the characteristic arrangements of the minerals in the coarse banded gneisses may have arisen from a process of this kind in the consolidation of originally eruptive materials, remains still an open question, though the progress of research favors the idea that such has really been to a large extent their source."

It is certain, however, that, besides the original banded and probably segregated structure, the gneisses, as the result of much mechanical deformation, have had other and later structures superinduced upon them, sometimes at successive periods of disturbance. The most massive granitoid rocks have thus been crushed down under great strain, and have recrystallized as fine granulitic gneiss or mica-schist. Epidiorites and amphibolites have by a similar process been converted into hornblende-schists. In these cases the reconstructed rocks usually exhibit a finely schistose structure, quite distinct from that of the parent mass, but with no markedly banded arrangement. Occasionally, however, in the recrystallization of the materials, segregation into more or less definite layers or centres has come into play, so that in this obviously secondary arrangement a certain resemblance may be traced, though on a small scale, to the much coarser bands in the earliest remaining condition of the oldest gneisses.

There is yet another source of difficulty in judging of the relative age and origin of various structures among the crys-

<sup>&</sup>lt;sup>7</sup> This inference applies more particularly to the coarsely banded gneisses where the individual layers, consisting in great part of different minerals, resemble some of the segregation bands in eruptive masses (p. 1021). There can be little doubt that, as already remarked, the efficacy of mechanical deformation as a factor in the production of gneisses has been pushed too far. It will account for the crushed granulitic and schistose condition, but hardly for the coarsely banded structure, where the layers consist of very different mineral aggregates.