

found to partake of the chemical character and composition of the rocks on which they rest,—if sand-stone, the soil is sandy,—if lime-stone, it is more or less calcareous,—if a clay-stone, it is more or less stiff clay,—and if these substances are all found intermingled with each other, that is, sand-stone, lime-stone, and clay-stone, the soil will be found to be composed of a similar mixture. Soils, therefore, generally speaking, have been formed by the crumbling of the solid rock; and no doubt there was a time in the world's history when these rocks were naked and without any covering of loose materials.

1. The soils of the red sand-stones are easily and cheaply worked, and form some of the richest and most productive arable lands,—as those of Prince Edward Island, parts of Nova Scotia and New Brunswick.

2. The soils of the coal measures—grey sand-stones, generally form second rate soils, which require much labour and skill in order to a profitable cultivation. However, from the great variety of soils found within this formation in these provinces—meadows, flat lands, and other a luvial deposits, composed of the remains of crumble rocks and decayed vegetation, good crops are obtained in many parts of the grey sand-stone districts.

3. The soils formed by the rocks of the silurean systems, cambrian, mica slate, gneiss, and trap systems, are not generally favourable to agricultural operations; though in some places, in consequence of the presence of lime and magnesia in some of these rocks, good soils are produced.

4. Good soils are often found where two different kinds of rocks meet,—as where a lime-stone and a clay mingle their mutual ruins for the formation of a common soil, or when trap soils, as in some countries, composed of large quantities of lime and magnesia—fertilizing properties, are mixed with other rocks.

5. In many places in those provinces good soils are met with which are composed of transported materials, as sea alluvium, as the marshes around the Bay of Fundy; or river deposits such as the flat lands present, of most all the rivers in the provinces.

It is supposed that the primitive formation of the earth's surface was rocks; and that the first classes of animated existence as well as vegetable, must have been of a low order.—But as rocks crumbled and decayed, and mixed with animal and vegetable life, soils became more rich; hence the present state of the soils of the surface of the earth.

All soils adapted to agricultural purposes are composed of two classes of substances—*organic* and *inorganic*.

The organic part of the soil is called vegetable mould; and every soil, to be productive, must contain about eight per cent. of organic matter. In addition to supplying plants with a proportion of their necessary food, organic matter promotes fertility, rendering sandy land more tenacious, and clayey soils more friable.

The inorganic parts are derived from the decay of animal and vegetable matter.

The process of crumbling of rocks and decomposition of vegetable life is still going on. No observer of the wonderful operations daily going on in nature's grand laboratory, can have failed to notice the changes every where visible. Some rocks crumble very slowly, such as granite, slates, etc.; others waste more rapidly, as the red and grey sand-stones, etc.; and each rock gives its own peculiar