CRADLEY PTERASPIDES.

DEAR SIR,—On the part of Mr. Roberts I must be thankful, I suppose, for the concession extracted from Mr. E. R. Lankester, whose "*every*" has now diminished into "*most*," and whose "*most*," after another month's recollection, will probably shrink into "a vanishing quantity."

At the earliest opportunity I shall submit the fish in question to the examination of Sir P. M. De Grey Egerton; meanwhile let it pass as *P. rostratus*. This note will therefore close the subject. With many thanks for the kindness and courtesy of the Editor,

Yours, &c.,

MALLÆUS.

HUMAN REMAINS IN THE VALLEY OF THE TRENT.

To the Editor of the Geologist.

SIR,—It was my intention to abstain from offering any opinion upon these "remains," until Dr. Bevor, of Newark, had recovered them and given me an opportunity for their inspection; but the letter of J. H. W. in your last number induces me to offer a few remarks.

The first account of these remains came from a mutual friend of myself and Mr. F. Drake, residing in the Vale of Belvoir, and from some want of detail in the communication, it was supposed they were found in the "Vale,' but on a visit we found the true state of the matter, that they were found in an excavation made for the foundation of a bridge built by the Great Northern Railway at Muskham, a village about two miles from Newark. We visited the spot, and made notes from Mr. Chowler's very clear and detailed account of the excavation, with which he was familiar from its commencement to its termination, it being upon his farm. Most unfortunately, in geologizing recently at Aust Cliff, on the banks of the Severn, I lost my pocket-book containing these notes, but the details are yet so fresh in my mind that I can recal them without difficulty.

The excavation, although surrounded *on all sides* by a very pure gravel of an ochreous character, such as is common to the Trent valley, was not made in a gravel, but in a succession of soft, unctuous, alluvial deposits, sometimes sandy and pebbly, butall dark coloured, and so soft that a stick could be thrust into them with ease; the beds were so distinct as to give the appearance of being deposited at different times; at least, the impression produced was that the materials were not all poured in together. It was at the bottom of these beds, and before penetrating into the gravel beneath, that the remains were found: the conclusion I came to was, that originally there had been a deep hollow or pit, either natural or artificial, which had been filled up with river-silt by a *succession* of overflows of the Trent; such depressions in the Trent valley are common enough. I saw one opened in continuing the Great Northern line to Nottingham; it was filled with a soft, black, tenacious, peaty mud.

The character of the remains is somewhat against their being found in a "drift" gravel; elephant remains are common enough in the "drift" of the Soar valley,* and they may easily have been brought into the Trent by floods washing them out of the banks of the Soar, flowing as it does for many miles through beds of this "drift gravel;" and at the junction at Red Hill these would be poured into the Trent stream, and mingling with modern remains, would be swept into these hollows in the valley at the time of any great flood. This would account for the pottery, a

* *Geologist*, vol. ii. p. 174.

very puzzling affair, if we suppose these remains contemporaneous with the drift gravel and elephant remains.

I should suppose the drift gravel of the Trent valley was deposited when the waves of a tidal river (possibly reaching as far up as Burton-on-Trent) washed on the one side the Bunter Sandstone, on which stands Nottingham Castle, and on the other the steep slopes of "Clifton Grove," and the long ridge of Triassic hills terminating at Red Hill, depositing the gravels found so abundantly on their northern sides, but that certainly would be an age far, very far back in time, compared with the age of the deposits at Muskham.

Leicester, 15*th Oct.*, 1861. JAMES PLANT.

FOREIGN CORRESPONDENCE.

Abstract from Professor Suess's Paper

ON THE LARGE CARNIVORA FOUND IN THE AUSTRIAN TERTIARIES.

(Imperial Academy of Sciences, Vienna, Proceedings, Vol. xliii. p. 217, Meeting, March 7, 1861.)

(TRANSLATED BY COUNT MARSCHALL.)

MANY years before Darwin's celebrated theory came to light, the question whether the repeated changes in animal and vegetable creation were the effects of changes in the external conditions of organic life, had been discussed among many palæontologists.

The solution of this question having to be sought for only within those deposits the Fauna of which is so nearly allied to that of present times that we can hope for a rather clearer idea of the condition in which these extinct forms were living, I have, a long time ago, been gathering a store of materials for the history of the Vienna Tertiaries, intending, in obedience to Bacon's precept—"Non disputando adversarium, sed opere naturam vincere."

I have now to treat this matter,—first, in its stratigraphical aspect, describing the changes in external physical circumstances, then as a question of palæontology, inquiring into the action of those changes on the organic being coeval with them. I have previously had occasion to publish some result of my investigations in both these directions (see Acad. Proc. 1860, vol. xxxix. p. 158-166); and among the most important of them I may number the separation of the Vienna tertiaries into an Alpine and Extra-Alpine basin; the statement of repeated upheavings, of coevality of the apparently different deposits of Nussdorf, Grund, Baden, &c.; and lastly, the distinction of several successive Faunæ of terrestrial mammalia. Since that time the means liberally afforded to me by His Majesty's Lord-Chamber-