

hundreds of miles apart; so that, instead of the land rising about five feet in a hundred years, as at the North Cape, it becomes less than the same number of inches at Stockholm, and farther south the land is stationary, or, if not, seems rather to be descending than ascending.\*

To cite an example of high geological antiquity, M. Hébert has demonstrated that, during the oolitic and cretaceous periods, similar inequalities in the vertical movements of the earth's crust took place in Switzerland and France. By his own observations and those of M. Lory he has proved that the area of the Alps was rising and emerging from beneath the ocean towards the close of the oolitic epoch, and was above water at the commencement of the cretaceous era; while, on the other hand, the area of the Jura, about one hundred miles to the north, was slowly sinking at the close of the oolitic period, and had become submerged at the commencement of the cretaceous. Yet these oscillations of level were accomplished without any perceptible derangement in the strata, which remained all the while horizontal, so that the lower cretaceous or neocomian beds were deposited conformably on the oolitic.†

Taking for granted then that the depression was more rapid in the more elevated region, the great rivers would lose, century after century, some portion of their velocity or carrying power, and would leave behind them on their alluvial plains more and more of the moraine-mud with which they were charged, till at length, in the course of thousands or some tens of thousands of years, a large part of the main valleys would begin to resemble the plains of Egypt, where nothing but mud is deposited during the flood season. The thickness of loam containing shells of land and

\* Principles of Geology, chap. xxx.  
9th ed. p. 519 et seq.

de France, 2 series, tom. xvi. p. 596,  
1859.

† Bulletin de la Société Géologique