FORESTS OF ONTARIO.

We continue our extracts from Mr. R. W. Phipp's report:

THE POSITION IN WHICH FORESTS WOULD BEST EFFECT THE ONTARIO CLIMATE.

To produce their best effect on climate, three points are to be observed, 1st. To occupy the heights, firstly that they are generally of poor land well spared for that purpose; secondly, that wooded elevations preserve rain, feed springs, and continue water-courses in regular action. 2nd. They should be of considerable depth as well as length, as a thin line of forest will not by any means preserve the moist and humid atmosphere within their bounds on which their beneficial action depends. For such purposes, they should not, if it could be avoided, be less than a mile in depth from front to rear, and they had better be ten or twenty. To act as reservoirs of humidity they must be of fair extent, otherwise they will neither be able to feed the water-courses, nor to send upwards to the clouds those moist currents which, it appears by all experiment, meeting with a differently constituted atmosphere of the air, produce rain at those seasons when it is most needed. 3rd. If possible, such forests should stretch across Ontario in lines from northwest to southeast. They would then be in position profitably to intercept the southwest wind, which is the great bearer of moisture hither from the Gulf of Mexico and the tropical seas. For instance, as has been observed, the great forest northeast of Ontario does not bring much rain relatively to Ontario. Most of the rain a forest obtains will fall northeast of that forest. The exceptions are when an east or northeast wind, meeting the southwest current, produces rain, and is sufficiently strong to carry before it the rain bringing current; but this is not to be depended on, the intention in endeavoring to preserve the forest in the line mentioned, being that the ascending currents shall meet and produce rain from the moisture-bearing winds, which are mostly southwest in reality, though often deflected and turned away by local or other influences. Of course it is not expected that Ontario can be mapped out in field and forest at this late day. But we can know in what direction to strive here, and where forest overspreads the whole country, as in part of our territory elsewhere, very much indeed can be done.

It must always, however, be remembered that east, and even northeast winds, can and do bring rain of their own force from the Atlantic direction. But the southwest wind is the chief rain bringer. The others may be called with reference to Ontario, local. The southwest wind brings moisture to the whole northern hemisphere.

TREES BY THE ROADSIDE.

Premiums have been very properly offered here, in a Bill just passed through Parliament, to those farmers who shall plant and maintain in growth certain descriptions of trees. The Bill refers principally to lines of trees set along the highway and the dividing lines of farms. These, or small plantations of any sort, are valuable, but by no means fulfil the functions of deep belts of forest. Their great value is, if planted over sufficient sections of country, that they preserve the land from drying winds, and in that way, if they do not, as the forest does, bring rain, they preserve the effects of rain for a much longer period. Secondly, and a very important benefit indeed, they prevent the wind from drifting the snow off the fields they inclose, and the roads bordering them. Left evenly on the ground, the snow is a vast benefit to the soil and the coming or existing plant; driven into great heaps by the wind, it not only injures both, but also renders transport over the roads difficult or impossible.

A WORD ON THE PRESENT AMOUNT OF FOREST IN ONTARIO.

It will be seen by the accompanying list that the state of Ontario, as regards possession of forest land, is as follows:—On the northeast she has a large forest, and in Muskoka and Georgian Bay District forests of some size. These are all the Province possesses to feed the streams, we may say, east and northeast of Toronto, and they largely at present perform that function. But the whole great peninsula to the west is destitute of most of the original forests on the elevated lands which gave her rivers water, and has little in the way of woods save the small reserves farmers have kept for themselves on their farms. As I pointed out *previously, these are being rapidly used; one* after another they fade away from the land and are not replaced. The accompanying lists will show exactly the acreage under wood still left in each county, and when we remember that but a century ago all was forest, we shall be amazed at the rapidity of destruction; and, noticing how fast the small reserve is disappearing, we shall be quite convinced that in a very few years, unless remedial measures are successfully applied, the great peninsula of Ontario—our chief territory in a farming sense—will be to all intents and purposes a deforested land. And I may here observe the fallacy of the statement sometimes ventured, "Oh, we cannot be in want of forests, there are so many million acres in Ontario, and of them only so many are cleared!" May I ask what this has to do with the question? Neither the woods of Keewatin nor Muskoka can in any degree assist the farmers of the great Ontario peninsula, from Windsor on the west to Toronto and Collingwood on the east. Nor will the small patches left on each farm assist them. They are too small and too isolated, and far too certain to vanish, to maintain the proportion of shaded land necessary for climatic influence. But these districts, it is said, give fair crops now. They do not yield so easily as once, nor is the sky so propitious now, as the careful investigations of Dr. Bryce and Prof. Dewey, some pages back show. But the great point is this,—they soon will, in all human calculations, suffer severely. Now, if the matter be commenced in time, we have yet space, before it be too late, to carry out what all civilized countries have acknowledged the necessity of and are to-day engaged in,—the work of making provision for a continuous forest area, and constant supply of merchantable timber.

Something can be done, and no doubt should be done, in certain parts of Ontario towards replanting our destroyed forests—destroyed in localities where forest, to improve climate and subserve agriculture, should especially be allowed to remain. But the great opportunity which yet remains is that of preservation. This is found to be the case in India. The Government of that great country, expending yearly its hundreds of thousands of pounds sterling for preservation and replanting, has not yet planted a hundred thousand acres, while it has improved, is improving, and has to a very great extent, already changed for the better, the character of many millions of acres of forest land. If we pass through much of the forest which Ontario still retains in governmental hands, we shall find, here and there, many a large expanse desolated by fire and growing up again, a brushwood choking itself to uselessness, covering a burnt and impoverished soil. We shall find great areas of forest the lumbermen have culled of pine and spruce, of ash and oak. Every here and there are the relics of their operations

the close hewn stump, and, a goodly distance therefrom, the great pile of decaying branches where the head of the tree had fallen; while the whole distance between, if round timber had been got out, shows nothing but a few scattered *side limbs, but if square it is paved with* immense pine fragments—short thick slabs whose deep clean cut show the force of the scorehacker's arm, and long lengths of those peculiar chips, slightly connected, thin and broad, smooth on one side, the depth and straightness of which show how deftly the the handler of the broad-axe has plied his unwieldy tool; and if you come near the stump, and it has been heavy timber squared for the English market, you will find in great masses, hewn off, thrown away and rotting, as much clear timber 'ns, sold at Toronto prices, would go far towards the whole sum the lumberman will ever get for the log. The piles of *debris* are everywhere, and form a most inflammable portion of the touchwood of a forest. Then before the strong oxen could drag the great log to the river down which it had to be floated an avenue of smaller trees had sometimes to be cleared from the way, and these likewise piled in desiccating heaps, their skelton branches protruding among the green undergrowth, like the ghastly relics of mortality on a forgotten battlefield, cumber the forest floor.

You will find many places where trees are choking one another for want of air and light, until *in lapse of years some stronger* one will tower above their fellows. You will find places where hurricanes have cut their way through the forest, and the trees lie for miles, as the ranks mown down by the mitrailleuse. You will pass the solitary bush road, the trees which once grew therein chopped right and left into the forest by the makers of the track, where they lie in a dry heap for miles on miles, forming as pretty a fire track as one could wish to see. And everywhere you will find millions of young trees giving full promise, if spared axe and fire, of becoming trees as sturdy as any the lumberman has carried away, but never theless, the impression produced on you by the whole pilgrimage will be that, if no preventive measures be used, the fire which has taken so much already will sooner or later take the rest. When one compares the state of our forests with that of those in some parts of Europe, and thinks of the long avenues of fire breaks, the forest-rangers on the watch, the careful management, the incessant thinning and replanting, the long succession of goodly trees yearly ready for the axe, and the certainty, with equal care, of such a succession for all time to come, one is apt to think it full time that some such system were introduced here.

RAVAGES OF FIRE.

To show what loss is being incurred by the fires which run through our forests, let us take up the report of the Commissioner of Crown Lands for 1882. There are 9 reports of surveys. Let us see what they say in succession:—

TIMBER BERTHS NORTH OF FRENCH RIVER.—The greater part of my line passed through a burnt country, the fire having gone over some parts a second time. Over this burnt country all the timber has been killed."

"TOWNSHIP OF DUNNET.—Over one-half of this township has been burnt."

"TOWNSHIP OF HUGEL.—The greater portion of this township has been overrun by fire and the timber destroyed."

"TOWNSHIP OF RATTEE.—About one-sixth of the township has been burnt over, all the timber being destroyed by fire."

"TOWNSHIP OF KIRKPATRICK.—Nearly the whole of the township has been burnt over."

"TOWNSHIP OF HAGAR.—Bush fires have destroyed nearly all the timber."

"TOWNSHIP OF FIELD.—No mention of fire."

"TOWNSHIP OF DRYDEN.—The greater portion of the timber has been destroyed by fire."

"TOWNSHIP OF WILKES.—Not injured by fire."

In last year's report, out of fifteen surveyor's statements eleven speak of the ravages of fire.

THE PINE LUMBER REMAINING.

The latest opinions of value procurable on this head are perhaps those given by Messrs. Drummond, Little, and others who have studied this subject, at the last year's Forestry Convention. Maine and Michigan were mentioned. At Bangor, long famed for vast lumber mills, only fourteen million feet were procurable in 1877, against over one hundred *million in 1856. The whole Saginaw valley,* Michigan, the very home of the lumber trade, is nearly culled. What this means may be imagined when we learn that it has been cutting with mills of six hundred million feet capacity. Their lumber journals declare that in all Michigan, Wisconsin and Minnesota—the western pine States, there is not ten years' supply with the present demand. We may, I think, consider that the demand is likely to increase, perhaps to double. With this, and especially if they have a recurrence of their terrible fires, there may not be five years' supply. Concerning Ontario, we are told that Mr. Little has consulted the best authorities, and is persuaded that in Canada (5,000, Quebec; 3,500 Ontario; N. B. and N. S. 1,500) we have but ten thousand million feet of pine, while we are at present cutting a thousand million feet yearly, leaving ten years' supply. Consider this in the same light, and look at some Canadian fire statistics further on, and we may well doubt whether we have five years' supply. In Newfoundland there is little good pine left. It must be noted that a well-known lumberman, Mr. J. K. Wood, puts the amount manufactured yearly in Canada at nearly two thousand million feet, *adding to pine spruce and other woods. If we* count the pine timber remaining in the States, we shall find that, after Michigan, Minnesota, and Wisconsin are exhausted, say in seven years, there will probably be twice as much, say fourteen years' supply in the other States, such as the large and slowly decreasing forests still standing in Arkansas, Louisiana, and California.

In view of these facts, let us observe what will, in a few years, be our position in Ontario, or even in Canada. We have but between five and ten years' supply. The Americans have their Southern and Pacific States as a reserve, where, though at great cost of carriage, they may obtain pine. But Ontario has no such reserve. In a few years we shall have but some districts of woodland to our north and northeast, culled of their best pine, and alternated with great sections over which the fire has swept, while the rest but wait for it to arrive, that the destruction may be complete. As one of the late forestry conventions, Mr. Thistle, a lumberman and surveyor, gave it as his decided opinion that ten times as much lumber was destroyed by fire as by the axe. Let us carry this to its conclusion. We have been exporting perhaps twenty million of dollars worth yearly. What if we have been losing two hundred millions? Is it not time—would it not pay fifty-fold—would it not still pay—to give the care to preserve our forests that Europeans give theirs? It was thought that this was a wooded country, and that there was no such danger. I would ask my readers to study the descriptions of European forestry in other of these pages. They will not be able to avoid the conclusion that, in a few years, Germany, Prussia, and other European countries will be better wooded than Canada. We will glance a moment at what is told us of the forest when the lumbermen have culled it. Here is one description by Mr. Ward, a Canadian lumberman:—"To the uninitiated traveller through the woods, after the shantymen have taken all they think worth taking, he would hardly notice the chopper had been there, except for seeing an occasional stump, a few chips, or the top of a tree." Now we will take another, Mr. Smith, in the "Flora of Michigan":—"The valuable trees were felled years ago, and the lumbermen moved on to fresh spoils, leaving behind an inextricably confused mass of treetops, broken logs, and uprooted trunks. Blackberry canes sprang up everywhere, forming a tangled thicket, and a few scattering poplar, birch, and cherry trees serve for aboreal life, above which tower the dead pines, bleached in the weather, and blackened by fire, destitute of limbs, and looking at a distance not unlike the masts of some great harbor. Thousands of such acres, repellant alike to botanist and to settler, can be found in any of our northern countries." What we had better conclude, I fancy, concerning the difference between the two, is that the second had undergone a second and yet sharper and more reckless culling, after it had passed the stage described by Mr. Ward. It is evident that the time has passed when it was a matter *of choice to attend to forest preservation in* Ontario. If we are to retain any, it is now an affair of immediate necessity.

In fine, if we wait longer, our forests will be gone, and can then not be renewed, except at the vast expense of time and money required in planting.

If we move energetically now, we can preserve great forests, the maintenance of which is most necessary to our prosperity, and shall also have time to plant, where no other means exist.