THE FORESTS AND FOREST TREES OF CANADA.

On the 25th January, Dr. Robert Bell, of the Geological Survey of Canada, delivered an interesting lecture on the above subject, under the auspices of the Canadian Institute, Toronto. The lecture was well illustrated by about sixty fine lantern slides from photographs taken by Dr. Bell himself, and it was listened to by a large and intelligent audience. Dr. Bell said that throughout the greater part of British North America the conditions were very favourable for forest growth and hence we have one of the most extensive wooded regions on the face of the earth. In nearly every part of the world, if there be sufficient moisture and a climate not too severe, forests will be found growing on any uncultivated land. In Canada the original forest covered Ontario, Quebec, the maritime provinces, most of the Labrador peninsula, the country around the southern half of the Hudson Bay, and thence north-westerly to Alaska. British Columbia was also a wooded province. The southern parts of our North-west Territories were prairie and plain, and this condition was principally due to the dryness of the air. The northern regions were "barren lands" or destitute of timber, on account of the severity of the climate, although the soil itself was often well adapted to the growth of trees.

BLACK SPRUCE FOREST, UPPER PART OF THE ALBANY RIVER, NORTHERN ONTARIO.

The great northern forest-belt of Canada, consisting mostly of conifers, stretched with a gentle southward curve from the east coast of Labrador, past Hudson Bay to Alaska, a distance of some 4,000 miles, and it had a breadth of about 700 miles. As we go south, the number of species of trees increases rapidly, but the range of each new kind we meet with becomes narrower and narrower on account of the contraction of the continent in this direction and the encroachment of the arid regions of the south-western parts of the United States and of Mexico.

In the great northern forest above referred to, the black and the white spruces are the most abundant trees. The spruce forests may be said to begin on the northern shores of Lakes Superior and Huron, and along a line drawn from Lake Nipissing to Quebec, and from this, as a base, they extend northward to the Hudson Bay, north-eastward into the Labrador peninsula, and north-westward to Alaska. Their northern boundary is the northern verge of the forests. On the west side of Hudson Bay, this line runs north-west from near Fort Churchill to the mouth of the McKenzie river. All through the southern portions of this belt the white spruce, which is the larger tree of the two, often measures six feet and upwards in girth, and would furnish two or three good saw-logs to the tree. What the black spruce lacks in size it makes up in numbers, as these trees generally grow very closely together. Although Professor Asa Gray, the great American botanist, did not point out the specific difference between these two spruces, there is no doubt they are quite distinct species and the distinction is easily recognized by anyone accustomed to our northern trees.

In all, there are about 340 different kinds of trees in North America, which represents a wealth of species unequalled in any other part of the world. Of this large number, we have in Canada 121 species, of which nearly 100 are found east of the Rocky mountains. In striking contrast with this, it was mentioned that there are only about fourteen different species of trees native to the British Islands, and only about twenty-five to all Europe.

A large map of Canada was thrown upon the screen which showed the northern limit of the geographical distribution of each of the principal forest trees east of the Rocky mountains. Most of these lines ran about east and west, or rudely parallel to one another, but there were some remarkable exceptions such as the white cedar, the Banksian pine, the yellow birch, and the rough-barked poplar. The peculiarities in the ranges of these trees might be due to such causes as extremes of temperature, to dryness or dampness, affect of cold sea air, original dispersion, or to some unknown circumstance. In approaching the prairies of the North-west, the northern limits of the tree lines do not end abruptly, as if the prairies had been formed by the burning away of just this much of a former extension of the wooded region, but they begin to curve round and run off to the south before coming to the open country, showing that the origin of the prairies and plains was due to climatic conditions and not to forest fires. From James bay the northern boundary of the white cedar runs west to the head waters of the Severn river and then drops south into Minnesota, passing along near the east side of the Red river. To the east of James bay, after reaching the north shore of the Gulf of St. Lawrence, it drops south, crossing the other tree lines at right angles and leaving out Newfoundland and Nova Scotia, although the climatic conditions appear to be as favorable for it there as in the Gaspe peninsula where it is abundant. In the central part of the great Labrador peninsula there is a large area, from which the balsam-poplar appears to be absent, although abundant all around it, as if the proximity of the sea were favorable for it. On the other hand the Banksian pine grows only in the central and southern parts of this peninsula, as if it shunned the sea air. These were only a few examples of the peculiarities in the distribution of some of our trees.

WHITE PINE TREES ON A LAKE NEAR STURGEON RIVER, ONTARIO.

The trees of Canada, east of the Rocky mountains, might be divided into three groups as to their geographical range: first, a northern group of very wide extent, including the tamarac, the black and the white spruce, balsam fir, Banksian pine, balsam-poplar, aspen, white or canoe birch, alder and willow; second, a middle group, including the red and white pines, hemlock, white cedar, the different species of ash, elm, maple, oak, the beech, butter-nut, bitter hickory, yellow and black birch, ironwood, black cherry, basswood, etc.; and third, a southern group, including the red cedar, the black walnut, chestnut, shellbark hickory, button-wood, blue beech, tulip-tree, sassafras, flowering dogwood, sourgum, etc., found only or principally in the southern part of the lake peninsula of Ontario. A fourth or western group would consist of such trees as the negundo or ash-leafed maple, the cotton-wood, bur oak, green ash, etc., but the number