

EXCURSION TO WOKING.

SATURDAY, SEPTEMBER 21ST, 1901.

Director : R. S. HERRIES, M.A., F.G.S.*Excursion Secretary* : J. W. JARVIS, F.G.S.*(Report by THE DIRECTOR.)*

THE object of this excursion was to examine the works of widening the South Western Railway's line, west of Woking station, which the members were enabled to do by kind permission of the Company.

Leaving Waterloo at 1.20, the party arrived at Woking at 2.15, where they were met by Mr. E. A. Ogilvie, of the engineering staff of the South Western Railway, who not only gave the members every assistance during the afternoon, but was very assiduous in searching for sharks' teeth in the cutting. The party got on to the railway at the east end of the cutting, about a mile west of Woking station, formerly called on the map Goldsworthy, but now Goldsworth cutting. At this point the junction of the Middle and Lower Bagshot was exposed, a stiff clay resting on yellow sand. Proceeding a little farther to where a good section of the beds exposed by the new works could be seen, the Director explained that this cutting had been described in detail by Prestwich in 1847, in his paper on the Bagshot Sands (*Quart. Journ. Geol. Soc.*, vol. iii, p. 382), and it would be seen that this description of what was seen when the line was originally made could not be improved on, now that the beds were once more freshly exposed. The Director only differed in a matter of interpretation, namely, in thinking that there was no Upper Bagshot represented in the section, whereas, Prestwich gives a few feet in his figure. The occurrence of the bed of pebbles on Hook Heath, described by Mr. H. W. Monckton and the Director (*Proc. Geol. Assoc.*, vol. xi, p. 16), seemed to preclude the possibility of the occurrence in the cutting of the pebble-bed, now generally recognised as the junction between the Upper and Middle Bagshot, though no doubt pebbles occurred at the top derived from this pebble-bed, or, perhaps, from one of the lower and less persistent ones, which are occasionally found towards the top of the Middle Bagshot. Thus we find that the beds exposed in the cutting practically represent the Middle Bagshot, which is the equivalent in age of the Bracklesham of the Hampshire basin. The section is about 45 feet in thickness. Prestwich's section is as follows :



FIG. 38.—SECTION FROM FRIMLEY RIDGES TO WOKING STATION—*Prestwich*.

	Feet.
<i>a. Upper Bagshot Sands.</i>	
Yellow and light ochreous siliceous sands. Sandstone concretions at O.	150
<i>b. Middle Bagshot Sands.</i>	
1. Coarse greenish sand with a few flint pebbles ...	2
2. Foliated [laminated] sandy clays of various shades of brown	11
3. Grey clay with traces of lignite	1
4. Green sand; upper part light-coloured and clayey, the lower part pure and dark-coloured. Numerous teeth and bones of fishes and turtles, <i>Turritella sulcifera</i> and <i>Venericardia planicosta</i> , &c.	16
5. Compact lignite	1
6. Light-coloured compact sandy clay, passing downwards into dark grey clay. The upper part is irregularly pierced with green sand-tubes ...	6
7. Light and dark brown and liver-coloured very compact foliated [laminated] clays with traces of vegetable impressions... ..	8
<i>c. Lower Bagshot Sands.</i>	
Light yellow siliceous sands with irregular light-coloured argillaceous beds. Traces of vegetable impressions	130
<i>d. London Clay.</i>	
x Interval of three miles.	
† Interval of quarter of a mile.	

The section is very similar to that of the cutting at Shapley Heath, near Winchfield station, visited by the Association in July, 1900 (*Proc. Geol. Assoc.*, vol. xvi, p. 519), and the other sections mentioned in that report. The persistence of the green sand bed and the clay beds above and below it throughout the district was remarkable.

The President remarked on the confusion introduced into geological nomenclature by the use of the terms Upper, Middle, and Lower Bagshot in the London and Hampshire basins for beds which were not of the same age. It would be better to speak of Barton, Bracklesham, and Bagshot.

The Director agreed, especially as this plan would necessitate the so-called "Upper Bagshot" of Hampshire going with the series above under one of its many local names.

Attention was particularly directed to the tubes of green sand penetrating the underlying lignite and piercing the clay (bed 6), as described by Prestwich, and the lignite bed itself was carefully studied. There were also found some masses of *Teredo*-bored drift wood in bed 4. The members then searched the sloped face of the green sand (bed 4) for fossils, and a number of teeth were found, but no shells, which is curious, considering that they were recorded by Prestwich, and that they are so abundant at Ascot and other exposures of the same bed. The following have been kindly determined by Mr. E. T. Newton, F.R.S.

FISH FROM GOLDSWORTH CUTTING, WOKING, BRACKLESHAM
SERIES (MIDDLE BAGSHOT).

<i>Odontaspis macrota</i> Ag.	<i>Otodus trigonalis</i> (?) Jaek.
„ <i>elegans</i> Ag.	<i>Galeocerdo</i> sp.
„ <i>cuspidata</i> , Ag.	<i>Ætobatis</i> sp.
<i>Lamna vincenti</i> , Winkl.	<i>Myliobatis</i> sp.

This list may be compared with that given in the report of the Winchfield excursion (*Proc. Geol. Assoc.*, vol. xvi, p. 521) and with that given by Prestwich (*Quart. Journ. Geol. Soc.*, vol. iii, p. 390; reprinted *Mem. Geol. Survey*, vol. iv, p. 599).

Leaving the railway at the bridge over the middle of the cutting, the party came down the hill and visited the Lower Bagshot sand-pits, near the Portsmouth Railway, in which occurs the bed of marine fossils noted on a previous excursion, to Woking (*Proc. Geol. Assoc.*, vol. xv, p. 187, and see *Quart. Journ. Geol. Soc.*, vol. xlviii, p. 487, and *proc.*, p. 188). Numerous casts were observed. An adjournment was then made to the Railway Hotel for tea. After votes of thanks to Mr. E. A. Ogilvie, the Railway

Company, and the Director, the members proceeded to the station and left for London by the 6.30 train.

REFERENCES.

Geological Survey Map, Sheet 8.

Ordnance Survey Map (New Series), Sheet 285.

1847. PRESTWICH, J.—“Bagshot Sand, etc.” *Quart. Journ. Geol. Soc.*, vol. iii, p. 378.
1872. WHITAKER, W.—“Geology of London Basin.” *Mem. Geol. Survey*, vol. iv.
1889. MONCKTON, H. W. and HERRIES, R. S. “Bagshot Pebble Beds and Pebble Gravel.” *Proc. Geol. Assoc.*, vol. xi, p. 13.
1897. MEESON, F.—“Excursion to Woking.” *Proc. Geol. Assoc.*, vol. xv, p. 185.
1900. MONCKTON, H. W. “Excursion to Winchfield and Hook.” *Proc. Geol. Assoc.*, vol. xvi, p. 519.
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