AUGITE-BIOTITE-DIORITE.

SIR,—Miss Reynolds's reply in the December number of GEOL. MAG. to my letter in the October number does no more than prove my contention that it is futile to quarrel about the application of rock names until we are agreed about the meanings of these names. It is quite clear that gabbro-diorite means one thing to Professor Bailey and me, and another to Miss Reynolds. She now says augite-biotite-diorite " certainly is not diorite ", which leaves me wondering what her definition of diorite may be, and that it " obviously is not gabbro-diorite ". If she means that it is not gabbro-diorite in Niggli's classification then, of course, I agree ; but in her former letter she referred to Tröger as her authority. The fact is that these points, which seem so certain and so obvious to Miss Reynolds, are no more than personal impressions, and they can never be anything more until we all agree to use the same names in the same sense. That is the point I tried to make in my previous letter. " The beginning of knowledge is the investigation of terms."

S. J. SHAND.

GEOLOGY DEPARTMENT,
UNIVERSITY OF STELLENBOSCH.
30th January, 1937.

AUGITE-BIOTITE-DIORITE.

SIR,—May yet a third member of the British Association Committee on Petrographic Classification and Nomenclature venture to express an opinion on the use of the name " augite-biotite-diorite " ?

The only principle involved is whether normal rock names should be applied to rocks demonstrably of hybrid origin. In so far as modern tendencies are concerned, the opinion is growing that many, perhaps most, syenites, diorites, and monzonites (syenodiorites) are of hybrid origin, and in the circumstances we cannot do other than use well-established names for rocks having certain mineralogical and chemical characters, regardless of their mode of origin. That being so, there are two names from which a choice must be made : is the rock a diorite or a gabbro ? To this simple question it is impossible to give a simple, unqualified answer which will please all geologists, because it is a lamentable fact that the two may be distinguished by at least three different criteria : silica percentage, colour index, and kind of plagioclase. In the circumstances it is essential that petrologists should clearly indicate whose definition of the name finally chosen is being adopted, by placing the author's name in brackets after the rock name. This would prevent the minor shocks administered by suddenly meeting a common name used in an unfamiliar sense. Probably the most popular means of distinction between diorite and gabbro is silica