

form so remarkable a feature near its western extremity, have been already described, (see the Chapter on Chalk, p. 110, and that on Green sand and Iron sand, p. 160). We there observed that the Portland beds, dipping inland in an angle of from 45 to 60 degrees, formed the exterior barriers and capes at the mouth of these coves, while the vertical strata of the lofty chalk downs ranged along their bottom; their sides exhibiting in section all the intermediate formations. The representation beneath will convey a sufficiently accurate idea of the



a. Chalk. *b.* Chalk marle. *c.* Green sand. *d.* Blue marle.
e. Iron sand. *f.* Purbeck beds. *g.* Portland beds.

appearances which prevail in all of them. The more solid masses of the Portland rock, having resisted most strongly the action of the destroying causes which appear to have excavated these coves, often form a reef of rocks in front of them; in one instance a projecting crag of it has been worn into a remarkable arch through which a boat can pass; this is called the Barn-door.

While the convulsions which have here acted on the strata, have raised the solid beds of Portland rock in mass, in regular inclined planes, the softer superincumbent argillaceous beds have been bent by the lateral pressure (to which they have more readily yielded) into many singular contortions, exactly similar to those which have formed the subject of so many observations and so much theory in the transition slate districts. It may indeed be stated as a general fact, that when in a series of inclined strata, solid, thick, and compact beds of stone are found associated with thin argillaceous and yielding beds, the former, however elevated, usually present regular planes of stratification; while the latter are bent and twisted into the most irregular curves. It is scarcely possible to conceive a stronger proof that this disposition is not the result of original formation, but of subsequent mechanical violence.