vast areas, both on the margins and in the interior of the continent, were occupied with swampy flats and lagoons, the atmosphere of which must have been loaded with vapour, and rich in compounds of carbon, though the temperature may have been lower than in the Devonian. There still remained, however, more especially in the west, a remnant of the old inland sea, which must have greatly aided in carrying a warm temperature to the north.

If now we pass to the succeeding Jurassic age, we find a more meagre and less widely distributed flora, corresponding to less favourable geographical and climatal conditions, while in the Cretaceous and Eocene ages a return to the old condition of a warm Mediterranean in continuation of the Gulf of Mexico gave those facilities for vegetable growth, which carried plants of the temperate zone as far north as Greenland.

It thus appears that those changes of physical geography and of the ocean currents to which reference is so often made in these papers, apply to the question of the distribution of plants in geological time.

These same causes may help us to deal with the peculiarities of the great Glacial age, which may have been rendered exceptionally severe by the combination of several of the continental and oceanic causes of refrigeration. We must not imagine, however, that 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 lower 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