in detail the collection of Charnwood Forest rocks which the latter has recently presented to the museum.

The majority of the party stopped in Leicester till the 9.30 train, and were most hospitably entertained to supper by Dr. and Mrs. Bennett.

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EXCURSION TO ASHENDON AND DORTON (GREAT WESTERN, BIRMINGHAM DIRECT LINE, CUTTINGS).

SATURDAY, SEPTEMBER 11TH, 1909.

Director : A. MORLEY DAVIES, D.Sc., F.G.S.

Excursion Secretary : A. C. YOUNG.

(*Report by THE DIRECTOR.*)

THE party, numbering about twelve, arrived at Wotton Station at 1.30, where they were met by a permanent-way inspector, under whose guidance, by the kind permission of the chief engineer, they walked along the Great Central Railway to Ashendon Junction, where the new Great Western line starts. The Director regretfully pointed out that the cutting for the new up-line, which for two years had displayed a beautiful series of folds, had been grassed within the previous fortnight. The folded strata were the *Exogyra nana*-beds, or basal beds of the Ampthill Clay, with the *Gryphæa dilatata*-beds of the Oxford Clay in the cores of some of the anticlines. The horizontal section laid bare on the unballasted part of the way gave evidence of the folds, for whilst the greater part of the floor teemed with valves of *E. nana*, over certain restricted areas these were absent, and huge valves of *G. dilatata*

took their place. Associated with the *E. nana* were radioles of *Cidaris smithii* and (less commonly) *C. florizemma*, several species of *Serpula*, Gasteropods and Lamellibranchs (including *Pecten vimineus* and *P. tigrinus*), and occasional belemnites. Ammonites were unfortunately very rare and imperfect.

A small portion of the up-line cutting at the south-eastern end was still visible. This portion, the Director said, had always been very obscure, and Mr. Fearnside maintained that the clay was glacially disturbed, and suggested that the folds were due to the action of an ice-sheet moving parallel to the chalk escarpment. The Director said that he had considered this possibility, but, not being familiar with admitted glacial phenomena in similar areas, he kept an open mind on the subject, and considered that there were other possible explanations.

The party then proceeded along the new line for a mile to the Dorton cutting, where the same basal beds were seen. At first they were horizontal, but after about half a mile they were suddenly seen to be steeply folded and faulted again. The beds below were laminated and fossiliferous, and were said by Mr. Fearnside to closely resemble the Amphill Clay of Gamlingay. The Director said that, pending a complete identification of the fauna, he provisionally referred them to the Oxford Clay because of the characteristic large *Gryphæa dilatata*; while the clay above the *E. nana*-beds (which was seen by the Association in 1907 in the upper part of this same cutting, now sloped), which was much less fossiliferous, he referred to the Amphill Clay.

The remarkable features about the folds shown in these railway cuttings are (1) that they alternate with areas of quite undisturbed bedding; (2) that the folds are not parallel; (3) that they have a decided pitch; and (4) that nothing similar has been detected in the Portlandian outliers on the hills on either side. The last point is not of much importance, unless as emphasising the first, since it is the undisturbed beds that would stand the best chance of preservation as outliers.

The party then continued the walk alongside the new line to Ludgarshall without seeing anything more, the rest of the cutting being all grassed.

After tea at the Five Bells a sharp three miles walk brought them back to Wotton in time for the 7 p.m. train.

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