Gulf of Mexico, when distributed over a distance of 1800 miles, would give an average fall of only four inches per mile.

The second case before adverted to, is where there are large tracts of dry land beneath the mean level of the ocean. It seems, after much controversy, to be at length a settled point, that the Caspian is really 83 feet 6 inches lower than the Black Sea. As the Caspian covers an area about equal to that of Spain, and as its shores are in general low and flat, there must be many thousand square miles of country less than 83 feet above the level of that inland sea, and consequently depressed below the Black Sea and Mediterranean. This area includes the site of the populous city of Astrakhan and other towns. Into this region the ocean would pour its waters, if the land now intervening between the Sea of Azof and the Caspian should subside. Yet, even if this event should occur, it is most probable that the submergence of the whole region would not be accomplished simultaneously, but by a series of minor floods, the sinking of the barrier being gradual.*

Supposed universality of ancient deposits.—The next fallacy which has helped to perpetuate the doctrine that the operations of water were on a different and grander scale in ancient times, is founded on the indefinite areas over which homogeneous deposits were supposed to extend. No modern sedimentary strata, it is said, equally identical in mineral character and fossil contents, can be traced continuously from one quarter of the globe to another. But the first propagators of these opinions were very slightly acquainted with the inconstancy in mineral composition of the ancient formations, and equally so of the wide spaces over which the same kind of sediment is now actually distributed by rivers and currents in the course of centuries.

* It has been suspected ever since the middle of the last century, that the Caspian was lower than the ocean, it being known that in Astrakhan the mercury in the barometer generally stands above thirty inches. In 1811, MM. Engelhardt and Parrot attempted to determine the exact amount of difference by a series of levellings and barometrical measurements across the isthmus at two different places near the foot of Mount Caucasus. The result of their operations led them to the opinion that the Caspian was more than 300 feet below the Black Sea. But the correctness of the observations having afterwards been called in question, M. Parrot revisited the ground in 1829 and 1830, and inferred from new levellings, that the mouth of the Don was between three and four feet lower than that of the Wolga; in other words, that the sea of Azof, which communicates with the Black Sea, was actually lower than the Caspian! Other statements, no less contradictory, having been made by other observers, the Russian government at length directed the Academy of St. Petersburg to send an expedition, in 1836, to decide the point by a trigonometrical survey, from which it appeared that the Caspian is 101 Russian, or 108 English, feet lower than the Black Sea. (For authorities, see Journ. Roy. Geograph. Soc. vol. viii. p. 135.) Sir R. Murchison, however, concludes, in 1845, from the best Russian authorities, that the depression of the Caspian is only 83 feet 6 inches.

According to the researches of Mr. G. Moore and Mr. Beek, made in 1837, the level of the Dead Sea was estimated by the temperature of boiling water to be 500 feet below the level of the Mediterranean. By the barometrical experiments of Professor Schubert of Munich, the difference of level is 598 feet. The last-mentioned traveller also states, that the Lake of Tiberias is 500 feet below the Mediterranean. (Journ. Roy. Geograph. Soc. vol. viii. p. 250.) The measurements of Major Anthony Symonds, since confirmed by French authorities, make the Dead Sea to be 1200 feet below the Mediterranean.