

While investigating the progress of waste along a coast-line, the geologist has to consider the varying powers of resistance possessed by rocks, and the extent to which the action of the waves is assisted by that of the subaerial agents. Rocks of little tenacity, and readily susceptible of disintegration, obviously present least resistance to the advance of the waves. A clay, for example, is readily eaten away. If, however, it should contain numerous hard nodules or imbedded boulders, these, as they drop out, may accumulate in front beneath the cliff, and serve as a partial breakwater against the waves (Fig. 169). On the other hand,

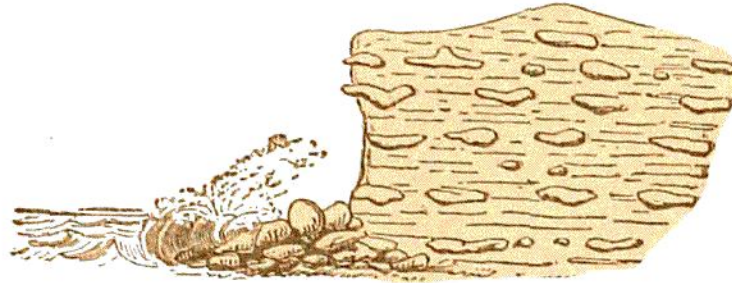


Fig. 169.—Cliffs of clay full of septarian nodules, the accumulation of which serves to arrest the progress of the waves.

a hard band or boss of rock may withstand the destruction which overtakes the softer or more jointed surrounding portions, and may consequently be left projecting into the sea, as a line of headland or promontory, or rising as an isolated stack (Fig. 167). But, besides mere hardness or softness, the geological structure of the rocks powerfully influences the nature and rate of the encroachment of the sea. Where, owing to the inclination of bedding, joints, or other divisional planes, sheets of rock slope down into the water, they serve as a kind of natural breakwater, up and down which the surges rise and fall during calms, or rush in crested billows during gales, the abrasion being here reduced to the smallest proportions. In no part of the degradation of the land can the dominant influence of rock-structure be more