For a distance of 1,100 miles, measured in a direct line, above the mouth of the "Father of Waters," the modern valley is merely maintaining its own size, or more generally is being slowly filled by the deposition of river alluvium upon its floor. There are only two exceptions, of a few miles each, where the river is scouring out the rocky floor, and these are over barriers recently exposed there during the changes of the Pleistocene period. To such an extent has the ancient valley or cañon been filled, first with drift, and this covered with river alluvium, that its original rocky floor is now buried to a depth of 170 feet, even at La Crosse, a thousand miles from the Gulf of Mexico.* Farther south the depth of these loose deposits increases, until at New Orleans a boring of 630† feet below sea level does not penetrate the southern drift, nor even reach to its lowest members. The lower 500 miles of the ancient Mississippi were excavated out of Eocene or Cretaceous deposits, while the valley above the mouth of the Ohio has the form of a cañon, excavated out of Paleozoic rocks, varying in width from ten to two or three miles, and having a depth (exclusive of the portion now filled) of from 150 to 550 feet, according to the late General G. K. Warren.

From this inspection of the river, it is easily seen that no natural rainfall could so increase the volume of the discharge as to remove all the deposits which now fill the old valley, much less excavate the original and immense cañon. A vastly greater elevation of the continent was necessary. Even were the whole continent uniformly elevated 630 feet, together with the remainder of the unknown depth of the ancient Mississippi river, at New Orleans, the cañon of the upper part of the river would require a still greater relative elevation of the northern country in order to give sufficient channeling power to the flowing waters; but the slope of the floor of the partially buried valley is much less than that of the modern, as was formerly shown by the author.‡ Here, again, is the proof that the country drained by the upper waters of the Mississippi once stood, relatively to that in the region of its mouth, much higher than at present. Of the amount, which was at least many hundreds of feet, we have no absolute measurement; nor can we ascertain it by calculation, for there is no register of the excess of the amount of rainfall during the epoch of the greatest sculpturing over that of the present day.

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*Geol. Wis., Vol. I, 1883, p. 253.

†E. W. Hilgard, Am. Jour. Sc., 2nd Ser., Vol. XLVIII, 1869, p. 333

‡Am. Nat. Vol. XXI, 1887, pp. 168-71.