

Others have supposed the cracks to have been formed by the cooling and shrinking of the mass from a heated and pasty state by which cracks have been formed, which subsequently became filled with asbestiform matter from below. In whatever way the fissures were caused, and it is very probable that they have been formed by the great processes of metamorphism to which the rocks were exposed in the change from dioritic matter to serpentine, the vein asbestos appears more naturally to have been produced by a process of segregation of serpentinous matter from the sides of the fissure, very much as ordinary quartz in many mineral veins is known to have been produced, the segregated or infiltrated matter gradually filling the original fissure, and meeting at or near the centre, in proof of which the presence of a comb of particles of iron is very often found occupying the centre of the vein, and quite frequently these iron grains assume sufficient size as to form a regular parting of iron ore in the fibre. In this respect asbestos veins resemble very closely mineral veins with quartz or calcite which frequently contain alternate layers of ore on either side of a central comb of crystals. The arrangement also of the fibre at right angles to the sides of the containing fissure, except where the rock has been disturbed, is confirmatory evidence in the same direction.

In some of the mines fibre of exceptional length is observed. Sometimes there are veins caught along lines of fracture and drawn out of their natural position. At other times this long fibre is, to some extent at least, due to the friction of the rock walls by the displacement of a fault. In this way the long woody fibred material, known as hornblende to the miners, but which is rather a form of picrolite, is probably produced. In the same position also, and due probably to the same cause, are the long well fibred strips of asbestos seen in some of the mines, and which at first sight might almost be taken for vein matter of exceptional length. A very peculiar form of asbestos is found on an island in Lake Nicolet, where also the coarse picrolitic variety is well seen, which consists of small concretionary pellets of asbestos containing a nucleus of serpentine and enclosed in a steatitic rock. This peculiar development was first pointed out by Mr. C. W. Willmott, and has not been recognized at any of the other mines,