

## EXCURSION TO THE CROYDON BOURNE.

SATURDAY, MARCH 12TH, 1910.

*Director* : W. WHITAKER, F.R.S., F.G.S.*Excursion Secretary* : A. C. YOUNG.*(Report by THE DIRECTOR.)*

THIS was an extra excursion, not in the official programme, but announced only at the evening-meeting of Friday, March 4th, and at the Excursion to Loughton. There was no other day available for it, all later Saturdays being occupied for months, to a date indeed by which the Bourne would have ceased to flow.

Nevertheless, and although the day was of an unpromising character as regards weather, there was a good attendance, some thirty-seven, including several people from Croydon.

The starting point was Kenley Station, where the Director gave a general account of the intermittent streams, known as bournes, gypseys, lavants, etc. These outbursts of water in what are usually dry valleys follow seasons of high rainfall. The result of the excess of rain, in a Chalk district such as that to the south of Croydon, is to add largely to the contents of the underground reservoir of the Chalk, and so to cause the water-table, or plane of saturation, to rise, until at length it comes to the surface in certain places, when, of course, the water flows out as a spring, the water from which forms a stream down the valley.

The bourne-channel was crossed near the station, and was seen to contain a good stream of water, flowing briskly down the valley. This was followed upward, passing the East Surrey Waterworks, where the stream is in a covered channel. Just above, at Garston House, the party took to the fields, and walked up alongside the open watercourse for about half a mile. Here there was a strong flow of water, estimated at  $1\frac{1}{2}$  million gallons per day, up to a little below the grounds of the "Rose and Crown," where the Bourne first rises.

Above this, however, the flow quickly lessened, and after a few chains came to an end, or, more strictly, had its beginning.

The Director had seen, on his way to join the party, that the water was flowing through Purley to just below the church. On Saturday, April 2nd, in going to the Worms Heath Excursion, it was seen from the railway that the Bourne had increased, rising some way above the "Rose and Crown," so that a pond was formed surrounding the large gas-holder in the bottom of the valley, as during the larger outflow of 1904. (See *Proc. Geol. Assoc.*, vol. xviii, p. 388.)

After a vote of thanks by the President the party dispersed, some going with Mr. B. Latham to measure the rise of level in the well at Bughill Farm, by which the outflow of the Bourne is always foretold.