

SCIENTIFIC AND LITERARY NOTES.

GEOLOGY AND MINERALOGY.

ON ELEVATIONS AND DEPRESSIONS OF THE EARTH IN NORTH AMERICA, BY
ABRAHAM GESNER, M.D., F.G.S.

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United States.—Commencing at New Jersey, in the United States the writer has examined nearly all the most interesting parts of the coasts, as far northward as the northern part of Labrador. The whole south-eastern side of New Jersey, where it borders upon the Atlantic, to the extent of 100 miles in length and about 20 miles in breadth, is composed of alternate strata of sand, greensand, marl, and clay, some of the beds very highly fossiliferous. The land is comparatively low, and slopes gradually from the high lands in the rear towards the sea. A similar tract of country occurs in the bordering State of Maryland, and, still further southward, in North Carolina.

The oldest inhabitants of New Jersey, whose lives have been extended to upwards of eighty years, maintain that within a period of sixty years the sea has risen upwards of four feet, or what is equivalent thereto, the coast has fallen to that depth. Marshes that were formerly mowed for their grass are now submerged; the sea has encroached upon the land, even over the sites of ancient habitations. There are tracts where trees are seen growing upon fallen forests, which have been buried in sand and peat. Timber of excellent description is dug out of the present marshes. The amount of depression along this coast is variously estimated as being from 5 to 12 feet.

From these and other facts which might be quoted, it appears that there are marine Cretaceous deposits, and over them Pleistocene deposits with freshwater shells and Mastodon bones, apparently an old forest buried in sand, with the remains of another growing over it—these two being under the sea in some places and therefore proving submergence of a land-surface,—and that this submergence is still going on, according to the testimony of the inhabitants and the submergence of habitations.

In the harbour of Nantuxet, there is a submarine forest. In dredging the estuary, Lieutenant Prescott found trunks and roots of the cedar, oak, maple, and beech, some of them standing upright and still attached to the soil on which they flourished. Excepting the cedar, all the woods are still sound. The trees are partially buried in sand, and are eight feet below the level of the lowest tide.

A similar submarine forest exists at Holme's Hole, on Martha's Vineyard. On the west side of the harbour, stumps of trees are found standing upon a level surface beneath the water; another woody tract occurs near the south-west extremity of the Vineyard, and on the north side of Cape Cod, opposite Yarmouth: the latter extends more than three miles into Barnstable Bay. At Portland a similar sinking of the land has been clearly made out. In none of these