Leaving Hyde Heath, the members now proceeded to Chesham, and after tea, returned to London by the eight p.m. train.

REFERENCES.

- Geological Survey Map, Sheet 7 (Drift Edition).
 1889, WHITAKER, W.—“The Geology of London.” *Mem. Geol. Survey*, vol. i, p. 289.
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EXCURSION TO ST. ALBANS.

SATURDAY, MAY 28TH, 1892.

Directors: JOHN HOPKINSON, F.L.S., F.G.S., Pres. Herts. Nat. Hist. Soc., and W. WHITAKER, B.A., F.R.S., F.G.S.

(*Report by MR. HOPKINSON.*)*

The chief object of this excursion was to enable the members of the Association to see a section of strata between St. Albans and Harpenden recently exposed by the widening of a cutting on the Midland Railway, and for this purpose permission had been obtained from the Railway Company for the party to walk along the line.

The members assembled at the Midland Station, St. Albans, and, after a walk of about half a mile to the north, came upon the newly-cut face of the cutting on the eastern side of the line. At this point, and once or twice afterwards in the course of the walk along the cutting, which extends for about a mile towards Harpenden, a halt was made, and Mr. Whitaker explained the interesting features of the section exposed.

The Chalk—the lowest rock here seen—was, he said, in places capped by a thin coating of sands belonging to the Reading Series, and this was covered with Drift beds. The bedding of the strata was seen to be very uneven, this being caused by the irregular dissolution of the Chalk, which in some places had been dissolved away to such an extent (by the percolation into it, through the overlying beds, of water holding carbonic acid in solution) that “pipes” were formed, and, as the Chalk was dis-

* Mr. Whitaker's remarks revised by him.

solved, the beds above fell in, or gradually sank, in a very irregular manner, so as to take, in section, the form of great waves, their hollows often going below the deep cutting, and their crests, and even the Chalk on which they rest, sometimes rising nearly to the top. Many of these waves, however, were of irregular shape, being much steeper on one side than on the other, even to verticality. The Tertiary beds formed part of an outlier of which more would be seen presently, and with regard to the Drift beds he could only say that they were like beds which elsewhere had been classed as belonging to the Glacial Drift.

The line was left at the point where it intersects Beech Bottom, and this shady glen was traversed as far as the road known as Soot House Lane. Here Mr. Hopkinson remarked that much less was known about this cutting than about the railway cutting on which Mr. Whitaker had discoursed. It was an earthwork of early British origin, extending here for rather more than a mile in a nearly straight (but slightly sinuous) line, but the portion still preserved was probably only a small part of the original earthwork. The earth had been thrown up on both sides of the trench, and the Chalk had been excavated nearly down to the present plane of permanent saturation, so that at one time, when this plane was higher than it is now, water must have stood permanently in the fosse. There is now water in it only after very wet seasons, except in one or two ponds, and these are sometimes nearly dry. It was suggested that the work might be of the nature of a tribal boundary rather than of a defensive kind.

The brickyards near Bernard's Heath were then visited, and sections of the Tertiary outlier (Reading Beds) and overlying Brick Earth, etc., were inspected. After crossing the heath, which has been extensively dug for gravel, the gravel-pits on Townsend Farm were entered. These pits are of interest chiefly as being one of the few spots where the Hertfordshire conglomerate can be seen apparently in place. The bed was not very well exposed, the section having been in a much better condition six months ago; but the conglomerate was traced for about twenty feet in one direction and five feet in another at right angles. The puddingstone, Mr. Whitaker said, was made up of flint-pebbles in a siliceous paste, the flints being a little harder than the matrix, and that was probably the reason why the ancient Britons used this material for their querns or grinding-mills. Its geological position is low in the Reading Beds.

From the pits the members and their friends proceeded by way of Bernard's Heath and St. Peter's Church to The Grange, where they were entertained by Mr. and Mrs. Hopkinson. After tea, which was partaken of in the grounds, collections of fossils were examined in the library, comprising Cretaceous and Eocene fossils collected by Mr. Hopkinson, and fossils collected by Dr. Morison from the Chalk Rock of the Chiltern Green cutting on

the Midland Railway, a list of which is given in his paper noted below.

The party included members of the Hertfordshire Natural History Society and numbered upwards of sixty.

REFERENCES.

Geological Survey Map, Sheets 7 (Drift Edition) and 46 S.E.

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