Many extensive tracts of land utterly useless in their natural state have been thus brought into a high state of productiveness. From all the foregoing observations which I hope I have made sufficiently explicit, it may readily be deduced that primarily the bulk of all soils is derived directly from the rock crust of the earth. That, consequently, it partakes of the characters of the various rocks from which it is so derived. That where these rocks contain but few of the mineral substances requisite, or are otherwise in such a highly crystalline condition as to render them less liable to crumble under the influence of the atmosphere, the resulting soils will be poor, and where on the contrary, many such substances are present in a form more easily disintegrated, the soils are apt to be rich and deep. Where again, these soils are still further enriched by vegetable decomposition, and the presence of phosphates, etc., their natural fertility will reach its maximum. With a view to ascertaining the exact character of any soil it would be well could the cultivator institute analysis of each variety found upon his farm, thereby ascertaining exactly just what is present or absent, and in the latter case supplying the deficiency. Of course this is done in countries where the science of agriculture is brought to its highest development, and perhaps there is no nobler occupation in the world than skilled scientific farming, whereby the soils are studied in such a manner that there exact capabilities are known. On the other hand unskilled and unscientific farming frequently entail double the actual labor required with a mere modicum of the returns. In every country, and in almost every district of country, soils of different degrees of richness will be found. They will vary just in proportion as the rocks from which they are derived vary. All this must be well understood in order to obtain good results from their cultivation. In some cases they are naturally so rich as to require little or no manure at all, but the great majority of soils, all the world over, do require some fertilizer in addition, if only to prevent exhaustion. It only remains to state that when a district of country is occupied by hard, silicious and crystaline rocks, such as granitic regions, or those underlaid by what is termed the Laurentine formation, the soils are usually thin, stony and poor. The next succeeding formation Huronian being also chiefly composed of very intractible silicious slates, sand-stones or quartzites, and conglomerates or pudding-stones, yeilds but a slightly better class of soils. Both these are equally destitute of limestone in this country at least, and consequently the soils are destitute of that important ingredient. The Cambro silurian formation, next in order of succession, being composed of a greater variety of rocks, with a considerable amount of slaty and shaly strata, and several large bands of limestone is invariably found to support a much better quality of soil. Next in order of succession, is the great silurian formation, which is divided into lower, middle and upper. The rocks of this great geogical epoch are of infinite variety. Some portions of the formation are particularly rich in limestones, shales, slates, and fine-grained sandstone, and, of course, yield a superior class of soils, while another portion, owing to the preponderance of magnesian minerals, which, when in excess, are deleterious to vegetation, do not afford such. As we ascend higher in the geological scale, that is, come upon newer and less altered rock formations, we invariably meet with deeper and richer soils.

THE LOWER CARBONIFEROUS,

which, in this country, is the most recent rock formation known to exist is composed of substances eminently calculated to yield a superior quality of soil. These are limestones, gypsums, soft sandstones, shales, marls, bituminous and carbonaceous slates, coaly matter and a variety of other substances, the combination of which in the soil cannot fail to produce fertility, and such is invariably the case wherever such formation occurs, unless indeed it should be so greatly disturbed and the rocks so much altered by igneous intrusions as to entirely change their character. I think, however, I am pretty safe in stating that the silurian and carboniferous formations, when not so greatly altered, yield on the whole about the strongest and best soils. In Great Britain, Canada, and the United States at all events, especially in the two latter countries, the silurian and carboniferous are proverbial in this respect. Prince Edward's Island is underlaid by a still higher and more recent formation, the triassic, hence its well-known character for fertility, yet I doubt whether its soils can be superior to those of the lower carboniferous, as they are more sandy, and limestone and gypsum are absent from the rocks. It must appear, then, that there is an intimate connection between geology and agriculture. The geological structure of a country or district being known, and the mineral character ascertained, we can almost to a certainty determine the quality of its soils, and their adaptability to agricultural pursuits. Let us now apply all these facts to our own island with a view to ascertaining what should be the character of its soils.

GEOLOGICALLY,

then, it includes all the formations from the laurentian the oldest, to carboniferous, viz.: laurentian, huronian, cambro silurian, lower, middle and upper silurian, devonian and cerboniferous. A glance at the geological map upon which each formation is distinguished by a different colour will give an insight into the probable character of the soils appertaining to the various districts of country.* For instance, the pink shade on this map represents the laurentian

* Here the map would be referred to and the various formations, indicated by different colours, pointed out.