

number of species which can be completely identified with recent analogues, point out the greater antiquity of this, than of the preceding formation; and the circumstance of its having been thrown into a vertical position in the Isle of Wight, by convulsions which must have taken place previously to the deposition of the upper beds which repose horizontally against its truncated edges, proves that a sufficient interval at least to allow of its assuming a considerable degree of consistency must have elapsed, before these newer strata were accumulated upon it. (C.)

Its name is derived from its forming the general substratum of London and its vicinity, occurring immediately beneath the vegetable soil, excepting when occasional deposits of alluvial on diluvial, gravel, sand, &c. intervene.*

Section II.

(a) *Chemical and external characters.* This formation consists chiefly and sometimes wholly of bluish or blackish clay, which is mostly very tough. Its chemical and external characters are however subject to some partial and local variations, though these never appear to be very considerable. Some of its strata, for instance, occasionally partake of the nature of marle, since they effervesce when exposed to the action of an acid,

* Perhaps another exception (C), but it is a solitary one, may be thought to be indicated by the following curious section preserved in Sir C. Wren's Parentalia (p. 285), and obtained in preparing the foundation of the present Cathedral of St. Paul's in London.

The surveyor observed that the foundations of the old church stood upon a layer of very close hard pot earth, which he therefore judged firm enough to support the new building; and on digging wells in several parts he found this pot earth to be about six feet thick or more on the north side of the church-yard, but thinner and thinner towards the south, till it was scarce four feet upon the declivity of the hill. Below this he found nothing but dry sand, mixed sometimes unequally, but loose, so that it would run through the fingers. He went on till he came to water and sand mixed with periwinkles and other sea-shells: these were about the level of low water mark. He continued boring till he came to natural hard clay.

The upper stratum of pot earth had been used as a Roman pottery near the north-east angle of the present church, where they found urns, sacrificing vessels, and other pottery in great abundance, and were interrupted in digging the foundation of the north-east angle of the church, by the quarry from which the pot earth had been extracted: the subjacent sand and gravel beds being considered too loose to support the weight of the intended building, it was thought necessary to secure this part of the foundation by erecting it upon an arch. The outer, or north-east pier of this arch stands in the old clay pit, in a shaft sunk to receive it more than 40 feet below the stratum of pot earth that had been removed, and descending through the beds of sand and gravel above mentioned, to the subjacent stratum of hard clay. (G. T. vol. iv. p. 288).