

quite unfounded, geographical provinces having evidently existed in the oldest as in the most modern times.*

Whether the Silurian rocks are of deep-water origin.—The grounds relied upon by Professor E. Forbes for inferring that the larger part of the Silurian Fauna is indicative of a sea more than 70 fathoms deep, are the following: first, the small size of the greater number of conchifera; secondly, the paucity of pectinibranchiata (or spiral univalves); thirdly, the great number of floaters, such as *Bellerophon*, *Orthoceras*, &c.; fourthly, the abundance of orthidiform brachiopoda; fifthly, the absence or great rarity of fossil fish.

It is doubtless true that some living *Terebratulæ*, on the coast of Australia, inhabit shallow water; but all the known species, allied in form to the extinct *Orthis*, inhabit the depths of the sea. It should also be remarked that Mr. Forbes, in advocating these views, was well aware of the existence of shores, bounding the Silurian sea in Shropshire, and of the occurrence of littoral species of this early date in the northern hemisphere. Such facts are not inconsistent with his theory; for he has shown, in another work, how, on the coast of Lycia, deep-sea strata are at present forming in the Mediterranean, in the vicinity of high and steep land.

Had we discovered the ancient delta of some large Silurian river, we should doubtless have known more of the shallow-water, brackish-water, and fluviatile animals, and of the terrestrial flora of the period under consideration. To assume that there were no such deltas in the Silurian world, would be almost as gratuitous an hypothesis, as for the inhabitants of the coral islands of the Pacific to indulge in a similar generalization respecting the actual condition of the globe.

CAMBRIAN GROUP.

Upper Cambrian.—We have next to consider the fossiliferous strata that occupy a lower position than the "Llandeilo beds," which last form, as we have seen, the Lower division of the great Silurian series, as originally defined by Sir R. Murchison. In the Appendix to his important work before cited,† Sir Roderick has given, on the authority of Mr. Salter, a list of no less than 96 species of fossils (of which specimens have been examined either by himself or Professor McCoy), all common to the Upper and Lower Silurian strata, or, in other words, which, being found either in the Ludlow or Wenlock beds, are also met with in the Llandeilo formation. The range upwards of so many species from the inferior to the superior group shows that, independently of the link supplied by the Caradoc or Middle Silurian, there is such a connection between the two principal divisions, as makes it natural to assign the whole to one great period. To attempt, therefore, to give a new name to the Llandeilo beds, or to call them *Cambrian*, as has been recently proposed by some geologists, would be to act in violation of the ordinary rules of classifica-

* E. Forbes, Anniv. Address, 1854, Quart. Journ. Geol. Soc. vol. x. p. 38.

† Siluria, p. 485.