

the Fresh-water formations of the Isle of Wight,* with some observations on the strata over the chalk in the south-east part of England,' by Thomas Webster, Sec. G.S. inserted in the second volume of its Transactions; from which the following information is chiefly extracted.

Headon hill (see Section, pl. 2, fig. 6), as has already been mentioned in treating of the Upper Marine formation of the Isle of Wight, is situated on the northwestern coast of that Isle, and a natural section of this hill, effected at some remote period by the action of the sea, has laid open to us the extraordinary circumstances of its formation, shewing that it consists of alternate deposits by salt and fresh water, the evidence of which rests upon the decided characters of the shells they

* *Note by the Rev. W. D. Conybeare.* The occurrence of distinctly marked fresh-water formations in England, may, generally speaking, be considered as confined to the part of the Isle of Wight described in this article; there are however some apparent indications in two or three other places in England of a Fresh-water formation above the chalk: but it may be doubted whether the circumstances are such as to warrant such a conclusion, the phenomena observed in these instances being generally rather an occasional intermixture of a few fresh-water shells in the midst of marine formation, than the occurrence of strata decidedly distinct, and containing remains of the former class only: such an intermixture has occasionally been traced in the following places, and may be accounted for on the supposition of dead shells carried down the æstuaries of rivers, and there mingled with those of the sea.

The cliffs on the south of Harwich, in Essex, consist of red loam, fresh-water shells and crag, resting on the London clay (G. Map) On the same authority, it may be quoted that fresh-water shells occur on or near the cliff of London clay, east of Southend on the coast of the same county.

Among the pyritous casts of shells at Sheppey, Mr. Webster found one resembling the *lymneus*, and another the *planorbis*, but too imperfect to decide the species. Mr. Brande mentions also these fresh-water shells from the same place, the *lymneus*, *melania* and *nerita*. These shells however, observes Mr. Webster, which are very few in number, do not prove the existence of a fresh-water formation in this place similar to those of the basins of Paris and of the Isle of Wight; for, being found among the remains of vegetable and marine animals, we may suppose these fresh-water shells were carried down together with the branches of trees and fruits by the numerous streams and rivers that must have flowed into this gulph.

It might be most naturally expected that we should find on the coast of Hampshire opposite to the Isle of Wight, traces of the same formations which assume characters of so much importance in the Isle of Wight itself; and we certainly do discover many fresh-water shells on this side in the Harwich cliffs, but still they appear only to be casually intermixed: here however, if any where, the research for distinct fresh-water strata might be undertaken with some prospect of success, and the whole line of cliff on this side of Hampshire certainly deserves a more careful examination than it has yet received.

We should be careful not to confound with these fresh-water strata, which from their alternation with the regular marine formations clearly belong to a period anterior to that in which our continents finally passed into their