their descendants," he brings the statement that "*Bos longifrons* is the only ox found in the refuse heaps, in not one or two but *all* the camps, cities, villas, and cemeteries that bear the impress of Roman civilisation in Britain." In the first place, in one, at least, of the Roman camps (London Wall) *Bos longifrons* is *not* the only ox found, as *B. frontosus* and *trochoceros* are associated with it. Whatever Mr. Dawkins may say of *Bos frontosus*, I presume he will not slump *B. trochoceros in gurgite vasto* of his *longifrons*. In the second place, I fail to see how he can point out any difference between the characters of the Roman cattle, which he nowhere describes, and those of *Bos longifrons*, to which he is "unable to assign any characters of specific value." Where one factor is unknown, and the other undefined, it is difficult to perceive how any conclusion can be arrived at. Probably if Mr. Dawkins examines carefully a series of the bovine remains from Italian sepultures, he may consider these also to be *longifrons*. This fact remains to be proved.

Mr. Dawkins' first conclusion, that *B. longifrons* "has not yet been proved to have existed before the Pre-historic age, in the bone-caves and alluvia of which it is found abundantly," I must leave him to discuss with Professor Owen. His second conclusion, that "it is the ancestor of the small Highland and Welsh breeds," is self-evident, and unnecessary to be proved. I fail to see that Professor Owen's original opinion to this effect needed such a repetition, nor do I see any new arguments in favour adduced by Mr. Dawkins. When, however, he employs the expression that "it is essentially the animal with which the archæologists have to deal," I must humbly put in a plea in favour of the animal nature of man, and express my belief that up to the present time I thought that archæologists had to deal with human works, and human remains, as well as those of horses, goats, and sheep, when found with human relics. For the present, I must close this letter.

"La plaza al punto el buey desembaraza
Quedando stros mas bueyes en la plaza."
ARRIAZA.

C. CARTER BLAKE.

JAVALÍ MINE, CHONTALES, NICARAGUA,
4th December, 1867.

SILVER-FAHLERZ IN CORNWALL.

SIR,—Will you allow me space for a short reply to the letter of Mr. David Forbes contained in your last number? That gentleman seems to have quite misunderstood the object of my communication to the GEOLOGICAL MAGAZINE of December last (p. 575), upon which he comments. The explanation I have to give is as follows:—

Mr. Forbes having stated that "the cupriferous tetrahedrite (occasionally containing traces of silver) has been found in small quantities at various localities in both England, Ireland, Scotland, and Wales," I believed he would be interested to know of the fact, that a cupriferous tetrahedrite, containing sufficient silver to render it of considerable commercial value, had been already worked in *large quantity* for some time past, at the Silver-vein mine in Cornwall.

Mr. Forbes has treated the results of various assays (made for commercial purposes) which I quoted, as if intended by me as evidence of this mineral being identical in composition with that from the Fox-dale mine, which would have been absurd. The figures were given solely for the purpose of showing that this ore contains certain quantities of silver; and I specially stated that I knew of no analysis having been made of it. Mr. Forbes will notice, if he refers to my letter, that I did not use the term polytelite at all, Glocker having proposed this name in 1847,[1] for a mineral analysed by Rammelsberg in 1846,[2] which not only contained between 5 and 6 per cent. of silver, but also from 36 to 38 per cent. of lead, with only 0·32 per cent. of copper (and which has been regarded by some mineralogists as an argentiferous *bournonite*). I do not believe the Cornish ore contains any lead.

The difference of opinion appears to arise from the question, as to what constitutes a silver-fahlerz; but I had not, nor have I now, the least intention to enter upon a discussion respecting tetrahedrite, and its many varieties, considerable difference of opinion existing as to the precise limits of the latter. It is quite possible that this ore (which is worked and sold in Cornwall as a silver and copper ore) may be an argentiferous tetrahedrite only; and that is precisely the point I hoped to induce Mr. Forbes to determine by analysis, and hence my letter. THOS. DAVIES.

P.S.—Since writing the above I have been favoured with a letter from Prof. A. H. Church, of the Royal Agricultural College, Cirencester, in which he says :—"I have found in one of my laboratory books the determinations of silver in Cornish fahlerz to which I alluded in conversation with you some time ago. They were made in August, 1865, for the purpose of ascertaining the value of the ore raised from the Silver-vein mine near Lostwithiel. The following were the results: ·73% Silver in a mixed sample of ore in coarse powder. 7·23% Silver in a crystallized fragment of fahlerz, having the density 4·85. 10·45% Silver in another crystalline mass."—T.D.

THE BELGIAN TERTIARIES.

SIR,—In the December number (p. 565), Mr. Godwin-Austen protests against the observations which I made on his paper on the Belgian Tertiaries, in my article in the GEOLOGICAL MAGAZINE for November last (p. 501). With regard to my objections, I can only assure him that I wrote them down in order to remove mistakes, and without the slightest intention of personally offending him. Mr. Godwin-Austen gives a list of fossils from the Cassel-beds (Upper Oligocene) in order to corroborate his opinion on their relative age. I am not aware now where this list is taken from, but that is of no consequence; but I must assure him that nearly all the names there cited are erroneous, according to the works of Sandberger (on the Mayence Basin), of Beyrich (Norddeutsche

[1] "Generum et Specierum Mineralium Synopsis," by E. F. Glocker, Halle, Saxony, 1847, 8vo., p. 31.

[2] "Poggendorff's Annalen," vol. lxviii. 1846, p. 516.