

strata. It would be interesting, however, to compare the range, in relation to soils, of those plants which are common to Europe and America.

We can conclude from the known distribution in Canada of rocks of the earlier geological formations, and from the direction of the ice-grooves upon them, that soils composed chiefly of Laurentian, or, in some instances, Huronian debris, were spread both over these formations and for at least some distance over the Silurian and Devonian rocks during the epoch of the drift; whilst the strata farther south were carpeted with more calcareous soils. The distribution of these soils was, no doubt, at subsequent periods, somewhat disturbed. Now, the Laurentian strata are composed of such different materials in different localities—some of which lie at but comparatively short distances apart—that knowing the composition of the soil at any given locality, it would be often incorrect to assign a similar composition to soils in the vicinity which we know must have been derived from rocks of the same system. The quartzites have afforded silica in abundance to the soil; the limestones, phosphate and carbonate of lime, and other minerals in variable quantities; the dolomites, carbonates of lime and magnesia; the serpentines, silica and magnesia; and the orthoclase and labradorite, silica, alumina, soda and potash. All of these mineral species, with others, are common in the Laurentian rocks. The Huronian formation also abounds in quartzites and dolomites. Within the limits, then, of a single township there might be met with soils in one case highly calcareous, in another with noticeable quantities of alkalies and but a trace of lime. The very variable proportions in which the same chemical ingredients will frequently occur in soils, at localities not far distant from each other, has been well shown by Dr. T. Sterry Hunt.\* It is a noticeable circumstance that lime, potash and soda, appeared in all the soils analyzed by him. These facts are mentioned to show that if the composition of soils has such an influence as to affect the presence of plants upon them, conditions must occur in some parts of but limited areas favourable to the existence of many plants which do not in others. Moreover, when we consider the varied compositions of our early formations, it is easy to conceive that over the immense extent of country in which they are developed, whilst many situations afford the requisite conditions for

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\* Geology of Canada, 1863, p. 640.