

Dominion and United States, it struck him that by the proposed tapping of lake Michigan to the extent of 600,000 cubic ft. of water per minute and running it off towards the Gulf of Mexico through the Des Moines, Illinois and Mississippi rivers; the flow over the Niagara would be lessened by so much and by so much the respective depths of the Great Lakes below Superior, and of the St. Lawrence, below Ontario; though the lakes may be dammed up to their former level, while the draught of the St. Lawrence can not be increased.

This mere accidental glance of his at the map, and which led him to be the first, in December 1891, in calling the attention of our Government to the spoliation, might have occurred to another, but did not and is proof of what is here advanced that the bringing of a thing to mind is more difficult than the doing of it, when thought of; and as a mere idea is or has been so fruitful in other cases; let me here allude to the apparently complicated question of currents and ice drifts about the poles of the Earth and suggest to such as are studying the subject of polar travel and discovery, to take in "centrifugal" force or action, which no one as yet seems to have thought of doing, as one of the important factors not to be neglected in dealing with the subject of arctic and antarctic discovery.

Again in the study of motion in colourless liquids, no man can understand the thing, much less render it evident to others, until the idea occurs to him of coloring the liquids or one of them, whereby its motion may be seen and followed up and submitted to caeculation, as when, with the Gulf Stream, advantage can be taken of its difference of temperature to study it as what it really is, a river in the ocean.

Of professor Tyndall, Herbert Spencer says: "he was endowed with constructive imagination in a high degree. In common with successful investigators in general, he displayed it in forming true conceptions of physical processes previously misinterpreted or uninterpreted; and again in conceiving modes by which the actual relations of the phenomena could be demonstrated, and again in devising fit appliances to this end. He was an excellent expositor and good exposition implies much constructive imagination."

A prerequisite is the forming of true ideas of the mental states of those who are to be taught, and a further prerequisite is, the imagining of methods by which, beginning with conceptions they possess, there may be built up in their minds, the conceptions they do not possess. Of constructive imagination as displayed in this sphere, men at large—says Spencer—appear to be almost devoid; as witness the absurd systems of teaching which in past times, and largely to this day, have stupefied and still stupefy children, by presenting abstract ideas before they have any concrete conceptions from which they can be drawn. Whether as a lecturer or writer, professor Tyndall carefully avoided this vicious practice.