EXCURSION TO DIGSWELL AND COLE GREEN, HERTFORDSHIRE.

SATURDAY, APRIL 17TH, 1920.

REPORT BY R. L. SHERLOCK, D.Sc., A.R.C.S., F.G.S., *Director
of the Excursion.*

A PARTY of twenty-one travelled from King's Cross and assembled at Welwyn Station at 2.30 p.m.

The Fluvio-glacial Gravel that fills the valley of the River Mimran (or Maran) has its upper margin at Welwyn Station, where the Chalk emerges from beneath it at an elevation of just under 300 feet above Ordnance Datum. A small pit opposite the Station entrance shows four to five feet of chalky boulder-clay in the gravel, but there was not time to visit the pit. Passing down hill to the valley bottom, it was pointed out that the railway-viaduct foundations proved chalk at 35½ feet below the surface on the south side of the river, and were still in gravel at 38½ feet on the north side. Hence the present river is post-glacial at this place. Nevertheless there was a pre-glacial channel in much the same situation as the modern river.

At Tewinwater the lobe of Drift that fills the Mimran valley merges into the three-mile wide sheet of Glacial deposits that, resting on chalk and banked against the Tertiary escarpment, thin out northwards as the dip-slope of the Chalk brings up the latter formation to the surface.

Proceeding along the high road, the river was crossed at Tewinbury, and a pit situated about 200 yards south of St. Peter's Church was visited. The section shows about 13 feet of sand and gravel, finer and better-bedded below. The stones are, as usual, mainly flints. The more interesting rocks are large sub-angular flints, large pebbles of sandstone most probably derived from the Bunter, and undoubted "Bunter quartzites." A pebble of granite-porphry may prove to be of Scandinavian origin.

The valley was re-crossed and a large pit on the south side was next visited. The pit adjoins a farm called on the Old Series map, Tewingate, and on the New Series, Warrengate. The lower part of the pit showed, originally, about 22 ft. of chalk, but this is now largely obscured by downwash. Above the Chalk is about 28 feet of gravel similar to that in the pit just mentioned.

A by-road leads from Warrengate to the gravel plateau which extends to beyond Cole Green. The base of the gravel at Warrengate is 200 feet above Ordnance Datum, and the plateau level is from 230 to 250 feet, but as the gravel probably fills up pre-

glacial hollows, its thickness, though great, is uncertain. At Cole Green the gravel gives place to boulder-clay, but there is no change of level at the junction, and the clay is probably quite thin.

Tea was taken at the Cowper Arms, and afterwards the party was permitted to walk along the railway to a large pit over half-a-mile west of Cole Green Station, and near Birchall Farm. Here there is a good section of about 20 feet of sand with strings of gravel, and overlain at the east end by chalky boulder-clay, which reaches about 10 feet at maximum. The manner in which the clay thins out to a feather edge, causing no change of level at the surface, is well seen. It is said that the sand has been dug to a depth of 30 feet, when water was reached, but not the base of the sand. At the east end of the pit a lower boulder-clay is said to have been touched. Although, when both are present, boulder-clay overlies the gravel as a rule, lenticular masses also occur in the midst of it, and it is one of these lenticles that underlies the sand in the pit.

The party walked back along the railway to the station and reached King's Cross at 8.15 p.m.

Miss E. Pearse acted as Excursion Secretary.

REFERENCES.

- Geological Survey Map, Old Series, 46 S.E.
Ordnance Survey Map, New Series, 239.
1868. HUGHES, T. McK.—"On the Two Plains of Hertfordshire and their Gravels." Q.J.G.S., xxiv., pp. 283-287.