

The author described a series of beds overlying the normal Old Red Sandstone and underlying the normal Lower Limestone Shales in the above district. They differ from the ordinary Old Red Sandstone in two particulars:—(1) No fossils characteristic of this series have as yet been discovered in them. (2) The materials of which the Old Red of the neighbourhood is formed are well water-worn, while those composing the beds referred to are not so; they also contain calcareous material, and the author considered them to correspond, in time, with the Calciferous series of Scotland for the following reasons in addition to their stratigraphical position:—(1) with those of Berwickshire in the rapid succession and variation in the colour of beds; (2) the presence of certain Polyzoa and of *Rhynchonella pleurodon* in a limestone which succeeds them. The author also described a section in the Millstone Grit at the Morse railway-cutting. Here the Millstone Grit dips at about 40°; resting on it is a rose-coloured sandstone passing up into a pebble-bed dipping at 19°. The pebbles are vein-quartz and a quartzite like that of the Lickey. The Old Red Sandstone, Calciferous Sandstone, and Millstone Grit appeared to him to have derived their materials from a common source, viz. ancient granitic rocks.

An Appendix by Dr. T. Wright described the organisms in specimens of the above-named limestone of Drybrook. Polyzoa are abundant, individuals being numerous, but species few. *Rhabdomeson gracile* and *Fenestella tuberculata* are abundant in one specimen, the other containing in addition *Cerriopora similis*. Fragments of a Crinoid, referred to *Poteriocrinus crassus*, also abound. There are a few crushed shells of *Rhynchonella pleurodon*, and spines, possibly of a *Productus*. The organisms of a slab from the Bristol district were also described. This contains *R. gracile*, with one or two other Polyzoa, and numerous Crinoid fragments.

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## CORRESPONDENCE.

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### THE HIGHLAND PROBLEM.

SIR,—Geologists are aware, from two short papers which I have communicated to the Geological Society, that I have been engaged for some years in the investigation of the relations between the Durness and Assynt Limestones and the great Eastern Gneiss. The difficulties surrounding the inquiry are so great that for the first two years I did not feel justified in announcing a definite conclusion on the main question. Two months of hard work last summer enabled me to fill in many important gaps in my evidence, and I am now in a position to make a definite announcement. My most important conclusions are the following:—

1. The Eastern Gneiss has been brought over the Quartzo-dolomitic group by earth-movements subsequent to the deposition of the latter, and is of Archæan age.
2. The Quartzo-dolomitic series is frequently, at its junction with the Eastern Gneiss, folded back upon itself.
3. The "Upper Quartzite" of Murchison is the "Lower" Quartzite repeated by either faulting or folding, and the "Upper Lime-

stone" is either the Dolomite repeated by faulting or a part of the Eastern Gneiss.

4. The "igneous rock" of authors ("Logan Rock" of Professor Heddle) is usually the Hebridean Gneiss brought over the Quartzolomitic group by enormous overthrows.

I hope to submit to the Geological Society, in the course of the spring, detailed and, I think, very decisive proof of the results at which I have arrived.

C. CALLAWAY.

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#### THE HIGHEST POINT IN NORFOLK.

SIR,—What is the locality and the height of the highest point in Norfolk? Quoting Mr. Penning<sup>1</sup> in my paper "On the Chalk Masses in the Cromer Drift,"<sup>2</sup> I, incautiously perhaps, stated its height at 650 feet, the locality being in the chalk escarpment of West Norfolk. Mr. Searles Wood says he does not think the "Cromer lighthouse hill (248 feet) is exceeded by any point in Norfolk to the extent of more than a few feet."<sup>3</sup> Mr. Whitaker, in his late clever presidential address to the Norwich Geological Society, says after some very complimentary allusions to my paper, "I may notice the repetition therein of a strange error, the endowment of the Norfolk Chalk with a highest point of 650 feet."<sup>4</sup>

With a view of settling these discordant opinions, for it is to be borne in mind the "endowment" was not the result of my "munificence," being simply a quotation from the work of one of Mr. Whitaker's fellow-labourers, I applied to the Director-General of the Ordnance Survey, who kindly informs me they "are unable to give certain information as to the highest point in Norfolk," but states that the highest point *levelled to* is 6725 links North-east of Aylmerton Church, and 331·4 feet above O. D. The "point," therefore, remains still an unsettled and knotty one.<sup>5</sup>

This is a question of fact on which it is desirable to be correctly informed, but for aught it has to do with my theory of the transport of the Chalk Boulders, might have been omitted. The lesser heights are all that are required for my ice rafts, which could not have "stranded on a submarine bank" if launched into 600 feet of water.

T. MELLARD READE.

#### OBITUARY.

E. B. TAWNEY, M.A., F.G.S.

DIED DECEMBER 30, 1882; AGED 42.

WE have recently lost by the death of Edward Bernard Tawney one of our very best all-round geologists. From physical weakness and a retiring disposition he did not throw himself much to the front, and so few knew what work was being done by that

<sup>1</sup> Q. J. G. S. xxxii. 191.

<sup>2</sup> *Ibid.* xxxviii. 233.

<sup>3</sup> *Ibid.* xxxviii. 684.

<sup>4</sup> Proc. of the Norwich Geol. Soc. 1882, p. 209.

<sup>5</sup> The English Encyclopædia (1855), article Norfolk, says, "The highest ground in the county is probably on the North-west side, where the chalk downs appear."