

THE MAMMOTH AND THE FLOOD.

We have received a somewhat lengthy communication from Mr. H. H. Howorth, M.P., in which he reminds us that so recently as 1880 Sir Andrew Ramsay expressed the opinion that "from the Laurentian epoch down to the present day, all the physical events in the history of the earth have varied neither in kind nor in intensity from those of which we now have experience." (Address to Geol. Section, Brit. Assoc., Swansea.) We are glad to be in sympathy with Mr. Howorth in his opposition to this doctrine, but we do not believe it is upheld by many geologists at the present day, nor is it taught in modern text-books. (See *Geology*, by A. H. Green, Ed. 3, 1882, pp. 694—696; *Text-Book of Geology*, by A. Geikie, Ed. 2, 1885, pp. 3, 178; *Outlines of Geology*, by James Geikie, 1886, p. 3.)

Mr. Howorth contends that over the greater portion of the Earth's surface there is no such denudation going on (or even possible) as that which has taken place in past times. We have not disputed the notion that excessive denudation may have taken place in former times, for instance, during the Glacial period. Mr. Howorth, however, objects to the employment of the term Denudation to include the action of springs and rivers in carrying away the soluble constituents of rocks! We are aware that *literally* the term is inapplicable, but in nearly every geological work it is used to signify the removal of material from any portion of the land. Mr. Jukes-Browne has indeed suggested that the word Detrition be used in this sense in place of Denudation, but we are averse to the introduction of new names, when the old ones are sufficiently intelligible. In reference to this subject we may refer Mr. Howorth to a work by Mr. Mellard Reade on "Chemical Denudation in relation to Geological Time."

EDIT. GEOL. MAG.¹

THE DIMETIAN OF ST DAVIDS.

SIR,—Mr. Mellard Reade's paper in the *GEOLOGICAL MAGAZINE* for December on the Dimetian of St. Davids contains such striking evidence of a want of acquaintance with the subject, and such hasty conclusions founded on erroneous observations, that I should not consider it necessary to reply to it, were it not that a definite piece of so-called evidence is given which may lead to some misapprehension if not corrected.

The piece of evidence which he gives to prove "that the rock is not in any sense Archæan, but is post-Cambrian, and intrusive," occurs in the following passage relating to the sections at Porthclais: "At a distance of about 30 feet north of this contact and embedded in the granite is a vein of green shale about 18 inches across and another about 10 feet nearer to the contact about six inches across.

¹ As Mr. Howorth reminds us in his letter that the more important issues raised by his Reviewer (see *GEOL. MAG.* October 1887, p. 473) can only be properly discussed when his second volume appears, we are content to await the issue of that work—the limited space at our disposal not admitting of the publication of lengthy letters in reply to Reviews.—EDIT. GEOL. MAG.

Both these veins of shale, but especially the thinner one, have a rudely columnar structure at right angles to their direction. Excepting that this shale is a little more indurated and more like slate in its constitution, it is similar to the Cambrian green shales that overlie the basal conglomerate. These veins are in my view undoubtedly part of the Cambrian shale entangled in the granite, so that the granite must be post-Cambrian."

Now, Sir, these veins are perfectly well known to all who have examined the sections at Porthclais, but it has been reserved for Mr. Reade to venture to call them Green Cambrian Shales. Those who have examined these veins with any care have had no difficulty in recognizing in them the ordinary behaviour of igneous rocks, and in proving after a microscopical examination that they are diabase dykes! Such dykes, as is well known, are common in the Dimetian, and they have been frequently referred to in my papers. Mr. Reade would therefore have acted more wisely, if, before publishing his views, he had taken the trouble to read more of what had been written on the subject, and also had consulted a petrologist as to the nature of the rocks he was dealing with.

HENDON, Dec. 3, 1887.

HENRY HICKS.

ON *ETOBLATTINA*, A LARVAL COCKROACH FROM THE COAL-MEASURES OF KILMAURS, AYRSHIRE; DISCOVERED BY MR. LINTON, OF KILMARNOCK.

My attention has been called by Mr. Robert Kidston, F.G.S., to a serious omission made by me in my notice of *Etoblattina Peachii* in the GEOLOGICAL MAGAZINE for October, 1887, p. 432.

It is true that the specimen was forwarded to me by my friend, Mr. B. N. Peach, of the Geological Survey of Scotland, but I am now informed that it was found by a private geologist, Mr. Linton, of Kilmarnock,¹ and he it was (and not the friend who sent it to me) whom I should have specially mentioned as being the discoverer. I regret exceedingly my carelessness in not making further inquiries of Mr. Peach as to its ownership before setting out to describe this interesting Carboniferous treasure, and I take this opportunity to thank Mr. Linton most cordially for placing it so generously at Mr. Kidston's disposal for examination. We are all so deeply indebted to the persevering labours of such private geologists, as Mr. Linton, that I, for one, would be the last to omit to award them their full meed of honour.

129, BEAUFORT STREET, S. W.

HENRY WOODWARD.

¹ This gentleman entrusted it to Mr. Kidston to be described. Mr. Kidston transferred it to Mr. Peach, who subsequently transmitted it to the writer.—H. W.

WESTERN AUSTRALIA.—MR. HARRY PAGE WOODWARD, F.G.S., F.R.G.S. (eldest son of Dr. Woodward, F.R.S., V.P.G.S.), who served for more than three years under Mr. H. Y. L. Brown, F.G.S., as Assistant Government Geologist in South Australia, has been appointed by Her Majesty's Secretary of State for the Colonies to the post of Government Geologist for Western Australia. Only a very small portion of this, the largest of the Australian Colonies, has at present been examined by a geologist. Mr. Woodward left for Perth on the 2nd of December last.—*The Times*, Dec. 8, 1887.