

To explain this section we must suppose that, after the excavation of the cliff *A*, the beach of sand and shingle *b* was formed by the long-continued action of the sea. The presence of *Littorina littorea* and other recent littoral shells determines the modern date of the accumulation. The overlying beds are composed of such calcareous rubble and flints, rudely stratified, as are often conspicuous in parts of the Norfolk coast, where they are associated with glacial drift, and were probably of contemporaneous origin. Similar flints and chalk-rubble have been recently traced by Sir Roderick Murchison to Folkestone and along the face of the cliffs at Dover, where the teeth of the fossil elephant have been detected.

Mr. Prestwich also has shown that at Sangatte, near Calais, on the coast exactly opposite Dover, a similar waterworn beach, with an incumbent mass of angular flint-breccia, is visible. I have myself visited this spot and found the deposit strictly analogous to that of Brighton. The fundamental ancient beach has been uplifted more than 10 feet above its original level. The flint-pebbles in it have evidently been rounded at the base of an ancient chalk-cliff, the course of which can still be traced inland, nearly parallel with the present shore, but with a space intervening between them of about one-third of a mile in its greatest breadth. This space is occupied by a terrace, 100 feet in its greatest height, the component materials of which are too varied and complex to be described here. They are such as might, I conceive, have been heaped up above the sea-level in the delta of a river draining a region of white chalk. The delta may perhaps have been slowly subsiding while the strata accumulated. Some of the beds of chalk-rubble with broken flints appear to have had channels cut in them before the uppermost deposit of sand and loam was thrown down. The angularity of the flints, as Mr. Prestwich has suggested, may be owing to their having been previously shattered when in the body of the chalk itself; for we often see flints so fractured *in situ* in the chalk, especially when the latter has been much disturbed. The presence also in this Sangatte drift of large fragments of angular white chalk, some of them two feet in diameter, should be mentioned. They are confusedly mixed with smaller gravel and fine mud, for the most part devoid of stratification, and yet often too far from the old cliffs to have been a talus. I therefore suspect that the waters of the river and its tributaries were occasionally frozen over, and that during floods the carrying power of ice co-operated with that of water to transport fragile rocks and angular flints, leaving them unsorted when the ice melted, or not arranged according to size and weight as in deposits stratified by moving water. A climate like that now prevailing on the borders of the Baltic or in Canada might produce such effects long after the intense cold of the glacial epoch had passed away. The abundance of mammalia in countries where rivers are liable to be annually encumbered with ice, is a fact with which we are familiar in the northern hemisphere, and the frequency of fossil remains of quadrupeds in formations of glacial origin ought not to excite surprise. As to the angularity