

the views of those extreme glacialists who suppose continental ice-caps reaching half way to the equator are borne out by facts. In truth, the ice accumulating round the pole must have been surrounded by water, and there must have been tree-clad islands in the midst of the icy seas, even in the time of greatest refrigeration. This is proved by the fact that, in the Leda clay of eastern Canada, which belongs to the time of greatest submergence, and whose fossil shells show sea-water almost at the freezing-point, there are leaves of poplars and other plants which must have been drifted from neighbouring shores. Similar remains occur in clays of like origin in the basin of the great lakes and in the West. These have been called "interglacial," but there is no evidence to prove that they are not truly glacial. Thus, while we need not suppose that plants existed within the Arctic circle in the Glacial age, we have evidence that those of the cold temperate and sub-arctic zones continued to exist pretty far north. At the same time the warm temperate flora would be driven to the south, except where sustained in insular spots warmed by the equatorial currents. It would return northward on the re-elevation of the land and the renewal of warmth.

If, however, our modern flora is thus one that has returned from the south, this would account for its poverty in species as compared with those of the early Tertiary. Groups of plants descending from the north have been rich and varied. Returning from the south they are like the shattered remains of a beaten army. This, at least, has been the case with such retreating floras as those of the Lower Carboniferous, the Permian, and the Jurassic, and possibly that of the Lower Eocene of Europe.

The question of the supply of light to an arctic flora is much less difficult than some have imagined. The long summer day is in this respect a good substitute for a longer season of growth, while a copious covering of