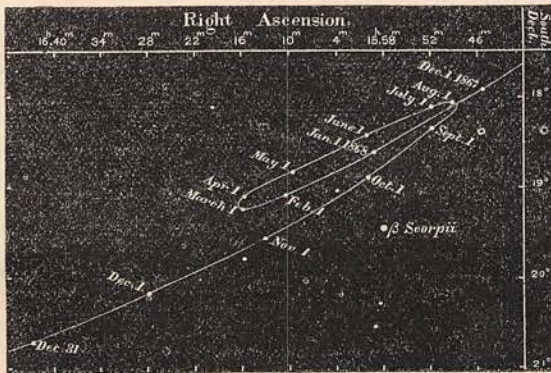


in his orbit around the sun at the rate of 21,220 miles per hour, and also turns on his axis at the equator 22,216 miles in the same time. It is impossible for any one to view this magnificent object through a large telescope without admiration, especially when the planet is in such a position with respect to the sun and earth, as to exhibit the fullest extent of the rings. Many observers have on such occasions made elaborate drawings, showing all the minute peculiarities of the planet—those by Mr. Warren De la Rue and Mr. Dawes being almost perfect delineations of the disk and rings. Of the eight moons of Saturn, five were discovered between 1655 and 1684—two by Sir William Herschel, in 1789, and one by Messrs. Lassell and Bond, in 1848. The satellites of Saturn are distinguished by the names of Titan, Japetus, Rhea, Dione, Tethys, Enceladus, Mimas, and Hyperion. The three last are very faint objects, visible only occasionally in our largest telescopes. It has been remarked by Sir John Herschel, that at the time Enceladus and Mimas were discovered by his father, “they were seen to thread, like beads, the almost infinitely thin fibre of light to which the ring, then seen edge-ways, was reduced, and for a short time to advance off it at either end, speedily to return, and hastening to their habitual concealment behind the body.”

The following diagram of the path of Saturn is interesting to show the apparent motion of the planet in the heavens from December 1st, 1867, to December 31st, 1868. It must not be supposed, however, that the true path is so irregular as it appears in the diagram, as the apparent retrograde motion from April 1st to August 1st is merely the effect of the direct motion of the earth in its orbit, being, with respect to the stars, relatively greater than that of Saturn. As viewed from the earth, Saturn, for this reason, seems to go backwards in the heavens with respect to the stars near his path.



APPARENT PATH OF SATURN.

On the following days and hours in other months the aspect of the sky will be similar to that at midnight on May 15th. Our diagrams for this month will therefore serve for 10 P.M. on June 15th, for 8 P.M. on July 15th, for 2 A.M. on April 15th, for 4 A.M. on March 15th, and for 6 A.M. on February 15th.

No very striking astronomical phenomenon takes place in May, 1868. Venus is still the most conspicuous evening star, and will adorn the north-western sky till nearly midnight. She sets below the horizon at 11.43 P.M. on the 1st, at 11.49 P.M. on the 15th, and at 11.26 P.M. on the 31st. She will be at her greatest easterly elongation on the 7th.—Mars is a morning star, but is not yet in a favourable position for observation. He rises on the 1st

at 3.52 A.M., and at 2.35 A.M. on the 31st. Jupiter is also a morning star, rising on the 1st at 3.27 A.M., and on the 31st at 1.41 A.M. These two morning planets can only be observed shortly before sunrise.—Saturn is more favourably situated in May than the other planets, being in opposition to the sun on the 23rd; but his low altitude, even when on the meridian, prevents the observation of many of those minute peculiarities of his system, some of which we have briefly described in this article. He is visible in the south-east in the early evening hours, in the south at midnight, and in the south-west in the early morning hours.—The moon will be near Saturn on the morning of the 8th, the planet being nearly three degrees south of the moon. On the 18th she will be near Jupiter. Venus and the moon will be in conjunction on the evening of the 25th; they will be, however, separated by about six degrees; and on the 27th the moon will precede Regulus. Full moon will take place on the 6th, at 6.37 P.M., and new moon on the 22nd, at 6.36 A.M.; and in the last and first quarters on the evenings of the 14th and 28th respectively. The moon will be farthest from the earth on the 13th, and at her least distance on the 25th. In the summer months, when at her greatest phase, or full moon, she is always low down near the south-east horizon in the evening hours after sunset, and passes the meridian at midnight, at a low altitude, due south.

CORAL AND THE CORAL FISHERY.

BY THE AUTHOR OF "WHAT I SAW OF THE AMBER TRADE."

THE immense extent of coral formation found in various parts of the world is seldom fully realised by the many millions of people who only see small fragments of this substance fashioned into ornaments, and exposed either for sale or the gratification of vanity.

When we reflect that the great "Barrier Reef," one thousand miles long, on the north-east coast of Australia, and many other reefs nearly as great in extent in other places, are the growth of animal life, we might almost excuse the belief of the ancient Greek philosopher, that the whole world is either one animal, or a mass of insects.

The growth of what is erroneously called "coral plant," assumes many forms. Sometimes they resemble a gigantic plant, with flowers and leaves. Often they grow like a large tree with leafless branches. Sometimes one stem spreads out into a broad, flat surface, in shape of a fan. Whatever shape the growth of coral formations takes, there is an astonishing regularity in maintaining an equilibrium, each branch being balanced by another opposite, and each stem or main body growing perpendicular to its plane.

Coral, as we see it here, is the bone or shell of an insect, from which the flesh or living substance has been removed. A living branch of coral, when first taken from the sea, has a rough, irregular surface, covered with a slimy substance, and dotted with little spots of what appears to be red jelly. These spots are the coral insects. Examined minutely when growing in the sea, the insect is seen in thousands, each having a room of its own, which it never leaves.

In many kinds of the polypi, or coral insects, the head has a little parasol-shaped cover. The arms, which are furnished with eight claws, are long in comparison with the body, and are generally seen extended for the supposed purpose of gathering food; but what that food really is, I am unable to say.

It is generally supposed that the coral insect is industrious; that it is a builder; and that by its labours, commenced at the bottom of the sea, the coral islands have been formed. This is only partly true. They live and multiply—that is all; and in doing this, a family that starts a habitation at the bottom of the sea, in time reaches the surface at low-water. The structure they form is not elevated one inch above the sea level, for the insect can only live in the warm salt water.

The older the coral shells or bone, the stronger is the colour, and the more difficult it is to procure. The money value of coral depends wholly on its scarcity, or the difficulty of obtaining it, although, as far as use or ornament is concerned, one kind is worth in reality as much as another.

At Honolulu and other places on the Pacific Islands, I have seen houses built of coral, which was as common as granite or sandstone here, and was worth no more. If the many-headed public, who suffer the sorrows of following fashion, could be made to believe that this common coral was seldom found, and was procured with great danger and difficulty from a depth of five hundred feet under water, it would immediately discover some heretofore hidden beauty in that particular kind of coral, which would become a valuable article of commerce. Those who are enslaved by fashion are very sharp in learning from others what is common from what is rare; and, without the slightest regard for the use of an article, the merchants who live principally by the vanity of others, regulate their prices.

To witness the forms of coral structures, one would think that the insects must have some means of communicating with each other at a distance, although they cannot leave their shells. Naturalists may be able to account for some of their peculiarities, but to me there is a mystery in the way they manage to construct formations of coral rock on mathematical principles. When growing in the shape of a tree, what teaches the insect to withhold extending its branches farther in one direction than another? When one tribe of insects commence a structure in the bottom of the Pacific, what enables them to extend it in two directions in a perfect circle until the two ends meet, forming a ring from half a mile to ten miles in diameter? What tells these insects, working in opposite directions, as generations after generations are moving farther from each other, that the circle they are building shall be a large one or a small one? These things, to an observing sailor, unacquainted with the theories of the learned, are always a mystery.

Amongst the South Sea Islands there is a little trade for coral; yet not much is done in fishing for it in the manner I have seen followed in other places. Most of the coral gathered there, of a quality valuable in the market, is obtained in small quantities from the shores of islands surrounded by a coral reef. Fragments of the reef become detached from the main body, and in violent agitations of the sea by storms, pieces of the right kind are sometimes thrown within the view and grasp of man.

The only opportunity I have met for seeing the coral fishery conducted on what may be called an intelligent manner, was off the coast of Africa, where for a few days I was near some natives of Algiers, who were fishing for coralline plants in the same manner pursued in the Strait of Messina. The coral fishery I witnessed was carried on from three feluccas anchored in about seventy fathoms of water. A felucca is the largest and fastest boat used. It has three masts with *lateen* sails, and a jib on a short bowsprit. It is also furnished with

long strong oars. During the time I remained near those engaged in the fishery, all three were visited, and I became familiar with the mode of gathering coral; but, being unable to converse with the men, I could learn nothing about the trade.

Two strong poles, about twenty feet long, are firmly fastened together at the middle, and at right angles to each other. On the under side of the poles is a net made of strong cord, and fastened to the extremities of the poles. A heavy stone, for the purpose of sinking the poles, is fastened where they cross each other, and a strong line is also tied at the crossing. One end of the line is held aboard the felucca, and the net is launched over where the coral branches are supposed to be growing beneath. The net sinks slowly to the bottom; and should it fall over the spot where coral is growing, some of the branches generally become entangled in its meshes, and are broken off and hauled up.

When the net and poles become firmly entangled below with large branches of coral, much force has to be used in freeing them, and often the end of the line has to be fastened to the windlass, and a few turns given to bring the net from the bottom. Only small portions of any large mass brought up on such occasions are of any value. Sometimes the net becomes so firmly fastened below, that it is torn in pieces in extricating it. It not unfrequently happens that the line by which the net is drawn up breaks, although, to avoid this, it is always made of larger and of stronger material than the net. Often the net is pulled to the surface and not the smallest fragment of coral is found attached to it. On one occasion I saw, as the net was brought near the surface, a large branch of bright red coral, which was hailed by the Algerine fishermen with shouts of delight. The instant the poles spreading the net touched the stem of the felucca, the branch, which was only hanging by what is best described as a twig, broke away and was lost. There was a sudden transformation of Algerine features from expressions of joy to those of anger and disappointment.

Notwithstanding these little misfortunes, the coral fishers are engaged in a profitable business, and make during the season, which lasts from the middle of April to July, enough to keep them, with a little economy, the remainder of the year. Should they be successful at every cast of the net, the coral, such as they procure, would become too common to please those affected with an insane desire for anything that requires time and toil in procuring.

The price of rough coral varies according to its quality and colour. The whims of changing taste, or want of taste, and the quantity in the market, have much to do with its value. I have seen it sold for about two shillings per pound, and have seen some sold for more than fifteen shillings. The great market for all the cheaper kinds of coral sold, is Africa, where it is an important article of commerce, finding its way far into the interior of the country, and is eagerly purchased by the natives for ornaments.

DER BLAUEN SEE.

In a corner of the French picture-gallery in the Paris Exhibition, there hung a small picture which, at a passing glance, might be thought an over-coloured and exaggerated fancy landscape. It represented a little blue lake, surrounded by rugged rocks, dark fir-trees, and all the charming accompaniments of Swiss scenery. Many pleasant associations recurred to my mind as I