

crystal, in fact, all the latter has been completely altered to serpentine, although even then the outline of the original crystal may still sometimes be discerned. Most frequently the serpentine which forms along the cracks is in the form of parallel fibers, lying transversely to the crack, while that around the margins also appears as fibers, more or less parallel, or rather radially arranged. Where the alteration has proceeded further, the interior of the olivine crystal is completely filled by fibers, but these most usually have no particular orientation and appear rather as an irregular network.

There is nothing unusual in this mode of alteration of olivine to serpentine, but the feature it is desired to emphasize is that the serpentine so produced is generally *fibrous*, in very large measure if not entirely. The fibers, however, are quite microscopic in length, and for the most part do not lie parallel to one another, but are interwoven or felted, as a result of which specimens of the serpentine appear to the unaided eye to have a thoroughly compact, massive texture.

Structurally, then, the difference between *crystalline* and *massive* serpentine is one of degree and not of kind. The former term is used to denote those occurrences in which the fibers are so large as to be visible to the eye; they may lie parallel to one another or cross fibers, but are not necessarily so (slip fibers). Where, on the other hand, the fibers are microscopic, with no regular orientation, their aggregation has built up the substance "massive" serpentine.

The above comparison of the main properties of massive serpentine and claysomite has been presented rather fully with the view of showing their complete identity, although the fact that there is no essential difference between them is no doubt realized by most mineralogists. If due allowance be made for the difference in their crystalline perfection, it is probably safe to say that the three substances picrolite, claysomite-asbestos and massive serpentine are related to one another in exactly the same way as actinolite, hornblende-asbestos and reghrite.