

tend to raise their own beds, and the embankments, rising with them for the protection of the marshes, exhibit in the Po and the numerous rivers of Holland, and the English fens, the singular spectacle of vast volumes of water, flowing on levels many feet or yards above the cultivated fields, and even higher than the houses, which are often placed below the shelter of the dangerous bank. Hardly any thing can be imagined more awful than the bursting of river banks in the fen lands of Norfolk, Cambridgeshire, and Lincolnshire.

### *Estuary and Shore Deposits.*

Rivers which discharge themselves into the ocean, where tides and currents break with a certain regularity the quiet of its waters, exhibit always at their mouths, and often along the lower part of their channels, another set of phenomena.

Where the tide enters a river's mouth, and periodically combats the freshes, these are "backed" to certain distances, their motion is nearly destroyed for a time, and the sediment, which was only suspended by the agitation of the water, is dropped in the interval of quiescence. The stronger the current from the land, the further toward the open sea are its sediments carried, so that in many cases large quantities pass beyond the estuaries and float away on the heavier salt water, even to hundreds of miles from the coast. (Vol. I. p. 316.)

It is easy to perceive that, by this process, every river connected with a tidal sea is continually repelling the salt water, and making new land by its fresh-water deposits. Thus it happens that many towns to which the tide formerly reached, in the days of Roman sway, as Ribchester, Norwich, York, are now wholly or partially deserted by it, and large breadths of marsh land occupy the sites of ancient tide lakes. It is, however, true, that the tide waters themselves have contributed some part of the sediment which forms the wide marsh lands by the Thames and the Medway, the enormous breadths