

conspicuously observed and instructively studied than along marine cliffs. Where the lines of precipice are abrupt, with numerous projecting and retiring vertical walls, it will almost invariably be found that these perpendicular faces have been cut open along lines of intersecting joint. The existence of such lines of division permits a steep or vertical front to be presented by the land to the sea, because, as slice

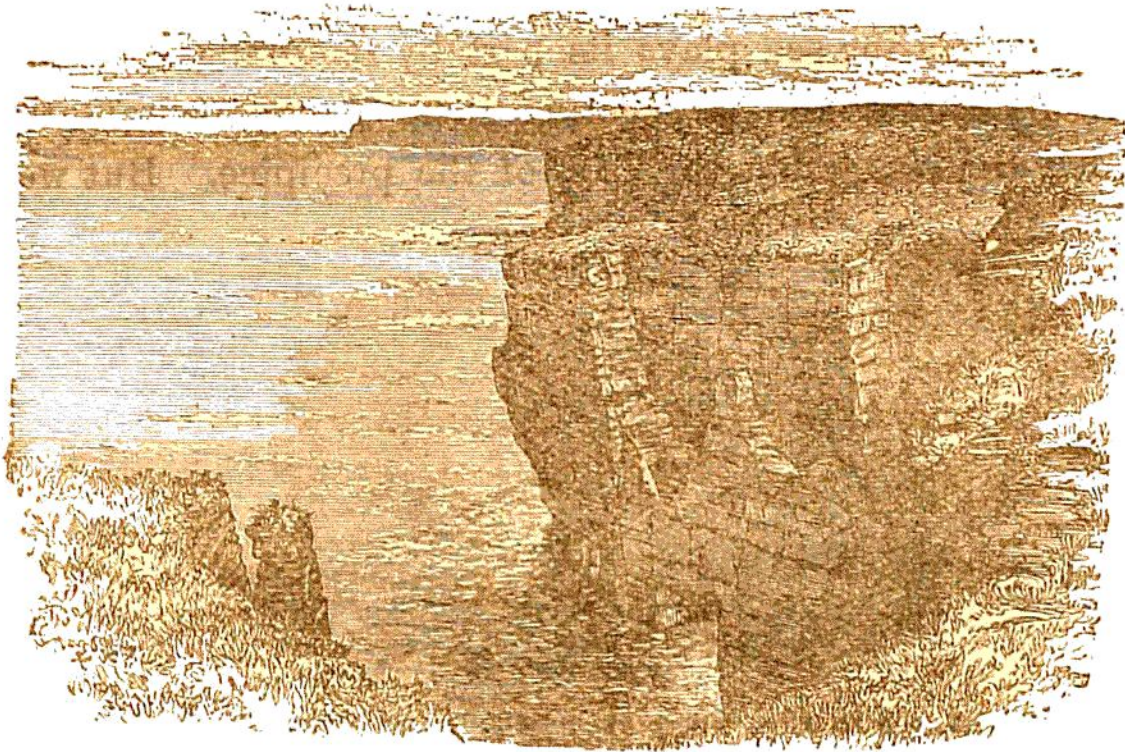


Fig. 170.—Vertical sea-cliffs of flagstone, near Holburn Head, Caithness.

after slice is removed, each freshly bared surface is still defined by a joint-plane (see Fig. 225).

During the study of any rocky coast where these features are exhibited, the observer will soon perceive that the encroachment of the sea upon the land is not due merely to the action of the waves, but that, even on shores where the gales are fiercest and the breakers most vigorous, the demolition of the cliffs depends largely upon the sapping influence of rain, springs, frosts, and general atmospheric disintegration. In Fig. 170, for example, which gives a view of a portion of