

(p. 586, Vol. VII.), Mr. Edwin Brown calls in question the fact of perforated Limestone occurring in Millers Dale, and supposes that Mr. Bonney may have mistaken vesicular cavities in Toadstone for the borings of animals in Limestone.

Mr. Bonney very justly complains of the unfairness of Mr. Brown's insinuation, which, we regret to say, did not strike us in reading Mr. Brown's letter before publication. We have received from Mr. Bonney a specimen of the perforated Limestone from Millers Dale, referred to in his article, and it is, as our readers would expect, a *true Limestone*, the perforations of which agree exactly with those from Ulverston, in Lancashire, originally described by Miss Hodgson (see the "Geologist," Vol. vii., 1864, p. 42), and subsequently by Mr. J. Rofe, F.G.S. (See *GEOL. MAG.*, Vol. VII., 1870, p. 4, Pl. I.)

The estimate our readers and other scientific men have formed of Mr. Bonney's contributions to science, would prevent any one accepting the suggestion in Mr. Brown's letter. We are sorry this paragraph formed a portion of an otherwise valuable communication; and we do not doubt that Mr. Brown will be as ready as we are to regret what he must now see was an unjust criticism on the observations of a brother F.G.S.

EDIT. *GEOL. MAG.*

THE BLUE CLAY OF THE WEST OF ENGLAND.

SIR,—Miss Eyton states (*GEOL. MAG.*, p. 545) that the shell-bearing gravels often rest "upon a bed of blue or grey clay . . . described . . . in Lancashire and Cheshire, by Mr. Binney; and more recently by Prof. Hull," and mentions that Mr. Hull gives its thickness at Llandudno at 150 feet. To Prof. Hull's name she gives a reference to a paper on the "Glacial Phenomena of Lancashire and Cheshire." I wish to state (1), that I am the writer of a paper with that title, read before the Geological Society, on June 22nd. (2), That Prof. Hull has not, I believe, written a paper with that title. (3), That the Lower Till he has always described as precisely resembling the Upper Till, being of the same red colour, general character, and including the same erratic boulders. (4), That this is so much the case, that Mr. Binney considers (in all his papers) the two clays to be one, with an intercalated Middle Sand. (5), That in my paper, above referred to, I describe a Lower Till, of the nature mentioned by Miss Eyton, as occurring in Lancashire, at levels above 300 feet, formed by an ice-sheet, and mention that in North Wales a similar clay is eroded, and overlaid by the *ordinary* Lower Boulder-clay of marine origin. (6), That I consider that at Llandudno it never reaches a greater thickness than 20 feet. (7), That I cannot admit, with Mr. S. V. Wood, that the Upper Till of Lancashire is the representative of the Hessle clay, or any other recent bed.

H. M. GEOLOGICAL SURVEY, MORECAMBE. C. E. DE RANCE, F.G.S.
