

and is said to extend along the course of the White Water and its tributaries, for a distance of between seventy and eighty miles north and south, and thirty miles or more east and west. Throughout this area, innumerable submerged trees, some standing leafless, others prostrate, are seen; and so great is the extent of lake, and marsh, that an active trade in the skins of musk-rats, mink, otters, and other wild animals, is now carried on there. In March, 1846, I skirted the borders of the "sunk country" nearest to New Madrid, passing along the Bayou St. John and Little Prairie, where dead trees of various kinds, some erect in the water, others fallen, and strewed in dense masses over the bottom, in the shallows, and near the shore, were conspicuous. I also beheld countless rents in the adjoining dry alluvial plains, caused by the movements of the soil in 1811-12, and still open, though the rains, frost, and river inundations, have greatly diminished their original depth. I observed, moreover, numerous circular cavities, called "sunk holes," from ten to thirty yards wide, and twenty feet or more in depth, which interrupt the general level of the plain. These were formed by the spouting out of large quantities of sand and mud during the earthquakes.*

That the prevailing changes of level in the delta and alluvial plain of the Mississippi have been caused by the subsidence, rather than the upheaval of land, appears to me established by the fact, that there are no protuberances of upraised alluvial soil, projecting above the level surface of the great plain. It is true that the gradual elevation of that plain, by new accessions of matter, would tend to efface every inequality derived from this source, but we might certainly have expected to find more broken ground between the opposite bluffs, had local upthrows of alluvial strata been of repeated occurrence.

Deposits in the delta. — The vast size of the alluvial plain both above and below the head of the delta, or the branching off of the uppermost arm of the Atchafalaya, has been already alluded to. Its superficial dimensions, according to Mr. Forshey, exceed 30,000 square miles, nearly half of which belong to the true delta. The deposits consist partly of sand originally formed upon or near the banks of the river, and its tributaries, partly of gravel, swept down the main channel, of which the position has continually shifted, and partly of fine mud slowly accumulated in the swamps. The farther we descend the river towards its mouth, the finer becomes the texture of the sediment. The whole alluvial formation, from the base of the delta upwards, slopes with a very gentle inclination, rising about three inches in a mile from the level of the sea at the Balize, to the height of about 200 feet in a distance of about 800 miles.

That a large portion of this fluvial deposit, together with the fluvio-marine strata now in progress near the Balize, consists of mud and sand with much vegetable matter intermixed, may be inferred from what has been said of the abundance of drift trees floated down every summer. These are seen matted together into a net-work

* For an account of the "sunk country," shaken by the earthquake of 1811-12, see Lyell's *Second Visit to United States*, ch. 33.