

everywhere the gay French songs of *A la claire Fontaine*, *En Roulant ma boule*, and *Vive la Canadienne* sung to the top of his voice by the young farmer making sugar in the fine maple bushes grown on the land once wrongfully deprived of its trees by his father.

I dwelt, perhaps, too much on my subject, but I will offer as an excuse that it is so wide and so attractive that I always find it difficult to be concise when I treat it. I hope, however, that I have not been too annoying.

FORESTRY ABROAD AND AT HOME.

Mr. R. W. PHIPPS, Clerk of Forestry for Ontario, addressed the convention as follows: I have no doubt that you all who are so much interested in fruit growing are to a certain extent interested in general tree growing, which is a matter very similar, and which has a great bearing on the other. We will go for a moment into the consideration of first principles in this matter, and we will look at what have been the effects in other countries—for there is very little use in general speculation without we have some facts to go on. We find that in the Old World the whole basin of the Mediterranean, the countries bordering thereon—Syria, Palestine, and all those ancient countries which formerly produced such magnificent armies, which flourished so greatly—we find them to-day to a very great extent a desert. We ask the reason why principalities which formerly poured forth their legions could not produce a company. It is a waste of sand. It is a desert. We find but one reason, and that is, these countries have stripped the land of the forests which formerly in every direction embowered the soil. Nobody would make any objection to a proper clearing of forest, for farms are as necessary to us as anything else; but in these examples which I am quoting they have cleared too much. They have cleared not only the arable land, fruitful for food, but they have cleared the side of the mountain; they have cleared the useless swamp; they have cleared the rocky precipice, which might well have been left in the trees with which nature planted it, and which would forever, with their natural habits of reproduction, have continued themselves in strength and beauty. Had this been allowed, had the useless parts of the land—useless except for forest—been allowed to perpetuate themselves in forest, the fruitful soil would never have lost its fruitfulness, and never have ceased to yield its proper return. We find the contrary. We find in this country, where all has been cleared, that a very great proportion now is desolate and yields no longer that return which formerly it did. It yields no more the men, the oxen, the wheat, the great ships, the armies, the navies—nothing is there.

Now, applying the principles of science to this, we find the reason: that the tree, that the forest, that the grove, is necessary to give us the proper returns of the summer rain, of the spring showers, of the gentle influence of moisture over the land. To examine more minutely into this, perhaps we will spend a few minutes in considering the manner in which the tree joins with the atmosphere above in producing and perpetuating rain at the time when it is needed. I would ask you to consider with me, the moment that the tree draws its nourishment from the roots, and partly from the atmosphere, that that nourishment brought up from the roots is carried up by the very large amount of water which passes up to the leaves; that this nourishment is there joined to the nourishment the atmosphere affords, and then the food for the tree passes back to where it is needed, while the water which carried it up, which is the vehicle, passes away from the leaves—very little water going down to the roots again. From this cause we have the reason why forests sent up very large amounts of moisture to the air. The quantity has not been properly estimated as yet; we cannot get at it exactly, but we know that a large forest is calculated to send up what is called millions of tons of water to the atmosphere above in the shape of vapor. This vapor, being cool, as it necessarily is, being produced in the forest which is always cool, passes into the clouds above, and joining with them there, the clouds above bringing each a stock of rain from the southern regions, from the equator, the junction of the two naturally occasions precipitation and occasional rain nearer or farther away. Now the very opposite of this takes place on a sandy desert, or a country covered with mere plowed land—a country destitute of herb-