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EXCURSION TO LEITH HILL.

SATURDAY, JUNE 28TH, 1890.

Director : W. TOPLEY, F.R.S., ETC.

(*Report by the EXCURSION SECRETARY.*)

In spite of the threatening weather a considerable party met the Director at Holmwood Station. Once more was illustrated the truth of the adage, “Faint heart ne’er won fair maid,” temerity being rewarded upon this occasion with a most enjoyable afternoon, the exquisite scenery of the district having special charms when viewed under a watery sky with fitful gleams of sunshine.

From the station the party proceeded west, and halted first near Anstiebury Camp (Hythe Beds), at a point on the road from which a good view is obtained of the Chalk escarpment to the north. After pointing out the more prominent features of the landscape, the Director called attention to the great width of the Lower Greensand outcrop in the neighbourhood of Leith Hill, as compared with the country to the east. This increased width is not due to any thickening of the beds, but to the east and west fault to the north of Leith Hill, and to the high dip of the beds on the east. (See Fig. 1, and also Geol. Surv. Map, Sheet 8). On the southern side of Leith Hill there is some slipped ground leaving bare patches, which are known to have been in existence for over 200 years. This slipped ground is at the same time a result from, and a proof of the existence of, a slight anticline coinciding with the summit of the hill.

A portion of the party then accompanied the Director into the wood to the left, and examined the remains of Anstiebury Camp, believed, from its circular form, to be British. Descending to the picturesque village of Coldharbour, the re-united party commenced

From the top of the tower on the summit of Leith Hill, the Director, after pointing out some of the chief features of the landscape, made some brief remarks on the general structure of the Weald, and more especially on that portion of the area immediately before the party. To the west Hindhead, and further round to the south the low wooded hills of Petworth, mark the outcrop of the Lower Greensand round the western end of the Wealden area. The flat in the foreground is entirely Weald Clay. The central beds of the upthrust, known as the Forest Ridge, and shown in the General Section across the Weald (Fig. 2), do not appear in this district; but their position and on-coming is indicated by the rising ground to the left of the plain. The Forest Ridge itself is seen in the hills on the south-east horizon. The line of the South Downs bounds the view to the south; whilst immediately in front Chanctonbury with its clump of trees shows the gorge to its left to be that of the Adur. The gorge of the Arun (to be visited by the Association on July 12th) is not seen from here, but its position is marked by the line of woods (Arundel Park) on the Chalk escarpment to the left of Petworth. Turning to the north the escarpment of the North Downs is before us, and, what is very remarkable, we see over the Chalk escarpment into the London Basin, a fact due, of course, to the superior height of Leith Hill (Lower Greensand escarpment), 965 feet O.D. In the foreground on the slope of the hill is a little valley running north, exposing Atherfield Clay at the bottom, where the Hythe Beds have been denuded. All the beds here dip north, and along the valley springs of beautiful water are thrown out on the surface of the clay. This led to the suggestion of this country as a possible source of water-supply for London. Having reached the subject of water, the Director called attention to the fact that Leith Hill, although situated on the northern escarpment of the Weald, formed part of its watershed. Starting from Fairlight, near Hastings, in the south-east, the watershed follows pretty closely the centre of the Forest Ridge, but upon reaching the flat country at its western end, the watershed turns suddenly north, across the Weald Clay to Leith Hill and Hambletree, then turning south to about its original latitude to pass out of the area to the north-west in about its normal direction. The cause of this deflection is the great thickness of the Weald Clay at Leith Hill. The dips here may also be due in great measure to this thickening of the beds.

FIG. 2.—GENERAL SECTION ACROSS THE WEALD.

(Faint dotted lines indicate the strata removed by denudation.)

- h 5.—Chalk.
- h 4.—Upper Greensand.
- h 3.—Gault.
- h 2.—Lower Greensand.
- h 1.—Weald Clay.

- h'''.—Tunbridge Wells Sand.
- h''.—Wadhurst Clay.
- h'.—Ashdown Sand.
- g 14.—Purbeck Beds.

Whereas to the east the Weald Clay is some 500 feet thick, it is here known to be about 1,000 feet.

In consequence of the threatening weather, although the rain kept off the whole afternoon, it was deemed advisable to abandon the proposed visit to Wotton. The party therefore returned to Dorking along the valley to the north, referred to by the Director, noting the many springs on the way, and visiting a quarry in the Hythe Beds to the left of the road. Passing through the grounds of the "Rookery," a section resembling the sands of the Folkestone Beds was reached. The Sandgate Beds die out to the east near Beckland.

Tea at Dorking and a hearty vote of thanks to the Director closed the afternoon's proceedings.

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EXCURSION TO ARUNDEL.

SATURDAY, JULY 12TH.

Director : CLEMENT REID, F.L.S., F.G.S.

(*Report by THE DIRECTOR.*)

Leaving London Bridge at 10.25 a.m., the party reached Arundel Station about 12.15 p.m., and was there met by the Director.

A visit was first made to Arundel Castle and to the Fitzalan Chapel, by special permission of the Duke of Norfolk. Then, passing through Arundel Park, attention was drawn to the dry Chalk valleys and to their probable mode of origin. Continuing towards the northern edge of the Downs, the difference in contour between a true escarpment and an ancient sea-cliff was pointed out.