

## EXCURSION TO AYOT GREEN AND HATFIELD.

SATURDAY, MAY 26TH, 1906.

*Directors:* HORACE W. MONCKTON, F.L.S., TREAS.G.S., AND  
JOHN HOPKINSON, F.L.S., F.G.S.

*Excursion Secretary:* ARTHUR H. WILLIAMS.

(*Report by THE DIRECTORS.*)

A PARTY of 14 members and their friends arrived at Ayot station at 3.30, and proceeded to the brickfield near the station, north of the railway. Several pits in the brickfield are now open, showing a few good sections which were examined in descending order, or from newer to older deposits, the newer being to the east, near the high road (Hatfield to Welwyn). The general succession of the strata was seen to be as follows: Boulder Clay resting on Westleton Shingle on the highest ground only (406 ft.), at the eastern end of the brickfield; London Clay, with its basement-bed, in the eastern and central pits; Reading Beds in the central and western pits. The Chalk, on which these beds rest, is not exposed, but within half a mile to the south-east its junction with the sands of the Reading Beds may be seen in a shallow road-side cutting; and also in the railway-cutting about the same distance to the west.

The various pits, examined in detail, gave the following results:

In the first section, north-east end of the brickfield—

1. Boulder Clay. A little clay, with stones, not well exposed. It was very well seen on the visit of the Association in May, 1898.\*
2. Gravel of flint-pebbles, quartz-pebbles, blocks of quartz, subangular flints, etc. This gravel has been referred by Prestwich to the Westleton Shingle.

In the second section, a little south of the first—

2. Gravel as above.
3. London Clay. Tolerably stiff clay of a brown colour, and partly laminated; only about 6ft. seen, but 14 ft. said to have been exposed.
4. Basement-bed of the London Clay. Rather sandy brown clay, with a layer of black flint-pebbles at the bottom.

In the third section, a little west of the second—

4. The above-mentioned layer of pebbles close to the top of the section.

\* See *Geol. Mag.*, dec. 4, vol. vi, p. 60.

5. Reading Beds. Brown, yellow, and orange-coloured sand, much current-bedded in places, with a little iron sandstone in irregular layers. Near the top, in one place, about a foot of pale grey clay, and a few irregular layers of clay here and there.

In the fourth section, western end of the brickfield—

5. Sands of the Reading Beds as above, with some much lighter in colour, in places nearly white. Two thin layers of flint-pebbles about six feet apart in the sands.

A search for fossils in the basement bed of the London Clay was unsuccessful, but Mr. Hopkinson stated that he had found teeth of several species of shark in the bottom layer of sand and pebbles, and had placed them in the County Museum at St. Albans.\* The bottom bed of the Reading Series is not exposed; lower beds have, however, been worked, and in them a workman stated that he had found oyster-shells; nor is the Chalk exposed, but it cannot be at any great depth below the floor of the present workings, and the uneven bedding which was noticed in the Reading Beds, although partly due to current-bedding, is largely caused by irregular underground dissolution of the Chalk. This was most noticeable in the western pit.

Mr. Monckton gave a short account of the geological history of the district. With reference to the gravel on this and the neighbouring high ground, which Prestwich described as Westleton Shingle, he said that he agreed with him in thinking it to be distinct from the Glacial Gravel, and he thought that considerable earth-movement had taken place since its deposition, the preservation of this patch, and also of the patches on the neighbouring Eocene outliers, being probably due to the fact that the outliers lay on the line of a slight synclinal flexure. He doubted whether the gravel was marine, and thought it possible, as he said at Dawley,† that it might be the earliest gravel of the River Thames.

Mr. Hopkinson added a few words, stating that this outlier was one of several which extended in an almost straight line from beyond High Wycombe, on the south-west, to Albury, near Bishop's Stortford, on the north-east; parallel with the line of outcrop of the Reading Beds, with a few smaller and more distant outliers, and with inliers of these beds within the main mass of the London Clay, as at Pinner and Northaw; his inference being that the underlying Chalk had undergone a succession of slight folds in parallel lines in this direction. He estimated the thickness of the Reading Beds shown in these

\* Since this was written Mr. E. T. Newton has reported the occurrence of *O. iontaspis elegans*, *O. cuspidatus*, and *Lamna Vincenti*, and also of a Teleostean, *Phyllodus toliapicus*, specimens of which he obtained from a workman.

† *Proc. Geol. Assoc.*, vol. xviii, p. 412.

sections as 16 ft., but their total thickness was probably from 25 to 30 ft. The outlier, he said, extended from Ayot Green, which was wholly upon it, to Ayot St. Peter's Church on the north-west, and nearly to Digswell Church on the north-east, and covered an area of about two square miles.

Leaving the brickfield the party walked through Sherrards Park Wood and across the fields which at one time were the Woodhall Woods and are so marked on the original (1834) Ordnance Map, to a large gravel pit on the east side of the main line of the Great Northern Railway, near Woodhall Lodge Farm, the section in which has already been described in our PROCEEDINGS (vol. xv, p. 310). The gravel is of glacial origin, and the chief interest of the section lies in the occurrence of two beds of Boulder Clay, one in a thick bed of gravel, and the other at the surface of the ground, showing that whatever may have been the manner in which the Boulder Clay and gravel were deposited, they are very closely connected with one another. This large excavation is now being filled in with rubbish.

The party then walked to Hatfield, and on the way, just south of the River Lea, a disused brickfield was pointed out, from which Prestwich drew his section across the valley of the Lea to Ayot Green,\* but there was not time to visit it.

At Hatfield, tea was provided at the Salisbury Arms, after which, on the proposal of the President, a vote of thanks was accorded to the Directors. Hatfield Park was then visited by most of the party, by the kind permission of the Marquis of Salisbury. The Park was entered by the old gate near the church and left by the new gate opposite the railway station.

Though the weather was fine in the afternoon, but gloomy, rain had been falling all the morning and the roads were too dirty for cycling, accounting for the party not being a numerous one.

#### REFERENCES.

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 Ordnance Survey Map (New Series), Sheet 229.  
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\* *Quart. Journ. Geol. Soc.*, vol. xlv, p. 138.