

has shattered the coast and strewn it with its own wreck. And some effort of imagination is needed to realise that the devastation has been caused by the very same agencies that are working it still, and notably by the breakers which, when the north-east gales sweep across the sea, batter against the cliffs with the noise of thunder, and cover them with spray even to the summit. The Forfarshire coast-line is, for the most part, formed of wall-like cliffs of red sandstone, sometimes perforated with curious blow-holes like the 'Geary Pot,' near Arbroath. But here and there, in creeks and bays, there are sandy flats—the records of an older sea margin yet to be described. It is upon these softer parts that the breakers have made most rapid inroads. Thus, in the thirty years which preceded 1816, the road trustees were under the necessity of twice removing inland the roadway that skirts the shore westward from Arbroath, and in that year it had again become imperative to make another removal.¹ The loss of land at one point, a short way south-west from the town, had been thirty yards since 1805, while at another spot still nearer the town it had reached in 1865 as much as sixty yards within the same period—that is at the rate of fully a yard every year. About the year 1780, a house existed at the latter locality, of which there are now no remains, its place being covered by the tides. At Arbroath itself, a house which stood next to the sea was some years ago washed down, and strong bulwarks are necessary to retard further encroachments. But these prove to be ineffectual barriers, for every severe gale damages them, and the sea is sensibly gaining ground.

The coast, as we proceed northwards, continues to furnish additional instances of the destructive effects of the

¹ R. Stevenson, *Mem. Wernerian Soc.*, ii. p. 473.