and $\frac{4}{11}$ths of the earth's mean density—that is by a simple calculation $\frac{1}{1833}$, or rather less than one 1800th part of the whole attraction of the earth—a fraction far too large, as well as far too uncertain in its amount either at any given spot or in general, not to vitiate irremediably any conclusion as to the ultimate result of the operation.

(16.) Similarly, if we look to the reductions to the sea level necessary for stations in the interior of continents, we shall find that they depend, partly on the diminution of gravity due to the *height above* the sea-level, or to the increase of distance from the earth's centre, which always tells in *diminution* of gravity; and partly on the protuberant matter, be it mountain or elevated table-land immediately beneath and around the pendulum, which always tells in favour of *increased* gravitation. The former portion is rigorously calculable, and therefore need not trouble us, but the latter is in an extreme degree uncertain in particular localities, and in a general estimate falls very short of compensating for the sea-deficiency. For the mean height of the European continent is only 1342 feet; of Asia 2274; of North America 1496; and of South America, 2302. The mean is 1840 feet, or rather more than a third of a mile, which, on the same principle of reckoning, would be equivalent to about $\frac{1}{15000}$th part only of the total gravity, which has to be reduced to one-third of its amount, or to 1-45000th, inasmuch as the proportion of land to water over the whole globe is only that of 51 to 146, or about 1 to 3. This is the mean effect of the