EXCURSION TO THE MAIDSTONE DISTRICT.

SATURDAY, JULY 10TH, 1886.

(In conjunction with the Maidstone and Mid-Kent Natural History and Philosophical Society.)

Director: Prof. BOULGER, F.L.S., F.G.S.*(Report by THE DIRECTOR.)*

Leaving Cannon Street at 9.48 a.m., a small contingent of the Association arrived at Maidstone Barracks Station at about a quarter to twelve, and proceeded at once to the Museum, in time to escape a shower, and were there met by some of the members of the Maidstone and Mid-Kent Natural History and Philosophical Society. Attention was first directed to the fine series of local fossils, including Mr. Bensted's collection of plant-remains from the Kentish Rag (Hythe Beds); many fish-remains, besides the usual echinoids, from the Chalk of Burham, especially teeth of *Ptychodus*, known locally as "fossil slugs"; and a large suite of tusks, molars, and various bones of the Mammoth (*Elephas primigenius*), and apparently also of *E. antiquus*, from the Medway gravel, at Aylesford. Some large blocks of Bethersden (*Paludina*) Marble, derived from the Weald clay, recently found in similar alluvial deposits, attracted much notice and caused some discussion as to modes of transport—river-floods in a pluvial period, ground-ice and surface-ice being suggested. A small restoration of *Iguanodon* by Waterhouse Hawkins was pointed out as differing considerably from the skeleta which the recent discoveries at Bernissart have enabled M. de Pauw to reconstruct at Brussels;* and Miss Harrison, of Maidstone, exhibited a unique specimen of *Trigonia Cassiopea* (?), both valves, from the Ragstone. The rude Palæolithic implements collected by Mr. Benjamin Harrison, at Ightham, belonging to the St. Acheul type, and others, Neolithic, Bronze Age, and Recent, were then inspected; the party then leaving the Museum for Allington. Passing through flourishing hop-fields and cherry-orchards rich in fruit, a walk of less than a mile brought us to the Allington Quarry, in the Ragstone, where the alternating layers of blue-hearted limestone and softer "hassock" (the latter preferred on account of its porosity for internal work) were well shown. An incipient "pipe," overlaid by horizontal beds of apparently

Vide p. 265, supra.

Folkestone or Sandgate age, furnished the Director with a text for a few remarks on the various views as to the determination of percolating carbonated water in particular directions. Pre-existing fractures have been suggested by Professors Prestwich and Morris; but, as there is often little or no indication of this, the greater or less thickness of an impermeable superincumbent layer, such as the "Bull-head bed" above the Chalk, may decide the absence or presence of these pipes. *Exogyra sinuata*, *Pecten orbicularis*, and a *Nautilus* (*N. elegans*?) were found in the Ragstone.

The party then proceeded to Allington Castle, where, in the rose-planted courtyard of the picturesque old moated fortress by the river, the Director sketched the history of the place from its traditionary beginnings under Ulnoth, son of Godwin, and the building of the Castle by Sir Stephen de Penchester in the ninth year of Edward I., to its occupation by Sir Henry Wyatt, the favourite of Henry VII., the birth here of Sir Thomas Wyatt, "the delight of the muses and of mankind," and the insurrection of his son against Queen Mary, which began at Maidstone, January 25th, 1554, ending tragically at Tower Hill, on April 11th, as described by the poet Laureate—whose poem "The Princess" was also, by the way, suggested in this neighbourhood, where he has been a frequent visitor, Threatenings of a storm hastened our departure from its erst portecullis-guarded gates, and hurried us over the picturesque lock, which now forms the usual limit of the tidal water of the Medway, which may, however, yet rise to Maidstone; but, though a heavy shower was commencing, we did not fail to notice the strongly-marked Folkestone Sand feature, extending from Sandlin to the lower river-terrace. After a satisfactory lunch at the "Bush" Inn, Aylesford, where the party numbered nearly thirty, the weather fortunately cleared, and, though a wagonette was at hand, it was not much used until the return from Blue-bell Hill. It was thought better, however, to leave the stiff clay of the Gault potteries out of the programme, and a visit was, therefore, next paid to the well-known Folkestone silver-sand and fossiliferous river-gravel pit, just east of Aylesford. Various mammalian bones were here speedily exhumed, and derived fragments of Wealden rocks noted in the frequently current-bedded gravels, pointing, as the Director explained, to the filling of the old Medway high-level lake,

behind the Chalk escarpment, from the present direction of the river, and negating the idea of a reversal of drainage, which had been propounded partly to explain the trumpet-shaped opening of the gorge at Snodland. Crossing the outcrop of the Gault, a leisurely ascent of the lower part of the Chalk escarpment was then made to "the Countless Stones," apparently a fallen cromlech of sarsen-stones, blocks of the same material having been frequently noticed by the roadside *en route*. After some little discussion as to the difficulty of raising such stones, the well-defined "Pilgrim's way" was crossed, and the weather-beaten cromlech Kits' Cotty House was reached. Taking his stand in front of this pre-historic monument, which has been recently protected by an iron fence, the Director touched on the more salient points in the geology and early archæology of the district. Calling attention first to Mr. Whitaker's recent paper 'On some Borings in Kent,'* he pointed out that they were about 25 miles north of the Sub-Wealden boring, and about seven miles south of the recent well-boring at Chatham, the results of which had so strikingly confirmed the views expressed by the President in his 'Memoir on the Geology of the Weald' as to the anticlinal of that district being largely exaggerated in appearance by the thinning out of beds to the north.† As Mr. Whitaker points out, about 3,400 feet of rock, from the Hythe series to the Corallian, present in the south is absent between the Sandgate beds and Oxford clay of the Chatham well. The Director, remarking on the misleading character of sections in which the vertical scale and consequently the angles of dip were considerably exaggerated, explained that though alike submerged beneath the Chalk sea, England south of the Thames seemed, during Jurassic and Neocomian times, to have been an area of continued subsidence and deposit, while the country to the north was an area of elevation. Passing on to the period of the denudation of the Weald, he next discussed the various agencies propounded, dwelling on the difference between sea-cliffs and lines of sub-aërial escarpment retreating slowly in the direction of dip; on the formation of temporary lakes behind escarpments, as at Yalding, Ightham and Otford, and Aylesford and Snodland; and on the settling down of the heavy and indestructible sarsen-

* 'Quart. Journ. Geol. Soc.,' Vol. xlii (1886), p. 26.

† Topley, 'Geology of the Weald,' p. 242.

stones on the removal of the softer Thanet (or, in a more western area, Bagshot) sands. With these same lakes and sarsens are associated the earliest dawns of human history in the district. Palæolithic man dropped his rudely chipped flints round the loamy shores of the Ightham lake, and to the Mongolian Neoliths, the fairy dwarfs of Keltic mythology, the makers of the finished arrow-heads and celts, often found in the surface soil thereabouts, were attributed such megalithic monuments as Kits' Cotty House and its congeners. In the graphic prose of the late J. R. Green :*

When the English chieftains gave their voice for war in 449, the inlet between Thanet and the mainland, traversable only at low water by a long and dangerous ford, and guarded at either mouth by the fortresses of Richborough and Reculver, stretched right across their path. . . . The guarded walls of Rochester probably forced them to turn southwards along the ridge of low hills which forms the bound of "the Medway" valley. Their march led them through a district full of memories of a past which had even then faded from the minds of men ; for hill and hill-slope were the necropolis of a vanished race, and scattered among the boulders that strewed the ground rose the cromlechs and huge barrows of the dead. One such mighty relic survives in the monument now called Kits' Cotty House, the close, as it seems, of a great sepulchral avenue which linked the graves around it with the grave-ground of Addington. The view of their first battle-field broke on the English warriors from a steep knoll on which the grey weather-beaten stones of this monument are reared, and a lane which still leads down from it through peaceful homesteads, guided them across the river-valley to a little village named Aylesford, which marked the ford across the Medway. The chronicle of the conquest tells nothing of the rush that must have carried the ford, or of the fight that went struggling up through the village. It tells only that Horsa fell in the moment of victory ; and the flint-heap of Horsted, which has long preserved his name, and was held in after time to mark his grave, is thus the earliest of those monuments of English valour of which Westminster is the last and noblest shrine.

The party then ascended the Chalk escarpment to the summit of Blue-bell Hill, where two pits have been opened in some enormous "pipes," containing "clay with flints ;" re-assorted, or let down, Thanet sand ; and large blocks of sarsen-stone. After some time had been spent in the examination of these sections, the carriages were re-joined half-way down the hill, and most of the Members returned to the "Bush" to tea, where they parted from the Maidstone party and took the train back to town from Aylesford.

* 'A short History of the English People,' pp. 8-9.