

himself many illustrations of this kind of destruction around the shores of these islands. Within the last few hundred years entire parishes with their farms and villages have been washed away, and the tide now ebbs and flows over districts which in old times were cultivated fields and cheerful hamlets. The coast of Yorkshire between Flamborough Head and the mouth of the Humber, and also that between the Wash and the mouth of the Thames, suffer at a specially rapid rate, for the cliffs in these parts consist in great measure of soft clay. In some places between Spurn Point and

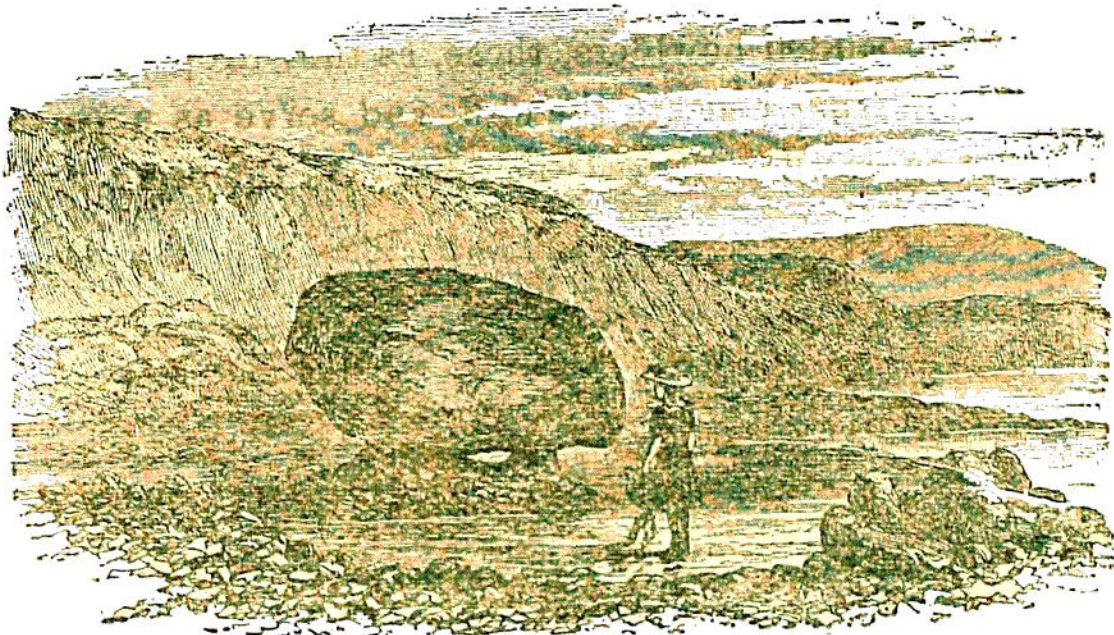


Fig. 168.—Boulder of basalt protecting the portion of beach underneath it; Largo, Fife.

Flamborough Head this loss is said to amount to five yards per annum.²⁷⁷

Other parts of the European seaboard likewise furnish instructive lessons as to the progress of marine erosion. The destruction of Heligoland, in the North Sea, has been continuous for centuries, the stages in the disappearance of this island being easily followed on the charts of successive periods.²⁷⁸ Even the hard crystalline rocks of Scandinavia are unable wholly to withstand the assaults of the Atlantic breakers.²⁷⁹

²⁷⁷ R. Pickwell, Proc. Inst. Civ. Engin. li. p. 191. On the waste of the coast between the Thames and Wash, see J. B. Redman, op. cit. xxiii. 1864, p. 186; C. Reid, Geol. Mag. 2d dec. iv. p. 136. "Geology of Holderness," Mem. Geol. Surv. 1885. The Reports of the Brit. Assoc. Comm. on the erosion of the sea-coasts of England, 1885-86, give much interesting information on this subject.

²⁷⁸ K. W. M. Wiebel's "Die Insel Helgoland," 4to, Hamburg, 1848.

²⁷⁹ H. Reusch, Neues Jahrb. 1879, p. 244.