EXCURSION TO CRAYFORD AND ERITH.

MAY 9TH, 1903.

Directors: W. WHITAKER, F.R.S., and A. E. SALTER,
B.Sc., F.G.S.

(*Report by Mr. SALTER.*)

THE party arrived at Crayford at 2.27 p.m., and at once proceeded to view the sections exposed on the south side of the railway near Wansunt Farm.

The chalk and Thanet sand were well seen in some old pits, but the chief feature observed was the extensive and thick sheet of gravel, etc., now being worked on the edge of Dartford Heath. Here a clear section 54ft. deep was exposed, showing two beds of gravel with false bedded sands and gravel lying between them.

It was pointed out that the constituents of this gravel were mainly flint in various forms, derived from Cretaceous and Tertiary beds or older drift deposits.

Lower Greensand chert was present, and also many quartzites, etc., derived from older drifts on the north side of the Thames Valley.

In many respects the composition of the gravel is similar to that found at Coombe Warren, near Kingston Hill and Wimbledon Common, at about 180ft. O.D. The means whereby such an accumulation of gravel had taken place in the lower part of the Thames Basin at a height which is well above the 100 feet contour line led to an interesting discussion, in which Mr. Salter stated that he was of the opinion that it might have been brought about by an accentuation of the syncline of the London Basin in this district, caused by earth movements acting along old lines of flexure.

Neither here nor at Coombe Warren have Palæolithic implements been recorded, but Mr. F. G. Spurrell has obtained rolled specimens of *Gryphæa* from the same sheet of gravel.

After passing through Crayford, the old pit from which so many remains of extinct mammalia, Pleistocene shells and Palæolithic implements had been obtained, was pointed out, and the manner in which the Pleistocene deposits are banked against a cliff of chalk shown.

To the right of the road to Erith an interesting pit in brick-earth was examined, in which the top four or five feet showed some curious contortions which had excited much interest when the Belgian geologists visited this district some years ago.

These have been ascribed to ice action, but Mr. Salter pointed out that, since the much higher and very probably much older gravels seen earlier in the afternoon contained

débris from drift beds on the north side of the Thames Valley, this was open to question, and suggested that the phenomena were brought about by conditions which led to the formation of an incipient sludge stream at this point. In some of the contortions the upper surface gravel, etc., were included.

Another pit on the left of the road was visited, and the banking up of the brick-earth against the chalk and Thanet sand plainly seen.

The President proposed a vote of thanks to the directors, and tea at the Wheatley Hotel brought an interesting excursion to a close.

REFERENCES.

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 Ordnance Survey Map (New Series), Sheet 271. Price 1s.
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 1889. WHITAKER, W.—“Geology of London.” *Mem. Geol. Survey.*
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 1901. KENNARD, A. S., and WOODWARD, B.B.—“The Post-Pliocene Non-Marine Mollusca of the South of England.” *Proc. Geol. Assoc.*, vol. xvii, p. 213.
 See also “Record of Excursions,” p. 17.

EXCURSION TO ROYSTON, HERTFORDSHIRE.

MAY 16TH, 1903.

Director: HORACE B. WOODWARD, F.R.S., F.G.S.

Excursion Secretary: H. KIDNER.

(Report by THE DIRECTOR.)

The members started from King's Cross by the 11.10 a.m. train, reaching Royston at 12.30, and driving thence to Barley. On the way the large chalk-pit south-east of Royston was visited. The Chalk here is wedge-bedded; it contains a few flint layers, clayey seams, and occasional rusty galls due to decomposed iron-pyrites. Several small faults occur here and there, with slickensided surfaces on the planes of movement. The pit is situated on the 300 ft. contour, and the following fossils collected by members, as well as the species subsequently mentioned, were identified by Mr. E. T. Newton, F.R.S.: