

of species was small and it might not be worth while to form them into a separate division ranking with the other groups.

From the above facts we are not surprised to find that the trees of any district constitute a good indication of its climate. Indeed, they are a far better guide than long tables of meteorological observations. Locally, they also give us some indication of the nature of the soil, but this is of very limited application and may be misleading. For example, a fine maple and beech forest, which usually indicates good land, often grows among boulders, or on flat limestone rocks; and, on the other hand, we have the finest lands in the west where there are no maples or beeches, nor indeed trees of any kind.

The lecturer next referred to the splendid forests which formerly covered the lake peninsula of Upper Canada, where, on almost any farm lot of 100 or 200 acres, before it was cleared, one might count fifty or more species of native trees. This Canada of ours used to be contemptuously called a "wooden country," and the trees were looked upon as the enemies of the settler, but it did not require many years to change all that, and now the splendid trees of valuable timber which were so indiscriminately and recklessly destroyed, if they had been spared, would be worth more than the land itself to-day.

As yet no steps worth mentioning had been taken in Canada to replant trees or to cultivate forests. In fact, we are only beginning to try to prevent waste in lumbering, or even the needless wholesale destruction of forests by fires. There were, however, fires of a certain kind, especially in our extensive northern forests, over which we had but little control, namely, those caused by lightning, and which were described as a natural phenomenon that had existed from time immemorial, or ever since there were forests at all. Some of the trees themselves afforded proof of this. During the dry season, when a fire starts in the northern coniferous forest, it often burns with extraordinary rapidity, destroying the timber of a district more than one hundred miles in diameter in less than a day. The greater part of these northern forests had been burnt at one period or another. A year or two after such a fire has passed over, young trees begin to grow, and at the end of a century the ground is again covered by a respectable growth, and in the course of another hundred years the trees are as large as those which had been destroyed. In any large district in the northern woodlands, patches of "second growths" of different ages, as well as newly burnt tracts, may be seen—some quite young, some half grown, and others apparently of mature age. The old woods are sometimes called the original forest, but there is no certainty that any part has escaped the fire at some period. Taken as a whole, the northern forest region may perhaps consist of one-third fresh or nearly fresh *brulé* and brush-wood under ten years of age, one-third of second growths, from ten to one hundred years old, and one-third of trees over this age, or old timber. It sometimes happens that the different areas which have been burnt at various times are not very large, and in such a region, the country, if viewed from a mountain top, has a "patchy" appearance, as the various second growths look different from each other, according to their ages. By observing carefully all the stages of

growth of these new forests, we may perceive why the trunks of the conifers are tall and nearly free from branches. At first the rapidly growing deciduous trees, such as the poplars, alders, willows and birches, cover the ground and conceal the slower growing conifers. But after a time these begin to show their tops above the former in increasing numbers, and they gradually gain the ascendancy. Meantime the less favored or less vigorous of the poplars, birches, etc., die off and disappear, and by the time the remainder of this class have become old, the conifers have overshadowed them, and they mostly decay and fall down, and the forest has now got back to the condition we started with when the fire occurred. This is nature's rotation of crops of trees. Further south, forest fires are more rare, and the pines take the place of the northern conifers; and other trees, such as the oaks, the maples, beech, basswood, elm, etc., replace the northern deciduous trees, and the growth of a new forest is slower, but in the end the result is generally the same, namely, an alternation of coniferous and deciduous forests. Sometimes we have a permanent "mixed woods" and in other large tracts the ground is always occupied by deciduous trees alone, and in such regions forest fires never occur, except where the soil is poor and the vegetable mould light and dry, as on the Manitoulin islands.

The lecturer next spoke of the commercial value of our forests. Although we had already lost much by the ill-advised destruction of our choicest kinds of timber in the hasty clearing of the land in Southern Ontario, and although there had also been much waste of white and red pine in this and the other provinces, still our forest resources were immense, and they should be better looked after in the future. He was a member of a committee appointed by the Royal Society to urge this matter upon the Dominion Government. The principal difficulty was the want of the means to enforce any good laws or regulations which may be enacted. The Dominion and Provincial Governments should provide more power for carrying out the law. A few years ago our vast northern forests were not generally thought to have any value, and their destruction was not considered to be of any consequence. But now that spruce and similar wood is becoming valuable for paper-making, we perceive one of the many possible uses of these inexhaustible forests in the future. Not many years ago a vague idea was prevalent in Canada that the white and red pine extended indefinitely to the north, the west and the east. But from actual exploration we now know that these trees are comparatively southern in their habit, and that they have a very limited range compared with most of our other conifers.

The transparencies which were thrown upon the screen while Dr. Bell was delivering his lecture, illustrated the different phases of our forest growths. These photographs were from slides by the lecturer himself, and by way of contrast, views were shown of the prairies of the west and of the barren lands of the north. He also showed by means of lantern slides his photographs of typical examples of most of our trees as they grow in the forests, where they have a very different appearance from those grown in the open. It had been no easy matter for Dr. Bell to obtain these photographs, as the trees,

after having attained their growth in the thick woods, required to be exposed in such a way as to enable him to photograph them.

Our illustrations are from two of Dr. Bell's photographs. One represents the black spruce woods near the Albany river, which forms the northern boundary of Ontario, and the other white pines on a lake near Sturgeon river, in the district of Nipissing.

HON. CLIFFORD SIFTON,

COMMISSIONER OF CROWN LANDS FOR MANITOBA.

Hon. Clifford Sifton, Attorney-General and Provincial Lands Commissioner for Manitoba, is a native of Ontario, having been born in London Township, Middlesex County, on the 10th of March, 1861. His parents, who are still living and reside in Winnipeg, are Hon. John W. Sifton, formerly speaker of the Manitoba Legislature, and Kate Sifton, whose maiden name was Watkins. He received his education at the London High School and at Victoria University, Cobourg, where he was awarded honors and the gold medal. After graduating from college, he



HON. CLIFFORD SIFTON.

entered the office of Mr. S. C. Biggs, barrister, of Winnipeg, to study law. On being called to the bar he removed to Brandon, where he has practised his profession continuously ever since, and has succeeded in building up an extensive connection. He has never taken part in municipal affairs, except that he was appointed City Solicitor for Brandon and of the Western Judicial Board.

In 1883 Mr. Sifton was elected to the Provincial Legislature, and was sworn a member of the Executive Council and appointed Attorney-General upon his re-election in 1891. He is considered one of the ablest speakers in the House, if not in the Dominion. His appointment as Attorney-General was received with universal satisfaction, and he has proven himself well worthy of the high honor. As Commissioner of Crown Lands his executive ability has also been of high order, although the extent of these lands in the province which he represents is not large. In religion he is a Methodist, being a trustee of the church to which he belongs. He is of retiring disposition and popular with all.

On the 13th of August, 1884, Mr. Sifton was married to Miss Burrows, of Ottawa.