

from a geological point of view, such as their modes of occurrence in relation to the genesis of rocks, and their weathering as indicative of the nature of rock-decomposition.

§ II. Rock-forming Minerals

Minerals, as constituents of rocks, occur in four conditions, according to the circumstances under which they have been produced.

(1.) *Crystalline*, as (a) more or less regularly defined crystals, which, exhibiting the outlines proper to the mineral to which they belong, are said to be *idiomorphic*; (b) amorphous granules, aggregations or crystalloids, having an internal crystalline structure, in most cases easily recognizable with polarized light, as in the quartz of granite, and an external form which has been determined by contact with the adjacent mineral particles; such crystalline bodies which do not exhibit their proper crystalline outlines are said to be *allotriomorphic*; (c) "crystallites" or "microlites," incipient forms of crystallization, which are described on p. 205. The crystalline condition may arise from igneous fusion, aqueous solution, or sublimation.⁵

(2.) *Glassy* or *vitreous*, as a natural glass, usually including either crystals or crystallites, or both. Minerals have assumed this condition from a state of fusion, also from solution. The glass may consist of several minerals fused into one homogeneous substance. Where it has assumed a lithoid or stony structure, these component minerals crystallize out of the glassy magma, and may be recognized in various stages of growth (postea, pp. 194-214).

⁵ For the microscopic characters of minerals and rocks, see p. 192.