

could then have been no free passage for it at the others." This will never do. Let Dr. Rae beware of his conclusions. Sufficient, says he? Sufficient it may be to clear the way of the St. Lawrence, but sufficient to stop up for ever the mouths of the Hudson, the Susquehanna and Mississippi. Here is a sea of vast extent imprisoned by a barrier of mountains; its walls of rock have long sustained impregnable the heaviest assaults—remained sulky and unshaken in a thousand storms. The waves at length overmaster them at some weak point, and out rush they roaring and rejoicing, greatening at every bound the gap of the prison wall, nor stop for a moment the laughing thunder of their sport, till they have effected a general delivery, and extorted the privilege of strolling at large. But what use, let me inquire, could there be in making two or three, or four gaps? What use could there be? and *how* could they do it *within* when they were *out*? If they could not knock down the mountain across the Mississippi before, how could they do so now when so many of them had gone away by the St. Lawrence? The deluge which subsequent to the tertiary era has left behind it such various and vast proofs of its force, might have effected something in the way of disruption, but Dr. Rae himself will probably assign this deluge to a period antecedent to the supposed inland sea, and besides this, instead of accounting for the marginal lines, is certainly the true cause of their frequent obliteration, where otherwise they should have been apparent. To suppose that the said barriers were burst asunder by the waters acting in any thing like the present form of their existense, is to suppose that the four barriers agreed to be broken up at the same point of time, made the same agreement, too, at divers successive intervals, and adjusted at each time the measure of disruption that each should be subjected to. Nothing can be more evident, than that one barrier being removed, the force that would remain for the removal of the others must necessarily be reduced—the force reduced, and the opposing obstacle proportionably increased, *i.e.*, the production of a condition which rendered the disruption of the others by the same forces a physical impossibility. When the fountain Arethusa sunk under ground in the Peloponesus and rose in Sicily, it performed a feat not half so admirable as the waters of this inland sea in the removal of their mountain gates.

It seems superfluous to notice that the regions bordering on the locality of the barriers supposed to have been removed, will probably present traces of the action of water. The evidence furnished by Dr. Rae is abundant on this point, and the extensive range of his observations gives his views a claim to be regarded with very great respect. We should naturally expect among these re-

gions, as throughout Canada at large, the terraces or marginal lines so often adverted to, nor would it be regarded as extraordinary were the faces of the hills found to be abraded and furrowed by the action of those waters ascertained to have passed over the continent in a rapid deluge from the North West; but with submission it may be said that these appearances fail to prove the specific action which Dr. Rae supposes them to demonstrate; and indeed it would be difficult to describe the phenomena in rocky strata that would suffice for such proof, phenomena distinguished by characters not usually appertaining to the action of currents and seas generally.

No necessity requires the Geologist to ascribe the formation of such a valley as the St. Lawrence to the action of water. Whatever work it may perform in them afterwards, it is surely probable that most valleys of large extent were found by it *ready made*. It has never been alleged that the inequalities of the earth's surface are to be attributed to water solely, or running streams and currents. The moon is found to be bristling with inequalities, though it possesses no water at all, and if water were created on it, instead of having the trouble of forming valleys, would have only to fill them. No matter how old the world may be, what was an inequality in its youth may be an inequality still. The valley of the St. Lawrence may be an original engraving, and though we behold, as in the Ottawa, the waters cutting deep into the recent strata, sometimes of enormous thickness, yet are they only removing the intruded materials that had diminished its original depths; and such, in point of fact, is part of the present business assigned them.

(To be Continued.)

*Observations made at the Magnetical and Meteorological Observatory at Toronto, in Canada. Printed by order of Her Majesty's Government, under the superintendence of Lieut.-Colonel Edward Sabine, of the Royal Artillery. Vol. I.—1840, 1841, 1842. London: LONGMAN & Co., 1845.*

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The meteorological observations, connected as they are with the character of our climate, are perhaps the most valuable portion of the work now under our consideration, from their being more generally understood throughout the community, than the "ponderous" and scientific details of magnetic perturbations which come only within the scope of a limited class. These meteorological observations were conducted with the most perfect attention to extreme accuracy, and may therefore be fully depended upon as affording indisputable results. The remarks of Lieut.-Col. Sabine, we shall generally give nearly in his own words, while the tables we condense to suit our columns.

*Thermometer.*—The highest temperature of the