

ing to an indurated marle. These beds are separated by others entirely without shells; and also by layers of shale and marle, the shivery nature of which allows the stone to be quarried with much ease. It is thus obtained of various degrees of thickness, according to that of the bed, and the whole hill consists of many alternations of these strata.* (W. 172.)

The stone, well known by the name of Purbeck marble, and which was formerly much used in our gothic churches for columns and monuments, was nearly the uppermost of these beds; and differs from the common Purbeck stone, only in the purity of the calcareous matter, and in the shells being more entire. It agrees exactly, or very nearly so, with the Petworth marble; but is now out of use, and the quarries are filled up, and scarcely known. (W. 172.)

(b) *Mineral contents.* The only mineral contents of these beds appears to be the pyrites occurring in the marle, and the gypsum consequent to its decomposition. Gypsum, both striated and amorphous, in a bed of brownish or reddish clay, is worked in Durlstone bay on the coast of the Isle of Purbeck: its geological position is between the *Portland* and *Purbeck* beds. (Mr. Webster, G. Notes.) In the interstices of the limestone the strata about Peverel point, which forms the northern extremity of Durlstone bay, are found crystals of selenite in fibrous marle: the surface of this marle is covered with farinaceous gypsum, which also appears in an indurated state, forming alternate strata with limestone. Pyrites abounds

* The following Section of the *Purbeck strata* are by Mr. Middleton, (Monthly Mag. Dec. 1812, p. 395.)

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| 1. Various beds of stone brash, black shiver, and compact rock, in alternate layers. These are supposed to rise and form the surface near Handcross, and in a line east and west of that place in Sussex, and also from Swanage to Durlstone bay, in Dorsetshire; at the latter place, I had a full view of them in the cliffs, and estimated the thickness of them at | 80 feet |
| 2. <i>Leaning vein</i> , a bed of very penetrable stone, abounding with small shells, raised and shipped at Swanage and Durlstone bay, to London, for flag pavement..... | 7 |
| 3. Stone not esteemed of any value, and black shiver in many beds..... | 60 |
| 4. <i>Freestone</i> , raised and shipped at Swanage and Durlstone bay, for London, in Purbeck squares..... | 5 |
| 5. Various beds of stone, in low estimation, and black shiver.. | 20 |
| 8. <i>New vein</i> , a bed of good and free working stone, raised and shipped at Durlstone bay for London | 5 |
| As the strata rise toward Tillywhim quarry, we there meet with | |
| 9. Many beds of stone in low estimation, and black shiver lying under the <i>New vein</i> . These the quarry men call Rag-stone, and they are in thickness about | 100 |