

CHAPTER V.

PLASTIC CLAY FORMATION.

Section I. *General view of the Plastic Clay.*

(a) *Chemical and external characters.* Viewing it on the great scale, we may consider this formation as composed of an *indefinite number of sand, clay, and pebble beds, irregularly alternating.* Of these, the sands form in England the most extensive deposition; *in which* the clay and pebbles are interposed subordinately, and at irregular intervals. An attentive examination of the general points of resemblance in the substance of the clays, sands, and pebbles, forming these irregular alternations above the chalk, leaves no doubt as to their being members of *one great series of nearly contemporaneous depositions*, intermediate between the chalk and the London clay. (G. T. vol. iv. p. 209.)

This formation was named in conformity with the term by which an analagous deposite has been designated by M. M. Cuvier and Brongniart, who discovered it overlying the chalk in the basin of Paris. For some remarks on the analogy between the Plastic clay formations of England and France, the reader is referred to a communication by Mr. Webster on the strata lying over the chalk in the second volume of the Transactions of the Geological Society (p. 200 & seq.), from which however, it may be advantageous here to insert the following quotation. ‘The Plastic clay of the Paris basin is described as sometimes consisting of two beds separated by a bed of sand. The lower bed is properly the plastic clay. It is unctuous, tenacious, contains some siliceous but no calcareous matter, and is absolutely refractory in the fire when it has not too great a portion of iron. It varies much in colour, being very white, grey, yellow, grey mixed with red, and almost pure red. This clay is employed, according to its quality, in making coarse and fine pottery and porcelain. The French sands are of great variety of colours. A species of imperfect coal occurs in the lower strata of the Paris basin.’

It is noticed above that this formation consists in England primarily of beds of sands, clays, and pebbles. The sands are of an almost infinite variety of colours, at Alum Bay on the coast of the Isle of Wight; but the sand appears to pass into