

upon its base, now raised above high-water mark, would be sufficient to demonstrate a change of level. The amount of this change might be pretty accurately determined by measuring the vertical distance between the upper edge of the barnacle zone upon the upraised rock, and the limit of the same zone on the present shore. By this kind of evidence, the recent uprise of the coast of Scandinavia has been proved. The shell-borings on the pillars of the temple of Jupiter Serapis in the Bay of Naples prove first a depression and then an elevation of the ground to the extent of more than twenty feet.²⁰¹ Raised coral-reefs, formed by living species of corals, are a conspicuous feature of the geology of the West Indian Region. The terraces of Barbadoes are particularly striking. In Cuba, a raised coral-reef occurs at a height of 1000 or 1100 feet above the sea.²⁰² In Peru, modern coral-limestone has been found 2900 or 3000 feet above sea-level.²⁰³ Again, in the Solomon Islands, evidence of recent uprise is furnished by coral-reefs lying at a height of 1100 feet,²⁰⁴ and similar evidence occurs among the New Hebrides at 1500 feet.

The elevation of the sea-bottom can in like manner be proved by dead organisms fixed in their position of growth beneath high-water mark. Thus dead specimens of *Mya truncata* occur on some parts of the coast of the Firth of Forth in considerable numbers, still placed with their siphuncular end uppermost in the stiff clay in which they burrowed. The position of these shells is about high-water mark, but as their existing descendants do not live above low-water mark, we may infer that the coast has been raised by at least the difference between high- and low-water mark, or eighteen feet.²⁰⁵ Dead shells of the large *Pholas dactylus* occur in a similar position near high-water mark on the Ayrshire coast. Even below low-water, examples have been noted, as in the interesting case observed by Sars on the Drøbaksbank in the Christiania Fjord, where dead stems of *Oculina prolifera* (L.) occur at depths of only ten or fifteen fathoms. This coral is really a deep-sea form, living on the western and northern coasts of Norway, at

²⁰¹ Babbage, Edin. Phil. Journ. xi. (1824), p. 91. J. D. Forbes, Edin. Journ. Sci. i. (1829), p. 260. Lyell, "Principles," ii. p. 164.

²⁰² A. Agassiz, Amer. Acad. xi. (1882), p. 119.

²⁰³ A. Agassiz, Bull. Mus. Comp. Zool. vol. iii.

²⁰⁴ H. B. Guppy, Nature, 3d January, 1884.

²⁰⁵ Hugh Miller's "Edinburgh and its Neighborhood," p. 110.