

they keep up a constant application of this substance to the rock, and in this manner contribute indirectly to its decomposition. There are some cryptogamic plants also, which consume certain portions of the rocks with which they are in contact, corrode their surface, and destroy the cohesion of its parts, effects which may chiefly be seen in certain cryptogamic plants attached to calcareous rocks. In this manner one sort of vegetation prepares a place for another, and the most imperfect vegetables are subservient to the growth of the more perfect.

After premising thus much, we shall now proceed to the examination of the principal rocks, in so far as regards their connection with the formation of productive soil, beginning with those which resist decomposition in the highest degree, and ending with those which are the most conducive to the formation of loose earth and soil.

In the first class, we place those rocks which experience no chemical decomposition, in so far as regards their principal mass, and whose cohesion of parts is so great that mechanical powers can only open their natural fissures to a greater extent, and thus break them down into fragments. Of this kind are *vitreous lava*, *pure quartz*, *compact quartz*, *flinty slate*, and *porphyry with a siliceous basis*. On mountains consisting of these rocks, scarcely any productive soil is found, and frequently none at all. They are usually characterized by sterile rocks and cliffs, the bases of which are covered with innumerable rough fragments of stones, retaining their sharp edges for a great length of time, the heaps of which seldom produce any thing else than mosses, which frequently cover the interstices of fragments, occasionally a few grasses, and