

formation. It will be seen to occupy a very large area, including all the Southern Shore of the Island, from Fortune Bay to Cape Ray, to extend thence far into the interior north-easterly, and from Cape Ray through the whole length of the Island, almost to its northern extreme. This is termed the long range of mountains, and is in reality the back-bone, as it were, of the whole of the Island. Owing to the crystalline character of these Laurentian rocks, and their consequent durability, or power of resisting atmospheric influences they form today nearly all the higher elevations of the island, and there is seldom any soil worth cultivating over their surfaces, except, indeed, where alluvial deposits, washed together from the ruins of many rocks may occur. Nevertheless, much of this country, where not too elevated, is fit for grazing, especially for sheep, as many considerable tracts sustain nutritious wild grasses. Generally speaking, however, it may be considered as unfit for agricultural purposes. The Huronian formation, which is colored pale blue, will be seen to occupy nearly the entire Peninsula of Avalon, and the country surrounding Conception, Placentia, Trinity, Fortune and Bonavista Bays. The character of the soils here is several degrees better than those of the Laurentian areas; but they are not by any means to be classed as really good soils. They are usually thin and rocky, underlain by coarse gravel, and destitute, if not altogether, at least in great part, of the requisite amount of lime. Now, as this is the formation underlying the whole country round about St. John's and the nearer settlements; and moreover, as the soil resulting from its disintegration, is that which, unfortunately, up to the present time, has engaged the attention and energies of all our best agriculturists, I will dwell more at length upon its actual composition. The rocks of this formation, samples of which I have here by me are sufficient in themselves to give a fair idea of what the soil must be like. They consist of very hard siliceous slates, at times approaching flint, hard crystalline, sandstones or grit-rock, the well-known Signal-hill sandstone and the coarse conglomerates, composed principally of quartz, jasper, and other exceedingly hard pebbles. There are no soft rocks in the formation, no shales, no limestone bands, very few calcareous veins even, and altogether no rock or rocks likely to yield any of those more fertile descriptions of soils. I have said it is unfortunate that the only systematic attempts at farming by persons who understand the business, should have been confined to such districts as these, because their productive capabilities are persistently put forward as a criterion of those of all other parts of the island. Yet, on the other hand, seeing what industry, perseverance and skill can produce from such an unpromising source, I believed in the end, when the better classes of soils become known

and availed of, the results of this experience will not be without value to the agricultural interests of the country. Poor as the soils are here, I believe they are capable of being greatly improved by studying them a little closer. I think were a few analysis instituted, they would tend much to enlighten us as to the best mode of treatment, with the view of obtaining the best possible results from them.

THE ALMOST TOTAL ABSENCE OF LIME

seems to indicate that the application of this material in considerable quantity, to the extent of a hundred bushels to the acre, that is, incorporated with the soils, would have a most beneficial effect. Peat also applied in the manner I have before indicated, or sand and gravel to the more peaty portions, would undoubtedly be attended with good results. In fact, what Nature has failed to do in combining these various materials, art must effect, and there are few farms hereabout, upon which sand, gravel and peat do not occur in close proximity to each other. I presume all here present have heard of the superior quality and fertility of the islands of Conception Bay, the shore near Kelligrews, the Salmonier Valley, Branch Valley, in St. Mary's Bay, St. Brigid's and other places in Placentia Bay, South Shore of Trinity Bay towards its head, portion of Randoim Island and Smith's Sound on the west side of that bay, and Goose Bay and Clode Sound, in Bonavista Bay. This is simply from the fact that the above localities are underlain by a newer less crystalline formation, the Cambro Silurian, colored dark blue. The rocks consist of sandstones, slates, shales and great beds of limestone, they are all of a softer nature than the Huronian. Slates and shales preponderate, but I take it that the presence of the limestones have most to do with their fertility. At St. Brigid's, in Placentia Bay, a red earthy limestone occupies the country, the soil overlaying it being of the same colour is exceedingly rich. As a consequence the people are very well to do, keep a large number of cattle and sheep, and have no difficulty in raising sufficient food for their maintenance. This applies almost equally to every locality where settlement has taken place on this same rock formation. As we proceed north and west, we lose entirely the other Huronian and Cambrian rocks, they do not exist all north of Bonavista, or west of Fortune Bays.

THE VALLEYS OF THE GANDER

and Exploits Rivers of which you have all heard, but few, I presume, have seen, are represented as containing large areas of fine land. Need you be surprised at this when I inform you that both valleys are underlain by the great Silurian formation, coloured yellow on the map, the rocks of which consists for the most part of slates, sandstones, limestones, magnesian rocks, carbonaceous and phibibignous shales, and a host of others too numerous to mention, being all of more recent date, than any of those in this neighborhood, they are less crystalline, yield much more rapidly to atmospheric influence, the great rivers have been for ages carrying down the finer particles and depositing them along their valleys. A dense forest, which covers the entire country,

It is the same series of formations which underlies the St. Lawrence Valley from Quebec westward to St. Georgian Bay. The soils of which district are probably the best in Eastern Canada.

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