anorthosite norite in many respects. His quartz norites show 10% or more of quartz as against the 5% of the Rand hill rock. But, as has been stated, the larger part of the Rand hill rock is more quartzose than the specimen analyzed and would in all probability approach his quartz norite very closely.

The chemical differences between the anorthosite gabbro of analysis 3 and the anorthosites of 4 and 5 of the original table are slight, 3 showing diminished silica, alumina and soda, and increased iron and magnesia; they suffice however to cause a drop in the feldspar content from over 90% in the anorthosite to 70% in the anorthosite gabbro. In all these anorthositic rocks part of the potash is in the labradorite, replacing a certain amount of soda. Analyses of this feldspar always show it, and, in calculating the rock analyses, it is necessary to assume that part of the calculated orthoclase goes with the albite to form labradorite, in order to bring about agreement between the computation and the observed optical properties of the feldspar.

The rock analyzed in column 6 has the appearance of an intermediate rock in the hand specimen, the feldspar augen resembling labradorite, and being sometimes iridescent, the granular portion having the look of augite syenite. Cleavage fragments from the augen give extinctions of—5° on 001 and—19° on 010, and hence are close to labradorite, Ab_1 An_1. But the granular feldspar is in part microperthite, and in part an acid plagioclase. The alkali percentage is abnormally high for so basic a rock. The total bases bear a very high ratio to the silica and alumina, and the considerable alteration of the augite to a chloritic aggregate renders attempts at calculation of the mineral percentages hazardous. The rock is approximately composed of orthoclase 20%, albite 44%, anorthite 11%, magnetite 4%, and the remainder of augite and garnet in the ratio of 2 to 1, including a little hornblende, apatite and quartz, the latter only as a by-product of garnet formation. In its high alkali percentage and consequent feldspars, the rock distinctly approaches the syenites, though its silica percentage remains that of the normal anorthosite.

The gabbro of column 7 is a most interesting rock. Its occurrence with, and as a differentiation product of an augite syenite body, of which it must be regarded as a basic phase rather than as a true gabbro, and its intermediate position chemically between