

also have brought their limestone from lake Huron, altho' it was to be procured 17 miles off, at the water's edge, near the base of Thunder Mountain. The early decay of the granite, of which Waterloo Bridge at London is built, is to be expected from the fact, which we have learnt from high authority, that the large crystals of feldspar, constituting so great a portion of the rock, is of the kind containing soda and therefore easily acted on by the weather. In an undertaking of so much moment, it is a matter of regret that the materials were not submitted to the judgment of a skilful geologist previous to their being used.

Satisfied of the extreme utility of this science, many countries have established Schooles and Colleges for the instruction of the persons intended to conduct the working of their mines, in mechanics, chemistry, metallurgy, practical mining and geology. The most celebrated of these, at present, are the *Ecole des Mines* of France, and the mineralogical College of Freyberg in Saxony: but Mexico, Hungary and Idria also possess them;—all sufficiently endowed with funds for the salaries of eminent teachers, the expences incurred in essays and chemical experiments; and for the support and increase of their cabinets of minerals. —The English government is fully justified in leaving the direction of the industry of the nation to its capital and men of science. It has found it necessary to appoint a geologist to accompany the Engineers employed on the great Trigonometrical survey of Britain, as the contiguity of certain rocks have been observed to affect both the pendulum and the magnetic needle. Dr. Macculloch, the distinguished author of the "Description of the western Islands of Scotland" has been selected. It is hoped that some general laws will be discovered for the correction of these aberrations.

Geology is the foundation of Physical Geography. On the nature of the rocks of any region depend its great features of mountains, valleys and plains, whose courses, dimensions and shape are derived from the position of the strata, and the peculiar outline, which each mineral mass, speaking generally, appropriates to itself. The same may be added of rivers, which are affected, also by the power of absorption possessed by their beds. Limestone being frequently cavernous, sometimes engulphs, partially or wholly, the streams flowing over it. Thus, part of the water of the Ottawa, immediately after making the descent of the very picturesque Falls of the Chaudière, enters a concealed chasm, and reappears in two places, the one in the middle of the river three fourths of a mile below, and the other as we are informed, about a couple of miles further down. Canada furnishes many examples of the characteristic features above alluded to. The shapeless, rounded massiveness of a granitic mountain is finely expressed by Cape Tourment, thirty miles below Quebec, which passed into the interior in huge flanks, now and then intersected by deep ravines of singular ruggedness and grandeur. Thunder mountain in Lake Superior presents a basaltic precipice 1400 feet high, of uncommon magnificence, faced by the usual rude colonnades. To these constantly recurring laws, often in beautiful groupings, we are indebted for the mouldering and fretted cliffs of