

ence ; if I break off a crystal from this mass, the specimen does not lose any of its properties, it is still a mass of crystals as before ; but if a branch be removed from a tree, or a limb from an animal, both are rendered imperfect, and the parts removed suffer decomposition,—the branch withers, and the animal matter undergoes putrefaction. If crystals, which may be considered the most perfect models of inorganic substances, be formed, they will remain unchanged, unless acted upon by some external force of a chemical or mechanical nature. Within, every particle is at rest, nor do they possess the power to alter, increase, or diminish : they can augment by external additions only, and decrease but by the removal of portions of their mass.\* But

\* These remarks must be taken in a general sense only, since recent experiments have demonstrated that the molecules of inorganic matter undergo modification by the slightest variation of temperature.

“ Prismatic crystals of zinc are changed in a few seconds into octahedrons by the heat of the sun. We are led from the mobility of fluids to expect great changes in the relative positions of their molecules, which must be in perpetual motion even in the stillest water or calmest air ; but we were not prepared to find motion to such an extent in the interior of solids. We knew that their particles were brought nearer by cold or pressure, or removed farther from one another by heat ; but it could not have been anticipated that their relative positions could be so entirely changed as to alter their mode of aggregation. It follows from the low temperature at which these changes are effected, that there is probably no portion of inorganic matter that is not in a state of relative motion. Prismatic crystals of sulphate of nickel exposed to the summer heat, in a close vessel,