

*Hornblende-schist* is usually black, and composed principally of hornblende, with a variable quantity of felspar, and sometimes grains of quartz. When the hornblende and felspar are nearly in equal quantities, and the rock is not slaty, it corresponds in character with the greenstones of the trap family, and has been called "primitive greenstone." It may be termed hornblende rock. Some of these hornblendic masses may really have been volcanic rocks, which have since assumed a more crystalline or metamorphic texture.

*Mica-schist*, or *Micaceous schist*, is, next to gneiss, one of the most abundant rocks of the metamorphic series. It is slaty, essentially composed of mica and quartz, the mica sometimes appearing to constitute the whole mass. Beds of pure quartz also occur in this formation. In some districts, garnets in regular twelve-sided crystals form an integrant part of mica-schist. This rock passes by insensible gradations into clay-slate.

*Clay-slate*, or *Argillaceous schist*.—This rock sometimes resembles an indurated clay or shale. It is for the most part extremely fissile, often affording good roofing-slate. Occasionally it derives a shining and silky lustre from the minute particles of mica or talc which it contains. It varies from greenish or bluish-gray to a lead color; and it may be said of this, more than of any other schist, that it is common to the metamorphic and fossiliferous series, for some clay-slates taken from each division would not be distinguishable by mineral characters alone.

*Quartzite*, or *Quartz rock*, is an aggregate of grains of quartz which are either in minute crystals, or in many cases slightly rounded, occurring in regular strata, associated with gneiss or other metamorphic rocks. Compact quartz, like that so frequently found in veins, is also found together with granular quartzite. Both of these alternate with gneiss or mica-schist, or pass into those rocks by the addition of mica, or of felspar and mica.

*Chlorite-schist* is a green slaty rock, in which chlorite is abundant in foliated plates, usually blended with minute grains of quartz, or sometimes with felspar or mica; often associated with, and graduating into, gneiss and clay-slate.

*Crystalline* or *Metamorphic limestone*.—This hypogene rock, called by the earlier geologists *primary limestone*, is sometimes a white crystalline granular marble, which when in thick beds can be used in sculpture; but more frequently it occurs in thin beds, forming a foliated schist much resembling in color and appearance certain varieties of gneiss and mica-schist. When it alternates with these rocks, it often contains some crystals of mica, and occasionally quartz, felspar, hornblende, talc, chlorite, garnet, and other minerals. It enters sparingly into the structure of the hypogene districts of Norway, Sweden, and Scotland, but is largely developed in the Alps.

Before offering any farther observations on the probable origin of the metamorphic rocks, I subjoin, in the form of a glossary, a brief explanation of some of the principal varieties and their synonyms.