

with nearly all the groups already found, scarcely a vestige being seen in most of the beds which separate the several colonies, upon which usually we come quite abruptly. This I look upon also as one of the chief causes why a Lower Cambrian fauna has not ere now come to light.

I am, sir, yours truly,

HENRY HICKS.

ST. DAVID'S,
7th August, 1867.

PHOLAS-BORINGS IN DEVONSHIRE.

To the Editor of the GEOLOGICAL MAGAZINE.

STR,—As I have observed in your journal for July some remarks on Pholas-borings found 200 feet or more above the present high-water-mark, on the cliffs in the neighbourhood of Torquay, perhaps one or two words on these ancient rock-perforations may not be out of place by one who has more than once made them the object of his search and examination.

Some time ago, in the year 1864, I happened to be visiting Ilfracombe and its neighbourhood, and, amongst other coast scenery, I spent a day on Woollacombe sands, extending my ramble to the summit of the hills called Morte Point, not forgetting to search carefully far above the present sea level, its rocky wall and face, when practicable, for the marks or signs of some ancient stone-boring mollusk.

And here I ought to mention that Mr. Pengelly was the first person from whom I learnt the supposed origin of these peculiar marks or holes in rocks near the sea-coast. As I minutely looked over its pointed heights facing the sea, after some trouble I found a number of perforations from an inch to two inches in size, and about one inch or a little more in depth. I cannot speak exactly, as I write now from my recollection of what I then saw.

Some of the rock-cuttings were much worn by the action of the weather: some, no doubt, were naturally formed by frost and other causes; while some, in a more sheltered part of the hill, appeared nearly as perfect as when left by their excavators.

In my own mind the evidence is so conclusive that these small hollows are Pholas-borings, or the work of some Mollusk, and that the rock, now 200 feet or more above the sea-level, must have been once under water at every tide.

Some five or six years before this examination of the hills at Morte Point, I happened to be staying in Plymouth, and, having a little spare time on hand, I closely explored the rocks which fringe the sea-beach below the Hoe, and there I found a number of freshly-formed holes in the limestone rock, covered at every tide, about the size of the Pholas-borings, only they extended much deeper in the rock, while at the same time there appeared to be a kind of hard, shining coating on the inside of their holes, much like the inner part of an almond shell. The reason, perhaps, why these ancient stone-borings are seldom noticed, is the fact, I think, that the old sea-coast is partly washed away, for it is only (so far as my observa-

tion extends) when the rock is some little distance inland, as at Morte Point, Devon, that they are to be found.

It is possible that what I have stated may attract the notice of some of the numerous excursionists at this season of the year, and, if so, there would be no difficulty in verifying the few observations I have ventured to send to your Magazine for publication.

I am, sir, yours truly,

WILLIAM GIBBENS.

CHELMSFORD, ESSEX,
August 9th, 1867.

THE BOULDER-CLAY OF THE THAMES VALLEY.¹

To the Editor of the GEOLOGICAL MAGAZINE.

DEAR SIR,—Any one wishing to see the Boulder-clay on the southern side of the range of heights that form the northern boundary of the Thames Valley, cannot do better than go by train to Romford, and walk to Havering-atte-Bower, three miles from that place. The road is very pleasant and the view from Havering beautiful. The Boulder-clay can be seen in a pit on the right hand side of the drive leading from Havering to Bedfords, as well as in a pit very near the letter D in "lodge" on the Ordnance Map. The Boulder-clay is full of fragments of Chalk, more or less striated, of quartz pebbles, and transported blocks and fossils. The fossils have been caught up by the ice principally from the Oxfordian and Kimmeridgian zones, and consist of *Belemnites*, *Ostrea dilatata*, and other bivalves. In one fragment of shale I found *Ammonites biplex* and in a striated nodule from the Kimmeridgian there was a very well preserved shell of that species. The great interest of this deposit is its position to the south of the northern boundary of the Thames Valley proper.—Yours truly,

W. BOYD DAWKINS.

UPMINSTER, ROMFORD.
June 22nd, 1867.

MISCELLANEOUS.

A DYNAMICAL THEORY OF THE FIGURE OF THE EARTH, PROVING THE POLES TO BE ELONGATED.² By F. C. BAKEWELL.

It is the author's object to prove that the general figure of the earth is that of a lemon, rather than of an orange; in short, that our planet must be elongated at the poles. "The question," he states, "is capable of being determined, without much stretch of reasoning power, by all who possess a knowledge of the first principles of mechanical science. The only thing especially required is that its consideration should be freed as much as possible from the mists of prejudice and the trammels of authority."

¹ This letter was unintentionally omitted from the August number of the GEOLOGICAL MAGAZINE.—EDIT.

² 8vo. London, 1867, pp. 26. (Weale).