

water origin, about fifty feet above the sea-level, from which the flint weapons must have been derived. Such old alluvial deposits now capping the cliffs of Kent seem to have been the river-beds of tributaries of the Thames before the sea encroached to its present position and widened its estuary. On following up one of these fresh-water deposits westward of the Reculvers, Mr. Prestwich found in it, at Chislet, near Grove Ferry, the *Cyrena fluminalis* among other shells.

The changes which have taken place in the physical geography of this part of England during, or since, the post-pliocene period, have consisted partly of such encroachments of the sea on the coast as are now going on, and partly of a general subsidence of the land. Among the signs of the latter movement may be mentioned a fresh-water formation at Faversham, below the level of the sea. The gravel there contains exclusively land and fluviatile shells, of the same species as those of other localities of the post-pliocene alluvium before mentioned, and must have been formed when the river was at a higher level and when it extended farther east. At that era it was probably a tributary of the Rhine, as represented by Mr. Trimmer in his ideal restoration of the geography of the olden time.* For England was then united to the continent, and what is now the German Ocean was land. It is well known that in many places, especially near the coast of Holland, elephants' tusks and other bones are often dredged up from the bed of that shallow sea, and the reader will see in the map given in Chap. XIII. how vast would be the conversion of sea into land by an upheaval of 600 feet. Vertical movements of much less than half that amount would account for the annexation of England to the continent, and the extension of the Thames and its valley far to the north-east, and the flowing of rivers from the easternmost parts of

* Quarterly Geological Journal, vol. ix. pl. 13, No. 4.