

lying above volcanic rocks, are absent here, inasmuch as this distinct locality did not favor their settlement.

There are in Maryland three totally different kinds of soil, viz : Firstly, soils formed by the disintegration of volcanic rocks. These soils, when they have gone through the process of washing, leave as a body the remnants of Granite, Syenite, Mica-Slate, with Garnets, &c., in a finer or coarser state of fraction.

Secondly, soils of mountainous regions, most especially with those of the great coal region of Cumberland, and therefore formed by the disintegration of gray Sandstone, red Sandstone, Limestone and Clay Slates. Their body consists, therefore, of the remnants of these rocks, which appear in them in various states of comminution. Thirdly and finally, we become acquainted with soils, which owe their deposition and depths to rivers and streams of mountainous regions, which, by their arrival in lower districts, have deposited again, in form of mould, fragments of the rocks of the country through which they flowed.

The body of these soils is composed of all those ingredients, which formerly were constituents of rocks, and which are now present as single substances, almost entirely separated from each other. When these soils have gone through a process of washing, nothing will therefore remain but sand, as it is in rivers : of more or less perfectly round, finer or coarser grain, Peroxide of Iron, Clay, Humus, Carbonate of Lime, &c.

After the foregoing remarks on the character of these soils in general, as is due to their origin and the geological relations of their locality *in particular*, let us now proceed to a contemplation of their *general* treatment for the purpose of cultivating and improving them in a proper and rational manner.

As to the soils under our first head ; those which have been formed by the slow disintegration of volcanic rocks, upon which they directly lie ; all of them are in general remarkable by their small thickness and little binding power. This circumstance is due to the large quantity of volcanic rocks present, which are mixed only with a small quantity of alluvial matter, the product of disintegration of the former. These rocks, in their *undecomposed* state, show as to their ratio as constituents of soil not the least difference with that of common coarse sand ; whilst in their *decomposed* state, they are the source of an immense quantity of those substances, which not only serve as a nourishment for plants, but which also improve the soil materially in relation to its texture. A glance into the chemical composition of the components of these volcanic rocks, will show us at once in what manner a decomposition of them will improve the texture of the soil.