

cal composition from thoroughly acid materials (granites, felsites, etc.) to basic or even what are called "ultra-basic" compounds (peridotites, serpentines). Though sometimes amorphous over considerable spaces, and then not to be distinguished from ordinary igneous eruptive masses, they for the most part present a more or less distinctly schistose or foliated structure, some of their most abundant and conspicuous members being gneisses, often so coarsely banded as to pass into granite.

The infra-position of these crystalline rocks, combined with their prevalent stratified appearance, naturally led to their being regarded as the oldest known formation on which all the later portions of the terrestrial crust rest. But recent observations have proved many gneisses to be originally igneous rocks, sometimes even intrusive, and therefore younger in date than the rocks which they pierce (pp. 321, 1021). Where the area in which these ancient mineral masses are exposed is small, and especially where only the gneissic or schistose portion of them is seen, the oldest fossiliferous rocks may lie on them with a strong unconformability. The contrast in such conditions between the stratified conglomerates, sandstones, and shales of the Palæozoic series, and the gnarled crystalline gneisses below them is so striking as to have suggested the idea that in these gneisses we have reached the lowest and earliest part of the earth's crust. Hence arose such names as Fundamental gneiss, Urgneiss or Urgebirge.

No portion of the Geological Record has in recent years been more diligently studied than the crystalline schists, which, underlying the vast pile of fossiliferous systems, have been regarded as the earliest surviving chronicles of the history of the earth. But the problems presented by