

than the Cambrian conglomerate of the mainland, regarded by Prof. Hughes as the base of the true Cambrian, and are probably older, corresponding with some part of the series between it and the great masses of quartz-felsite which are developed near Llyn Padarn and Port Dinorwig, which series lithologically and stratigraphically corresponds with the typical Pebidian of Pembrokeshire. Hence, as the Anglesey schists are in the full sense of the term metamorphic rocks, and the "Pebidian" but slightly altered, this section shows that the former must be much older than the latter, and so be distinctly Archæan.

3. "On the Rocks between the Quartz-felsite and the Cambrian Series in the Neighbourhood of Bangor." By Prof. T. G. Bonney, M.A., F.R.S., Sec. G.S.

This district has already been the subject of papers by the author (Q. J. G. S. vol. xxxiv. p. 137) and by Prof. Hughes (vol. xxxv. p. 682), who differs from him in restricting the series between the quartz-felsite and Cambrian conglomerate to little more than the bastard slates and green breccias of Bangor mountain. The author has traced on the S.E. side of the Bangor-Caernarvon road a well-marked breccia containing fragments of purple slate mixed with volcanic materials below the above-named Bangor series for more than a mile. At a lower level he has traced another well-marked breccia, chiefly of volcanic materials, for half a mile; and, lastly, a grit and conglomerate, apparently resting on the quartz-felsite named above, composed of materials derived from it. This has been traced on both sides of the road mentioned above for nearly two miles. For these and for other reasons given in the paper, the author is of opinion that, as he formerly maintained, there is a continuous upward succession on the S.E. side of the road, from the quartz-felsite at Brithdir to the Cambrian conglomerate on Bangor mountain. The district on the N.W. side of the road is so faulted that he can come to no satisfactory conclusions. The author is in favour of incorporating the above-named quartz-felsites with the overlying beds as one series, corresponding generally with the Pebidian of South Wales; older than the Cambrian, though probably not separated from it by an immense interval of time. An analysis of the Brithdir quartz-felsite by Mr. J. J. Teall was given, from which it appeared that the rock corresponds very closely with the "devitrified pitchstone" of Lea rock in the Wrekin district, described by Mr. Allport, but differs considerably in composition from those in the Ordovician rocks of North Wales.

CORRESPONDENCE.

PROF. GEIKIE'S PAPER ON THE ST. DAVIDS ROCKS.

SIR,—As my views on the St. Davids rocks are very freely criticized in the abstracts published of the paper read by Prof. Geikie at the Geological Society, on March 21st and April 11th, I trust I may be allowed to state that during the discussions which followed the reading of the paper, I emphatically denied that the evidence submitted by Prof. Geikie could in the least degree affect the conclusions I had arrived at. I stated also at the meeting on April 11th

that since the previous meeting I had re-examined the district with Prof. Hughes and several other excellent observers, and that I had obtained such further evidence in confirmation of my views as will completely dispose of the most important of the arguments relied upon by Prof. Geikie.

When the paper is published, I shall be prepared to reply more fully to the author's statements.

HENRY HICKS.

HENDON, N.W.

P.S. (June 11th)—I should like to mention that the above letter is in substance identical with one sent to "Nature" on May 6th, which, however, has not appeared in that Journal, yet the abstract of Prof. Geikie's paper was printed there with exceptional prominence. The readers of the GEOLOGICAL MAGAZINE can draw their own conclusions.
H. H.

THE PRE-GLACIAL AGE OF THE MAMMOTH.

SIR,—In the last of Mr. Howorth's series of essays on the Traces of a Great Post-Glacial Flood, entitled Flora and Fauna of the Loess, my evidence as to the age of the Mammoth quoted by my fellow-worker, Dr. Nehring, is dealt with as follows:—

"Let me quote another sentence from Dr. Nehring's paper. He says, 'The Mammoth is, as Prof. Boyd Dawkins has already pointed out, Pre-Glacial, Glacial, and Post-Glacial; his remains occur not only in the Loess, but in the most varied deposits of Europe, as in the Forest-bed, in Glacial gravel layers, in clay and loam, in Tuff deposits.' Dr. Nehring is surely not aware of the very thin ice upon which he is skating in this passage. Whether the Mammoth is found in the Forest-bed or not is assuredly one of the most disputed points in English geology. The evidence seems to point most certainly to its not occurring in the Forest-bed *in situ* at all, and that I believe to be the matured opinion of those geologists who have the best right to decide such a point. In regard to the Mammoth being Pre-Glacial, I altogether dispute it according to our present lights. The evidence is of the most fragile and unsatisfactory kind, so fragile that it is not surprising my gifted friend Professor Dawkins, who is quoted by Dr. Nehring, has published more than one opinion on the subject. As to the Mammoth being Inter-Glacial, I shall have a good deal to say, if my friend Dr. Woodward will permit me to continue the series of papers I have been writing in the GEOLOGICAL MAGAZINE. At present, I can only say that I believe the Mammoth and the *Rhinoceros tichorhinus* to have been, at all events in Europe, so far as we at present know, entirely Post-Glacial, and I maintain that they are the characteristic quadrupeds of the Post-Glacial Ante-Neolithic deposits."—GEOLOGICAL MAGAZINE, Dec. II. Vol. X. p. 278.

Any one reading the above passage would carry away the idea that I am doubtful as to the Pre-Glacial age of the Mammoth, and that Dr. Nehring is in ignorance of the fact that the best judges in this country had decided against it. What are the facts? To pass over the Scotch caves, Dr. Falconer identified the Mammoth as a mammal of the Pre-Glacial Forest-bed more than 20 years ago. This conclu-