

EXCURSION TO REIGATE.

SATURDAY, JUNE 3RD, 1899.

Directors : MISS M. C. CROSFIELD and the REV. R. ASHINGTON
BULLEN, B.A., F.L.S., F.G.S.

Excursion Secretary : A. C. YOUNG, F.C.S.

(*Report by MISS CROSFIELD.*)

THE party met at Reigate Station about 2.30, and first visited a sand-pit in the Croydon Road where the junction of the Gault and Lower Greensand is well seen. Phosphatic nodules and fragments of wood were found, but no fossils. Crossing the Gault on Wray Common, the company walked westward by Raglan Road at the foot of the Upper Greensand escarpment, and thence to a pit in Upper Greensand just below Colley Hill, where the following section is exposed : At the top, Chloritic Marl, 7 ft. 6 in. ; Cherty band, 6 in. ; Hearthstone, 6 ft. ; Cherty band, 6 in. ; Hearthstone, 5 to 6 ft. ; Fire- and building-stone, 6 ft. Sponge spicules occur abundantly in the cherty bands. Two small faults were distinctly visible. In the "Horseshoe" quarry (450 ft. O.D.) adjoining, Mr. George Taylor, on whose property the Association was now assembled, met the party. He stated that the tunnels recently discovered in the hill were 200 years old. From borings made for water, he found that the thickness of the Upper Greensand here was about 55 ft. After a vote of thanks had been passed to Mr. Taylor, the Rev. R. Ashington Bullen described the Holocene deposit in the same quarry. It is 4 ft. thick, and yielded *Bulimus montanus*, *Helicigona arbustorum*, and *Clausilia rolphii*, no longer extant there. *Terebratulina gracilis* from the Middle Chalk, and an abnormal faceted nodule (Hydrated MnO), probably from the Upper Greensand, occurred. The abundance of *Arion ater* (granules) and *Carychium minimum* at 2 to 3 ft. levels attest moister conditions than now obtain.* A Neolithic scraper occurred at a depth of $2\frac{1}{2}$ ft. A few of the members scaled Colley Hill to see a block of ferruginous conglomerate, measuring 46 in. \times 40 in. \times 24 in. Mr. H. W. Monckton considers this mass of cemented angular and rounded pebbles to be a relic of a deposit of sand, etc., similar to that which has been mapped at Chipstead $2\frac{1}{2}$ miles N.E., and to a larger patch at Headley Heath $2\frac{1}{2}$ miles N.W. from the site of the block under discussion. Unfortunately, this conclusion does not carry us very far, for the deposit is mapped and described as "Sands of Doubtful Age."† A visit was then paid to the Reigate Hill pit in Lower and Middle Chalk.

* *Proc. Malacological Soc.*, vol. iii.

† Whitaker, "Geology of the London Basin." *Mem. Geological Survey*, vol. iv, p. 336 (1872).

REFERENCES.

- Geological Survey Map (1 in. Scale), Sheet 8, Drift. (8s. 6d.)
 Geological Survey Index Map, Sheet 12. (2s. 6d.)
 Ordnance Survey Map (New Edition), Sheet 286. (1s.)
1887. TOPLEY, W.—“Excursion to Redhill and Reigate.” *Proc. Geol. Assoc.*, vol. x, p. 154.
 1889. WHITAKER, W.—“Geology of London.” *Mem. Geol. Survey.*

EXCURSION TO STAINES.

SATURDAY, APRIL 22ND, 1899.

Director: W. WHITAKER, F.R.S., PRES. G.S.

Excursion Secretary: BEDFORD MCNEILL, A.R.S.M.

(*Report by* H. A. ALLEN.)

A LARGE party arrived at Staines at 2.36 p.m., and at once proceeded to the offices of the Water Companies, where a large series of mammalian remains had been arranged for inspection. The specimens were obtained from the Alluvium during the progress of the works. The geologists next walked to the aqueduct, excavated in Alluvium and River Gravel. Thence they were conducted, by train kindly placed at their disposal by Messrs. John Aird and Co., to the reservoirs in process of construction. The Director explained the geology of the district, and stated that the reservoirs are cut through river gravel to London clay, the junction being fairly even.

In the absence of Mr. R. E. Middleton, M.I.C.E., the guidance of the members was kindly undertaken by Mr. M. B. Duff, the resident engineer. The method of making a puddle-trench (of London clay) through a mass of gravel resting on clay, so as to render it capable of containing a body of water 412 acres in area, was clearly explained. The average depth of water will be 31 ft., maximum depth 39 ft. Attention was next directed to the fine sections of London clay and gravel exposed.

Many large blocks of greywether sandstone, which had been found in the gravel, were seen. One mass was observed in the bank by the Director; the bottom part of it was soft and could be readily disintegrated into sand.

ORDINARY MEETING.

FRIDAY, MARCH 3RD, 1899.

J. J. H. TEALL, M.A., President, in the Chair.

The following were elected members of the Association: William J. Stokes and F. L. Kitchin, M.A., Ph.D.

In the unavoidable absence of Dr. Abbott, through illness, a lecture was delivered by Mr. G. W. LAMPLUGH on the “Geology of the Isle of Man,” dealing more particularly with the glacial
 JULY, 1899.]