

*orum*. Interstratified with the Weald Clay there are a few thin bands sparingly charged with the remains of marine shells.

Enough has now been said to prove the fresh-water and estuarine character of the Purbeck and Wealden beds, and also, considering the broad spread of these formations in England, that they must have been deposited near and at the mouth of a large river. But to estimate the possible dimensions of this Delta we must go further afield.

It has been customary to estimate the area occupied by these deposits by measuring their length from west to east, between the Vale of Wardour and the Boulonnais in France, and from north-west to south-east, from Hampshire to Vassy, or in some cases taking a shorter diameter to Beauvais, and the respective diameters given of these lines are in the first case 320 miles and in the second 200 miles.<sup>1</sup> Even if these measurements were correct, which they are not, this method seems to me to be erroneous, for the measured diameters run too much in the same direction, whereas, as much as possible, they ought to be measured at right angles to each other. The real measurement from west to east, between the Vale of Wardour and the Boulonnais, is about 200 miles, and a line drawn nearly at right angles to this, between the south side of the Isle of Wight, where the Weald Clay occurs, and Quainton, in Buckinghamshire, where we find the most northerly outlier of the Purbeck beds, is about 100 miles in length. This would give an area for the Delta of about 20,000 square miles.

Rigidly to adhere to this measurement, as an accurate account of the size of the ancient Delta, would,

<sup>1</sup> See Lyell's 'Student's Elements of Geology,' p. 304, second edition.