

## RED ROCKS OF TYRONE AND DERRY COUNTIES.

SIR,—From Mr. Ketley's paper on the coals under the "Red Rocks" of South Staffordshire, we learn that the Coal-measures under certain circumstances may be made up of red strata, and that it is erroneous to class all such red rocks as Permian or New Red Sandstones.

In the Counties Tyrone and Derry there are some of these doubtful aged rocks. The highest of them under the Chalk, called "Redfre," seem to lie unconformably on the others, and probably to belong to the New Red Sandstone. The older ones were in part classified by the late General Portlock as Old Red Sandstone, and in part as Carboniferous, but now the general belief seems to be that they belong to the Permian. During a brief examination of the country made some time since, I found in places among the Coal-measure rocks (which I supposed to be the equivalent of the lower Scotch Coal-measures, such as occur in the neighbourhood of Edinburgh) considerable tracts of these red strata, which led me to suspect that most, if not all, these red rocks of the Counties Tyrone and Derry are portions of the associated Carboniferous rocks. Time, however, did not allow me to investigate the country minutely. In favour of their being Permian, there are fossils said to belong to the Permian type, that have been found in at least one locality; but are not these so-called Permian fossils very like stunted and ill-favoured forms of the Carboniferous fossils, and like what we might expect to meet in those portions of the Carboniferous sea, where the water was impregnated with iron or some other substance adverse to the growth and proper development of animal life? G. H. KINAHAN.

## THE VOLCANIC DUST OF BARBADOES, 1812.

SIR,—When reading the interesting paper by Dr. Flight on the "History of Meteorites"<sup>1</sup> in the April Number of the *GEOLOGICAL MAGAZINE* (p. 159), I found a reference to the composition of the Volcanic Dust which fell on the Island of Barbadoes during the great eruption of the volcano of Le Souffrier, in St. Vincent, in 1812, described by Humboldt, and more recently by Lyell,<sup>2</sup> Daubeny,<sup>3</sup> and Scrope.<sup>4</sup> Having just received some of this dust, placed in my hands for microscopical examination,—which had been collected by a relative of mine<sup>5</sup> at that time resident in Barbadoes,—I have thought it may be worth while to note the results.

It may be as well to premise, that this eruption was preceded by the great earthquake of Caraccas in Venezuela,<sup>6</sup> which commenced on the 26th March of the same year, and was felt all along the valley of the Mississippi and the West Indian Islands. The eruption of Le Souffrier took place about a month afterwards, namely, on 27th April, opening by a grand discharge of ashes, which commenced to

<sup>1</sup> Dr. Flight's articles on Meteorites commenced in *GEOL. MAG.*, Jan., 1875.

<sup>2</sup> "Principles of Geology," vol. ii.

<sup>3</sup> Daubeny, *Volcanos*, 2nd edit. p. 469.

<sup>4</sup> Scrope on *Volcanos*, p. 432.

<sup>5</sup> The late Mrs. C. T. Cooke, of Cheltenham.

<sup>6</sup> See *GEOL. MAG.* 1871, Vol. VIII. p. 348.