

there were marine conditions in the lower and middle St. Lawrence and in the Ottawa valley, and swamps and lakes on the upper Ottawa and the western end of Lake Ontario. It is quite probable, nay, certain, that during this interglacial period re-elevation had set in, since the upper Leda clay and the Saxicava sand indicate shallowing water, and during this re-elevation the plant-covered surface would extend to lower levels.

This, however, must have been followed by a second subsidence, since the water-worn gravels and loose, far-travelled boulders of the later drift rose to heights never reached by the till or the Leda clay, and attained to the tops of the highest hills of the St. Lawrence valley, 1,200 feet in height, and elsewhere to still greater elevations. This second boulder drift must have been wholly marine, and probably not of long duration. It shows no evidence of colder climate than that now prevalent, nor of extensive glaciers on the mountains; and it was followed by a paroxysmal elevation in successive stages till the land attained even more than its present height, as subsidence is known to have been proceeding in modern times.

I am quite aware that the above sequence and the causes assumed are somewhat different from those held by many geologists with reference to regions south of Canada; but must hold that they are the only rational conclusions which can be propounded with reference to the facts observed from the parallel of  $45^{\circ}$  to the Arctic Ocean.

My own observations have been chiefly in the eastern part of North America. My son, Dr. G. M. Dawson, has much more ably and thoroughly explored those of the west; and after describing the immense Cordilleran ice mass which extended for a length of 1,200 miles along the mountains of British Columbia and discharged large glaciers to the north, as well as to the west and south, and stating his reasons for believing in that differential elevation and depression which