

rial agents, will be evident if we consider how small is the extent of surface exposed to the power of the waves, when contrasted with that which is under the influence of atmospheric waste. In the general degradation of the land, this is an advantage in favor of the subaerial agents which would not be counterbalanced unless the rate of waste by the sea were many thousands or millions of times greater than that of rains, frosts, and streams. But in reality no such compensation exists. In order to see this, it is only necessary to place side by side measurements of the amount of work actually performed by the two classes of agents. Let us suppose, for instance, that the sea eats away a continent at the rate of ten feet in a century—an estimate which probably attributes to the waves a much higher rate of erosion than can, as the average, be claimed for them.<sup>320</sup> Then a slice of about a mile in breadth will require about 52,800 years for its demolition, ten miles will be eaten away in 528,000 years, one hundred miles in 5,280,000 years. Now we have already seen that, on a moderate computation, the land loses about a foot from its general surface in 6000 years, and that, by the continuance of this rate of subaerial denudation, the continent of Europe might be worn away in about 4,000,000 years. Hence, before the sea, advancing at the rate of ten feet in a century, could pare off more than a mere marginal strip of land, between 70 and 80 miles in breadth, the whole land might be washed into the ocean by atmospheric denudation.

Some such results as these would necessarily be pro-

---

<sup>320</sup> It may be objected that this rate is far below that of parts of the east coast of England (*ante*, p. 749). But along the rocky western coast of Britain the loss is perhaps not so much as one foot in a century.