

definite foliation. In the coarse varieties it is marked by alternate bands of distinct mineral characters, orthoclase, plagioclase (commonly an acid variety), quartz, hornblende and mica (white and black) being universally conspicuous. Such rudely foliated rocks are known as coarsely-banded gneisses, and offer gradations into masses which cannot be distinguished from ordinary eruptive material. The banding is sometimes strongly marked by the separation of the more silicated from the less silicated minerals, as where layers of felspar or of quartz alternate with others of hornblende, pyroxene or biotite.

While the foliated structure and the arrangement of the minerals in parallel bands gives a bedded aspect to these rocks, the resemblance of this structure to the true bedding of detrital materials is probably more apparent than real. A little examination shows that the layers are not persistent, that they cross each other, and that portions of one may be entirely separated and inclosed within another. Whatever may have been their origin they have certainly undergone enormous mechanical compression and deformation. They have been plicated, rolled out, dislocated, and crumpled again and again. Hence, though for short distances it is possible to separate out layers or bosses of felspathic, hornblendic, pyroxenic, peridotitic, or serpentinous composition from the general body of gneiss, the geologist who tries to fix definite stratigraphical horizons by this means soon abandons the attempt in despair, and comes to the conclusion that no sequence of a trustworthy nature can be established in the body of the gneiss itself.

From the coarsest gneisses gradations may be traced to fine silky schists; and this not only on a large scale in tracts capable of being delineated on a map, but on so small