

porphyries of Lake Superior resemble very closely that of Arran in Scotland. The granite of le Serpent in Lake Huron is the same as that of some parts of the Alps. The gneis, sienite and basalt-like greenstone of the above Lake are quite like those of Sweden and Norway. The sienite of Kingston is that of Markfield Knoll in England. The limestone of Lake Erie full of various madrepores, is scarcely to be discerned from that of the shores of the Red Sea, and not to multiply instances further, the black augitic trap of Montreal Hill occurs also in the Sabine country near Rome.

Amid the seeming confusion which strikes the hasty observer, an admirable order is found to exist in the disposition of rocks. This part of the subject is peculiarly intricate, but includes a great number of very interesting facts. These intricacies arise principally from the very small portion of strata exposed, and from the displacements, contortions, and abrasions, caused by repeated catastrophes, originating in the interior of the earth, and by the present continued action of running water. These multiplied effects create false estimates of the situation, dimensions and direction of strata, as has been excellently exemplified in a set of models made of slips of wood, differently coloured, after an idea of Professor Farey. The geological associations of these rocks are nearly the same throughout the world. They are usually found in the same groupes, and are characterised by the same contents. The porphyry of both Lake Superior and England is in contact with, and passes into, red sand-stone and amygdaloid the last filled with carnelian, zeolite, amethyst, &c. The mountain limestone of Canada and England is in contiguity with the same older rocks; but that of the former country differs in being placed in horizontal strata, and in containing many additional and very beautiful organic remains; now of great price in Europe. The same parallelism may be continued through the other rocks of the two continents.

The contents of the various denominations of rocks are every where much the same. This fact often throws light on the nature of the containing rock, when it happens to be obscure. The older limestones are the principal seat of the elegant mineral called Tremolite mica slate that of cyanite. In Siberia, Connecticut and the Lake of the Woods, (north of Lake Superior) Beryl occurs in Granite, and Staurotide in the mica slate of the two last places. Diamonds have only been found in a quartzose conglomerate, in Brazil and the East Indies.—It is singular that only one new substance, the red oxide of zinc, has been found in the United States and the Canadas, while they are numerous in the southern division of America.

It may be well to recapitulate here that the geological outlines of north and south America have been traced by Richardson (land expedition to the arctic circle) Maclure, Humboldt, and others. Those of Europe, and especially of England, have been detailed with greater minuteness, by a multitude of learned men, among whom, Saussure, De Luc, Von Buch, Cuvier, Buckland and Macculloch, are the most conspicuous for the magnitude and importance of their labors. The