calcareous remains, another succeeds, until the mass of coral is raised to the surface, when the formation ceases. Fragments of coral are afterwards broken off by the waves, during storms, together with shells, weeds, and sand, and are driven upon the other parts of the island, and continue to elevate it until it is above the reach of their action. From the accounts of the above naturalists, and the more recent observations of Captain Beechy, it appears, that the species of polypi that, chiefly, form coral islands, do not exist at greater depths than a few fathoms below the surface;* therefore, the deep soundings taken near these islands prove, that coral forms the crests of steep submarine mountains, which were probably volcanic, as these crests have frequently a circular shape, but are open on one side, leaving a passage to a circular lagoon or lake within, which is shallow, and supposed to fill the crater of a submarine volcano. Though the beds of coral that form islands are not of the vast thickness which had been supposed, yet they rival, in extent and magnitude, some of the large calcareous formations of our present continents.† Beds of oyster shells, many miles in length, are also known to occur in European seas; thus, millions of small marine animals are preparing future abodes for other classes of animals of larger size, and living in another element. Whence do these innumerable zoophytes and molluscous animals procure the lime which, mixed with a small portion of animal matter, forms the solid covering by which they are protected? Have they the power of separating it from other substances, or the still more extraordinary faculty of producing it, from simple elements? The latter I consider as more probable; for, the polypi which accumulate rocks of coral have no power of locomotion; their growth is rapid, and the quantity of calcareous matter they produce, in a short space of time, can scarcely be supposed to exist in the waters of the ocean to which they have access, as sea water contains but a minute portion of lime.

It is now ascertained, that lime and the other earths are compounds of oxygen united with metallic bases; and the brilliant discoveries of Sir H. Davy respecting the metallic nature of ammonia, would lead to the conclusion, that the metallic bases of all the alkalies and alkaline earths, which have many properties in common, may, like ammonia, be compounds of hydrogen and azote, but differently combined. Now it is well known, that hydrogen and azote, which exist as elementary constituent parts of almost all animal substances, may be derived from water and the atmosphere; and should the compound nature of the metallic bases of the earths be ascertained, the formation of lime by animal secretion will admit of an easy explanation.

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* Some species of coral were brought up by soundings, from the depth of one hundred fathoms or more.

† Some of these islands are considerably elevated above the level of the sea; in all probability they have been upheaved by volcanic agency.