

An immense alluvial deposit is forming at the mouth of the Amazon and Orinoco rivers, most of which is swept northerly by the Gulf Stream. The waters of the Amazon are not entirely mixed with those of the ocean at the distance of 300 miles from the coast. The quantity of sediment annually brought down by the Ganges amounts to 6,368,077,440 tons, or sixty times more than the weight of the great pyramid in Egypt. The Mississippi annually discharges 14,883,360,000,000 cubic feet, or 101.1 cubic miles of water, into the Gulf of Mexico; and deposits at the same time 28,188,000,000 cubic feet, or two billion tons, of solid matter. It is estimated that the whole delta contains 2,700 cubic miles of solid matter, and that 14,000 years would be required for its formation, at its present rate of growth. In Massachusetts, the matter carried down by the Merrimac has been estimated to be 840,000 tons per annum.

The extensive deposits thus forming daily by rivers need only consolidation to become rocks of the same character as the shales, sandstones, and conglomerates of the secondary series.

The delta of the Rhone, on the shores of the Mediterranean, is said to be mostly solid calcareous and even crystalline rock.

*Bursting of Lakes.*—A few examples have occurred in which a lake, or a large body of water long confined, has broken through its barrier and inundated the adjacent country. An interesting example of this kind occurred in 1810, in the town of Glover, in Vermont, in which two lakes, one of them a mile and a half long and three-fourths of a mile wide, and in some places 150 feet deep; and the other, three-fourths of a mile long, and a half a mile wide, were let out by human labor, and being drained in a few minutes, the waters urged their way down the channel of Barton river, at least 20 miles to Lake Memphremagog, mostly through a forest, cutting a ravine from 20 to 40 rods wide, and from 50 to 60 feet deep; inundating the low lands, and depositing thereon vast quantities of timber.

In 1818, the waters of the Dranse, in Switzerland, having been long obstructed by ice, burst their barrier and produced still greater desolation, because the country was more thickly settled than the borders of the lake above named. The enterprise of an engineer averted part of the desolation by tunneling the barrier; but not sufficient to prevent the destruction of 400 houses and many pleasure grounds.

It has been supposed, that should the falls of Niagara ever recede to Lake Erie, a terrible inundation of the region eastward would be the result; but De la Beche has proved satisfactorily that the only effect would be a gradual draining of Lake Erie, with only a slight increase of Niagara river.

*Pond and Lake Ramparts.*—These have not yet been described in any works on geology. Around the borders of some not very deep lakes and ponds in high latitudes, ridges or embankments of bowlders have been formed, the outer being the steepest side. So perfect are the walls thus produced, that many have supposed them to have been the work of aborigines. In Wright county, Iowa, there is a rampart ten feet high, composed of bowlders from fifty pounds to three tons in weight, surrounding a lake 1,900 acres in extent, and from two to twenty-five feet deep. But there are no scattered bowlders in the water or in the vicinity of the lake upon the shore. Several lakes and ponds in Vermont, also,