In ascending the mountain directly, the spruces of this zone gradually degenerate, until they present the appearance of little gnarled bushes, flat on top and closely matted together, so that except where paths have been cut, it is almost impossible to penetrate among them. Finally, they lie flat on the ground, and become so small that, as Lyell remarks, the reindeer moss may be seen to overtop the spruces. This dwarfing of the spruces and firs is the effect of adverse circumstances, and of their struggle to extend their range toward the summit. Year by year they stretch forth their roots and branches, bending themselves to the ground, clinging to the bare rocks, and availing themselves of every chasm and fissure that may cover their advance; but the conditions of the case are against them. If their front advances in summer, it is driven back in winter, and if in a succession of mild seasons they are able to gain a little ground, less favourable seasons recur, and wither or destroy the holders of their advanced positions. For thousands of years the spruces and firs have striven in this hopeless escalade, but about 4,000 feet above the sea seems to be the limit of their advance, and unless the climate shall change, or these trees acquire a new plasticity of constitution, the genus *Abies* can *never displace the hardier alpine inhabitants above, and plant* its standard on the summit of Mount Washington.

I *was struck by the similarity of this dwarfing of the upper* edges of the spruce woods, to that which I have often observed on the exposed northern coasts of Cape Breton and Prince Edward Island, where the woods often gradually diminish in height toward the beach or the edge of a cliff, till the external row of plants clings closely to the soil, or rises above it only a few inches. The causes are the same, but the appearance is more marked on the mountain than on the coast. It is in miniature a picture of the gradual dwarfing of vegetation in the great barren grounds of Arctic America.

On the path which we followed, before we reached the upper