

combinations with some of the materials in the rock. When carbonic acid is also present it helps to dissolve in the water, portions of the rock which would not have been soluble in pure water. Thus the solvent action of water and its associated gases dissolves out certain portions of the rock, and thereby the rock has holes made in it, which gradually increase in size, and thus expose a larger surface to be subsequently acted upon by further supplies of water.

9. There is a third agency which exerts its influence, and often does so with great force, that is, **frost**. When the surface of a rock has been penetrated by water, and the temperature of the air falls below the freezing point, the water becomes frozen. As water freezes it gets bigger, and the particles of a wet rock are pushed apart so as to make room for the water which is freezing. When the frost has ceased and a thaw takes place, portions of the surface, being thereby released from the solid bands of ice, are thrown off from the rock. The extent to which this takes place depends in a great measure upon the size of the holes which the water and gases may have made in the rock. Sometimes the openings scarcely penetrate below the surface, and in such cases the surface of the rock only is affected; at other times large masses of rock are thrown off.

10. These three agents wear away our hardest rocks, and thus they are broken down and pulverized into soil. Softer rocks are of course acted upon more rapidly than hard rocks, but every rocky surface is thus made to yield its contribution to the soil. The lower forms of vegetation then establish themselves on this newly-made soil, and their rootlets penetrate and obtain their food from it. In due course these plants die, and add decaying matter to the soil, which thereby becomes fitted for the support of higher forms of vegetation, and these prepare the way for those of still higher organisation.