

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."

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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.