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## WHAT WE WANT.

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More than half a century ago a few farseeing men warned the Canadian people that their timber wealth was not inexhaustible. Among them was James Little, a lumberman, a man who knew the woods and knew what he was talking about.

More than a quarter century ago the first public meeting was held in Canada for the distinct purpose of arousing the Canadian people to a realization of this fact, and to stimulate a reform looking toward better treatment of their forest resources. I refer to the meeting at Montreal of the American Forestry Congress in 1882, when I had the honour for the first time of addressing a Canadian audience. What with that meeting and with the subsequent propaganda work the names of William Little, the son of the venerable James, then still living, of A. T. Drummond, of Dr. Saunders and many others, but above all, of our lately deceased beloved friend, Joly de Lotbiniere, are intimately connected. For two decades these men worked under the aegis of the Continental American Forestry Association.

Almost a decade ago the Canadian Forestry Association was formed, to join together in a separate organization, in order to secure a more united effort and action for their own country, all Canadians who had been educated to consider the need of a conservative forest policy.

Two years ago a notable convention was called to the capital by the Premier of the Dominion, to discuss ways and means of inaugurating such a policy. Besides these specially organized agencies of propaganda, newspapers and magazines have abounded in perorations on the necessity of forest preservation, and lately a wave of enthusiasm in regard to the conservation of all resources—on paper—seems to have taken hold of public attention over the whole continent.

It would now be pertinent to ask, what results has all this long continued effort produced, and, should the answer fall out unsatisfactory, it would be still more pertinent to ask why the sought-for reform has lagged, and what means may be devised to advance it more effectively?

In making these inquiries I do not wish to appear as a critic, but merely as a dispassionate analyst, and I hope you will believe me most appreciative, not only of the achievements, but of the difficulties in the way of reform, being well aware that in popular government, progress in such reforms must always be slow. It took nearly a century and a bloody war in the end to secure the abolishment of slavery in the United States. It took 30 years of persistent propaganda to advance forestry interests in the United States so far as to secure for them at least a respectful hearing, and if it had not been for the accident of a wealthy, independent idealist, and a fearless, independent, idealistic President coming together to Washington, the remarkably rapid progress made there during the last ten years in governmental forest administration would very likely not have occurred.

Perhaps before discussing results, it may be desirable, first, once more to formulate, what precisely it is that forestry reformers in Canada want.

Since in Canada the governments of Dominion Provinces control, retain ownership of the bulk of forest properties it is to the governments in the first place, that they appeal to.

First of all they want the governments of the Dominion and of the Provinces to change, radically, their attitude towards this property.

"The devil take the hindmost" or "What has posterity done for us?" this is the attitude which is characteristic of the majority of mankind in the struggle, not only for present day existence, but for present day accumulation of wealth. While this is to a large extent, if not the professed, yet the actually practised attitude of private individuals, I am afraid it has also been, and is still frequently, the attitude of governments: that is to say the exigencies of the present are often an overwhelming superior argument as against the needs of the future. It takes, indeed, a high degree of farseeing statesmanship to so manage the affairs of the present that the future shall not suffer, and its needs be taken care of. Especially in a government which is built on popularity, on direct support by the present day masses, the politician, be he ever so farseeing is bound to let the present day considerations weigh the most.

Hence it is but natural that Canadian government, like other governments which had to deal with newly developing countries, in the face of plenty have allowed the present generation to use the resources of the country wastefully and without regard to the future, overlooking the *providential function* of government.

Hitherto the governments have looked upon the forest either as an inexhaustible resource like air and water, or else as an exhaustible, but non-restorable resource, like the mines. They have pulled the house to pieces and sold the brick instead of keeping it in repair and securing the rents by proper management.

During the last 40 years alone over 1,000 million dollars worth of these "brick" have been torn out of the building and sent out of the country in exports, mostly of raw material, and, in addition, the domestic requirements of a population of say four million people in the average have been supplied, which may be estimated, outside of fuel wood, at not less than 1,000 million dollars in value.\* During the same period less than 100 million dollars (probably not 80 million) have been collected by the governments in dues, ground rents, leases, and otherwise for the use of their forest properties, by so much reducing, to be sure, the need of other taxation, but also by the manner of collecting these taxes the destruction of the resources from which they are collected. For the Eastern Provinces at least the life of the golden goose that has enriched the country and built its homes and industries, is doomed in the near future.

The government undoubtedly acted in good faith and believed that they were doing the best for the country by encouraging the opening up and the utilization of the vast timber wealth; moreover, they acted in the belief that this wealth was inexhaustible, and that, therefore, for a long future no concern need be had as to a conservative management.

They did not realize that while the woodland was extensive, the saw timber was quite limited; they did not realize how rapid the growth of the world and of the requirements of modern industrial development would be, and how slow the growth of trees.

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\*Taking as a fair average for the period, the Census of 1891, we find the population was 4,833,000, the consumption of all forest products totalled \$80,000,000, or \$16.00 and 296 cubic feet per head, of which seventy per cent. was accredited to home consumption. Deducting the exports of that year with 25,000,000 from the total value accredited to other than firewood, leaves \$33,000,000 worth of sizeable material for home consumption, or about \$7.00 per capita leading to above estimate.

It needs to be driven home to every Canadian that in spite of foolish assertions to the contrary and exceptional cases observed on single individuals, the growth of trees in the forest in our northern climate in the East, and on the thin or rocky soils, which are the eventual heritage of the forester it takes in the average not less than 100 years to make a 12 inch tree, and the majority of the trees of Nature's growing which the lumberman cuts have required 150 years and more to make log sizes.\*

This long time element is the strongest argument not only for the governments retaining and managing forests as crops, but for the need of timely consideration of the future. Such considerations of the future, as we shall see, would involve the breaking away from the license system hitherto in vogue, and this, indeed, is involved in our desire to see the government change its attitude.

We want, then, the governments to realize that there are other ways of utilizing forest properties than merely exploiting them; that a rational, properly directed, technical management is capable of securing all the value without destroying the capacity for further production, in other words, that forests can be managed as crops to be reproduced while the utilization is going on. More than that: poor forests of Nature can be improved and made to produce more valuable material than the untouched natural woods. Nature is not, as some bigoted nature worshippers would make us believe, the best forester, for in Nature's production the economic thought is left out. She produces weeds as readily as valuable kinds, she is lavish in space and time, wasteful and without regard of human needs.

No such simple provision as setting a diameter limit in cutting the timber limits will suffice to secure the needed supplies for the future. While such a diameter limit may under certain conditions save at least a part of the value and make future recuperations easier in the end, only a real forest management—the application of forestry—by educated foresters will satisfy the situation. And let it be well understood that forestry is not tree-planting, but begins best when the first tree is cut.

Next we want the governments of the Provinces, especially the Eastern ones, to realize that not less than two-thirds of their territory and most likely more, is not fit for agriculture and only fit to grow timber. Hence, there should be a more careful distinction made in the treatment of the two situations. As long as rich agricultural soils in bulk were available, and the location of farms progressed by natural selection on the glacial drift and alluvial soils, there was no need of any special consideration, although here, too, it would have been better if the denudation of absolute forest soils had been prevented, so that the laudable effort of the Ontario government of buying up and reforesting waste lands would have been unnecessary. But, as settlement progresses into the true forest region, which is destined to the largest extent to remain in forest, a more definite policy of disposal becomes necessary. It is true there are some restrictions placed on settlement by the governments, at least in Ontario, by which a township is excluded from farm settlement unless a certain percentage can

\*The growth of trees is exceedingly variable, according to species and growths conditions. The careful measurements of several thousand White Pines, the most rapid growing conifer in our woods, show that it takes, in favourable sites, in the average not less than sixty years to make a twelve-inch tree, and under the most most favourable growth conditions, it would not be over twenty-four inches in the one hundredth year. The Spruce, a much slower grower, makes under most favourable forest conditions one inch in seven, more frequently one in nine years, which would bring a twelve-inch tree in the average to one hundred years. But in the virgin forest where competition among species and individuals retards the development, one inch in twelve to fifteen years and more is the more usual rate of growth.

be shown to be farm soil. Aside from the somewhat doubtful method, by which this percentage is determined, there is, from the standpoint of a proper forest policy, an important point overlooked, namely, the propriety of making a difference in the exploitation of the timber on these two parts. It is evident that on those portions which are destined to eventually become farms, the timber may be cut without any reference to the future, while on those portions which are destined to remain in forest, the policy should be to direct the cutting in such a way as to insure the persistence *i.e.* the reproduction of the valuable forest growth, especially by keeping the fire out.

And here we come to our third and most fundamental want, efficient protection against forest fires without which all other propositions and the practice of forestry are futile.

This requirement, to be sure, is generally recognized as self-evident not less by the governments than by all citizens, except the ignorant, careless and criminally irresponsible ones.

But, although, governments have undertaken to check this greatest evil, the extent of which may be properly made a measure of the civilization of a community, we cannot but think that they have done so without adequate conception of the difficulty or importance of the undertaking, nor indeed in the attitude which we have outlined, of regard for the future. This lack of proper attitude is most characteristically exhibited by the report of what an official in charge is said to have remarked regarding the forest fires of the past season, namely, that they had done no damage for they had mainly run through slash. It is here that the future lies! The old timber is mostly not damaged beyond usefulness by any single fire, but the young growth, the promise of the future, is surely killed, and it is the repeated fires running through the slash that makes the deserts.

To make fire protection effective in the Provinces, there is lacking first, the proper attitude, next the organization, next the men and adequate expenditure, and lastly, proper morality among the people at large.

Here we may find fault with ourselves for not more persistently and assiduously employing all the educational means possible to instruct the public, and to keep the matter stirred up by public prints and circulars, public addresses from lecture platforms and in schools, and by private talks.

Especially those, who living in the endless woods are cut off from a perspective and cannot realize that "a few acres more or less of this useless slash burned" may have serious consequences, need to be educated. The public conscience must be aroused more persistently.

The government really is helpless in the attempt to check the evil if not supported by active co-operation of the whole people. As the apostle St. John, at the end of his life had recognized and always preached the one doctrine, that all Christian virtues may be expressed in one—brotherly love,—so every forester must recognize and preach the one thing which is fundamental to all his endeavours, eradication of the fire fiend.

It is then simply these three things in one that we want; a management of the public forest property for continuity, which involve protection against destruction of the young growth and cut over lands from fire; segregation of agricultural lands before cutting begins; and a change of methods of disposal which will give control to the government over the manner of cutting and of leaving the timber limits.

How far have governments responded to these demands?

There is legislation regarding forest fires in each province and lately also more and more efficient organization to carry it into effect, although this is very variable from province to province, from British Columbia, where less than a handful of incompetent fire rangers attempt to protect

a territory nearly as large as the whole of France and Germany combined, to Ontario, which has lately spent 150 to 160 thousand dollars on its protective service.

It is not likely that a large, annually newly recruited army of incompetent, inexperienced men, appointed through political influence, even if a sprinkling of competent woodsmen is added, will successfully cope with the evil. Thorough organization of smaller groups of continuously employed, experienced men, which may be assisted by some less experienced during the dangerous season, and thorough continuous inspection while they are at work is necessary. This nucleus of permanent foresters should be directed by active superiors in charge of this special service and in sympathy with the broader policies which are to follow the effective fire protection.

I believe the Dominion Government and the Province of Quebec have the feeble beginnings of such an organization which only needs to be further elaborated. These two governments have inaugurated what would appear to be the first requirement, namely, separate government agencies to take care of the forest interests, and only an extension of their means and functions is necessary for further development.

What none of the governments have realized, not even the Dominion Government is, that a supreme effort is necessary to break away from the established usages, which a century of accumulated momentum carries over any feeble attempts to interfere with them.

A mere tinkering with the problems with little detail descriptions will not remedy anything, broad and farsight plans of action are needed.

There is no thorough realization of the seriousness of the situation, if act still doubt as to whether it exists.

The certainty as to whether we are really as close to the end of this resource as it appears, and that its condition is as dangerous as we claim, might perhaps stimulate the governments to a change of attitude and to a more decided advance towards positive improvement in their methods of management.

We do not know positively what the amount of timber standing actually is, but we can make a fair probability calculation.

The commercially valuable timberlands of the Eastern Provinces are and were always confined to the portions south of the Height of Land with an insignificant overflow along the headwaters of the northern river courses. This area which circumscribes the limits of the White Pine does not quite cover 200,000,000 acres. It is from this area that some 25 million acres have been cleared for farms at the expense mainly of the most valuable hardwoods, and that during the last 40 years the above stated values for export and home consumption were derived, not to speak of the longer but comparatively lighter drain of the period before confederation. If we were to assume an original stand of sawtimber of all kinds averaging 2,500 feet on all the acreage (1,600,000 feet per square mile), which any one acquainted with this forest type would pronounce an extravagant allowance, there never was more than 500 billion feet available. The above cited export and home requirements indicate a consumption of not less than 300 billion feet, leaving still available 200 billion feet, which by a reduction of standards may be increased to 300 billion feet. What this amount signifies can only be understood by comparison with figures of consumption: it does not represent more than seven years' supply of the annual requirements of our neighbour!

The only other commercial timber area of Canada is found in southern British Columbia. This area is by competent land lookers placed at only 30 million acres, but if the standards be lowered, we might find it extended

to 50 million acres. A liberal allowance will bring the stand to about the same amount as is still found in the East, namely, 300 billion feet, another seven years' supply for our neighbours which they have to a large extent already exempted.

The vast remaining territory no doubt contains timber, and sometimes of good character, but this is all needed for the development of the country itself and does for the most part not occur in such quantities and locations as would invite commercial exploitation except for home use.

These figures we must admit are mere reasonable guesses, and the absence of more reliable information is rather a reflection on the managers of your national property, and suggests the first step of reform which every provincial and the Dominion Government should take, namely, to secure a descriptive forest survey, a taking of stock of the property of which hitherto they have disposed without any adequate knowledge.

Such forest surveys (which are not surveyor's surveys) can be made much less expensively than is usually believed, much of the information being already in existence but not compiled for use.

It should be collected, not as it has been hitherto, by timberworkers, merely with a view as to where the commercial exploitable timber is to be found, but with a view of furnishing the basis for plans of future management of the forest area as a whole.

This work, to be sure, requires experts and these are as yet in existence only in small numbers, yet there are enough to make at least a beginning, and the Dominion Government has, I believe, made a laudable beginning.

The next thing to be done is the formulation of plans of future management and that involves a scrutiny of the existing timber limit licenses with a view of their eventual termination and at least more specific regulations as regards the cutting and taking care of the debris gradually bringing them in line for conservative forest management.

It must be realized that no general rule as for instance a universal diameter limit, or even of the burning of debris, will work satisfactorily in all cases. Each case requires specific consideration and description. And especially in working the untouched limits and forest reservations, in which probably all the remaining unlicensed timber, or, at least, all non-agricultural lands should be placed, proper working plans should be made and followed, *i.e.*, forestry practised from the start.

That these requirements can only be met by the employment of technically educated men is self-evident. Their absence may in part account for the absence or slow progress in the movements indicated. I feel, therefore, that the establishment of the Faculty of Forestry at the University of Toronto, for the education of such technical men, was one of the most necessary first steps, and I also welcome a similar step in the University of New Brunswick, although I am not an advocate of multiplication, but rather of increase in quality of educational institution.

The reasons for the scanty results of the long continued propaganda on behalf of conservative forest management, for the delay of a vigorous reform would, then, appear to be.

1. Lack of realization on the part of governments that supplies are rapidly waning and that, hence, necessity for conservation has arrived.
2. Lack of realization that the forest resource of Canada can and must be made permanent, because of soil and climatic conditions, and because of its influence upon waterpowers.
3. Lack of personnel to inaugurate and carry on any forest policies involving technical knowledge.

4. Lack of popular knowledge and popular interest in a question, which does not seem to concern the present.

5. Lack of definiteness in the propositions for reform, which must naturally differ for different parts of the country.

6. The momentum of existing methods of disposal of the timber which benefit an influential class of citizens, the timber limit holders, who will naturally battle for their continuance, and the natural unwillingness of governments to make radical changes.

We have to recognize that especially this last reason is most potent. It takes indeed a strong government to disturb long established usages, especially when the change means curtailment of revenue, increase of expenditure, and possibly a strong opposition actuated by fear of material loss. Political exigencies make it desirable to defer action and to leave another administration to wrestle with problems that can be postponed. Yet, I believe, the administration which will resolutely and fearlessly undertake the reform is bound to have the support of the large public, for, it seems to me, the public is now astir on the subject.

To increase and utilize more fully this newly aroused public interest, to strengthen and stimulate hesitating governments and to advise them, and in general to forward more readily the progress of reform, it would appear proper to increase the activities of the Forestry Association by the creation of provincial legislative committees composed of the most influential members of the Association.

These committees, acting perhaps as sub-committees of the executive committee, would represent the interests of the Association between meetings. Their function should be to study local conditions, formulate and secure a hearing for propositions to the government and push them to realization, employ all local means for educating and arousing the public and altogether be in charge of the work of the Association between meetings. If funds were available the employment of a lecturer or lecturers by these committees and the propagation of suitable literature through the newspapers would do more than the publication of occasional reports and even of a quarterly journal, which usually reach or are read only by these already in the fold.

The final solution of the problem of conservative forest management will be found only when the importance of the subject is fully realized by the governments and the administration of the remaining timberlands is entrusted to a technically educated staff of a bureau or perhaps better of a forest commission after the precedent of the Civil Service, Railroad, Hydro-electric Commissions. To secure the appointment of such agencies would be, indeed, a worthy object of the Association Committees.

BIBLIOTHEQUE  
SAINT-JULIEN