and moisture were supplied, has not yet been determined; but St. Petersburg is probably not the utmost limit, and we should expect that in lat. 65° at least, where they would never remain twenty-four hours without enjoying the sun's light, they might still exist.

It should also be borne in mind, in regard to tree ferns, that they grow in the gloomiest and darkest parts of the forests of warm and temperate regions, even extending to nearly the 46th degree of South latitude in New Zealand. In equatorial countries, says Humboldt, they abound chiefly in the temperate, humid, and shady parts of *mountains*. As we know, therefore, that elevation often compensates for the effect of latitude in the geographical distribution of plants, we may easily understand that a class of vegetables, which grow at a certain height in the torrid zone, would flourish on the plains at greater distances from the equator, if the temperature, moisture, and other necessary conditions, were equally uniform throughout the year.

Nor must we forget that in all the examples above alluded to, we have been speaking of *living* species; but the coal-plants were of perfectly distinct species, nay, few of them except the ferns can be referred to genera or even families of the existing vegetable kingdom. Having a structure, therefore, and often a form which appears to the botanist so anomalous, they may also have been endowed with a different constitution, enabling them to bear a greater variation of circumstances in regard to light. We find that particular species of plants and tree ferns require at present different degrees of heat; and that some species can thrive only in the immediate neighbourhood of the equator, others only at a distance from it. In the same manner the *minimum* of *light*, sufficient for the now existing species, cannot be taken as the standard for all analogous tribes that may ever have flourished on the globe.

But granting that the extreme northern point to which a flora like that of the Carboniferous era could ever reach, may be somewhere between the latitudes of 65° and 70°, we should still have to inquire whether the vegetable remains might not have been drifted from thence, by rivers and currents, to the parallel of Melville Island, or still farther. In the northern hemisphere, at present, we see that the materials for future beds of lignite and coal are becoming amassed in high latitudes, far from the districts where the forests grew, and on shores where scarcely a stunted shrub can now exist. The Mackenzie, and other rivers of North America, carry pines with their roots attached for many hundred miles towards the north, into the Arctic Sea, where they are imbedded in deltas, and some of them drifted still farther by currents towards the pole.

Before we can decide on this question of transportation, we must know whether the fossil coal-plants occurring in high latitudes bear the marks of friction and of having decayed previously to fossilization. Many appearances in our English coal-fields certainly prove that the plants were not floated from great distances; for the outline of the stems of succulent species preserve their sharp angles, and others have their surfaces marked with the most delicate lines and streaks. Long