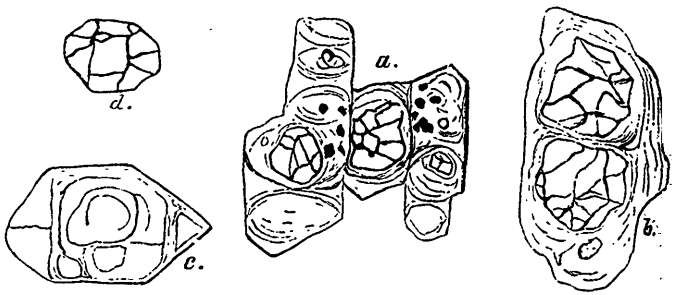
crystals and grains of olivine, augite (mostly in crystals) and a small proportion of plagioclase feldspar and magnetite. But while the augite mostly remains fresh, a large part of the olivine, which appears to be the most abundant constituent of the rock, has been altered to serpentine. Most of the olivine crystals and grains retain a nucleus of the unaltered mineral, showing the characteristic rifts, and the outlines of many crystals which are partly or entirely converted into serpentine are still perfectly sharp. In the accompanying figure (Fig. 2) *a* represents a group of crystals which are mainly composed of serpentine, but show nuclei of olivine and a few opaque grains probably of magnetite; *b* is an irregular mass also partly changed to serpentine; *c* represents a crystal which has been entirely converted into serpentine; while *d* is an almost perfectly fresh crystal of olivine.

Fig. 2.



On further alteration such a rock might be almost entirely converted into serpentine. Such a change has been observed elsewhere, as, for example, in the case of many of the Wurtemberg basalts, which are said to be "little more than serpentine rocks containing some magnetite, since the olivine and augite which composed the basalt are changed into serpentine."

In this country we have other examples than those already given of the production of serpentines by the alteration of other rocks. That such is the origin of many of the serpentines of the Eastern Townships there can be little doubt. The fact of their being commonly chromiferous suggests that at least they may have been derived from such peridotic rocks as lherzolite, dunite, olivine-gabbro, &c.

Published 29th December, 1879.