fact that the lava flow could not in every instance have broken out upon the leeward side, as is commonly the position of the gaps or passages through the coral barriers. Again, it is usual for mountain-peaks to be left standing in the very centre of the crater immediately over the funnel, as would have been in the case of Uveo, Hogolen, Palao, and other similar great atolls had it been so. It is true that their nuclei are igneous rock, but it seems more rational that their submersion had been arrested in some way, else that they are still slowly going down. The old idea of coral isles having been built up from the bottom of the ocean by the labours of an insect must now be abandoned, forasmuch as coral is not a mere concretion, but a true vegetable, as may be readily perceived by examining it in all stages of growth, from the time when it first appears like a tender fungus, soft and leathery, which, under the naked foot, feels like a cushion of moss, to the stony petrification, in some species solid as marble. It is true that, like sponge, it has been fitted by Providence for the habitation of animalculæ, but the animalculæ do not produce it. As to how the pearl oyster is propagated in coral lagoons, is involved in considerable obscurity. I have no theory upon the subject; I can, however, supply certain data from long observation. Two islands of apparently precisely the same character, as far as natural formation, outflow and influx of the tide, depth of water, &c., are concerned, may be found within a few miles of one another (as is frequently the case), yet the lagoon of the one swarms with pearl oysters, while in that of the other not one has ever been found. You will say, "Why not transplant them, as breeders do oysters?" This has been tried, not only in our time, but generations ago, without any success, by the aborigines, to whom pearl shell has always been most valuable, not only for ornament, but because for very many most necessary purposes it supplies to them the use of metals, as for the making of dishes, spoons, fishhooks, knives, and a variety of implements. Consequently, on islands where it was not indigenous they were most anxious to obtain it, and with that view made repeated attempts to introduce it into their own lakes, by carefully transporting the young shells attached to pieces of rock from one island to another, keeping them all the time in pure sea-water, but never succeeded. Moreover, there is no tradition of pearl oysters having once existed in a place and having become extinct; consequently there is some condition necessary to its growth with which we are unacquainted. There is no variety in the species, but very much difference in size and thickness to which it attains in diverse localities, as also in the production of pearls of value. For some of these peculiarities there is a way of accounting. The pearl oyster of the Pacific dislikes sand, and will