

the Karroo dolerites. The Umkondo formation is referred by Mr. Menzell to the Waterberg, which it resembles lithologically. The Karroo system covers a good deal of ground in Rhodesia, but no tillite has been found. The age of the red sandy Kalahari Beds is still uncertain: they represent a period of very arid conditions at some time between the close of the Stormberg and the present day: it is impossible as yet to be more definite than this.

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A QUARTZOSE CONGLOMERATE AT CALDON LOW, STAFFS.

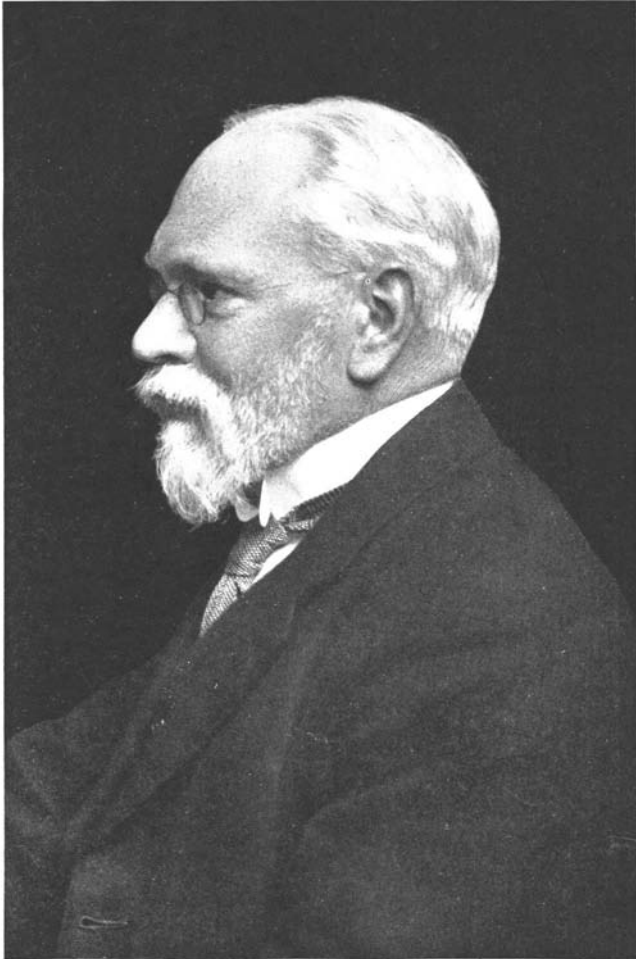
SIR,—In the August number of the *GEOLOGICAL MAGAZINE*, p. 384, Mr. F. Barke, Chairman of the Geological Section of the North Staffs Field Club, states that the quartzose conglomerate recently described by us (*GEOL. MAG.*, February, 1919, pp. 59-64) "was discovered in 1905 by members of the Geological Section of this club, and the fact recorded in the *Trans.*, vol. xl, p. 85, 1905-6".

When our note was being written we had before us the article to which Mr. Barke refers, and which reads: "In opening out the new quarry at Caldon Low, on the eastern side of the hill, an interesting section has been exposed. The beds of limestone dip steeply to the east, and are badly faulted; traces of lead can be seen in some of the fissures, and there were signs of old workings on the side of the hill. At the southern end of the quarry occurs a limestone breccia containing Bunter pebbles; a swallowhole, now filled with cave earth, has been cut across, communicating with a fissure; the latter is said to have been traced for a considerable distance down the hill until the explorers were stopped by water—it has been partially filled up by refuse from the railway cutting; towards the northern end the limestone becomes deeply stained with hæmatite. The beds are almost unfossiliferous; amongst the fossils noticed were *Productus humerosus*, *Orthotetes crenestria* (*sic*)."

We fail to understand how the description given by us of the position occupied by the conglomerate section can be made to agree with the above-quoted statements. It may be observed that:—

1. The quarry in which occurs the conglomerate section is situated on the north-west flank of the hill, and not on the eastern side.
2. The beds of limestone do not dip steeply east: the underlying *humerosus*-limestones are practically horizontal; the conglomerate is obscurely bedded in its lower portion, while the upper beds dip N.N.W. at an angle of 30°.
3. No definite evidence of faulting is visible.
4. The conglomerate extends round the north-east flank of the Low from the north-east end of the quarry.
5. Finally, the pebbles present do not resemble the typical Bunter pebbles in general facies, while the presence of an abundant and highly characteristic Upper Carboniferous fauna places them very considerably earlier than Bunter times.

Thus, we venture to think we were justified in concluding that the breccia with Bunter pebbles recorded by Mr. Barke in 1906 was



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