

precipices near the eastern extremity of the Isle of Wight, forming a promontory separating White-cliff bay on the north-east from Sandown bay on the south-west. In the former, the superstrata of the plastic clay and sands may be observed in a position perfectly vertical, forming low cliffs; immediately on the south of which, the chalky strata tower to a stupendous height, their inclination being about 70° ; rounding the cape towards the south, this inclination decreases to about 50° ; the direction of the dip is north-north-east: all the upper beds of chalk contain alternating strata of flinty nodules, occasionally exhibiting that singular shivered texture described below; * the lower strata, as seen in Sandown bay, are destitute of flints, and the lowest consist of a yellowish white marle or argillaceous chalk; this rests on the green sand formation.

The southern extremity of the Isle of Wight, from Dunnose to St. Catharine's, exhibits a lofty range of downs, separated from the highly-inclined central ridge by a broad valley, and presenting an horizontal stratification. The upper region of these hills consists of chalk and chalk-marle, the central of the green sand, and the lower of the iron sand hereafter to be described; but on the side towards the coast, the inferior strata are concealed by vast masses of the superior, which have subsided in that direction, and form as it were a talus in front of them, constituting that most picturesque district so well known by the name of the Undercliff, which well describes its position; for a fracture which runs through the upper strata of

* All the flints, except those detached nodules in the body of the strata, are universally found in a most extraordinary state; they are broken in every direction into pieces of every size, from three inches diameter down to an absolutely impalpable powder. The flints thus shivered, as if by a blow of inconceivable force, retain their complete form and position in their bed. The chalk closely invests them on every side, and till removed, nothing different from other flints can be perceived, excepting fine lines indicating the fracture, as in a broken glass; but when moved they fall at once to pieces. The fragments are all as sharp as possible, and quite irregular, being certainly not the effect of any peculiar crystallization or internal arrangements of the materials, but merely of external violence. This new and most extraordinary appearance was first observed in a small pit on the Shorewell road, just beyond the parting of the road to Yarmouth, but no opportunity was afterward omitted of examining both the cliffs and the pits in many parts of the whole range, and the appearances were every where nearly similar, differing only in the circumstance that in some places the flint seemed to have been more generally and completely shattered than in others. It may not be improper to mention the places where these phenomena were the most particularly investigated, as they may guide others in their researches, beginning at the eastern point, and proceeding westward; 1. Whitecliff bay; 2. Brading shute; 3. Pit on Brading down; 4. Hollow road at Knighton; 5. Arreton pit; 6. Pit above Shide bridge; 7. Pit just out of Carisbrook town; 8. Pit south of Carisbrook castle; 9. Freshwater cliffs; 10. Cliffs in Alum bay. (W. p. 20.)