

formation; a fact decisive of the different character of the latter beds. With respect to the bones of the Plesiosaurus and the Megalosaurus, found in the Wealden beds, and also in the strata below the Wealden, we know not whether the nature of these animals might not fit them for living both in salt and fresh water; it is also probable, that the few scattered vertebræ found in the Wealden, may have been transported by currents or inundations from more ancient rocks. In the same manner, the occurrence of a few individual marine shells, in a series of freshwater beds, may be satisfactorily explained.

It may be proper to call the attention of the reader to what has been before stated, respecting the submersion of the coal strata, and their being covered with marine formations, and again elevated; see Chapter VIII. The circumstances that attended the elevation and depression of the coal strata, appear to have been similar to what took place at a subsequent period in the Sussex beds or Wealden: other instances of similar submergence might be given, were it necessary.

While this part of the work was passing through the press, the author received a copy of a Geological Sketch of the Vicinity of Hastings, by William Henry Fitton, M.D. F.R.S. &c. It gives a brief, but very clear description of the Wealden formation, the extent of which Dr. Fitton has taken great pains to discover. According to this statement, the Wealden gradually becomes thinner near its limits in Dorsetshire, and the interior of England. It disappears westward, somewhere about Durdle Cove, on the Dorsetshire coast. The existence of the Purbeck beds in the vale of Wardour has long been known; in that place Dr. F. has detected also some traces of sands, corresponding to those of Hastings. "Slaty limestone, like that which occurs in the upper part of the Isle of Portland, is found above the equivalent of the Portland stone at Brill and Whitchurch, west of Aylesbury, in Buckinghamshire, and on the coast of the Boulonnois, in France. But besides these places, Beauvais, in the interior of France, is the only other locality in which any members of the Wealden have yet been shown, on good evidence to exist."

The position of the extreme points of this formation from west to east, or from Lulworth Cove to the boundary of the lower Boulonnois, is about 200 English miles N. W to S. E., or from Whitchurch to Beauvais, about 220 miles: the depth or total thickness, where greatest, being about 2000 feet.* Dr. Fitton remarks, that this is a wide diffusion of the strata, if they were the product of an estuary, but by no means greater than that of many of the actual deposits, in some of the larger rivers on the present surface of the globe. Dr. Fitton cites the Deltas of the Ganges, the Mississippi, and the Quorra or Niger in Africa, as presenting an extent of surface nearly equal

* In the section it is stated at 1000 feet.