

the disintegration of rocks, must depend upon the nature of these rocks; its quality being determined by the constituent parts of the rock from which it originated, and its quantity being proportioned to the greater or less degree in which the rock may resist decomposition.

The disintegration of rocks, and their conversion into loose earth, are partly *mechanical*, and partly *chemical*. The principal mechanical powers, by which disintegration is effected, are, 1st, The weight of the loosened parts; 2d, Water, not merely in its liquid and mobile state, but also, and that chiefly, in the state of ice; 3d, The roots of vegetables in general, and especially of trees. These powers usually act more or less in conjunction, and the effects produced by this union are in many cases almost incredible.

The disintegration of rocks commences in those parts where the power of cohesion is least energetic. Rents take place owing to the unequal attraction of parts, and also in the direction of planes, in which heterogeneous parts are in contact; and in this manner the original structure of rocks determines the first steps of their disintegration. Water, which enters into the minute fissures of rocks, by the power of capillary attraction, is expanded by congelation, and thus overcomes the cohesion of parts, and produces rents. The roots of trees acting as wedges, produce the same effect in a wonderful degree, a phenomenon which has been so well illustrated by Annæus Seneca, in his Natural Questions. "Let us consider," says he, "how great a power is exerted by the most minute seeds, which, although at first small as they are, can scarcely find a place in the crevices of rocks, yet