

sandstone on the St. Lawrence, a few miles above Brockville, and for those of limestones, at the Falls of Niagara, broken into stair-like ledges, overhung with large pointed tables of rock, and having their bases strewn with gigantic ruins. The pretty village of "The Forty" in Grimsby on Lake Ontario is close to a fine cliff of this kind. The Manitouline Islands of Lake Huron are full of them.

The botany of a district, as is well known to the student, and the agriculturalist is influenced essentially by its geology. Besides the operation of the latter on climate, the soil yielded by the disintegration of certain rocks is favorable to the growth of a particular order of plants, indifferent to another, and is often almost incapable of sustaining any kind of vegetation. It is thus that the Bagshot sand has created large tracts of unimproved and unimprovable wastes, which are allowed to remain even in the immediate neighbourhood of London.—Sherwood Forest in the midland counties of England, from the nature of its beds of sandstone will never produce any thing further than a lean hungry grass, except by the sides of rivers or where artificial means have been employed in its improvement. The extreme sterility of the countries immediately north of Lake Huron and Superior is owing to their granitic and other siliceous rocks; but much of the south shore of the latter Lake is held in irremediable barrenness by the vast quantities of sand and bowlders deposited there by the same great flood which poured abundance on the north coasts of Lakes Erie and Ontario in the fine calcareous clays which there prevail. We need scarcely add that the infinitely varied forms of animal life, their presence or absence in certain seas or countries, their number and perfection, are mainly produced by vegetation. Under these considerations, an acquaintance with the principles of geology appears to be indispensable to the general welfare. How extensive is the sphere of its controul.

It is the business of the practical geologist to ascertain the nature, disposition and contents of the matters fixed or loose, which constitute the crust of the earth. He ought to be the annalist of nature only.—A scrupulous and unwearied collector of facts, her commentator is the speculative geologist who classes, and reasons on the phenomena noted "in the solitude of the pine forest, and silent shore." The description of the rock masses involves much detail on their chemical composition, external mineral characters, as colour transparency, hardness, natural divisions by the laws of crystallization, &c.; their appearances on weathering, and at the point of contact of two dissimilar rocks. The rocks originally defined by Werner, with the addition of a few discovered by Macculloch \* and Brongniart, occur in every part of the earth, as far as has yet been examined; but not with perfect identity, for those of every large district have some distinguishing mark, although often trivial. But still, some varieties of the

---

\* Author of a very valuable "Classification of Rocks" 1 vol. oct. 450 p. London, 1821.