question, the equatorial regions were as fitted as now for the support of reef-building zoophytes. This postulate would demand the continuance of a complicated variety of conditions throughout a much longer period than they are usually persistent in one place.

To show the difficulty of speculating on the permanence of the geographical and climatal circumstances requisite for the growth of reef-building corals, we have only to state the fact that there are no reefs in the Atlantic, off the west coast of Africa, nor among the islands of the Gulf of Guinea, nor in St. Helena, Ascension, the Cape Verdes, or St. Paul's. With the exception of Bermuda, there is not a single coral reef in the central expanse of the Atlantic, although in some parts the waves, as at Ascension, are charged to excess with calcareous matter. This capricious distribution of coral reefs is probably owing to the absence of fit stations for the reef-building polypifers, other organic beings in those regions obtaining in the great struggle for existence a mastery over them. Their absence, in whatever manner it be accounted for, should put us on our guard against expecting upraised reefs at all former geological epochs, similar to those now in progress.

Lime, whence derived.—Dr. Macculloch, in his System of Geology, vol. i. p. 219., expressed himself in favour of the theory of some of the earlier geologists, that all limestones have originated in organized substances. If we examine, he says, the quantity of limestone in the primary strata, it will be found to bear a much smaller proportion to the siliceous and argillaceous rocks than in the secondary; and this may have some connexion with the rarity of testaceous animals in the ancient ocean. He farther infers, that in consequence of the operations of animals, "the quantity of calcareous earth deposited in the form of mud or stone is always increasing; and that, as the secondary series far exceeds the primary in this respect, so a third series may hereafter arise from the depths of the sea, which may exceed the last in the proportion of its calcareous strata."

If these propositions went no farther than to suggest that every particle of lime that now enters into the crust of the globe may possibly in its turn have been subservient to the purposes of life, by entering into the composition of organized bodies, I should not deem the speculation improbable; but, when it is hinted that lime may be an animal product combined by the powers of vitality from some simple elements, I can discover no sufficient grounds for such an hypothesis, and many facts militate against it.

If a large pond be made in almost any soil, and filled with rain water, it may usually become tenanted by testacea; for carbonate of lime is almost universally diffused in small quantities. But if no calcareous matter be supplied by waters flowing from the surrounding high grounds, or by springs, no tufa or shell-marl are formed. The thin shells of one generation of mollusks decompose, so that their elements afford nutriment to the succeeding races; and it is only where a stream enters a lake, which may introduce a fresh supply of calca-