below that which might otherwise be expected. So that in this case we have two opposite causes conspiring to increase the difference between the climates of the two countries.

In like manner smaller bodies of water, as inland seas and lakes, exert a modifying influence, as we who inhabit the northern tier of States can testify from our own observation. Prairies, highlands and forests also enter into the problem of climate, and while they render it when irregularly arranged, more difficult of solution, yet if properly understood in their individual influence, will cnable the climatologist to explain many anomalies in the Geography of Plants. This branch of our subject will be discussed, however, under the head of cultivation of Plants, and may, therefore, be dismissed for the present without further remark—only, that certain specialities in the distribution of plants appear to involve unknown quantities or elements, the determination of which is essential to a complete understanding of the subject. Indeed it is probable that not until more is known of certain intangible elements, and the mean temperatures of localities for less periods than years and half years, many questions of interest and importance must wait for an answer.

If it be true, as we have attempted to prove, that the sunbeam is the motive power which drives the machinery of the great vegetable world, then we should naturally look for the most marked results in these portions of the earth where the intensity of this force is the greatest and where it is most persistently applied. In other words we should expect to find the vegetation of the equatorial regions, where the sun's rays fall most perpendicularly, and operate therefore with concentrated force, the most luxuriant, and a gradual dwindling down in thriftiness of growth as we approach the polar zone. And such is really true; for the tropics display the most luxuriant growths in the world.

It is there that the magnificent Ferns and Confervæ shake their evergreen leaves, and shoot toward heaven, and the over-topping Palm waves its tufted coronal high above the other trees of the forest, and there that the Dragon-tree stands suggestive of centuries that have been. No billowy meadows of tender grass carpet the heated plains, for under the powerful stimulus of the tropical sun, every plant aspires to be a tree!

But gradually this luxuriance diminishes, so that proceeding poleward, the Palm dwarfs a little, gradually becoming less and less until at last it altogether disappears. Still there are great forests of evergreen trees, around the mighty trunks of which are trained the Vine and fire-tinted Bignonias; Crucifers and beautiful Rock-roses abound, and the gorgeous colorings of equatorial plants assume more modest hues.

Next we reach the zone which is mixed of the deciduous and ever-green woods, whose sombre hues contrast so beautifully with the bright, soft green radiant meadows; rich mosses, hitherto unknown, here clothe the trunks of aged trees; leaf-buds before unprotected assume *tegmenta* or coverings; but Lime and Orange groves are there for the refreshment of thirsty man and the Hop and Clematis twine the sturdy stems of giant growths.

Then come the lofty graceful Elm, the massive Plane and Cotton-wood. Among the grasses the Rice-plant holds important rank, furnishing much of the food consumed by the inhabitants of that semi-tropic, semi-temperate zone. A little higher still, Oak also begins to appear, and the drooping Cypress. Corn and the Sugar-cane have their best development, and the garden fruits of the summer of more northern latitudes offer their tempting food in the middle of winter.

Even as far north as the 30th parallel, Nature plies her work from the beginning to the end of the fruit burdened year, nor ever thinks to stop for rest or sleep. Corn and the cane are important products of her toil, and here she prepares her sweetening for the world of men.

Next we meet—at least on the American continent—with the Beech, the Hickory, the Walnut, the Ash, the Oak, and the Batternut, the 46th to the 50th parallel being their true habitat, although some of them, particularly the Oak and the Beech, are found as far north as the 60th. It is within this range, also, that the cereal grains have their most natural growth. Wheat, oats, barley, rye and Indian corn are the chief products of the field; the last mentioned flourishing, as said before, considerably further south, while the first and third may be, with some difficulty, produced as far north as latitude  $65^{\circ}$ . This belt of earth also includes the Vine, whose extreme northern limit is the 55th parallel. The Birch, the Larch, the Pine and the Fir are the principal forest trees along the upper skirt, and even these begin to dwarf after the line of 60° is crossed.