

the Great Lakes, and particularly of the more important lake ports, such as Chicago, Duluth, Cleveland, Buffalo, Toronto and Montreal. In discussing the physical features it will be necessary to state the topographical conditions of present and proposed routes, with estimates of costs and the capacity of these routes when completed, and give a comparison of the length of routes now existing and projected. The author having found it necessary to discuss the feasibility and desirability of constructing at certain points on the routes ship railways, a general sketch and brief argument in favour of the practicability of such a method will need to be given, and a comparison made between this method and that by ordinary canals and railroads.

The financial and political subject will embrace the question of what it will cost each of the two Governments to carry out the plans proposed, or the cost to private companies of constructing the proposed routes; and under this subject the relations of the two Governments to each other, so far as relates to commerce, must be briefly stated.

In discussing the commercial features it will be necessary to predict the effects upon the various large ports of the Great Lakes and the St. Lawrence, and, also, of the Atlantic seaboard, of completing and putting into operation the water-way, or the water-ways, recommended; and to state also the probable changes in methods of transportation which will take place, and also the change in the methods of trade with the Atlantic seaboard and with Europe, when steamers of 5000 tons displacement weight, when laden, are built on the Great Lakes, and put in direct trade between lake ports and the ports of the Atlantic seaboard, Great Britain and the Continent.

Great and astonishing changes have taken place in comparatively recent geological times in the basins of the Great Lakes. There are well defined high water marks to indicate, at least, that the three great Northwestern lakes were probably 200 feet higher than they are to-day; that there was a still greater lake, now Lake Winnipeg; that the immense overflow from all these lakes flowed southward to the Gulf of Mexico; and that great areas of country now inhabited and cultivated by man were at that time submerged to a great depth.

The great valleys of the Illinois River, the Minnesota River, and the Upper Mississippi as well, now occupied by comparatively small streams, prove conclusively that at a comparatively recent period there flowed southward great volumes of water, and that Lake Winnipeg drained southward, although now draining northward. A hypothesis was advanced, and an endeavour made to sustain it, by the late General Warren, to account for this remarkable change in the drainage of the