

Greig's investigations have been widely quoted as proof of the impossibility of liquid immiscibility as an important factor in petrogenesis. The present writer would emphasize that his conclusions should not be extended beyond what the experimenter himself regarded as justified. There is still room for differences of opinion in the interpretation of field data, and we must await further evidence from either field or laboratory. There are geologists who believe that the volatile constituents (not water alone) modify greatly the behaviour of magmas. Dr. Collins evidently belongs to this group, and the great amount of work embodied in the Sudbury paper is of the kind needed to assist geologists in reaching a decision on a matter of great importance. His views should not be summarily rejected through misunderstanding as to what has been shown by previous investigation.

D. L. R. recognizes the force of Dr. Collins's arguments as to the inadequacy of crystal fractionation and other processes that have been invoked to account for the relations at Sudbury, but, as we have seen, he rejects also the alternative idea of liquid immiscibility. Instead, he favours assimilation of quartzite and the rise of alkali-rich emanations into the roof, with resulting feldspathization. He recalls the work of Quirke and Collins himself on the Killarney granite, and regards it as curious that Collins has not applied the same idea here. This seems curious to the present writer also; in fact, in a paper published eight or nine years ago the writer suggested that available data on the Sudbury mass indicated such granitization effects. The new data supplied by Dr. Collins do not appear necessarily to exclude this process as an explanation of certain phenomena of the roof rocks, but they make it questionable whether all the relations of the irruptive can be thus explained. More than one process may have been operative. Dr. Collins stresses immiscibility as the chief process. Whether or not he has proved the case, it seems to the writer that he has been amply justified from his evidence in bringing it forward for consideration.

C. N. FENNER.

GEOPHYSICAL LABORATORY,
WASHINGTON, D.C.
21st June, 1935.

ERUPTIVE ROCK NAMES.

SIR,—The attention of petrographers is invited to a new compendium of rock names (*Spezielle Petrographie der Eruptivgesteine: ein Nomenklatur-Kompendium*) which has been prepared by Dr. W. E. Tröger and published by the Deutsche Mineralogische Gesellschaft.¹ The number of names listed by Dr. Tröger for eruptive

¹ The book was reviewed in our last number, p. 332.—ED.

rocks only is 1,022. If he deducts from this total all compound names such as granodiorite, Konga-diabase, leucite-trachyte, and all names which have mainly a textural connotation such as granophyre, pegmatite, rhomb-porphry, schillerfels, pitchstone: there remain just over 600 distinct "specific" names which are unrelated to one another and independent of any system. Most of these are of the familiar geographical type; Tröger records 473 such names and there are at least half a dozen more that he has overlooked.

I have tested my own memory with regard to these 480 geographical names. I find that only 22 per cent of them conveyed some sort of picture to my mind; the rest were just sounds without sense. May I invite other petrologists to try the same experiment? It is likely that many of them will be able to beat my miserable score, but I doubt whether anybody will be able to award himself more than 50 per cent. The purpose of the experiment is of course to demonstrate the futility of a nomenclature that conveys so little to those who are compelled to use it.

Tröger shows us that five petrologists have been responsible for nearly a quarter of all the names on his list (303 out of 1,022). On the other hand, the Grand Old Man of petrology, Ferdinand Zirkel, only coined three new specific names in his long and active life. Most of the 600 specific names have been coined since the year 1890. Before that date there were already 128 specific names in circulation, besides many compound names and names denoting texture. Among them were all the fundamental names that we still depend upon, such as granite, tonalite, syenite, diorite, monzonite, anorthosite, gabbro, norite, foyaite, theralite, pyroxenite, hornblendite, peridotite, dunite; obsidian, rhyolite, pantellerite, trachyte, dacite, andesite, basalt, diabase, picrite, tachylyte, phonolite, tephrite, basanite, nephelinite, leucitite, teschenite, limburgite, alnöite. Have we really gained anything by adding 475 new specific names to that list in the course of the last 45 years?

If petrologists will only perform the test that I have suggested above it will do more than any amount of argument to convince them that a collection of names that are based on nothing more than personal whim is worthless as an instrument for the advancement of knowledge, and that it is imperative for us to reconsider our nomenclature and give it a logical basis.

S. J. SHAND.

STELLENBOSCH,
SOUTH AFRICA.
30th June, 1935.