

Thus the distribution of Drift materials sustains a relation to altitude similar to that which it sustains to latitude. What factor, or force, or agency exists in altitude which exists identically in latitude? Temperature, certainly. To ascend a high mountain range is the same as to ascend to a high latitude. All high mountains support animals and plants related to species farther north. On the summit of Mount Washington are the butterflies and plants of Labrador. Ascending the Andes, you have tropical products at the foot, temperate products at ten thousand feet, and arctic conditions at the summit. The distribution of the Drift, then, has relation to heat and cold. Greater cold has been accompanied by larger results. Boulders are more numerous and more massive in northern and in elevated regions, because the cold is there more intense.

Now, how does cold act to effect transportation of rock-fragments? Our thoughts run over the world to scrutinize the modes of action of cold. Much cold implies much snow and ice, if moisture and water are abundant. Most far northern regions and high mountain summits are covered much of the year, or the whole of it, by a sheet of snow. Winter snow, under the action of thawing and freezing temperatures in alternation, becomes granular, as we often observe in old snow, especially in early spring. With a more advanced stage of granulation, the icy grains coalesce into larger grains, and finally merge completely into a solid mass of ice. This, also, we have often noticed in the last lingering patches of last winter's snow.

We have many observations of this kind on a large scale. On high mountains broad fields of granular snow come into existence, and at a certain elevation the average annual temperature is not sufficient to dissolve it before autumnal snows begin to increase the amount. The old snow becomes a permanent granular sheet on the high slopes. In the Alps the Germans designate it *Firn*, and the French, *Névé*. When the firn-masses are accumulated in valleys, the amount of snow is so great that it may reach to a much lower altitude before