

evidence. We can say that some of these species were waiting on the shores of the north, ready to be drifted to the insular spots to the south-west, and that their seeds were actually being washed out to sea by the streams which emptied themselves into the then estuary of the Ottawa.

Another aspect of the inquiry is that which relates to the reduction of temperature, which might be consequent on the great depression of the land which we know to have existed at the close of the Tertiary period, a fact on which I have insisted in former papers on the Pleistocene deposits of Canada.¹ A very clever writer on the subject of geographical distribution² has pictured the case of a subsiding continent, with the fauna and flora of its lowlands becoming gradually concentrated on the spots which had previously been Alpine summits, but now reduced to low and temperate islands. But he has left out of view the fact, that if land still existed in mass in the Arctic regions, and if the subsidence was that of land in temperate regions, and if the remaining islands were encompassed with cold and ice-laden currents, then, on the principles long ago so well stated by Sir C. Lyell, these islands might have a mean temperature far below that of the former plains, and might, in consequence, be suitable only to such an Alpine flora as that which they had previously borne.

Now this is precisely what seems to have occurred in the Pleistocene period. The Arctic land remained in great mass, detaching into the sea annual crops of icebergs and fields of coast ice, which have strewed all the northern hemisphere with boulders: the temperate regions were submerged, except a few insular spots. These are the very conditions required for a low mean temperature, both in the sea and on the land, and these geographical conditions correspond precisely with the facts as indicated by the fossil animals and plants of the

¹ *Canadian Naturalist*, vol. iv.

² Wollaston.