

250 or 300 feet in thickness, upon the original crag, which rests *in situ* at their base."—No. 4. (new series) p. 226. The fossils in the crag are not mineralized; many of them appear to belong to species living in the present seas. The general characters of the crag are ably given by Mr. Taylor. "A district bordering a hundred miles upon our eastern coast, is occupied by an ancient marine deposit, continually changing its aspect, yet constant in its peculiar characters, and always to be understood by unerring data: now appearing as a ferruginous sandstone, then a compact clay, and again considerably indurated; sometimes blended in a mass of extinct zoophytes, sponges and alcyonites, forming a soft rock; oftener an irregularly accumulated mass of decomposed and broken littoral shells, loosely imbedded in sand like an ordinary sea-beach, yet accompanied with the remains of unknown animals;—sometimes forming the substratum of a considerable area; or, overwhelmed beneath the debris of older strata, only detected at intervals;—at one point exhibiting groups of shell fish allied to those of the neighbouring sea; and at another, composed of numerous genera, which are neither to be recognized living in any part of our globe, nor assimilating to the fossil shells of other formations."—*Phil. Mag.* page 350.

Mr. Taylor, in his account of the Norfolk crag, appears to associate with it the beds which Mr. Woodward describes as diluvium; hence he gives a greater extent to the crag formation than Mr. Woodward. The latter gentleman states, as a well ascertained fact, that the tooth of a mastodon was obtained from the crag stratum at Whitlingham near Norwich; and he has also a fragment of a tooth of a mastodon, which he took out of the crag at Bramerton. These are the only instances at present known, of the remains of this animal being found in any part of Great Britain. Teeth of the fossil elephant or mammoth are very common. A similar formation to crag is said to be discovered on the French coast between Calais and Cape Blanc Nez: also in the neighbourhood of Tangres near Antwerp, and in other parts of the Netherlands.

Mr. Mantell pointed out to me, when at Brighton, that the cliffs there are composed of sand and chalk-flints not worn by attrition, and that they rest on an ancient sea beach, with rolled shingles: in some of their characters, there is a great similarity to the Norfolk crag. The sand is in some parts cemented into hard masses of sandstone, and teeth of the elephant and the horse are found in the cliffs, indicating the high antiquity of this deposition. It has been formed in the valleys or depressions in the chalk, but it is not very easy to explain, how the chalk flints were collected in such masses, and deposited without having been subjected to attrition. It is probable that future discoveries may make it necessary to place the crag, the Bagshot sands, and the conglomerate in the cliffs of Brighton and other parts of the English coast, among the upper tertiary strata, which will be described in the following chapter.