

side of the island; and, in the precipitous cliffs of those basins, the chalk, weald, Purbeck, and Portland strata, although vertical, may be seen in their regular order of succession, as is shown in this diagram (Tab. 68). No fewer than nine sections of the beds between the chalk and Portland stone (the upper division of the oolite, of which I shall speak in the next lecture) are visible within the space of five miles, in the small bays by which the coast is indented.*

41. PETRIFIED FOREST OF THE ISLE OF PORTLAND.—The island, or peninsula, of Portland is a bold headland, off Weymouth, about four miles and a half in length, and two in breadth, and is united to the main land by the Chesil beach. It presents a precipitous escarpment on the north, and declining towards the south, appears, on approaching it from the Dorchester coast, like an inclined plane, rising abruptly from the ocean. The southern extremity is flanked by low calcareous cliffs, which, from the constant action of the sea, are worn into hollows and caverns. The base of the island is formed of a blue clay (*Kimmeridge clay*), surmounted by thick beds of the oolitic limestone, known as the Portland stone, and which is extensively quarried on the northern brow of the island.

On this oolitic limestone are fresh-water strata (the lowermost beds of the wealden formation),

* Dr. Fitton, p. 215. See Conybeare and Phillips' *Geology of England*, p. 159.