

and more than twenty miles from it in a direct line, is visible across a comparatively low country. I am not aware of any point inland, equally distant, from which it can be in the same manner seen. Other similar cases could be given. A reference to the Ordnance maps will show that the only line of hills which presents the appearance of an old coast line, at a higher level than the cliffs, is that which runs due west from Cromer; but this is distinctly intersected by the present coast line at the Lighthouse Hill, and certainly, the beds under discussion do not show there any signs of disappearing. From this point to Hasbro' the country very often slopes inland from the cliffs, and in a southerly direction is comparatively flat.

The rapid and unceasing encroachment of the sea along the Norfolk coast should also be remembered. Mr. Gunn gives an instance where ninety yards of the cliff have been swept away in thirty-five years; and I do not know any reason why this may not have been going on at a more or less rapid rate, perhaps from the very commencement of the present period. It will be thus seen that the present coast-line is a purely accidental one, and cut across what may have been once almost the centre of the county.

A very satisfactory reason can be given for the absence of the Boulder-clay (upper drift) from the coast section between Hasbro' and Weybourne; and that is, it has been completely denuded from the northern part of the county, as shown in Mr. Wood's map.

I am not aware of a single outline existing north of a line joining Hasbro', North Walsham, and Holt. I ought to say that Mr. Gunn thinks the Upper Drift does appear in the cliff at Hasbro'. I am sorry that I am unable to agree with him in this, but if it does occur there, it settles the question.

I am, yours truly,

F. W. HARMER.

HEIGHAM GROVE, NORWICH,  
June 4, 1867.

*To the Editor of the GEOLOGICAL MAGAZINE.*

SIR,—All I need say in reference to Mr. Maw's remarks is, to suggest that he give some sections drawn from his supposed high level Boulder-clay to that on the coast. I do not mean a hypothetical section like that at page 98, of vol. iv., but actual sections drawn to not less than half the horizontal scale of the Ordnance map (half-inch to the mile), and showing all the places marked on that map along the line taken. To have any value at all, such sections should show every bed, from the Crag upwards, that may come to the surface *en route*. Of these sections, two at least would be required: one from Norwich to some part of the coast section between Hasboro' and Weybourne; and another from Norwich to the Boulder-clay of Pakefield and Corton cliffs.

I hope that Mr. Taylor may succeed in obtaining recognizable specimens of shells from the Middle Glacial beds, so as to afford the means of comparison with those obtained from Macclesfield; for although I have examined hundreds of sections in this formation,

from Leicester to Chelmsford, and from Buckingham to the East Coast, I never until lately succeeded in obtaining a reliable shell. I recently, however, found two perfect specimens of *Ostrea edulis* in the Middle Glacial gravel, above the Brick-clay, in the disused brick-field at Stevenage. Any one having local opportunity would do good service by hunting this locality before the field is levelled and closed up, which is now being done.

As *O. edulis* is not an arctic shell, and occurs as far south as Gibraltar, its presence, as far as it goes, accords with the other characters of this formation in shewing that the Middle Glacial was not an arctic deposit.

Yours faithfully,

SEARLES V. WOOD, JUN.

BRENTWOOD, ESSEX, June 7, 1867.

P.S.—The obscure specimens of shell obtained from Saxlingham, Mr. Taylor will, I think, find belong, not to the Middle Glacial, but to the Chillesford beds (*i.e.* his Upper Crag), which are present there in a feeble form resting on the Chalk. Those obtained by him from Sprowston I presume are from the Middle Glacial sands, as the Upper Drift does not occur, to the best of my knowledge, at, or within, some four or five miles of that place. Perhaps, however, he may refer to some small outlier that Mr. Harmer and I have missed, or, possibly “Upper” may be a misprint in his letter for “Lower.”

#### ON THE NATURE OF EOZOON.

To the Editor of the GEOLOGICAL MAGAZINE.

SIB,—Having been engaged for some time on a paper on classification, with especial reference to the Mollusca, I had already in the introductory part of it written the greater part of what follows when I read in the GEOLOGICAL MAGAZINE an abstract of a memoir by Dr. Dawson on *Eozoön*. As it may be some time before my paper just referred to is ready for publication, I send you this part of it at once.

It will doubtless be some time before the true relations of *Eozoön Canadense* are finally settled. But before Mr. Hancock's paper on “Boring Sponges”<sup>1</sup> appeared, I was decidedly of opinion that the *Eozoön* had nearer relations with the Sponges than with the Foraminifera. That paper has quite confirmed me in this view; for Mr. Hancock shows the great similarity which exists between the disposition of the cells and sarcode in *Cliona* and *Orbitoides*. The latter genus was chosen by Dr. Carpenter for comparison with *Eozoön* to show the foraminiferal nature of the latter, and Mr. Hancock might fairly have carried on his comparison to *Eozoön*. Any one who compares the figures accompanying Dr. Carpenter's memoir on *Eozoön* in the Quarterly Journal of the Geological Society with Mr. Hancock's diagram of *Cliona*, will not fail to be struck by the similarity. Doubtless the *Eozoön* is allied to *Rhizopoda* as well as to the

<sup>1</sup> Ann. and Mag. Nat. Hist., 3rd ser. vol. xix. p. 229.