

I have in former letters, made you acquainted with our progress as far as Baton Rouge; and in one from Fort Pickering, dated the 21st of December, I merely mentioned the occurrence of an earthquake, deferring a particular account of facts to a more convenient opportunity. A leisure moment now present itself; and I believe I cannot fulfil my intention more concisely or more satisfactorily, than by giving you something like an extract from my journal, beginning at the mouth of the Ohio.

On the morning of the 14th of December, we entered the Mississippi, in company with two other barges bound to this place. The river presented nothing unusual as to its banks, the stage of its water, or the velocity of its current. The wind, as nearly as we could determine without a compass, was from the S.E. - the weather cloudy and dull. In the evening we came to at island No. 8, distant about 44 miles from the mouth of Ohio. The mercury in Fahrenheit's thermometer this day, stood at 29 and at 46 deg. - On the 15th the wind was from the same point - the weather misty. At night we came to close under a sand bank, at the foot of island No. 13, which is situated in about latitude 35 deg. 20 N - distance this day 46 miles, mercury at 41 and 49 deg. - All was well and quiet, until about 2 o'clock on the morning of the 16th, when a sudden and violent shaking of our vessel, accompanied with a dreadful clattering of every thing loose on board, and confused rumbling noise roused all hands from their beds. The first and most general impression as to the cause, was that we had dragged anchor, and were then beating over a rough sand bar. - This, however, was rendered improbable, when it was recollected that it had been perfectly calm all night; and, as soon as we found that the other vessels were affected in the same manner and at the same moment, our suspense was terminated, and the alarming conclusion rushed upon our minds, that what we had felt was nothing less than the shock of an earthquake. Our anxiety, and our fears, were now awakened, and every thing became a subject of observation and enquiry. The river had risen about 18 inches and the water which was smooth and almost still when we anchored, now hurried by us at the rate of 5 or 6 miles an hour, carrying upon its surface a thick froth; but in about 3 hours it returned to its former stage and tranquility. - The duration of the shock was about 40 seconds - there was no sensible alteration in the temperature of the water, and the mercury stood at 45 deg. in the air. It was excessively dark, and no emission of light was observed in any part of the horizon - nor could we discover the slightest impregnation of the atmosphere with smoke or an thing whatever although some of the men (by hard snuffing) thought they smelt some thing like sulphur. The sand bank near us, which was about 5 five above the surface of the river, was continually falling in by sections, into which it had been broken by the convulsion, whilst the disruption of immense bodies from the main bank on the other side, covered with heavy timber

occasioned a most horrid crashing, and produced a swell in the river which caused our vessels to roll considerably. Reports like those of a musket in the woods, were often heard and sometimes heavy sounds like distant explosions. A rumbling like distant thunder, was heard every 20 or 30 minutes, but it seemed to fill the air so completely, that it was impossible to say from what quarter it came. There was no wind, but we heard a roaring upon the water at a distance. In half an hour after the first, we felt a second shock, the duration of which was about 20 seconds; and in two hours after the second, was felt a third shock, not so long nor severe - both of which however made every thing rattle that was loose and gave to the vessel a springing motion, similar to that which would have been made by many men running on the deck. Thus passed the slow and dismal hours, until day - but the hopes with which the cheering influence of light had inspired our minds, were soon blasted.

At half past seven, soon after getting underway, we felt a fourth shock, as violent as the first, but it did not continue so long. Immediately after this Mr. B. saw a body of water, two or three hundred yards from our vessel, and about a hundred from the bank, rise to the height of about twenty feet, and fell with a loud report. It appeared to be about the size and figure of a common hay stack - he called me to look, but I could not direct my attention to the spot sooner than to see the agitation of the water where it had fallen - the report was heard, I believe, by every body on board. A large log or body of a tree, about sixty feet long, was thrown up very near us, and at the same time there appeared to be a boiling motion in the water, which brought up swayers and planters, as well as small fragments of wood, bark, leaves, etc. and numerous air bubbles - the water was very muddy and frothy. Here the falling of large trees, and masses of the bank covered with cane, kept up a perpetual echo, like the retiring sound after a severe peal of thunder. We heard loud reports far in the swamp, and a noise like wind passing furiously through the woods. These, added to the darkness and gloom of the weather, the solemnity of every countenance, and the perfect silence and stillness of every thing on board, presented to the mind a scene inexpressibly awful. Every thirty or forty minutes after the fourth shock we felt slighter ones or tremblings of our vessel, succeeded by the distant rumbling. Between 10 and half past 11 A.M. we felt three tremblings or slight shocks. Mr. B. and myself went in the boat near the shore at the Little Prairie (a small settlement on the west bank) - the inhabitants had fled from their houses in great terror. A negro man, who told us that he was the only person then in the place, informed us that the swamp at the back of the prairie was completely inundated - that the fourth shock was much more severe than the preceding ones - and that it had damaged all their houses, and thrown down the only brick chimney. The bank was very much broken by extensive longitudinal fissures; and we saw water gushing out at several transverse ones,

which must have extended back at least as far as the swamp. A slight shock after 12 o'clock, weather cloudy and hazy, wind S.E. - cleared away by 3 o'clock - two or three slight rumblings since the last mentioned one.

We came to early in the morning, at island No. 24, and went on shore. - That part of the island which was covered with trees, was cracked in every direction, but the largest fissures were longitudinal. The middle of this part of the island, appeared to have sunk about 3 feet, as nearly as we could determine, from the elevation of the surrounding surface, on which the growth was light. The heavy trees in the depressed portion, had settled down and formed circular pits round their bases, from 4 to 6 feet in diameter, and from 6 inches to a foot (according to their weight) below the level of the general depression. The shore or beach of the island, did not appear so much cracked; but we saw a great many tumuli of different sizes, with circular holes in their centers, from the margin of which their surfaces declined very gradually to the circles of their basis. The largest of them was about a foot high from the level of the beach through its centre, and the hole in the top about the dimensions as well as figure of a large hat crown. The holes were lined with a fine slimy mud, and balls of the same substance we found in and about them; they possessed no extraneous taste or smell. The surfaces of these tumuli appeared to be rubricated. The beach appeared to have been washed, and upon a shallow pond of water on it, there was a quantity of froth. About every 30 minutes this evening, weak and distant rumblings were heard which seemed to come from the W. and S.W. at 11 P.M. two considerable jars, and frequent rumbling - wind S.W. Mercury to day at 47 and at 52 degrees.

At 6 o'clock on the morning of the 17<sup>th</sup> felt two jars, (the interval between which as well as those at 11 last night, was about 60 or 90 seconds) - succeeded by distant rumbling from same quarter till 7 o'clock. The water still very muddy, but the froth gone by, and the river appeared to have fallen 10 or 12 inches last night. At half past 11 we felt a heavy shock just below bayou river, but of only 5 or 6 seconds duration. The left bank here to which we were close in appeared (from the deck) to have been very little affected; but at this shock, the tops and branches of large trees on it (particularly the cotton wood) switched so violently as to excite our astonishment. This accounted for the shattered trunks of trees from 20 to 30 feet high standing on the firm bank with the appearance of their tops having been recently snapt off. We came to at a low willow island at the head of the Canadian reach. The W. bank of the river two or three miles in length, and as far in as we could see, was a melancholy spectacle of desolation. A great portion of it was sunk beneath the surface of the river so that the tops only of some of the tallest trees were to be seen; and many of them shattered and prostrated by the concussion. That which appeared

above water was broken and turned up as if a mightly plough had passed through it. Wind N.W. cloudy and hazy - showered of rain this afternoon. At 6 P.M. a light jar. Mercury this day at 53 and 49 degrees - clear night.

The morning of the 18th was clear after a fresh wind all night from N.W. During the night frequent distant rumblings were heard which seemed to proceed from the N. and W. At 8 o'clock this morning we felt a considerable shock; and a slight one at half past 11. Rumblings this afternoon, at 9 P.M. slight shock. Mercury at 30 and 45 degrees. On the 19th at 3 and a half past 5 A.M. slight shock - at 12 a slight jar, and one after two P.M. Came to early this afternoon at 1st Chickasaw Bluffs, clear sky and light S.W. wind. We went upon the hill, but could not discover any traces of the convulsion there; but the river banks was much broken and turned up by the fallen trees, and there were many small holes in the bottom between it and the hill, similar to those on No. 33. Slight jar at 8 P.M. Mercury at 25 and at 36 degrees 20th, the rumbling sound was heard two or three times during last night. As we passed the 2nd Bluffs, at 11 o'clock this morning, we felt a very considerable shock. The Bluff did not appear much broken, but some loose earth was thrown down by this shock - The weather after noon was dull and rainy - wind S. Mercury at 21 and at 37 degrees - 21st, showers of rain last night and some weak rumbling, below 3d Bluffs. - This morning, wind S. thin clouds - no shock, jar or rumbling was felt this day; and no considerable effects of the convulsion were observed. In the evening we arrived at Fort Pickering, and were told by the people that they had felt the Earthquake very severely, and that it was felt many miles back, but we could not discover any other effects of it here than the falling of some loose fragments of the cliffs. They said it was felt most sensibly on this side of the river, but our observation decided that the greatest extent of damage was on the western side. They saw spouts of the mud and water rise from the river near the shore to the height of 15 and 20 feet. By the bank here the river appeared to have fallen three or four feet lately. - Mercury this day at 47 and 57 degrees.

22d. Some slight rumblings last night. Weather cloudy this morning, and wind S.W. - The current of the river, which had frequently been observed to be more irregular than usual, now appeared to be natural, and the river free from these numerous sayers, & planters, which had been thrown up in many places in the early part of the convulsion, and had rendered the navigation not only difficult, but dangerous. At 5 and at 7 o'clock this morning a slight jar, light wind this afternoon from the north with a gentle rain. We stopped from 1 till 3 o'clock at island No. 37, on which there were no visible effects of the Earthquake, nor on the main west bank. Rainy and foggy evening - come to below council island. Mercury at 49 to degrees. 23d, high wind all night from the N. -

clear morning, but the wind still too fresh for us to put off; no traces of the Earthquake. - Mercury at 32 and at 43 degrees this day.

It will now be sufficient to observe that upon enquiry at St. Francis river, the Arkansas, Fort M'Henry, Natchez and other places, the convulsion was less sensibly felt as we descended the river; although at the Ozark village, chimnies were said to have been demolished and some houses injured, but at the Walnut hills nothing was felt after the 17th, and after we passed Red river, it was known by report only.

That you may form some idea of the force of the shocks from the effects which I have mentioned there to have had upon our vessel it is necessary to tell you that she is a very strong decked barge about 85 feet in length and carrying about 60 tons. I must also tell you that our daily observations on the temperature of the air were made at sun rise and at 3 o'clock in the afternoon. With the rumbling sounds which were so frequently heard, we occasionally felt slight jars, but I have called those only shocks, which agitated our vessel considerably.

I do not feel prepared to enter into a philosophical enquiry, upon the cause, its seat, or the effects of this most extraordinary and wonderful convulsion of the earth, but if we will examine and compare the facts which have been detailed, and recollect the nature of some of those productions which have been found up the Red River, and on the Missouri, we may hazard the conjecture that the effects which are now known were produced by some volcanic eruption to the N. West of the Mississippi. If this be admitted, and we consider the surface of the earth in the valley of this river as a great alluvial crust, we cannot wonder that it should be cracked and broken to pieces by such an explosion in its neighborhood. And it is not difficult to conceive that those tumuli, which have already been described, were occasioned by spouts of water, (similar to those seen to rise from the surface of the river) & that these spouts were owing to the subsidence of the heavy sections of the banks upon the subjacent water, forcing it through the less compact shores & bed of the river: and this will account for the ejection of logs and other matter from its bottom, the froth which floated on its surface. - It was thought singular and unaccountable that the old trees which were thrown up, presented their roots up the river; but I think that circumstances may be easily explained by supposing that when those trees were first undermined, they carried entangled in their roots, a weight of earth sufficient to press them to the bottom - that the current gave their tops a direction down the river - that these, by the gradual absorption of water, at length sunk to the bottom and became fixed in the mud more permanently than the more corruptible and less extensive roots - that the trunk and roots of these trees presented greater resistance to spouts of water than the open & evidently extended branches, by which the root of each tree was thrown upon the surface of the river & upborne in that position

by the force of the current. -

The sudden rise of the water on the morning of the 16th was most probably owing to the falling in of the banks and the contribution of water from the spouts; and from its sudden subsidence it was inferred that the severity of the convulsion had not extended far above us. - The subsequent fall of three or four feet, which was observed at the 4th Bluffs was no doubt owing to the depression of water from the river into the low grounds & swamps through the artificial Bayous, which have been spoken of.

The loud reports which were sometimes heard, were caused by the falling of bodies of water, like that which was seen by Mr. B. after the 4th shock, for one of the same description, was seen about 20 miles below that, and others of less size - the roaring noise was, perhaps, made by the rushing of water let in among the trees in the swamp.

My wish to be accurate in this account has perhaps, led me into unnecessary minuteness; but it is certainly very desirable that such particular information upon the subject should be recieved from every quarter; as well as a future day, compose a correct history of what may, as yet be regarded as a Phenomenon.