

geologists, we have here a daily example of the operation of some powerful agent which belongs to geological dynamics ; and which, for the purposes of the geological theorist, does the work of the earthquake upon a very large scale, without assuming its terrors.

[2nd Ed.] [Examples of changes of level of large districts occurring at periods when the country has been agitated by earthquakes are well ascertained, as the rising of the coast of Chili in 1822, and the subsidence of the district of Cutch, in the delta of the Indus, in 1819. (Lyell, B. II. c. xv.) But the cases of more slow and tranquil movement seem also to be established. The gradual secular rise of the shore of the Baltic, mentioned in the text, has been confirmed by subsequent investigation. It appears that the rate of elevation increases from Stockholm, where it is only a few inches in a century, to the North Cape, where it is several feet. It appears also that several other regions are in a like state of secular change. The coast of Greenland is sinking. (Lyell, B. II. c. xviii.) And the existence of "raised beaches" along various coasts is now generally accepted among geologists. Such beaches, anciently forming the margin of the sea, but now far above it, exist in many places ; for instance, along a great part of the Scotch coast ; and among the raised beaches of that country we ought probably, with Mr. Darwin, to include the "parallel roads" of Glenroy, the subject, in former days, of so much controversy among geologists and antiquaries.

Connected with the secular rise and fall of large portions of the earth's surface, another agency which plays an important part in Geological dynamics has been the subject of some bold yet singularly persuasive speculations by Mr. Darwin. I speak of the formation of Coral, and Coral Reefs. He says that the coral-building animal works only at small and definite distances below the surface. How then are we to account for the vast number of coral islands, rings, and reefs, which are scattered over the Pacific and Indian Oceans ! Can we suppose that there are so many mountains, craters, and ridges, all exactly within a few feet of the same height through this vast portion of the globe's surface ? This is incredible. How then are we to explain the facts ? Mr. Darwin replies, that if we suppose the land to subside slowly beneath the sea, and at the same time suppose the coralline zoophytes to go on building, so that their structure constantly rises nearly to the surface of the water, we shall have the facts explained. A submerged island will produce a ring ; a long coast, a barrier reef ; and so on. Mr. Darwin also notes other phenomena, as