standing inclined in every direction, and many having their trunks and branches broken."*

The inhabitants relate that the earth rose in great undulations; and when these reached a certain fearful height, the soil burst, and vast volumes of water, sand, and pit-coal were discharged as high as the tops of the trees. Flint saw hundreds of these deep chasms remaining in an alluvial soil, seven years after. The people in the country, although inexperienced in such convulsions, had remarked that the chasms in the earth were in a direction from S. W. to N. E.; and they accordingly felled the tallest trees; and laying them at right angles to the chasms, stationed themselves upon them. By this invention, when chasms opened more than once under these trees, several persons were prevented from being swallowed up.† At one period during this earthquake, the ground not far below New Madrid swelled up so as to arrest the Mississippi in its course, and to cause a temporary reflux of its waves. The motion of some of the shocks is described as having been horizontal, and of others perpendicular; and the vertical movement is said to have been much less desolating then the horizontal.

The above account has been reprinted exactly as it appeared in former editions of this work, compiled from the authorities which I have cited; but having recently (March 1846) had an opportunity myself of visiting the disturbed region of the Mississippi, and conversing with many eye-witnesses of the catastrophe, I am able to confirm the truth of those statements, and to add some remarks on the present face and features of the country. I skirted, as was before related (p. 216.) part of the territory immediately west of New Madrid, called "the sunk country," which was for the first time permanently submerged during the earthquake of 1811-12. It is said to extend along the course of the White Water and its tributaries for a distance of between 70 and 80 miles north and south, and 30 miles east and west. I saw on its borders many full-grown trees still standing leafless, the bottoms of their trunks several feet under water, and a still greater number lying prostrate. An active vegetation of aquatic plants is already beginning to fill up some of the shallows, and the sediment washed in by occasional floods when the Mississippi rises to an extraordinary height contributes to convert the sunk region into marsh and forest land. Even on the dry ground along the confines of the submerged area, I observed in some places that all the trees of prior date to 1811 were dead and leafless, though standing erect and entire. They are supposed to have been killed by the loosening of their roots during the repeated undulations which passed through the ground for three months in succession.

Mr. Bringier, an experienced engineer of New Orleans, who was on horseback near New Madrid when some of the severest shocks were experienced, related to me (in 1846), that "as the waves advanced the trees bent down, and the instant afterwards, while recovering their

^{*} Long's Exped. to the Rocky Mountains, vol. iii. p. 184. † Silliman's Journ., Jan. 1829.