the present volume (p. 20) are not the same as the Careg Goch grits; that is to say, I am not speaking of the same localities. Possibly I may have fallen into some error in designating the places. In a thinly populated country, with names, and often a language, that to an English ear are as unintelligible as if they were Patagonian, and with a map that (from lapse of time) needs revision, it is difficult to avoid error. I still maintain that the materials of the Anglesey conglomerates are no valid proof in the case of the Twt Hill beds. I never intended to imply that every Cambrian conglomerate must contain felsite pebbles. The language of my article does not warrant the absurd "major premiss" which Dr. Roberts attributes to me. I was obviously speaking (I appeal to any unprejudiced reader to confirm this) of the conglomerates of the Bangor-Carnarvon region, which are full of felsite pebbles, and argued that it was very strange if this one conglomerate of that region, which did not contain felsite pebbles, should be Cambrian—and I pointed out that the absence of these in a distant region could not be adduced in explanation of their absence here. Put concisely this was my argument—"In the Bangor-Carnarvon district is a mass of felstone. This has largely supplied materials to the Cambrian and latest Pre-Cambrian conglomerates. In the same district, and near the felstone, are grits and conglomerates in which I do not find felstone fragments. Therefore I think they are not of the same age as the others. As I do not believe they can be later, I suppose they are earlier. The absence of felstone from conglomerates several miles from the mass of this rock does not seem to me to have much bearing on the subject."

As regards the last paragraph of Dr. Roberts's article, where he thinks he has made me contradict myself, I beg leave to request him to read my article (pp. 114–117) again, and he will see that I have never admitted the Twt Hill series as Cambrian. He forgets that I maintain that there is a considerable series (larger than that admitted by Prof. Hughes) beneath the Cambrian conglomerate of the Bangor area—Pebidian I suppose we may call it—and I think it more probable that the Twt Hill series belongs to this. The amount of alteration shown by the microscope is considerably greater than is usual in the Cambrian rocks. But really, to criticize fully this last paragraph, I should have to print it with a running commentary, so full is it of assumptions which I should dispute, or inferences which I maintain do not follow from my words. After the above example of his mode of conducting a controversy, Dr. Roberts must excuse me if I take no notice of any further communication which he may make on this subject.

T. G. Bonney.

THE HEADON HILL SECTION.

Sir,—As I hope very shortly to have an opportunity of defending the views which I hold (in common with many foreign geologists) concerning the classification of the Isle of Wight Tertiaries, I should not have intervened in the controversy at the present moment, had I not felt myself compelled to protest against certain remarks made

by the Rev. O. Fisher, in your last Number. As that gentleman expresses the opinion that my views are based on work "in the library and museum," I may be permitted to state that for more than twenty years I have devoted much time and labour to the study of the section in question. During that period I have measured it down, bed by bed, at least a dozen times, and it may be some comfort to my critics to inform them that the results arrived at, on various occasions, differ almost as greatly as do theirs from one another, and from the earlier sections of Dr. Wright, the Geological Survey, etc. Indeed, as I have stated in my paper, my prolonged study of the section has impressed me with a profound distrust as to the constancy of particular bands in these variable estuarine deposits. It is true that in addition to working at the English sections, I have visited the deposits of equivalent age in France, Belgium, Germany and other countries, that I have examined very large collections made from these deposits, and placed in Continental museums, and that I have even gone so far as to carefully study the works of foreign geologists which bear upon the question. But I hope that Mr. Fisher is the only geologist who will regard such action as constituting a disqualification on my part. In conclusion I must express my regret that your correspondent has such a poor opinion of the natives of the Isle of Wight as to suggest that the amenities of controversy are not to be expected from them. My ancestors for many generations lived in the island, and though, owing to circumstances over which I had no control, I cannot claim the distinction of being a native myself, yet I feel almost as jealous of any slur being cast upon their good name, as if I had not been born, just across the Solent, in the adjoining island of Great Britain. JOHN JUDD.

LAURENTIAN ROCKS OF DONEGAL.

SIR,—Permit me to withdraw the last paragraph in page 132 of my letter which appeared in the GEOLOGICAL MAGAZINE for March, and to express regret for having allowed myself to pen it.

GEOLOGICAL SURVEY OF IRELAND, EDWARD HULL.
14, HUME STREET, DUBLIN, 8*th March*, 1882.

RATE OF DENUDATION OF THE LAND BY RIVERS.

SIR,—In answer to your correspondent, "McJames," writing from India, in your March Number, I may remark that Prof. Hopkins only published one paper on the "Transport of Erratic Blocks," and if your correspondent had referred to that paper he would have seen my calculation was correct, see page 233, vol. viii. Cam. Phil. Trans. line 3. Mr. Hopkins writes: "Therefore the moving force of a current, estimated by the volume of weight, of the mass, of any proposed form, which it is just capable of moving, varies as the 6th power of the velocity." As 729 is the sixth power of three, my calculation in your journal of an increase of 729 times was therefore perfectly correct, although by a printer's or a clerical error, the fifth power of 3 was inserted instead of the sixth power of 3.