

like Bistineau, constant repositories of water. But even in these cases, their level is liable to annual elevation and depression, because the flood of the main river, when at its height, passes over the bar; just as, where sand-hills close the entrance of an estuary on the Norfolk or Suffolk coast, the sea, during some high tide or storm, has often breached the barrier and inundated again the interior.

I am informed by Mr. Featherstonhaugh that the plains of the Red River and the Arkansas are so low and flat, that whenever the Mississippi rises thirty feet above its ordinary level, those great tributaries are made to flow back, and inundate a region of vast extent. Both the streams alluded to contain red sediment, derived from the decomposition of red porphyry; and since 1833, when there was a great inundation in the Arkansas, an immense swamp has been formed near the Mammelle mountain, comprising 30,000 acres, with here and there large lagoons where the old bed of the river was situated; in which innumerable trees, for the most part dead, are seen standing, of cypress, cotton-wood, or poplar, the triple-thorned acacia, and others, which are of great size. Their trunks appear as if painted red for about fifteen feet from the ground; at which height a perfectly level line extends through the whole forest, marking the rise of the waters during the last flood.*

But most probably the causes above assigned for the recent origin of these lakes are not the only ones. Subterranean movements have altered, so lately as the years 1811-12, the relative levels of various parts of the basin of the Mississippi, situated 300 miles north-east of Lake Bistineau. In those years the great valley, from the mouth of the Ohio to that of the St. Francis, including a tract 300 miles in length, and exceeding in area the whole basin of the Thames, was convulsed to such a degree, as to create new islands in the river, and lakes in the alluvial plain. Some of these were on the left or east bank of the Mississippi, and were twenty miles in extent; as, for example, those named Reelfoot and Obion in Tennessee, formed in the channels or valleys of small streams bearing the same names.†

But the largest area affected by the great convulsion lies eight or ten miles to the westward of the Mississippi, and inland from the town of New Madrid, in Missouri. It is called "the sunk country,"

* Featherstonhaugh, Geol. Report, Washington, 1835, p. 84.

† Trees submerged in an upright position have been observed in other parts of N. America. Thus Captains Clark and Lewis found, about the year 1807, a forest of pines standing erect under water in the body of the Columbia River, which they supposed, from the appearance of the trees, to have been submerged only about twenty years. (Travels, &c. vol. ii. p. 241.) More lately (1835), the Rev. Mr. Parker observed on the same river (lat. 45° N., long. 121° W.) trees standing in their natural position in spots where the water was more than twenty

feet deep. The tops of the trees had disappeared; but between high and low water mark the trunks were only partially decayed; and the roots were seen through the clear water, spreading as they had grown in their native forest.—(Tour beyond the Rocky Mountains, p. 132.) Some have inferred from these facts that a tract of land, more than twenty miles in length, must have subsided vertically; but Capt. Frémont, Dec. 1845 (Rep. of Explor. Exped. p. 195.), satisfied himself that the submerged forests have been formed by immense land-slides from the mountains, which here closely shut in the river.