

portion of the Downs to the height of 600 feet, that is if the pebbles found on the crest of Cisbury are what they appear to be, of Tertiary origin. He considered there was no evidence from surface indications that the northern portion of the Downs has ever been submerged since its upheaval. Historical documents, submerged forests along the whole coast-line, and the shallowness of the sea-bottom afford evidence that the sea has greatly encroached upon the land at this part of the coast. The site of Old Brighton was stated to be seaward between East and West Streets, and not, as Lyell states, where the Chain Pier now stands. The coast-line at the period when the Brighton valley was an estuary of the sea and a river was very different from what it is now. The "Level" was then covered with water, and waves dashed up beyond the site of St. Peter's Church, as proved by pebbles like those on the present beach being there found in sewer excavations.

The geological formations at Brighton were stated to be six, viz. Silt in the valley, Brick-earth of Hove, the Elephant-bed, Temple Field deposit, Plastic Clay of Furze Hill, and the Upper Chalk. The present paper embraced the author's observations of the first three. In the lower portion of the Silt and the Coombe-rock beneath it are imbedded immense numbers of water-rolled sandstones similar to the Sarsen stones distributed over the surface of the Downs, but whether of Wealden or Tertiary origin is unknown. The Brick-earth is a later formation than the Elephant-bed, upon which it everywhere rests; though the organic remains found in it are the same, viz. remains of the elephant, horse, red-deer, whale, and shells of an arctic type. If, as Mr. Godwin-Austen tells us, Brick-earth is the "wash of a terrestrial surface," how are we to account for the marine remains imbedded in it? The pebbles of Palæozoic rocks found in the old sea-beach underlying the Elephant-bed were stated to have come from France, when that country was united to this island, having travelled a beach once extending from Brighton to Calvados. This was supported by the observation of the author of how pebbles travel along coasts assisted by seaweed, whose roots are attached to them. In concluding his paper, Mr. Howell opposed the opinion formed by the Geological Section of the British Association during their visit to the Kemp Town section of the Elephant-bed, that this remarkable deposit was due to ice action, and considered the opinions of Webster, Mantell, and Lyell, corroborated by the fact that the materials composing the bed are all water-worn.

CORRESPONDENCE.

THE OLDEST KNOWN BRITISH TRIGONIA.

SIR,—The claim of *T. Lingonensis* to this title does not rest on the York specimen, but on several that have been found and recognized *in situ*. This is all the public can care to know; but as I identified the specimen in our Museum, you may allow me to add that it is not "an undoubted Inferior Oolite fossil." The Dogger of the Peak is very similar to the Eston Ironstone, in hand specimens; but any one familiar with both could easily distinguish them. Mr. Leckenby is probably not familiar with the latter—as there are few, if any, fossils from it in his magnificent Lias collection—unless he has them labelled from the Inferior Oolite. One is reminded of a remark long ago made by Williamson, that Yorkshire geology has suffered from the fossils being collected miscellaneously, and their horizon judged of by their matrix.

J. F. BLAKE.

CLEFTON, YORK, March 6th, 1873.