

tween Dr. Rae and myself, is not like a transaction of the day, which tomorrow passes over as utterly insignificant; the phenomena, the very imagination of which fires the poetical spirit of Dr. Rae, remain ever apparent, and strike every eye; to the cultivators of geology, they possess a permanent interest, and with them can be recurred to after any intervals of time, with undiminished satisfaction.

The language of Dr. Rae, in commenting upon the observations which I ventured to have published in the *British American Journal*, breathed a tone, it then seemed to me, of unnecessary severity—I think of some dogmatism too. If I recollect correctly, my observations were offered with no arrogance nor pretension that could justify severity. It is difficult to see the validity of Dr. Rae's right to pronounce the observations of others, in matters purely scientific, heterodox and heresy. I distinctly refuse to plead to his jurisdiction, and stand upon my own right to differ in opinion on such questions from anybody I please, for all that he may think it such presumption to differ from so great a genius as himself. Seriously, the gathering and estimating of evidence being all that is concerned in the question, and the nature of the pursuit being happily exclusive of all contentious passions, let Dr. Rae and myself look to nothing but the evidence, and seek for nothing but the truth.

Let it be granted, as Dr. Rae advances, that were the surface of this continent "tomorrow depressed a thousand feet, there are only four openings by which the waters of the Atlantic could find admittance to the bed of an interior sea thus created." It may also be correct "that this subject has been a matter of careful and scientific investigation and accurate measurement, carried on for a series of years by the Geologists employed by the several States for ascertaining all the facts connected with the science which their respective territories present, and embodied in copious reports laid before their respective Legislatures." With regard to the other question of Dr. Rae—the formation of the several communications or vallies of the Mississippi, the Susquehanna, the Hudson and the St. Lawrence, it may likewise be correct that the Geologists who have examined this question "all agree in ascribing their existence, or at least their existence in the form they actually present to us, to the agency of water bursting out from an inland reservoir." Dr. Rae adds, "upwards I think of forty years since—the evidences of it are so clear and strong—it struck the then comparatively unskilled and unscientific observers as a thing the proofs of which were too palpable to be disputed."

Before adverting to the evidence which is subsequently

adduced by him, I cannot but remark it to Dr. Rae as an anomalous and scarcely right procedure, to assume in his favour the whole body of the authority of the States Geologists. What was thought indisputable forty or twenty-three years ago, cannot now be considered an overwhelming authority—the Wernerian theory, then so generally adopted, having since been found so inadequate for the explanation of phenomena such as are involved in the present question, and though "up to the present moment there has not been a whisper against the original hypothesis," it is too vast a conclusion, and an unwarranted one, to infer from this circumstance, that "all observers (the States Geologists) concur in admitting that these vallies exhibit very evident traces of water having at some antecedent time burst a passage through them." Nothing but the present expression of their opinions in favour of this view could justify Dr. Rae's protecting his hypothesis with a shield of authority so immense, and this shield is taken away from it if his right to adopt it is found to be invalid. It is not in my thoughts that Dr. Rae requires any authority to support whatever conclusions he may arrive at, but the exhibition of such a force of it, whether intended to be so or not, is an appeal to popular sentiment, which has nothing to do with the decision.

The attention of every person who, with an observant eye, travels through any part of Canada, must be arrested with those evidences of the action of ancient waters that are visible in the finely expressed marginal lines found on the slopes of vallies and the flanks of the mountains. To account for these it has often been supposed, and I believe generally understood, that each of these marginal lines indicates the action and elevation of an ancient inland sea, and that the differences between them correspond with measures of disruption in a supposed containing barrier. These disruptions in the barrier are conceived to have been brought about in points of the mountain ranges towards the mouths of the great rivers of the continent; that is to say, mountains of many miles extent are supposed to have been extended across their mouths, and to have been carried away by the waters in successive rebellious outbreaks. "I have not," says Dr. Rae, "the materials by me to give the proof of the interior waters having burst through at all these points, and if I had them, it would extend my paper to an intolerable length were I to set about putting them to use. It will be sufficient for me to show that there are good reasons for believing that the immediate agent in the formation of one of these vallies was water forcing its way from the interior, for if we are satisfied that it had to force its way at one point, we must of necessity conclude that there