

nean agency ; for so recently as 1805, the bed of part of the sea and of the Indus, was permanently changed by an earthquake, near Cutch, on the coast of Bombay.

The increase of land at the mouth of the Nile, and of many European rivers, is well known. Adria, which was once a port of the Adriatic Sea (to which it gave its name), is now six leagues inland. In lakes, the diminution of the surface, by the gradual increase of land at the mouths of rivers which flow into them, is still more remarkable. The mud and débris brought into the lake of Geneva by the Rhone, and deposited near its entrance, have made the land advance two miles in the space of 1700 years,—the Roman harbour *Portus Valesiæ* being now that distance from the lake. All the lakes in Savoy and Switzerland, and in our own island, are gradually diminishing, by similar causes. To multiply instances of this kind would be incompatible with the limits of the present volume ; every attentive observer must have noticed them in the course of his travels.

All the most fertile parts of the globe were formed by alluvial depositions : alluvial agency appears to have been the means employed, in the economy of nature, to prepare the world for the residence of social and civilized man. The most ancient cities of which we have any authentic record, Babylon, Nineveh, and Thebes, were founded in the midst of alluvial soils, deposited by the Euphrates, the Tigris, and the Nile : indeed, it does not appear unreasonable to believe, that the formation of soils for the support of vegetables and animals, is the final end to which all terrestrial changes ultimately refer.

It has been justly observed by Dr. Paley and others, that in the peculiar conformation of the teeth in graminivorous animals, and in the production of grasses which serve them for food, we may trace evident marks of relation, and of a designing intelligent cause. With equal reason must we admit, that the destruction of mountains, and the formation of soils for the support of the vegetable tribes, are provided for by the same cause, and are part of a regular series of operations in the economy of nature. Hence also we may infer, that those grand revolutions of the globe, by which new mountains or continents are elevated from the deep, are parts of the same series, extending through ages of indefinite duration, and connecting all the successive phenomena of the material universe.

By a wise provision of the Author of nature, it is ordained, that those rocks which decompose rapidly, are those which form the most fertile soils ; for the quality of soils, depends on the nature of the rocks from which they were formed. Granitic and siliceous rocks form barren and sandy soils ; argillaceous rocks form stiff clay ; and calcareous rocks, when mixed with clays, form marl ; but when not covered by other strata, they support a short, but nutritious vegetation. For the formation of productive soils, an intermixture of the three earths—clay, sand, and lime—is absolutely necessary.