

therefore concludes that the animal remains have been washed out of a hyæna-den, which then existed at a higher level, and carried down deep into the rock, into the cave in which they were found, along with the clay and pebbles brought down in flood-time from the Yoredale and Millstone Grit hills.

The area of the Victory Quarry must then have been at the bottom of a valley, instead of in its present position on the divide. The denudation of the limestone which has taken place since that time is estimated at not less than 330 feet—an amount sufficient to destroy the ravine formed by the stream above the bone-cave, and all the caves and rock-shelters in the district, which were accessible to the Upper Pliocene mammalia.

The author appends a map illustrating the physical geography of the British Isles in Upper Pliocene time. In it the British area is represented as joined to the Continent by a barrier of land, extending from the Straits of Dover, westward, as far as the 100 fathom line in the Atlantic, which sweeps southward from Scandinavia, off the West of Ireland, into the Bay of Biscay. There were then no physical barriers to forbid the migration of *Machairodus*, *Mastodon*, *Elephas meridionalis*, and the rest, from Central and Southern France into Britain. They could find their way freely from the valleys of the Loire and the Garonne, across the valley now occupied by the English Channel, into England and, it may be added, Ireland. Over this area the animals migrated in the Upper Pliocene age. The discovery of a few of them in Derbyshire is to be looked upon as a monument of their former existence over the whole of this region. It is also a striking example of the great destruction of the surface which has taken place since that time, and of the imperfection of the geological record. It is the only cave in Europe that has yielded remains of the remote Pliocene Epoch.

CORRESPONDENCE.

PTERASPIS IN NORTH CORNWALL.

SIR,—In Dr. H. Woodward's description of *Homalonotus Barratti*, n.sp., in your last number he mentions that I recorded the occurrence of *Pteraspis* at Trevone in a paper which appeared in your MAGAZINE, Dec. IV, Vol. VII, p. 146. This error happened owing to a stupid oversight of my own. I did find a portion of a Ganoid fish in the blue shales of Trevone which was recognized by Dr. Smith Woodward as undoubtedly Devonian, and belonging to a genus not yet described. Specimens of the same form, he said, were in the late Mr. Pengelly's collection. The plate showed the internal structure and the surface was ornamented with small bosses, but he said it was distinct from *Steganodictyum* (*Pteraspis*), Ray Lankester.

In my table showing the Distribution of Fossils on the North Coast of Cornwall, south of the Camel, published in the Transactions of the Royal Geological Society of Cornwall, 1901, vol. xii, part 7, *Pteraspis* is not recorded north of Bedruthan.

Since this table was published I have obtained from Bedruthan a slab on which there are fragments of *Pteronotus mirus*, and another organism of which Dr. Smith Woodward writes: "I think the reticulated piece belongs to *Pteraspis*, but it would have been more satisfactory to find the outer striated layer." HOWARD FOX.

FALMOUTH, January 5th, 1903.

THE GEOLOGY OF BARBADOS.

SIR,—My extended acquaintance with the geology of Barbados has led me to concur fully in the last paragraph of the recent article on the subject by Professor Harrison and Mr. Jukes-Browne, and especially in the admission of these authors that "fresh observations are required." For some weeks prior to the appearance of the article, indeed, I had been in correspondence with one of the authors of the article, who proposed a joint re-examination of the ground; I immediately accepted the suggestion, and began planning another trip to Barbados with the object of demonstrating my observations on the ground, and, if practicable, making additional collections of fossils; and I had hoped that public discussion would be withheld pending this appeal to the court of field observation. In view of the prospective meeting on the ground, I am content to withhold detailed criticism of the article in question, and especially of the restricted view taken by the authors, who seem satisfied to discuss the geological history of a single spot in a great province without reference to the records presented by other portions of the same province. I am confident that the joint work on the ground will enable me to present this broader view, as well as the local details, more successfully than I have been able to do in print. "In the meantime" I venture to hope that readers will "suspend their judgment on the questions raised" by the paper of Prof. Harrison and Mr. Jukes-Browne. J. W. SPENCER.

WASHINGTON, December 19th, 1902.

CLASSIFICATION OF THE LOWER CHALK OF NORTH GERMANY.

SIR,—There is a curious error in the Short Notice of Dr. A. von Koenen's paper "Ueber die Gliederung der norddeutschen Unteren Kreide" in your December number. The reviewer implies that the result of the learned author's revised classification is to regard the Aptien, Barrémien, Hauterivien, and Valanginien as subdivisions of the Albien!

We know that the German Albien is sufficiently comprehensive; but it has not yet been stretched to this extent. It is merely that your reviewer, in his innocence, has been misled by finding the Albien standing a little apart in its place at the head of the column of 'stages'!

G. W. LAMPLUGH.

14, HUME STREET, DUBLIN.

TELMATOSAURUS, NEW NAME FOR THE DINOSAUR *LIMNOSAURUS*.

SIR,—Professor G. B. Fletcher has had the great kindness to inform me that the name *Limnosaurus*, which I proposed in 1899 for a new