after its formation, and are regarded as proofs of contact-metamorphism. (Book IV. Part VIII.) *Sillimanite* or *Fibrolite* is the name given to a fibrous variety which is not infrequent among schistose rocks.

Dichroite (Cordierite, Iolite, MgO 8·2–20·45, FeO 0–11·58, Al_2O_3 28·72–33·11, SiO_2 48·1–50·4, H_2O 0–2·66) occurs in gneiss, sometimes in large amount (cordierite-gneiss); occasionally as an accessory ingredient in some granites; also in talc-schist. Undergoes numerous alterations, having been found changed into pinite, chlorophyllite, mica, etc.

Scapolites, a series of minerals consisting of silicates of alumina, lime and soda, with a little chlorine. They are found among the cavities of lavas, but more frequently among metamorphic rocks, where they appear in association with altered felspars. *Dipyre*, *Couseranite* and *Meionite* are varieties of the series.

Kyanite (Al_2SiO_5) occurs in bladed aggregates of a beautiful delicate blue color among schistose rocks; also in granular forms.

Garnet (CaO 0–5·78, MgO 0–10·2, Fe_2O_3 0–6·7, FeO 24·82–39·68, MnO 0–6·43, Al_2O_3 15·2–21·49, SiO_2 35·75–52·11.—The common red and brown varieties occur as essential constituents of eclogite, garnet-rock; and often as abundant accessories in mica-schist, gneiss, granite, etc. Under the microscope, garnet as a constituent of rocks, presents three-sided, four-sided, six-sided, eight-sided (or even rounded) figures according to the angle at which the individual crystals are cut; it is usually clear, but full of flaws or of cavities; passive in polarized light.

Tourmaline (Schorl, CaO 0–2·2, MgO 0–14·89, Na_2O 0–4·95, K_2O 0–3·59, FeO 0–12, Fe_2O_3 0–13·08, Al_2O_3 30·44–44·4, SiO_2 35·2–41·16, B 3·63–11·78, F 1·49–2·58), with quartz, forms tourmaline-rock; associated with some granites; occurs also diffused through many gneisses, schists, crystalline limestones, and dolomites, likewise in sands (see Zircon). Pleochroism strongly marked.

Zircon (ZrO_2 63·5–67·16, Fe_2O_3 0–2, SiO_2 32–35·26) occurs as a chief ingredient in the zircon-syenite of Southern Norway; frequent in granites, diorites, gneisses, crystalline limestones and schists; in eclogite; as clear red grains in some basalts, and also in ejected volcanic blocks; of common occurrence in sands, clays, sandstones, shales and other sedimentary rocks derived from crystalline masses such as granite, etc.

Titanite (Sphene, CaO 21·76–33, TiO_2 33–43·5, SiO_2 30–35),