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climate into graduated tints of crimson, scarlet, orange, yellow, and pale green, in a way that no European leaves have learned to imitate; and the maples are often adundant enough to give a general tone of brilliant coloring to an entire landscape such as we seldom see in our damper and mistier England. Besides, the change from Summer to Autumn comes on more rapidly there than with us: a few consecutive nights of dry, clear frost alter the whole face of nature, as if by magic, from green to gold and purple, in a fashion which would be impossible with our slow, longdrawn, changeable seasons. Yet, in spite of all this, I am not prepared to admit that even on the St. Lawrence or the Hudson you can often see anything more brilliant in its way than the yearly September display on our Thames about Nuneham and Pangbourne, or the Founder's Tower at Mag-Jalen, clad from pinnacle to base in uson Virginia creeper during <sup>•</sup> fortnight of October term. th Such outbursts of pure warm color are certainly rarer here than in America; but when once seen they enable one at least to realize, if my memory serves me right, what Canadian woodlands are like when the maples are set ablaze with red and orange in the mellow evenings of that causes, such as those suggested by too rare season, a successful Indian Dr. Croll and Mr. A. R. Wallace, Summer.

It is a curious phenomenon, this annual fall of all the leaves from almost all the trees in northern climates; and vet use has so dulled us to its strangeness that we seldom even think about its origin or meaning in any way. Indeed, until certain late investiga tions of the tertiary floras by M. Saporta, Mr. Starkie Gardiner, and others, it is doubtful whether anybody had ever asked himself any question upon the subject at all. But these investigations have shown pretty clearly that deciduous trees are quite fact itself remains certain that from a modern novelty upon our planet. the eocene age up to the giacial epoch things of the last two hundred mil- the climate of the earth grew steadily

foliage fades under that particular mense cooling of the earth's surface which began in the early tertiary period and culminated in the great glacial epoch. They are a special product of hard times at the Pole, like the white bears, the woolly rhinoceros, the mammoth and the snowbuntings. In the tropics all the trees are evergreens, or at least suffer no regular periodical loss of their foliage; but in the north we have few native evergreers except the pines and firs, with their needle-like leaves; and the two or three hardy, broadleaved exotic evergreens cultivated in our gardens or shrubberies, such as the rhododendrons, the laurels and the bay trees, together with our own smaller holly, box and privet, hardly suffice to convey a notion of the great sonthern forest trees, clad all the year round in thick green, such as the mangoes, the star-apples and the sandboxes. Up to the beginning of the tertiary period, however, large overgreens of what is now the tropical type, covered the whole of the world, as far as the very Poles themselves. Greenland and Spitzbergen then sup. ported huge forests of the same general character as those which now spread over Brazil and the Malay Archipelago. But from the first dawn of the eocene onward, some combination of astronomical and geographical began to produce a general chilling of the temperature at either Pole. Perhaps the effect was wholly due, as Dr. Croll believes, to the eccentricity of the earth's orbit and the precession of the equinoxes; perhaps it was further aided, as Mr. Wallace suggests, by the elevation of great mountain ranges about the polar regions, which became nurseries for immense glaciers, and so supplemented the natural chilling due to the cosmical cycles. At any rate, whatever theory we may adopt for its explanation, the lennia or so, entirely due to the im- colder, the change being of course