

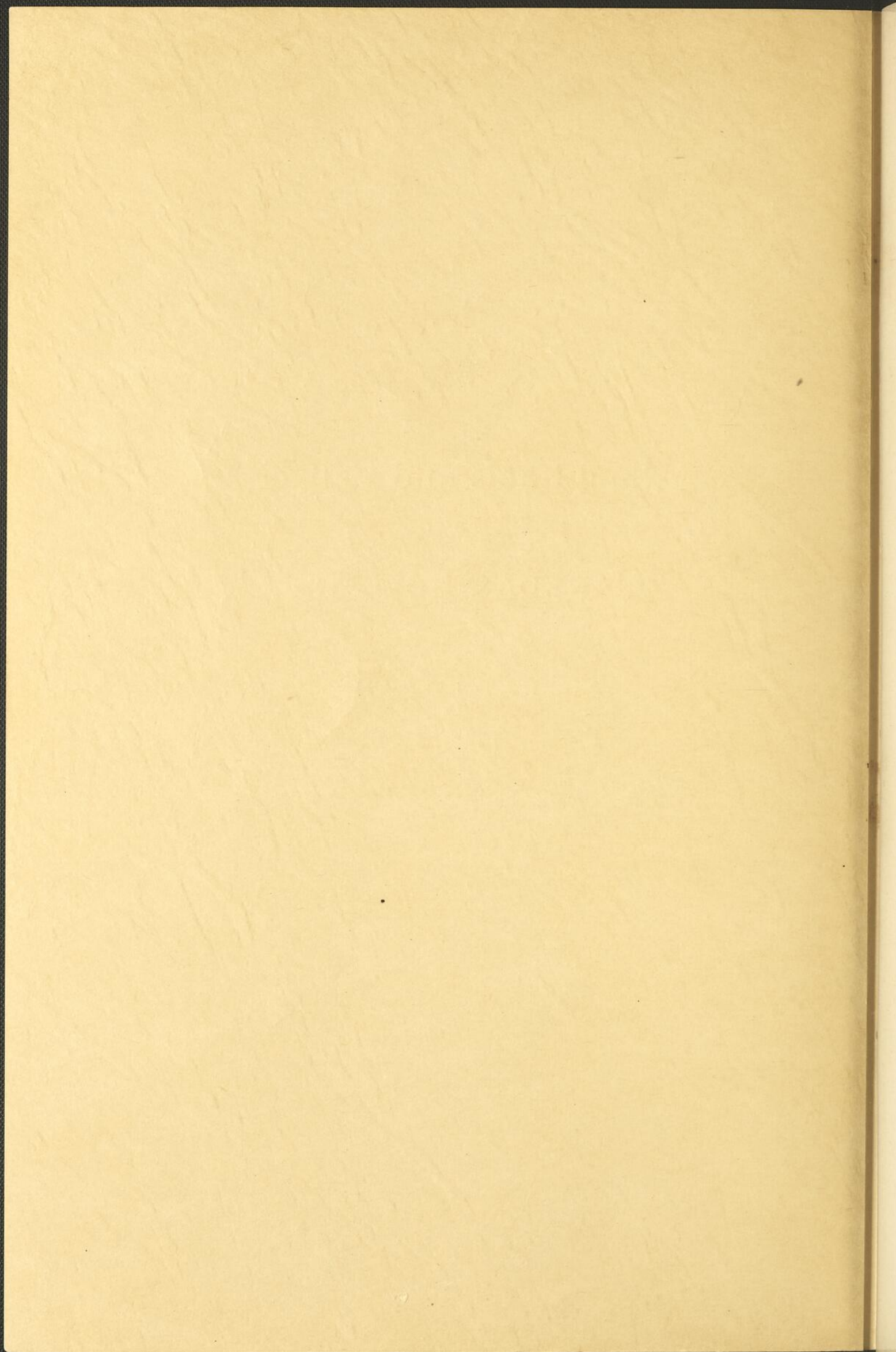
Startling Facts and Fallacies

REGARDING

CANADA'S FORESTS

By

FRANK J. D. BARNJUM



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1930

Published in the interest of Forest Conservation

By

FRANK J. D. BARNJUM

New Birks Building

MONTREAL

Additional copies mailed
FREE on request.

(Printed in Canada)

Foreword

The information contained in this volume is the result of fifty years' practical study of forest conditions on this continent, which has taken me countless times from Labrador to Vancouver and from the waters of James Bay to Florida. This has covered during a long life of arduous and painstaking work hundreds of thousands of miles of travel, entailing the expenditure of a like amount of dollars, and involved the study and analysis of all the available statistics, as well as interviews with the world's foremost forest authorities.

I am now offering the result of all this work free to the Canadian people and the British Empire, and if this effort should result in the saving of the remnant of our forest resources I shall feel that my reward has been ample.

In summarizing the result of all these investigations, I find that even if we accept the latest government statistics of 1,150,000,000 cords of available soft and hard wood at their face value we have only about eight years' available supply remaining in Canada. The government's latest estimate of the amount of the cut, namely, two billion, seven hundred and eight million cubic feet, converted into cords, amounts to twenty-seven million cords, approximately one-half of which, or 13,500,000 cords, is cut east of the Rockies. The trees now being cut in the east will average at least twenty (in some cases thirty to forty) to the cord, which means that we are now cutting, even on this basis, two hundred and seventy million trees annually east of the Rockies, and as the depletion caused by insects, disease and fire amounts to four and a half trees for every tree cut for use, it makes the total annual loss of trees, by adding these two elements together, one billion four hundred and eighty-five million in the east alone, against which we are planting annually only twenty-two million seedlings, not much over one per cent of our consumption and destruction.

If we convert these figures into acres, the result is even more alarming. The average stand per acre in the east today, including all kinds of so-called forested land, runs less than one cord of pulpwood per acre (or less than three cords for the actual wooded areas), which means that we are actually cutting over thirteen million, five hundred thousand acres annually, to which must be added the four and a half to one for wastage, which figures sixty million, six hundred and seventy thousand acres. This, added to the acres cut, totals the appalling figure of seventy-four million acres being annually depleted.

The situation is, however, even worse than these figures show, for in analyzing these statistics it must be acknowledged that it is impossible for any government to obtain a record of the total amount of the cut. I found in the course of my investigations that, in some instances at least, government statistics represented just one-half of the actual amount cut. The same thing applies to our forest fire records, certainly not one-half of which in our north country are ever reported.

Another serious element of wastage that is almost entirely overlooked is the loss of young growth in logging operations. It has been found on careful investigation that, on an average, thirty young trees are destroyed through this source alone for every one cut for use.

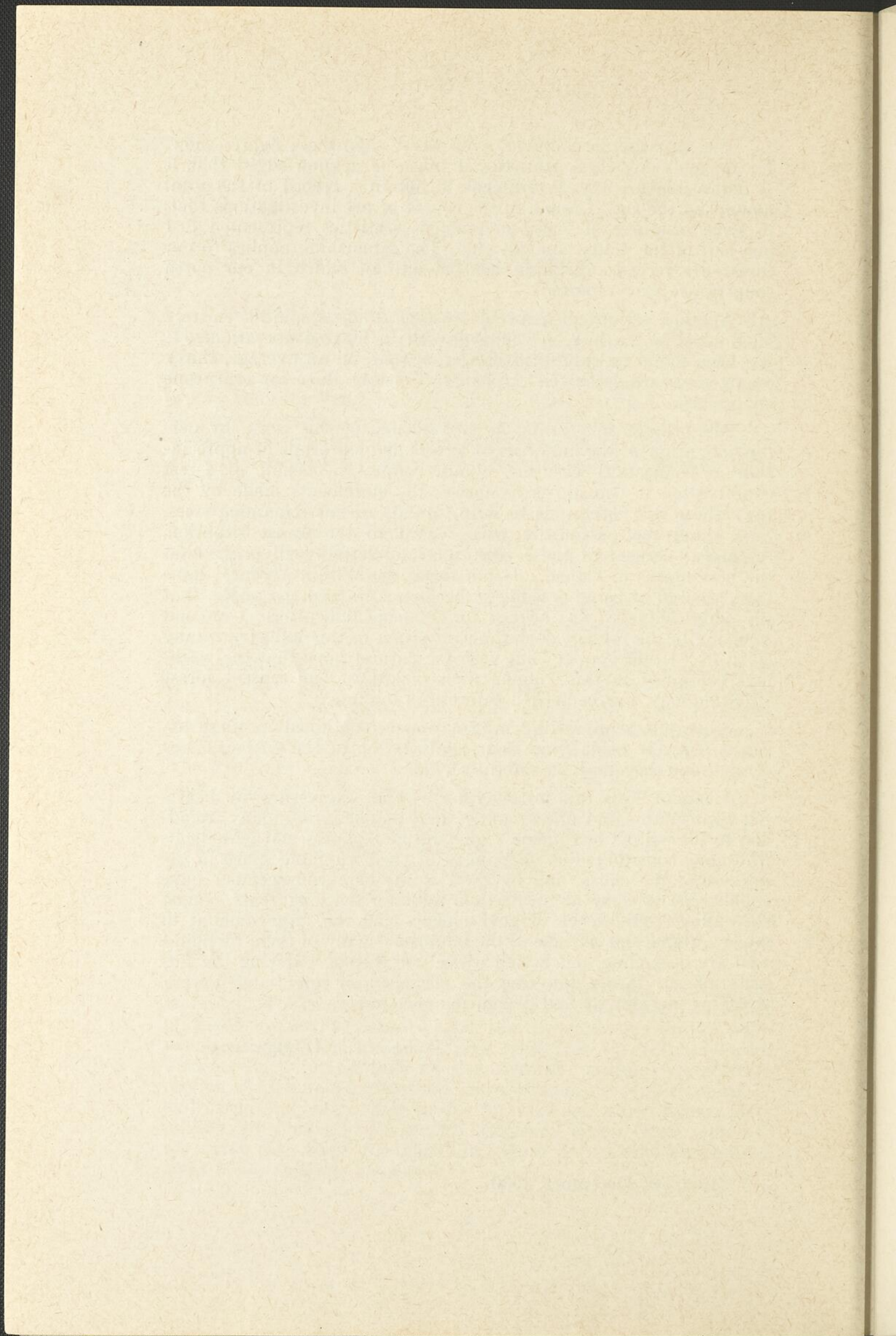
My purpose in printing in the addenda of this work, by permission, a few of the hundreds of letters and editorials of appreciation in connection with my humble efforts in behalf of forest conservation in Canada is to answer the statements made by the few, whose sole interest is to strip Canada of her remaining trees, that I am too pessimistic with regard to the forest situation. A careful perusal of these editorials and letters will prove that the best brains of Canada do not think so. Within a year I have been accused of being pessimistic because I warned the public that the paper industry was headed for financial difficulties. I am not referring to the present deplorable situation in this industry in any spirit of "I told you so" but with the earnest hope that the warnings contained in this volume with regard to our critical forest situation may now be heeded before it is too late.

Since much interesting information is contained in these excerpts, entirely aside from their appreciation of the writer, I sincerely hope they may be carefully read.

I cannot close this introduction without expressing my heartfelt appreciation and sincere and earnest thanks to my many friends and to the editors of Canada's splendid newspapers and periodicals who have contributed so generously of their valuable space in the interest of the cause, and by their words of encouragement have enabled me to carry on an unequal fight for ten long years against the callous indifference of governments and the large amount of money, brains and intrigue of the interests—many of them foreign—who are despoiling and laying waste our forests, reducing the fertility of our farms, lowering the efficiency of our water-powers, wrecking our climate and disfiguring our country.

FRANK J. D. BARNJUM.

Montreal, December, 1930.



**REPORT ON CANADIAN FOREST CONDITIONS MADE
BY FRANK J. D. BARNJUM OF THE FORESTRY
COMMITTEE OF THE IMPERIAL CONFERENCE,
LONDON**

The total stand of available conifers or soft wood supply in Canada, as estimated by the Dominion Forest Service, is 600,000,000 cords. (See page 14 for change in estimate made by the Service.)

The amount of the annual cut, according to the same authority, is 29,000,000 cords.

The amount of depletion by fire, insects, disease, wind and wasteful logging methods has amounted in the past to four and one-half cords for each cord cut for use.

That the latter is a conservative figure is vouched for by the fact that the annual cut only covers the logging season on something like **13,500,000** acres, while fire, insects, disease and wind are working day and night on the remaining **771,780,000** acres.

As the trees in the inaccessible area are over-mature, too remote or too scattered and consequently too costly to operate, and are badly diseased, disease, wind and fire will wipe these out before they can ever be utilized, consequently they might as well be eliminated from calculation now as at a later date.

FIRE

With regard to forest depletion, the Hon. Charles Stewart, late Minister of the Interior, in the annual review of his department for the year 1929, includes the following statement:

“Unless the ravages of fire are very substantially reduced there is certainly a very grave danger that the vast industries dependent on wood will be faced with a serious shortage of raw materials.

“The situation is aggravated by destructive methods of exploitation, which not only operate without thought of a second crop, but by leaving enormous areas of undisposed slash intensify the fire hazard, and in many cases give rise to conditions under which **fire control during abnormally dry periods is well nigh an impossibility.**

“Certainly the whole question of forest fire protection is one which Canada must cope with much more effectively than in the past, and to permit of proper review of the situation it is my intention to call a conference with the provinces on this matter early in 1930.

“Viewing Canada as a whole, the fire season of 1929 was perhaps the most severe ever experienced in the annals of this country.”

(All of the provincial Prime Ministers had agreed to attend the conference promised by Mr. Stewart, which had not been called up to July 28th when the Liberal Government was defeated.)

SLASH DISPOSAL

The above statements not only vindicate the oft-repeated contention that no real headway could be made in the direction of forest conservation until a regulation, requiring the disposal of slash (cutting debris) is made obligatory upon those who are utilizing our forests, but substantiate the contention that the present forest situation is precarious and support the calling of an inter-provincial conference on the general subject of forest conservation—a course I have long urged. Our Governments are supposed to be increasing forest fire protection while they are at the same time allowing the fire hazard to multiply through the added accumulation of slash. In plain words, the people are being assessed large sums of money to extinguish conflagrations which they themselves are allowed to create.

ANNUAL CUT

No government has ever succeeded in obtaining a record of the total amount of the annual cut. One year the writer personally checked up each operation on one whole watershed, the Kennebec River in the State of Maine, and found the actual cut amounted to exactly double the quantity reported to the United States government.

AVAILABLE STAND

It is also perfectly safe to say that the amount of the estimated available stand of 600,000,000 cords is an optimistic one.

A further announcement was also made by the Minister of the Interior that a survey of its largest pulpwood area in Manitoba revealed only some 2,500,000 cords available instead of, as had been estimated, a stand of 6,000,000 cords, and I venture the opinion that it will not actually cut out even one-half of the first named figure, judging by my own experience in that same quality of growth.

The average of all the pine that has been cut in the Province of Ontario has only been about 1,500 board feet per acre.

The statement was made before the Canadian Forestry Association at Ottawa by Mr. Thomas Maher, well known Consulting Forest Engineer of Quebec, that he had cruised 25 per cent of all the leased limits in the Province of Quebec during the past twelve years and that the result of this exhaustive survey showed that out of a total 80,188 square miles of leased limits in Quebec **65 per cent of all these lands contain no timber**, and that, **without any allowance for the large losses continually being suffered through fire, insects, disease and wind**, the forest industries will have cut the last cord of commercial wood in twenty-seven years. If you apply the same ratio of wastage to this area, namely, $4\frac{1}{2}$ cords waste to every cord cut, you arrive at practically the same

result produced from the figures quoted by the Forest Service in the three opening paragraphs of this report, **namely, about six years' supply.** I do not mean to say by this that the last tree will be cut in six years, but I do say that a halt will then have to be called in the present mad exploitation and destruction that is now going on in our forests.

That the wood shortage is not a question of even six years in the future, but is something that is now here, is vouched for by the facts that **a large portion of the trees we are cutting belong to our grand-children, being mere sapling poles four and five inches in diameter on the stump;** that wood is being cut in **such remote locations that it takes two and three years to drive it to the mills;** that wood is being transported from as far as Anticosti Island to mills in Quebec, a very costly operation.

If we were not cutting these small immature trees that do not belong to us our wood-using industries would be operating today at about 50% of present capacity from lack of a wood supply. Consequently the wood shortage is not a question of the future but is here now.

All the tree planting in the world will not avail the present generation one iota on account of the length of time it takes to grow trees, though heavy planting is imperative for posterity.

INCREMENT

The question of annual increment in Canada can be dismissed with the simple statement that if there had been even one-quarter of one per cent net increment in the forests of the Dominion during the past, there would be as many trees standing today as when the country was first settled, as the total cut during that period has not amounted to one-quarter of one per cent of the estimated original stand, while the Forest Service estimates that there is only **"27 per cent of the original stand now remaining, 60 per cent having been burned and 13 per cent cut for use."**

REFORESTATION

With regard to reforestation, **the total acres planted annually do not amount to one per cent of the acres annually depleted.**

Everyone agrees that we are approaching the end of this vitally important resource. Then why not try and save what little we have left?

Shortage of forests not only means shortage of lumber for building purposes, but shortage of raw material for the manufacture of pulp and paper, a shortage of telephone and telegraph poles, mining timber, railway sleepers, fence posts, fuel wood, boxes, rayon silk, and more than three thousand other commodities that wood is used for; also loss of transportation, taxes, labor and dividends. **In addition to all of this and perhaps fully, or even more im-**

portant is the effect the loss of our forests has on the fertility of the soil, through erosion, on the volume of our water powers, and the very serious effect it has upon our climate.

TIMBER FOR OUR MINES

For every ton of coal mined in Canada about a third of a cubic foot of wood is required in the form of round mining timbers, dimension stock or sawn lumber. For every ton of other mineral raised to the surface a still greater quantity is required, averaging three-quarters of a cubic foot to the ton of ore. With a production in 1927 of over seventeen million tons of coal and twelve million tons of mineral ore, there was involved the use at the mine of over fourteen million cubic feet of wood and **the destruction in the forest of about twenty million cubic feet of standing timber.** With the recent increased development of the mining industry in Canada, **the problem of finding sufficient supplies of mining timber is becoming serious.**

CLIMATE

When the last of the narrow fringe of our northern wooded area, which now protects the inhabitable portion of Canada from the cold winds of the Arctic region, has been removed, Canadians will suffer all the ills consequent upon the resultant climatic changes. Even as it is, succeeding years are becoming drier, with extremes of temperature, the winds are becoming stronger and more deadly, and there are occasional deluges over small areas of such violence as to cause tremendous losses through floods, and **all because the regulator or safety valve, the forest, is rapidly being swept out of existence.**

That our climate is being disastrously affected is corroborated by the newspapers almost daily. Hardly a day passes that we do not read of either floods, cyclones, unseasonable extremes of cold, heat, drought or forest fires.

We are spending increasingly huge sums of money fighting forest fires and millions of dollars in repairing the damage caused by floods and soil erosion, while practically nothing is being done to remove the cause of these disasters. In the east, the Quebec Government is spending \$25,000.00 on one farm area covering about a thousand acres in building small temporary brush dams on the hill sides, in an almost impossible effort to repair the damage by land erosion caused by stripping the hills of their trees. The Government is spending **\$25.00** per acre trying to repair this damage, while I venture to say the farmers did not receive **\$2.00** per acre for the value of the trees they cut down.

The erosion has been so great that the silt washed down from the hills has buried the fields over large areas as much as five feet deep in sand, practically destroying many fertile farms.

U.S. DEPENDENT ON IMPORTS

What stronger proof is needed than the following evidence given by the American experts before United States Assistant Secretary of the Treasury Lowman that the United States pulpwood forests are practically exhausted and that Canada is, as Dr. Schenck says, wasting her "trump cards" in allowing the unrestricted cutting of her forests.

Quotation from evidence referred to above:

"At the hearing today, representatives of the International Paper Company and the Racquette River Paper Company testified that their American mills were almost wholly dependent on foreign production for their raw material.

"If Russian pulpwood is excluded, Lowman was told by John H. Hinman, of the International Paper Company, American mills will be forced to close for lack of raw material.

"George W. Sisson, Jr., president of the Racquette Company, declared his mill at Potsdam, N.Y., will have to cease operations in fifteen days unless the Treasury permits it to obtain thirty carloads of Russian wood consigned to it."

In this connection the following taken from the Paper Trade Journal, N.Y., of September 25th, is interesting:

RUSSIAN PULPWOOD SUPPLIES

RAW MATERIAL SHORTAGE IN RUSSIA

"Washington, D.C., September 24th, 1930: For some time references to a shortage of raw materials for paper making have appeared in the Soviet press according to reports received here. Newsprint production for the month of July, according to 'La Industrializatsiu,' amounted to only 78.9 per cent of capacity, the same article alleging that the unsatisfactory supply of raw materials at the paper mills is causing lengthy shut-downs of machinery. The shortage of raw materials for the mills is particularly interesting in view of the shipments of pulpwood to the United States and various European countries."

The Russian Soviet Government representative in the United States is reported in the Pulp and Paper Magazine as follows:

"Because of its meagre system of railways Russia is already faced with the problem of getting its wood to market **economically**. There have been heavy cuttings on the stands near railroad systems and now the country is compelled to seek out tracts tapped by streams of sufficient flow to carry down the pulp logs to points convenient for loading for shipment to commercial destination."

In any event the total amount of pulpwood received from Russia in the United States annually, namely, 250,000 cords, would not supply one good-sized paper mill. The total quantity imported

represents less than two per cent of the United States requirements, consequently no material relief for our wood shortage can be expected from that source, but the mere fact that mills in the United States are endeavoring to import even a fraction of their wood supply from Russia, a distance of 6,000 miles, is ample evidence that the supply on this continent is nearing the end.

The pulpwood we are exporting to furnish cheap raw material for our competitors is the main cause of the over-production of newsprint. The testimony of the American paper manufacturers themselves, quoted above, proves this contention, for without this wood they would be forced to curtail their output of paper sufficiently to do away with just about the amount of the present surplus output capacity of the Canadian mills.

Some foresters have confidentially admitted to me that there will be no shortage of wood, but that we shall wake up some morning in the near future and find that the wood is gone, just as the buffalo has disappeared. In 1875 the plains were swarming with these animals, while by 1890 they were all gone. Even those who were supposed to be best informed on the subject were unaware of what was happening until it was too late. The same thing has occurred in the case of our wild pigeons and other natural resources.

PULPWOOD MARKET

The question may be asked: "Why should wood sell at the present low price when the end of the supply is so near?" The answer is over-production, and over-production in this case means over-cutting. This is brought about:

(1) By operators encouraging bogus settlers to take up land in Canada from which they may obtain cheap pulpwood. As soon as the land has been stripped of its wood and converted into a fire-trap by an accumulation of slash it is abandoned.

(2) The legitimate settler and farmer who has wood growing on his farm and has little to do through the fall and winter months is tempted to cut a certain amount of pulpwood each year in order to give him and his sons employment during the slack season, little realizing that he is literally giving away the most valuable and priceless crop that his land will ever produce, and also losing sight of the fact that he is not only promoting land erosion and reducing the fertility of his soil, but is exposing his crops to the full force of the cold winds of the north and the hot drying winds of the south. His farm will dry up, his soil wash away, its fertility gone. No woodlot for fuel or repairs. No shade or protection either for his live stock or his own home. Consequently, while the farmers in the west are expending large sums of money in frantically planting shelter belts of trees, the farmers of the east are ruthlessly cutting down the shelter belts that were planted by nature.

(3) The promoters or land speculators who have bought large areas of land, in many cases with a small cash payment down, and have given mortgage notes for the remainder, are obliged to cut an amount of wood each year sufficient to meet these ever-recurring payments.

(4) Importations of pulpwood from Russia, while not large, have a psychological effect on prices which is being taken every advantage of by wood buyers.

These four sources, together with the remote wood cut on the paper companies' limits, have been sufficient so far to produce a surplus of wood, with the result that the buyers have been in a position to make their own price, but the end of this situation is at hand.

The last large tract of timber land in Nova Scotia has recently been sold, and with two exceptions all of this land has been purchased by American pulp and paper companies. Eleven of the largest corporations are included among the purchasers.

Few stop to realize that the United States is increasing in population at the rate of twenty million people every ten years. For every substitute that is provided for wood some new use is found for this irreplaceable commodity. The increase in number and variety of products that will be made from cellulose in the future is almost incomprehensible. In the meantime, all the forces of man and nature are combining to wipe out our small remaining stand.

The wood-using industries are in the anomalous position today of using up a raw material that is on the verge of exhaustion and selling the manufactured product without even a fair remuneration, and in some cases even at a loss, when a little common sense regulation in the amount of the cut in the forest would correct the price situation and at the same time extend the life of the industry.

How long can a country that is living on its capital (its natural resources) remain solvent? Certainly no longer than the resources last. Even one of the Government's own "Royal Commissions" warns that **"Canada is dissipating her forests (her most vital natural resource) more rapidly than any other country in the world."**

The Great War showed the world that a country may enjoy temporary prosperity through the prodigal misuse of its capital.

While much interest has been aroused in the League of Nations for the prevention of war and its consequent sacrifice of human life, it is regrettable that comparatively little interest is taken by our governments in the subject of forestry, although forest devastation is accountable for the loss of more lives than all the wars of history ten times over. Millions of human beings are even now slowly dying of starvation in China following a four years' drouth directly traceable to forest destruction.

Lieutenant-Governor Bruce of British Columbia, in speaking of the forests of that province before the Automobile Club last month, stated:

"We had burned up 8,000 square miles of our forests in the last ten years and there weren't many more thousands of square miles of mature timber to burn up.

"But that was not all. We were developing a tourist industry that was of immense value to the province. That industry was being threatened. The tourists came to see, but there was nothing worth seeing after a forest fire had swept a once-fair prospect. The tourists came to enjoy themselves, but smoke and cinders were turning British Columbia's once delightful summers into nights of horror and from such things tourists would flee.

"Nor was that all either. The destruction of our forests was destroying our watersheds, causing floods at one season and drought at another, reducing our hydro-electric resources, and reducing at the same time our capacity to develop our mines and to fabricate our products for export."

Editorial from the Detroit (Michigan) News:

CONSERVATION OF CANADIAN SOFTWOOD TIMBER

"Our system of forest exploitation as practised—disguise it by adjectives as romantic, inspiring, tremendous, enriching, as we may—is swift, ruthless destruction.' The sentence is merely an illustrative one from an article by Mr. E. Newton White which originally appeared in McLean's Magazine, the Toronto publication. Reprints of this article, an appeal for immediate and thorough conservation of softwood timber in Canada, are being widely circulated on both sides of the border. Canada is bidden to face, before too late, the gigantic task of regulating its consumption of softwood timber.

"There is no question. We in Michigan should fully understand that we have a stake in Canadian lumber conservation second only to the stake of the Canadian public.

"Match the Michigan experience with the present Canadian situation, realizing the increased demands on Canadian timber on both sides of the international line. The article referred to above imagines Canada waking up soon to read a newspaper account headlined thus: 'CANADIAN FOREST CRISIS; DOOM OF FOREST INDUSTRIES; COUNTRY FACES LOSS OF \$500,000,000 ANNUALLY; HUNDRED THOUSAND WORKERS AND THEIR FAMILIES FACE UNEMPLOYMENT AND DESTITUTION; REVELATIONS OF INCOMPETENCE; CONTROL OF SOFTWOOD TIMBER NEEDS OF BRITISH EMPIRE MAY SHORTLY BE IN HANDS OF SOVIET RUSSIA.' The savage picturization is supported by comment on the White article which is being circulated with the reprint.

"We agree fully. The Canadian genius must turn from development to conservation. The exploitation of immature

dred million cords of wood, the greatest disaster through insects Canada has ever known, wiping out forty years' supply for our paper industry (which, if converted into newsprint, would have yielded the colossal sum of seven and a half billion dollars), we also have the smaller infestations working continually in our forests, causing, in the aggregate, immense loss. Some experimental efforts in aeroplane dusting have been attempted, but as the cost of this work amounts to more than six dollars per acre for a single application, while the present price received for the same acre of stumpage by our governments is considerably less than this figure, it would make this method, even if successful, far too expensive.

In this connection the State of Massachusetts has, for the past thirty years, been endeavoring to eradicate the gypsy moth pest through spraying the accessible shade trees along the highways and has expended millions of dollars in the attempt, but the pests are still present.

DISEASE

Disease in the forests is another menace growing greater year by year. In addition to the immense breeding ground we create each cutting season, through added debris left in the forest, we always have and still are cutting the sound trees and leaving the vast quantity of diseased trees to propagate their spores. In speaking of disease, the United States Forest Service says:

"Disease control is a problem comparable in magnitude with that of insect control, and presents even more formidable aspects"—and that:

"Larch canker, a new disease, recently bids fair to become by far the most serious source of forest destruction ever known in this country, since it kills not only larch but Douglas fir, and perhaps western yellow pine. The stake is tremendous, and the Forest Service views the situation with the utmost anxiety."

FIRE

In regard to our loss through fire, it goes without saying that the more we cut, burn and otherwise destroy our forest growth, the drier the earth's surface becomes, and with the added accumulation of slash, the greater our fire hazard is, so, with the exception of occasional moist seasons, our forest fires are increasing from decade to decade. In proof of this, 1929 was—as the ex-Minister of the Interior stated—"the worst fire year in the history of Canada."

The governments are spending large sums of money in fighting forest fires but are doing little in a practical way to prevent them. They repeatedly tell us how rapidly our forests are disappearing and the crying need for conservation, but seem to be perfectly oblivious of the fact that they alone have the authority to enforce conservation, to regulate the volume of the annual cut and to require the disposal of logging slash in order to prevent the spread

of forest fires. Until they do this all this propaganda is insincere and ends in nothing.

The elements of destruction that I have enumerated are compounding all the time. The more we cut the more we burn, and the greater our loss through wind, insects, disease and erosion. Canada's forests are being obliterated as fast as it is possible for man and the elements to complete the task, and we are only too rapidly making our climate unlivable. There is no other country in the world that would tolerate the wasteful logging methods practised in Canada. It has taken other countries centuries to complete the forest destruction that Canada will have accomplished in seventy-five years.

We already have too much cleared land in Canada, to such an extent that the farmers are crying for relief because there is a surplus of farm products. At the same time we are rapidly clearing more land at great expense and still greater peril to the country and also increasing the surplus of crops, calling for still further farm relief measures.

We are not only cutting down our forests to the extent of millions of acres annually but are also covering the ground in this immense area with dry fire-kindling slash, so that the whole territory in a dry time is as inflammable as a powder magazine. Into this powder magazine we are turning loose in northern Ontario and Quebec a combination of the worst forest fire hazards the world has ever known in the tens of thousands of prospectors, miners, hunters, fishermen, settlers, tourists, pulpwood cutters, portable saw mills, railroad constructors and coal burning railroad locomotives.

REFORESTATION

All this talk of our great reforestation programme is another smoke-screen, often indulged in in an attempt to hide our vast devastated areas. The answer to this is that **the area of annual plantings doesn't amount to one per cent of the area on which wood is consumed.** The appalling thing about it is that even if we were today planting a million acres at a prohibitive cost, our efforts could not even then avail our seven hundred million dollar paper-mill monument to man's cupidity one iota because of the length of time that it would take to mature a crop.

INCREMENT

As I have previously pointed out, if there had been any net annual growth in the Canadian forests, there would be just as many trees standing today as when the country was first settled, as the average annual cut has not amounted to one-quarter of one per cent of the original stand, while the Forest Service informs us that only 27 per cent of the original forest remains (**and even this is the poorest and most inaccessible**), which proves conclusively that the annual increment theory has also gone up in smoke. The above

does not of course apply to the five or ten-acre protected sample plots, selected by the government for making growth tests, but does apply to the country as a whole, including all the vast devastated areas.

The loss today through wind alone offsets the gross annual growth.

THE SUSTAINED YIELD ILLUSION

In the United States one-half of the virgin forested area is under government control and is now being cut on a "sustained yield basis," that is, they are only cutting what is supposed to be the annual growth, and the alarming fact is that **this large area is only furnishing three per cent of the annual requirements of that country.** In other words, if all of their forests were being cut on the basis of this supposed annual growth, they would only be supplying six per cent of their annual needs, as they are using 244,000,000 cords annually, of all kinds of wood, a pile four feet high, four feet wide, three hundred and sixty-nine thousand miles long, **a wood pile that would reach fifteen times around the globe.** I ask any thinking man how long a country can continue cutting annually a wood pile of such enormous dimensions in addition to the still greater depletion caused by fire, disease, insects and wind.

Worse than this: fire is now sweeping over more than thirty-five million acres of forested area annually in the United States, which, of course, upsets all calculations on their so-called sustained yield, and proportionately conditions in this respect are the same in Canada. The fact must not be overlooked that the greater portion of the virgin forests that remain are inaccessible and of poor quality and that large areas must be retained in forest for watershed protection; and consequently the time has already arrived when the amount of the annual cut of wood on this continent should be very materially reduced; 70% of the timber cut in the United States is from virgin growth and 30% from a second growth that is very rapidly deteriorating.

With regard to the 77 per cent of once forested area in Canada that it is stated has not been alienated—the reason for this is mainly that it either contains no wood of commercial value or is inaccessible. If this were not the case it would be unnecessary for mills in Ontario to bring wood from the Labrador coast and for Quebec mills to transport wood from far away Anticosti at high cost, and also to cut wood in such remote locations that it requires two and three years to drive it to the mills. **All of which proves that the very outposts of our wooded areas have now been reached.**

Money received from the sale of stumpage in Canada is not income at all but is depletion of capital, and not a dollar should be used for other purposes than the protection and perpetuation of our forests. Think of cutting trees that have been growing for ten generations and calling the proceeds revenue or income.

We are over-cutting our woodlands at an alarming rate, causing an over-production in wood, lumber, pulp and paper, forcing our wood-using industries and operators to the wall and at the same time bankrupting our forests, when a little common sense regulation of the cut would not only stabilize these industries but would add a few years to the life of our rapidly dwindling forests as well. **A large proportion of the trees we are cutting today are so small that they belong to our grandchildren.** As a leading newspaper recently remarked: "What adds to the pity of it is that most of the wood destroyed now is so young as to belong to generations not old enough to protect it."

I have seen what happened to the forests in the United States, and forest history is repeating itself in Canada only at a much more rapid rate, as in the case of Canada both countries are drawing from her supply while the United States only partly supplied herself.

Expressing my own carefully considered opinion, based on fifty years' practical experience and study of forest conditions, I have no hesitation in saying that Canada is already over-denuded of trees and we are even today suffering, and will continue to suffer with ever-increasing violence, from man's disturbance of nature's equilibrium through stripping the country bare of trees.

That forest conditions are no less critical on the other side of the boundary are vouched for in the recent public statement of Mr. Nelson C. Brown, Acting Dean, New York State College of Forestry, that New York State "has lost twelve hundred wood-working industries since 1912, that lumbering has virtually collapsed and that pulp and paper and allied industries are facing a crisis."

A prominent American Forester writes: "I have been cruising timber tracts in Canada for the past thirty years and my experience regarding timber conditions is in perfect harmony with yours." Another Canadian forest authority says: "Our critical forest situation cannot be exaggerated."

As a prominent American recently wrote me: "The preservation of the remaining fringe of northern forest growth as a protection from the icy blast from the Arctic is just as important to the people of the United States as it is to Canadians, as climatic conditions know no boundary lines. Not another tree of this protecting fringe should be cut or living conditions on this continent will become increasingly uncomfortable and difficult."

Bearing all these facts in mind, is it honest to attempt to camouflage the situation by stating that "if" we can control fire, wind, insects and disease, we need have no fear for the future of our forests.

What a contrast to the statesmanlike utterance of ex-President Coolidge who said "the people are not afraid of the truth" and frankly told the people of the United States that:

"The time is at hand when our country is confronted with a timber shortage and we can no longer depend on moving from one primeval forest to another, for already the sound of the axe has penetrated the last of them. We must face the situation

that at this rate we are not far from timber exhaustion." And further said that "five-sixths of the forests of the United States had been cut down or destroyed within a period of seventy-five years."

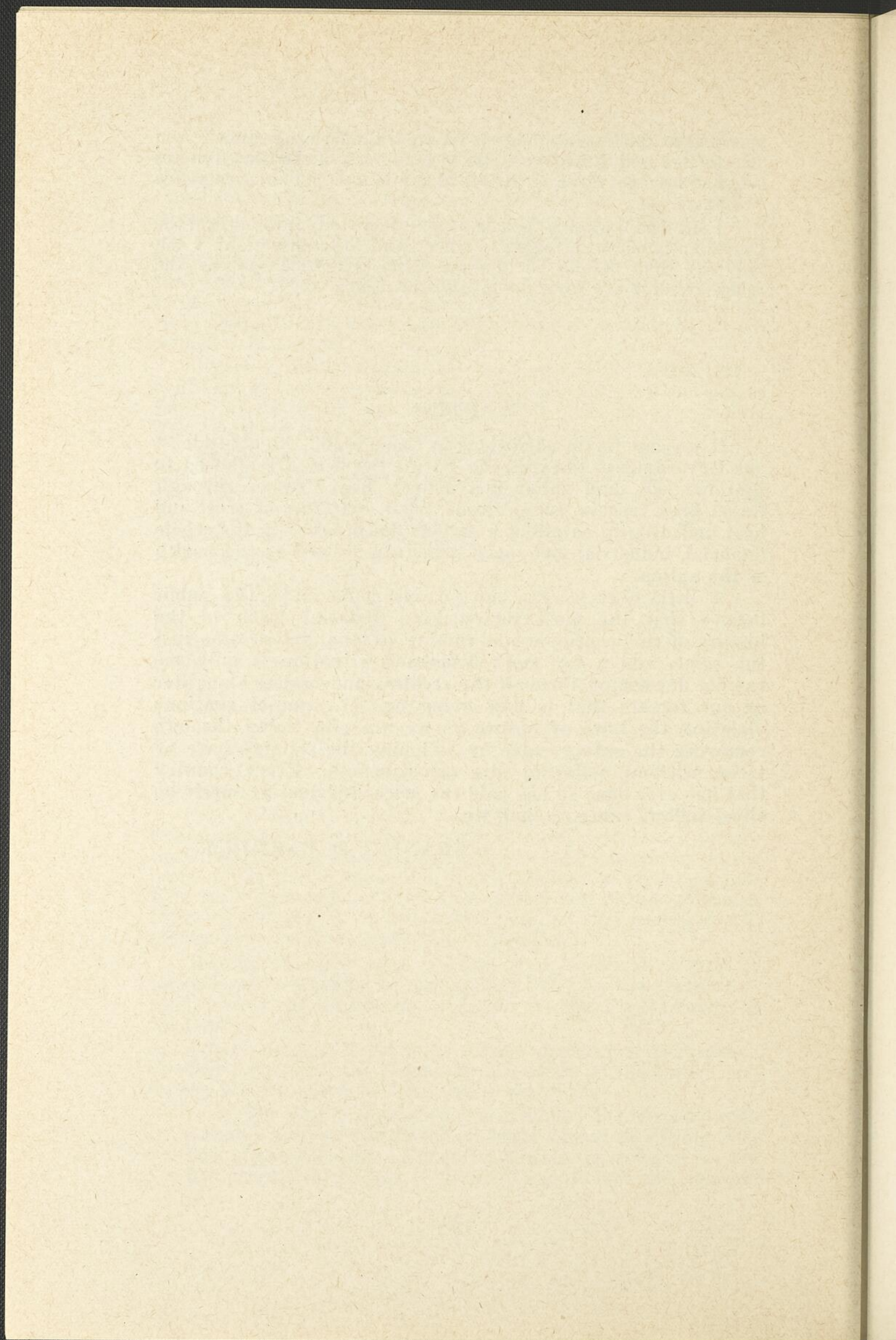
I ask again, what is the idea behind this attempt to mislead the Canadian public with regard to our critical forest situation? I can only say that, despite all of these ineffectual smoke-screens, the scales are dropping from the eyes of the people.

WARNING

If present forest conditions in Canada and the attitude of our Governments towards the Forest Services are allowed to continue, we shall suffer increasingly heavy losses through forest fires, insects, fungi, floods, wind, extremes of frost and heat and drouth, entailing a serious disturbance to the whole financial, industrial and social structure as well as the health of the nation.

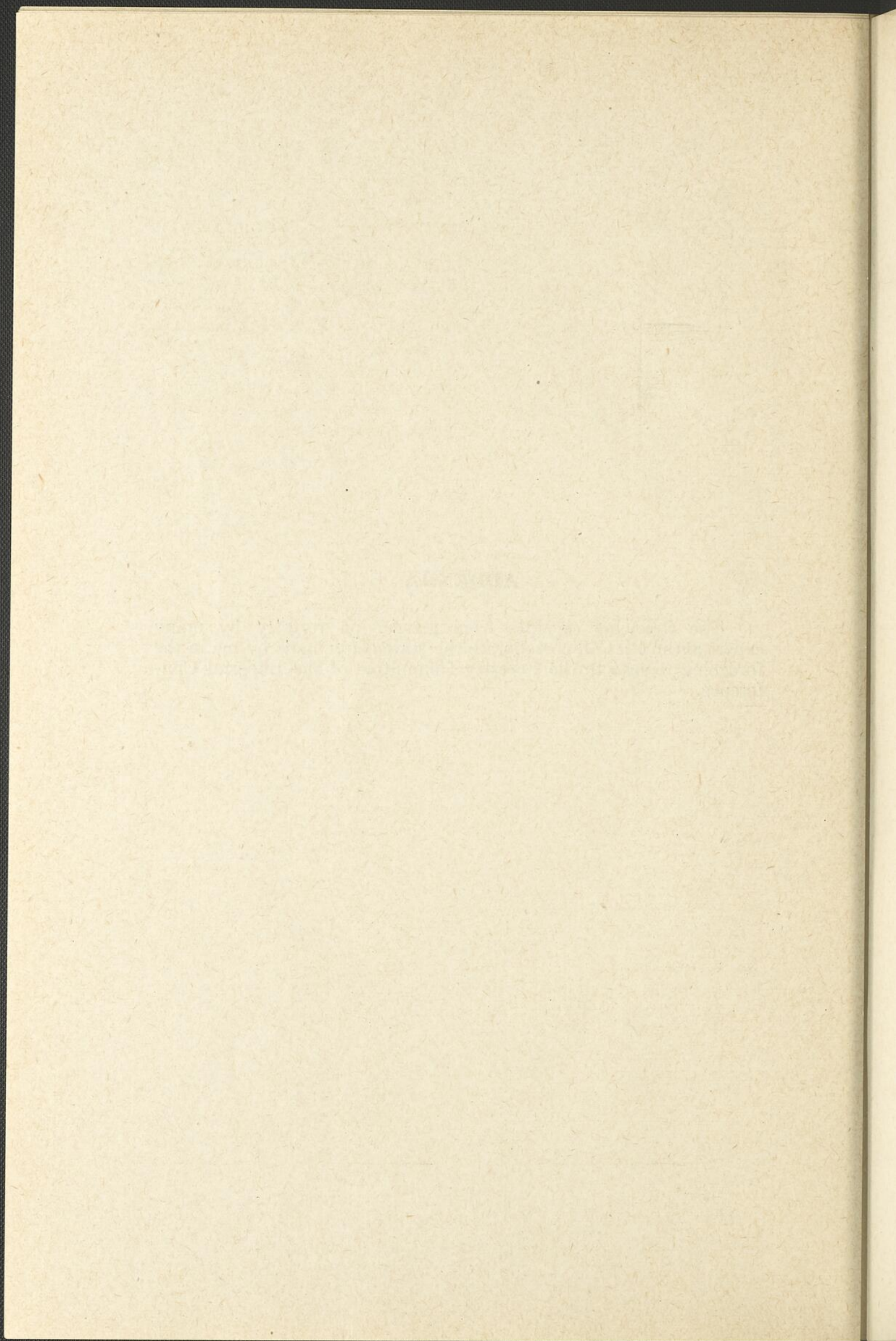
A little over a year ago no one could make the public believe that the most far-reaching financial crash in the history of this continent was coming so soon, but it came just the same, and a far more disastrous situation is only too rapidly developing through the reckless and useless slaughter of our forests that is now going on. We cannot continue violating the laws of nature as we are now doing through removing the safety valve by stripping the country bare of trees, without suffering dire consequences. Every country that has ever done so has paid the price, and just as surely as effect follows cause so shall we.

FRANK J. D. BARNJUM.



ADDENDA

The following excerpts from articles on forestry by many expert authorities all corroborate the statements made by me in the foregoing reports to the Forestry Committee of the Imperial Conference.



A FOREST TRAGEDY

No one needs expert advice today with regard to our critical forest situation and no one can claim ignorance of the facts as a cloak for their inactivity in connection with this grave situation. No one can now even claim that somewhere back in the wilderness there may be a supply of unknown pulpwood, for our last great "unknown" is now being penetrated by the Hudson Bay Railway and the report made by the Government's representative, who was sent out to explore that territory even before construction of the railway began, states that there is not sufficient wood along the entire line of railway to build the road with.

There are now no more wooden worlds in Canada to conquer. The entire Dominion from its southern boundary to the Arctic and from Labrador to the Pacific Ocean has been opened up and we know where every tree is and, comparatively, just how few there are. We can say with President Coolidge that "The sound of the axe has now been heard in our last virgin stand."

The leaders of our Government have travelled from the tip end of the Island of Cape Breton to where the sun sets in the Pacific and must have noted the lack of trees along practically this entire three thousand miles, while at the same time they must have noted that eighty per cent of all dwellings are constructed of wood; that all the millions upon millions of telephone and telegraph poles are wood; that every mile of the more than fifty thousand miles of railway required two thousand five hundred wooden ties for each mile of steel; that there are thousands of miles of wooden fences and thousands of homes using wood for fuel. They must have visited sawmills on the coast that required a million board feet of logs daily to keep them in operation and noted the vast quantity of wood required by our coal mines and, saddest sight of all, they must have seen the great rafts, containing many millions of feet of magnificent logs which came from giant, age-old trees that will never be reproduced on this continent again, being towed down the Pacific Coast to furnish employment to the people of the United States, in addition to the immense booms of pulpwood that are being towed annually across the Great Lakes. They must have visited many of our too-rapidly increasing number of paper mills, which constitute the greatest manufacturing industry we possess—an industry with a capital investment of more than half a billion dollars—an industry upon which Canada is dependent to preserve not only her trade balance, but her very credit in the markets of the world—an industry which, if it were forced to the wall, either for lack of raw material, or from lack of profitable market for its products, would not only shake the foundation of our entire banking structure, but would ruin countless thousands of our people who have invested their hard-earned savings in these securities. They must also have

noticed the vast piles of pulpwood stored at these mills, running up to two hundred thousand cords at a single mill. And again, I had almost forgotten, they probably have stood on the deck of one of our passenger river steamers as they sailed down our beautiful and as yet unmarred St. Lawrence River and met towboat after towboat with long strings of barges, steamer after steamer, and schooner after schooner loaded with pulpwood on their way to enrich this same great nation to the south. Yes, and they may have stood, as I have, on the station platforms at Sherbrooke, McAdam Junction and other points, and watched trainload after trainload of pulpwood headed in the same southerly direction.

If, after noting all these things, they will then just cast their eye over their own government records, which are available to all, and which show that four and a half times as many trees are destroyed by insects, fungi, wind and fire as have been cut by the axe, and if they have just ordinary intelligence and are honest, they will not, as I said before, require the advice of any expert as to whether they should take every possible action within their power in order to save this country from the fate of China and other countries once strong and vigorous but now weak and commercially stagnant because they destroyed their forests.

The question must arise in every sane mind as to just how much longer this continuous drain on our forests, without replacement, can last.

The Honorable George P. Graham supplied the best answer to this serious question when he warned his colleagues in the House that "our forests will soon be but a memory."

FOREST DEVASTATION

From a most comprehensive and invaluable report prepared by the Honorable Gifford Pinchot, Governor of Pennsylvania and former Chief Forester of the United States, and Major Ahern, two of the most distinguished forest authorities in that country, I am taking the liberty of quoting the following short extracts, as they are of such vital importance and apply with equal force to Canadian forest conditions:

"The forests of America are in greater danger today than ever before in our history. Not one acre out of eight of our original forest remains, and the percentage of this remnant devastated each year is greater than ever before."

"As reported by the United States Forest Service, the number of forest fires has more than trebled in the last six years, and doubled in the last three. In 1928 there were 177,000 forest fires."

"Outside of the national and state forests and parks, our forest situation is highly dangerous. It is getting worse, and rapidly worse, year by year."

"It is roughly true that where one acre of saw logs privately owned is cut conservatively, twenty are devastated, or cut without regard to future growth."

"When our own supplies are exhausted there is no region on earth that can supply us, even at excessive prices, with the kinds and amounts of wood upon which our national standard of living is based."

"The vast quantities of lumber we need in America we must grow or go without. If we go without, every business, every occupation, every family will suffer, for nothing that we use or wear can be produced, manufactured, or transported without the help of wood."

"Lumbermen interested in continuing the profits they make from forest devastation have spent great sums in propaganda intended to make people believe that the future of American forests is safe. Many have been deceived, when the fact is that nothing could be farther from the truth."

"The public welfare comes first. Every forester is duty bound to oppose forest devastation and help to stop it."

"We protest against further delay, whether by investigation or any other dilatory measure. What is wrong is known, and what to do about it. Forest devastation has gone too far already. Public opinion, under courageous leadership, is ready to put an end to it."

"JOLLYING US ALONG"

Fort William (Ont.) Times-Journal

A recent report, issued by the statistical branch of the Dominion, deals with the lumber industry in Canada, and affords an excellent example of how misleading figures may be. The statistician appears to think that some kind Providence will perpetuate the timber supply, in spite of the reckless waste that is going on, not in commercial uses, but in destruction of forests by fire, insects and disease.

The uncertainty that is said to exist in the estimating of the rate of depletion is at present, unfortunately, no uncertainty. The destruction by fire and other agencies that might be controlled is known to average somewhere about five times the depletion for commercial purposes. Thus the amount of timber that is used annually per capita should be multiplied at least five times.

Somewhat contradictory are the guesses made with respect to fire prevention. While asserting that fire hazards increase with population, the report goes on to say that "there is reason to believe that in time the loss due to forest fires will be practically eliminated once the general public can be made to realize the necessity of precaution, as 90% of forest fires are due to human carelessness. Scientific methods of controlling insect and fungus damage are being rapidly developed, and in time the depletion will consist almost entirely of material cut for use.

Unless the attitude of the public and of all governments towards forest conservation becomes far more interested than it is at present, it is to be feared that the elimination of forest fires is a long way off.

One paragraph of this report is evidently intended to offset the pessimism which might have been aroused by careful perusal of the other sections. It says: "On the other hand, there is a steady increase in volume taking place in all healthy standing timber, due to annual growth. By the application of scientific forest management, this annual growth can be stimulated and could be made to take place over our entire area of potential forest lands." It is a well known fact, recognized by foresters, if not by statisticians, that there is no such thing as a steady increase in volume of timber that is merely left alone. Were this the case, the forests of Canada, where the hand of man has not touched them, should by this time be simply crowded out with healthy stands of timber. As a matter of fact, forests will reach their maximum yield and then will often deteriorate, due to windfalls, fungus and other natural sources of depletion. A neglected forest is by no means a continuously growing asset.

Too many "ifs" surround the suggestion that, if scientific management were employed, and if all the potential timberlands were planted, and if the people were educated to refrain from burning the forests up, and if insects could be trained to eat something else, Canada would have a self-perpetuating timber supply.

The writer, at the close of his report, seems at last to grasp the implication of his other sentences, and sees ahead an increasing scarcity, which will tend to limit consumption. Then, he says, "planting and management of forest lands will become increasingly profitable as prices advance, but, ere this, Canada will pass through a period of lean years in the timber industry, the length and intensity of which depend upon the efficiency of our forestry measures."

After jollyng himself and his readers along with hopeful suggestions of ample timber, the writer at last comes down to earth and admits, what everyone knows to be a fact, that timber is growing scarcer and that it may soon become too dear either to use or waste.

Colonel William B. Greeley, former Chief Forester of the United States, says:

"A mere valuation of the stumpage burned by no means expresses the fire loss, because it does not include damage to private property, the value of young growth, the cost of reforestation, or the intangible losses represented by soil erosion, floods, changes in stream flow, destruction of game, scenery and recreation."

To which must be added loss of labor, transportation, taxes and dividends.

"CONTROL THE AXE TO INSURE THE FORESTS"

Pulp and Paper Magazine

In the following letter, one of the world's foremost foresters makes a statement of the case that can scarcely fail to be heeded. What he says of the United States applies also to Canada:

The Editor, Pulp and Paper Magazine,
Gardenvale, Quebec.

Dear Sir:

For the last decade and more, the essential fact about the forest situation in America has been winked at or overlooked in most public discussions of the subject. This fact is that our forests are disappearing at a rate that involves most serious danger to the future prosperity of our country, and that little or nothing that counts is being done about it.

Forest fires are steadily growing worse in America and fire prevention is absolutely indispensable, but the axe carelessly used is the mother of forest fires. The axe, and not fire, is our greatest danger. Until the axe is controlled, there can be no solution of the fire problem, or of the problem of forest devastation.

The lumber industry is spending millions of dollars on propaganda in the effort to forestall or delay the public control of lumbering, which is the only measure capable of putting an end to forest devastation in America. It is trying to fool the American people into believing that the industry is regulating itself and has given up the practice of forest devastation.

That is not true, and Major Ahern has proved it beyond question in his most valuable paper. We are still sowing the wind, and the whirlwind is not far off.

Sincerely yours,

(Signed) GIFFORD PINCHOT.

FOREST CONSERVATION

Victoria Colonist

The softwood forests are the foundation of the pulp and paper industry, and, as well, of other important industries in the Dominion. Forest depletion means less overseas trade; it means a

substantial increase in the price of timber for the growing necessities of structural work. These are all factors which should convince authorities, with any vision at all, that a forest conservation policy, on far more adequate lines than any yet attempted, should now be in full progress. It is one of the tragedies of our political programme that so little should have been attempted to preserve one of the country's greatest basic resources for the needs of posterity.

A TREELESS NATION IS A DECADENT NATION

**Extracts from Article Written by Robert W. Chambers in
McCall's Magazine**

A treeless nation is a decadent nation.

When the forests of a country are neglected the mental and moral health of the inhabitants begin to decline.

Nations made treeless by the hand of man are dying nations. Nations which once were great and which no longer count are those the forests of which have been ruthlessly exterminated.

No matter what political cataclysm has overtaken and submerged peoples whose governments foster and care for forests, their potency remains, their vigor still endures, their racial resurrection is certain.

Take a map of the world and look upon the peoples who gradually are perishing. Those doomed lands are treeless. They are nations which, once mighty, have become negligible.

Neither in industry, nor in science, nor in art, do they now contribute anything vitally constructive or creative. In the councils of world races—save for a feeble, peevish and purely selfish cry—they do not utter any sound. Theirs is the drowsy dream of glorious past. Theirs is the sunset—golden still—that edges night, and the false, reflected light of night, and the unstirred silence of racial annihilation.

Once there were trees in Spain. Once China grew vast forests. So scepters pass.

Our food and raiment begin in the living leaf. The leaf enables us to drink. There would be little sweet water in the world—little rain—except for the sheltering leaves of trees.

Hatred for the forest was an evil heritage for us. Heed lest it be not our national undoing. Where forests die, waters die. Where waters die, the fruits of the earth perish.

And out of those mutilated and abominable wastes where axe or fire or both have passed, unguided by knowledge or common sense, are born tornadoes that devastate and kill; floods that destroy fertility, harrow the shrinking earth to its rocky ribs, and turn arable land to desert.

Springs, once protected by the spongy mesh of roots and mosses, dry up; rivulets disappear, brooks dwindle, rivers shrink

into warm and narrow channels bordered by burning boulders bare as bleached bones.

Rains bring rushes of flood water only—terrifying inundations that come in the twinkling of an eye, thunder by in devastating fury and are gone, leaving behind dead springs, dying streams, and the ghastly bones of withered rivers.

The forest hatred inherited from our pioneers has degenerated into the stupidity of apathy. And with it the land is degenerating, too.

As Omar might have said: "What can their money buy that is more desirable than the forests they have sold to destruction?"

That isn't the point. The point is that the destroyers of forests have made a rotten bad bargain no matter what they get for the transaction.

The situation is comparable to a fruit-grower who picks a ton of luscious grapes from his vines. Fine! That's what the vines are for.

But consider the ass who would rip up vines, roots and all, whenever anybody came to buy his grapes! The next year there would be no more grapes to sell.

Next decade or so there will be no more lumber to sell.

That's the story. It is the story of a singular creature known as "The Great American Ass."

Three hundred years ago the forests and the fertility of America were supposed to be inexhaustible.

Today vast tracts of once fertile soil are exhausted and can be bought for almost nothing. And three-fifths of the original timber of the United States has disappeared. (Today seven-eighths has gone.)

When the forests go, the waters go, the fish and game go, crops go, herds and flocks go, fertility departs. Then the age-old phantoms appear, stealthily one after another—Flood, Drouth, Fire, Famine, Pestilence.

The picture painted here isn't a pretty one. Nor have the colors chosen been too lurid or too thickly laid on. Alas, they have even been toned down! It's a rotten situation.

There are two ways of facing a rotten situation—get under the bedclothes and try to forget it; or get up, put on your pants, go out and face it.

The Government should assume control of all lumbering in the United States.

This proposition is radical and it sounds like interference with private business. But it must come to that or our country becomes like China, a land of perpetual famine and poverty—like China, which not very long ago could boast forests as magnificent as our own.

All lumbering should be under governmental control. The most drastic regulations should govern every operation which entails the felling of trees for whatever purpose.

All woodlands ought to be, and can be, a source of perpetual income to their owners. On the acreage depends the income. Always lumber will be in demand. Always there will be need of home consumption also.

Let the Federal Government control, the State foster and encourage and make acquisition easy. Would it be a hardship if a State law made it obligatory that a certain percentage of every farm should be planted and maintained in forest?

This country's well being, prosperity—yes, its very survival—lies in the swift resurrection of its forests.

Somehow this work will have to be done, and done very soon.

EXTRACTS FROM ARTICLE BY THE LATE GENE STRATTON-PORTER IN McCALL'S MAGAZINE

"With the cutting of our timber has come a change in our climate; weeks of drought in summer and destructive cyclonic windstorms, winters alternating from a condition so open as to freeze prematurely forced fruit and grain, and winters so stringently cold that the fruit trees are killed outright.

"The even temperature and the rains every three or four days which we knew in childhood are things of the past. Summer in these days means to scorch for weeks at a stretch with unalleviated heat; and in the same state in which I was born, it has become necessary for the sons of the men who wasted the woods and the waters to put in overhead sprinkling systems in order to grow their garden vegetables, while windmills and irrigation are becoming common.

"In my childhood my father planted grain with the same certainty of having a full crop that he had of having alternate day and night. Today the farmer on my land has no more idea whether he will get a paying yield from the wheat, corn and potatoes that he puts into the ground than he has as to whether the next cyclone will blow his house into the lake or pass a few yards on the other side of it. We, as a nation, have already, in the most wanton and reckless waste the world has ever known, changed our climatic conditions and wasted a good part of our splendid heritage."

DEPLETED FORESTS

Victoria (B.C.) Daily Colonist: An official report on the timber situation in the United States has called forth the following comment from Sir John Stirling Maxwell: "No reader can close this remarkable document without a grave presentiment of timber famine; and no British reader should forget that in the event of such a world disaster the United Kingdom is destined to be the chief victim." It is not only in the United States but in other great

timber-producing countries as well that forestry resources are being rapidly depleted to meet growing demands.

The Halifax Herald recently said editorially:

"We think that Mr. Barnjum does not stress this fact at all sufficiently, for he who cares to find out may find out that at present rate of destruction the 'stand' will be gone before the people realize what has happened."

FOREST LOGGING SLASH

(Reprinted from Canadian Woodlands Review, August, 1929)

"It is a well agreed fact that slash and dead windfall cause the greatest fire hazard in our forests. In cities, the owner of a frame house having a corresponding amount of inflammable debris around would be compelled to speedily remove it. Public opinion realizes the obvious danger in such an instance but does not in the case of slash lying in our woods. Even those who know that the very life of their business is threatened by a possible bad fire will not adopt the principle of slash disposal unless others do the same. And the organizations and interests involved are so diverse that there is no likelihood of voluntary agreement on such a measure. There are only six authorities that need argue, and the thing is in the way of being accomplished—five provinces and the federal government. The Prime Minister of Canada is the man to initiate the movement into definite action. His government can suggest a definite proposition as a basis for an inter-provincial programme and agreement. Does he delay doing so because some one else has pointed out its need? Or is he too busy with foreign affairs to worry about the future jobs of thirty thousand Canadians and the maintenance of exports worth over two hundred million dollars? If Mr. King held a mortgage on Brown's house he would certainly see that Brown kept it insured against fire. Why should not he and the Provincial Premiers see to it that our forests are insured by those who operate them—at least to the extent of removing the worst hazard, by requiring slash to be properly disposed of."

WHY CHINA HAS FAMINE

China offers convincing evidence and an everlasting warning of what happens to a country whose forests have been dissipated. We are not dependent on anyone's theory as to what will follow the loss of our wooded areas. If additional confirmation is needed it is to be found in India, Palestine and Spain. The Syrian Desert, which is now an utter waste, was once crowded with cities and full of cultivated fields. Mesopotamia and Persia were ancient seats of civilization. The old "granary of Rome" in Tunis is now largely an arid waste. Indeed, we need not go abroad for

evidence because we have millions and millions of acres in our own Dominion where nothing but bare rocks are to be seen and not a living creature is to be found, where life is impossible because the land has been denuded of trees.

The most striking description of a forestless country that has come to my attention is that contained in the following editorial from the Quebec Telegraph:

"The terrible famine conditions for several years past in China are a matter of general knowledge. Yet that country once had a wonderful covering of trees, the equal of the well-wooded portions of Canada, but China, poor benighted land that it is, did what we are doing in Canada, cut away its trees and allowed the land to be burned over. The vegetation was destroyed over vast areas, then the water swept over the land and carried with it the fertile top soil. So there are millions of acres in China that constitute a barren waste not capable of producing vegetation. China has one crop in seven years, and in the other years of that period must look to the world for substance to feed her teeming millions. China has become, and will remain for long years, a land of perpetual famine, because she has destroyed her forest covering, subjecting herself to the devastation of alternating floods and droughts, and has sacrificed the fertile top soil over such a vast portion of her domain. A recent traveller relates what he saw in China. Sailing through the Yellow Sea, he was impressed by the fact that much of the water was of a deep chocolate color, the result of soil that had been washed down from the interior. Looking out across the land, he saw miles and miles of barren waste from which the soil had been washed away, because no trees were there. He told of having seen groups of women out gathering weed stocks with which to cook their rice. They have no wood for heating, and none for fuel—not even bushes—just weed stocks, gathered laboriously from the countryside. He told how he saw dozens of human beings following the scrawny animals to pick up the droppings from those animals to be used for fuel. Think of a people reduced to such extremities! China was once blessed with a rich heritage of forests which were cut away, as we are doing in Canada. China is today paying a terrific and ghastly price for her folly. If we would avoid the same terrible conditions befalling our children, it is for each one of us individually to become not only a protector of the forests against fires, but an active planter of trees whenever and wherever the opportunity comes to us."

With the loss through floods in the United States reaching the enormous figure of two hundred and thirty-five million dollars annually and with the Senate asking for an appropriation of sixty million dollars for merely temporary relief for the sufferers from drouth, which sum only represents a small fraction of the total loss caused by lack of rainfall, the alternating flood and drouth conditions on this continent directly traceable to lack of forests are only too rapidly approaching the deplorable conditions that exist in China, where flood, drouth and famine hold perpetual sway.

If there is the slightest hope left for what remains of Canada's forests, that hope rests with the public press of Canada. In a democracy such as this, the newspaper is the court of last resort. Even the most unscrupulous or indifferent politician can be rendered amenable to public opinion through the newspaper press. But unless the press is willing to take up the fight where individual effort ends, I am afraid that our forests are absolutely doomed.

FOREST DEPLETION

Mr. Ellwood Wilson, one of the best informed foresters in Canada, writes to the Montreal Star as follows:

"I was much interested in your editorial of November 19, on forest conservation. The official figures of the export of newsprint, sulphite, sulphate pulp, other grades of paper, groundwood pulp and pulpwood from Canada for the month of August, reduced to cords, showed 450,027 cords cut for that month. Taking a very liberal estimate of the amount cut per acre, this would give us 119 square miles cut over each month, or 1,428 square miles per annum. New paper machines coming in before the end of the year would bring the acreage cut over per year up to 1,532 square miles. As the shortest possible time necessary to produce a second crop under present methods of cutting would be between fifty and sixty years, you can see that the situation calls for something more than 'viewing it with alarm.' It would seem as if it were time to call a halt to the construction of paper mills and the addition of new machines to existing mills. This may make for present prosperity, although I doubt it, as the mills will soon be at each other's throats for the possession of the market, and it would seem only the part of commonsense to build our mills according to the capacity of the forest."

SHOW TIMBER-GROWING PROFITABLE

BY WILLIAM R. GREELEY

Trees are the only supply of lumber. Lumber is a vanishing necessity. Soon it will be in many respects a luxury. When a commodity is passing from the necessity class to the luxury class it is a good investment. Forestry is no exception.

It has not become a popular crop because it takes time to raise it. Americans are only beginning to learn the need of taking time and planning ahead. As soon as they do, wood lots will be at a premium.

Wood lots are cheap today. We are now enjoying moderate prices that accompany the ruthless devastation of the last great

timber area in the United States. Wasting more than we have used, stripping the land first in the East, then in the Lake region, then in the South, and now in the great Northwest, we are building of wood and burning buildings to the amount of \$350,000,000 annually.

The end is near. Timber is in for a sensational rise. People understand. They will soon begin to lock another "stable" door after the horse is stolen.

Massachusetts is a conservative state. Massachusetts towns, governed by town meetings and selectmen, and Yankee shrewdness, are more conservative still.

When we learn that these strongholds of caution and conservation have in the last three years increased their holdings in publicly owned forest lands more than 500 per cent, we cannot fail to see the handwriting on the wall!

There are today in Massachusetts seventy-six town forests.

The eastern white pine that not long ago sold for \$20 a thousand, and was used for rough boarding, is today cheap at \$200, and is used for the finest and choicest decorative pieces.

A TREE SAVED IS A TREE GROWN

Editor of the Boston, Mass., Traveler.

"A tree saved is a tree grown," as expressed in one of the Traveler's excellent editorials, should be emphasized in every way possible. This slogan should be printed every day in the year by every newspaper on the continent.

There were 4,000 acres of tiny seedlings planted in Massachusetts last year, while 47,000 acres of forest land were destroyed by fire—more than 10 acres destroyed for every acre that was planted.

It has become almost habitual with many forest statisticians to take the estimated stand of wood remaining in the United States and divide this figure by the amount of the annual cut, after adding the amount of a supposed annual growth, and by this result arrive at the conclusion that the present stand of wood will last for 25 years, while as a matter of fact the annual cut (large as these figures are) is the smallest element in our forest depletion. Fungus, wind, insects and fire destroy far more than the axe. The annual cut in the United States has been estimated to cover approximately 13,000,000 acres of the forest depletion, while fire alone, for the past three years, has accounted for an average of 35,000,000 acres per year, and to this must be added the loss from fungus and insects. The loss from insects has been estimated to be as great as that due to fire. The loss from wind now far offsets the amount of the gross annual growth. Consequently, the depletion caused by fire, fungus, insects and the axe must be figured as a net annual shrinkage in our forest assets.

In 1920 the forest service of the United States reported to the Senate committee that there were, at that time, three hundred and eighty-nine million acres of land of all kinds producing wood growth; only one hundred and thirty-seven million acres of which was virgin timber, a considerable portion of this being inaccessible and of inferior quality.

According to the United States Forest Service, fire has burned more than one hundred million acres during the past five years; to which must be added five years' cut at thirteen million acres per year; totalling sixty-five million acres, making a net shrinkage of one hundred and sixty-five million acres in five years, or an average annual depletion of thirty-three million acres—this is without any allowance for loss caused by fungus and insects, and allowing the loss by wind as an offset against annual growth.

With these figures before him, any layman can figure out the probable life of our present stand of wood.

We have been keeping a set of books, entering up a part of our debits year after year without ever taking off a trial balance in order to ascertain where we stood or where we were heading.

We have been literally "fiddling while Rome is burning." It will soon be another case of "locking the stable door after the horse is stolen," as expressed in one of the other splendid editorials in last Saturday's issue of the Traveler.

The only possible hope lies in a complete reversal of the attitude of our governments toward forest conservation. When the forestry departments are looked upon as the most vital of the whole government machine and treated as such there may then be some hope for the future, but not until then.

Hence I heartily agree with your editorial writer that "a tree saved is a tree grown."

FRANK J. D. BARNJUM.

PAPER PRICE-FIXING

(Editorial from "Business Week")

Investments in Canadian paper mills total \$685,000,000. Also the electrical industry is deeply involved in the health of a great customer. Much of the newsprint is made from Crown lands timber; some of it from public-owned power. The provincial governments can cancel leases for cutting on Crown lands. They can control power rates and leases. Ergo, it looks as if they could enforce what they view as fair prices.

Canada's argument is simple—that it must safeguard Canadian workmen, Canadian investment, Canadian natural resources. Also that if newspaper publishers should succeed in ruining smaller mills, the inevitable effect would be a merger that eventually could charge whatever it wished.

FIRE, THE PERIL OF THE NORTH

(The Globe, Toronto, Ont.)

The annual tragedy of the forest fires is again present in the northern part of the province, and life and property are in deadly peril. Year after year this terror reigns at intervals over vast areas, and so far there seems to be no effective plan of checking its fury. All the forces of government and local fire-fighters are thrown into the unequal combat, but in the end only providential rains halt the advance of great walls of flame devouring everything in their path.

These forest fires present one of the biggest problems with which the Provincial Government has to cope.

Of late years fleets of aeroplanes patrol the vast forest areas of the north, watching from the skies for any signs of a bush conflagration. Fire-fighting equipment is provided. But in spite of all this, fires are breaking out in so many different quarters that an army would be required to give them effective battle.

The danger to human life is the most terrible aspect of these fires; but also of tremendous importance is the loss of timber and the personal property of settlers.

HEALTH OF THE FOREST

Dr. J. H. Faull, Professor of Botany and Forest Pathology at the University of Toronto, in his paper on the "Health of the Forest," showed that there are many other agencies beside fire which wreak destruction of Canadian timberlands, and suggested some means of halting their progress. The slash dead branches and leaves, he explained, form a hotbed for fungus disease and insect pests. The disease thus started in a cutover may easily be communicated to the adjacent stands of timber and destroy great areas of merchantable wood. The only cure for this evil, said the speaker, was an effective method of slash disposal which would remove its cause.

FORESTS AND FLOODS

The effect of the denudation of forest lands upon floods has been well illustrated in France, where a vote of five million dollars has just been passed by the Chamber of Deputies to buy forest lands and to bonus the planting of forests by private land owners.

The plan is to have at least 100,000 acres of barren land reforested every year and thus prevent the floods recurring which have devastated the country of Languedoc.

While China is the stock illustration of what follows the destruction of forests, with her treeless lands alternately flooded

during a rainy season and scorched during a dry spell, France has many notable examples of the evils that follow the denudation of her lands. The country that has no forests cannot absorb the water as it falls, and the rainfall rushes down the bare valleys to the nearest water course and carries floods and destruction with it. In the Languedoc country, the floods have swept down from the bare hills and carried down with them orchard trees, farm buildings and homes.

It is estimated that every acre of forest land is capable of absorbing no less than fifteen tons of water a day. This absorption means that such water, instead of being hurled in a mass, at the rate of fifteen tons for every acre of bare land, is held, as in a reservoir, by the soil and the trees and is released gradually through springs to water the lower lands, and to maintain the rivers at a uniform level, instead of being raging torrents one week and dry valleys the next.

The annual loss by floods in the United States has reached the colossal figure of two hundred and thirty million dollars.

THE HERALD, NIPAWIN, SASK.

Without our forests in the northern areas the prairies would fail much oftener than they do from lack of moisture. Our forests are largely responsible for our enviable position in world agriculture. They largely determine the amount of moisture which our agricultural areas get; they furnish shelter for insect-destroying birds; they furnish our fuel and lumber supply, and they greatly modify winds which would otherwise cause untold losses to growing crops.

When we lose our forests we not only lose the above-mentioned advantages, but we lose our fur-bearers, our big game, and many of our game birds, besides greatly reducing our water power. These are only some of the direct losses, to say nothing of those caused indirectly.

THE MONTREAL STAR

The forests are our greatest heritage. They are being depleted at a painfully rapid rate through commercialized greed, and when to this is added the enormous annual loss from fires, the prospects for the future are decidedly such as to cause thoughtful citizens grave concern.

THE FOREST

(Ottawa, Ont., Morning Citizen)

It cannot be too often repeated: the forest is the great balance wheel of nature. With sufficient forests properly placed, all movements that make the existence of mankind possible function with regularity. Air and water distribute themselves to our advantage, desirable growth is facilitated and the animal life which that growth sustains is assured and plentiful.

We have only to imagine the world with insufficient forests to see how impossible our life becomes when so circumstanced. Not only is the rainfall less dependable, but striking the unprotected ground it rushes to the gully, and so to the river and to the sea, making a disastrous flood as it goes, and leaving behind a soil parched and sterile—a double devastation. Winds, unchecked, gain force as they sweep the plain and become as destructive as earthquake or volcano. And the beauty that existed everywhere is replaced by the horror of rampiked hillsides and eye-searing desolation.

EDMONTON, ALTA., BULLETIN

Weather conditions probably have had something to do with the growing interest in tree-planting that is thus indicated. The wind storms of the past spring and early summer have surely blown away any doubts that shelter belts are needed around western farms, and that it is good business to plant these where nature has failed to provide them. Farmers who have had to re-seed their land and others who have only a patch crop as the result of soil-drifting can hardly be indifferent to so cheap and attractive a barrier against similar damage in future as can be provided by a windbreak of growing trees.

Apparently there is a connection between the clearing away of the brush and forest which originally clothed the northern farming belt in the west and the increasing damage done to crops by wind. During the present season considerable injury has thus been done by soil-drifting in sections of this district where little or none was ever done by that agency before. And the consensus of opinion is that central Alberta is becoming windier as settlement extends and the great forest barrier is thinned out.

Tree planting has in the past been a subject in which the people of this part of Alberta took little interest, save where they wished to improve the surroundings of buildings or to provide shelter for stock. This year has introduced them to the question of shelter belts in relation to grain crops; under conditions very likely to impress the moral that protection is cheaper than the lack of it. With prices at their present levels, there cannot be much profit from a field of grain that has been sown twice, nor from a field from which half the seed has been blown out of the ground.

RAIN THAT FAILED AMERICA IN DROUGHT WOULD FLOAT NAVIES OF MANY WORLDS

Washington.—All the navies of the world could be floated many times over in the water that failed to fall upon the United States through the recent drought.

J. B. Kincer, chief agricultural meteorologist of the weather bureau, has computed the deficiency in normal rainfall for the states east of the Rocky Mountains during the month of July, and found that it would aggregate 230,000,000,000 tons. The average daily shortage, he estimated, was 7,400,000,000 tons.

As against this total, the fighting ships of the navies of the United States, Great Britain and Japan, under the terms of the London treaty, would displace only approximately 3,000,000 tons of water.

An inch of rain over an acre of ground totalled 113 tons, Mr. Kincer explained. That amount is commonplace in good, soaking rains.

July rainfall deficiency in tons was estimated as follows:

Kansas, 14,000,000,000; Arkansas, 11,500,000,000; South Dakota, 10,500,000,000; Nebraska, 10,500,000,000; Missouri, 10,500,000,000; Iowa, 9,000,000,000; Illinois, 9,000,000,000; Virginia, 8,900,000,000; Kentucky, 8,800,000,000; North Dakota, 8,200,000,000; Ohio, 6,500,000,000; Tennessee, 6,400,000,000; Montana, 5,200,000,000; Wisconsin, 4,400,000,000; Indiana, 4,200,000,000; and West Virginia, 4,200,000,000.

TREES—ANOTHER LESSON

The News, Indian Head, Sask., Thursday, August 7, 1930

A motor trip to almost any well-settled section of our province reveals at this time of the year—perhaps more than any other—the need for more intensive use of hedges and shelter belts on prairie farms.

This has been a summer of high winds, and, as a result, estimates on the damage done by soil drifting run into several millions of dollars. One of the virtues of well-developed tree rows, as advanced by the Forestry Station here, is that of preventing, to appreciable extent, loss by soil drifting. It is obvious that farmers so troubled should go in for them. It is argued that with proper methods of cultivation and correct use of trees and hedges, the menace of soil drifting, which threatens to ruin many farmers in certain sections, could be considerably checked.

**EXTRACT FROM AN ADDRESS BY THE HON. WALTER
C. BUCKLE, MINISTER OF AGRICULTURE
FOR SASKATCHEWAN**

Our forests have a most important effect on the various agencies that mean a great deal to the ultimate success of agriculture in Saskatchewan or any other **agricultural** province. **The effect upon moisture conditions**, for instance, that continued depletion of our forests will have is too **well known to be stressed**.

Nature's balance has undoubtedly been disturbed by the effect of disastrous fires and careless and rather wanton logging methods employed in the years that have passed.

Artificial reforestation in itself will not be sufficient to cure the evil. A more vigorous policy of **conservation of existing supplies of timber** must be adopted. Commercial logging **must be limited and better supervised**. This is quite apparent when we see the **half-grown timber** that is **being cut down** and used in the present-day operations. We are **robbing future generations of what is rightfully their due** and we are not taking sufficient steps to see that their needs will be supplied after we have departed from the scene of activity. This is quite apparent to even the most casual observer who will take the pains to investigate.

JEWISH NEWS, WINNIPEG, MAN.

Save the Forests, is the cry of the Dominion of Canada. And well may she raise this cry. For a recent assessment shows a value of \$1,866,613,000 assigned to the forests of Canada. Evergreens reaching to unattainable heights, poplars with coats of silver rustling vocal leaves, oak strong as the hearts that have been named for it, maple with wood clear and sweet, with leaves many-angled as the land they symbolize—these are the trees that are too many to number, too beautiful to name, too precious to lose. And yet they fall; they give way to the hungry teeth of the giant saws, to the humbler axe; they yield up their lives to the destructive insect, to the terrible parasite; they lie humbled in the face of the wind, and crash at the gleam of the lightning bolt. But one enemy surpasses all others, and he is the most needless. Nature we find it hard to check; but Man—surely he can stand guard over himself! Yet forest fires lit by careless, heedless, thoughtless campers level more trees than the mind dreams of. A match tossed into the darkness, an ember glowing in the loneliness long after the camper is gone, a cigarette butt only half extinguished, and there lie in barren desolation stretches of land that were once a harp unto the Lord, the great winds that sweep across the open country—these trees; they offer shelter to countless birds and animals that we guard with greedy care; they offer work to thousands of men; they bring solace to hearts hungry for beauty. And one thoughtless

gesture leaves for their proud dignity the haggard blackness of charred stumps; leaves for abundant life niggardly death and destruction. Save our Forests! is the cry of a nation.

THE GAZETTE, DUNNVILLE, ONT.

It is the fashion for patriotic spell-binders to talk of the "illimitable wealth of the Dominion" in its vast forests, but there never was a greater error. Unless these tracts of timbered land are protected from fire, and leased only under conditions which provide for reforestation, another generation will see in this country a reproduction of conditions which have made the United States dependent on us for their supply of lumber and pulpwood and the paper produced from it. Those who have foreseen this danger and who are seeking to ward it off are deserving of every encouragement.

"THE LAST RESORT"

The "Action Catholique" of Quebec paints a vividly true picture when it says: "After our vast plains and wooded mountains have been shaved; after our water courses of today have become, like those of Africa, torrents capable of producing at one moment immense power, only to be transformed the week after into insignificant rivulets; after the great factories which are being built today by the labor of thousands have become silent and deserted, there will still remain the land, willing always to return a hundred-fold to the man who is ready to devote to it all of his attention."

This picture painted by "Action Catholique" is so strikingly true that all thinking Canadians should take it to heart. Even the land, which has never yet failed us, will become sterile and largely a desert waste when the trees have disappeared and the water-courses become dry river-beds.

STARTLING FOREST FACTS

If any proof were needed that Canada has already reached the danger zone of forest depletion, ample evidence has been provided in the erratic and unseasonable weather we have been experiencing. There is only a comparatively narrow fringe of forest growth now left between the Arctic Circle and the present inhabitable portion of Canada. When this has been completely removed, climatic conditions in the southern portions of Canada will be little different from the northern zone, the distance being so insignificant.

In corroboration, it is only necessary to refer to present conditions even as far south as the State of Florida, which conditions are

interesting as bearing upon the question of the devastation of forest lands in its effect upon climatic conditions. It is well known today that the frost line has extended as far south as Florida so as to affect vegetation not only at Palm Beach but at Miami. Killing frosts are now experienced every season at both of these places. Years ago, before the winter resorts were even thought of in Florida as they now exist, oranges were grown successfully as far north in that State as Ocala. That place, as is well known, stands at the head of navigation of the inland fresh waters. Some years ago, that whole region was developed as an orange growing territory. Today oranges are not grown in that section, and the same land which was used for orange growth is now used for wheat land.

The great change which has taken place in the tier of States north of Florida during this interval of time is the devastation of the pitch pine forests. This tier of States, together with northern Florida, have been largely denuded of their forests. Previous to this devastation, these extensive forest lands acted as a wind break, preventing the sweep of the cold wind from the north over the Florida peninsula. This forest devastation is the only physical change which has taken place in this period of time, and this is fully accepted as the cause for the change in climatic conditions in southern Florida.

In speaking of the effect deforestation has upon our climate, the New York Evening Post recently said:

"As the Riviera is the legendary 'sun-porch' of Paris, the annual appearance there of more snow than falls in Paris has become a source of grave concern. The snow is laid at the door of the deforestation of France that has taken place since the establishment of the Third Republic."

While only twenty per cent of the timber of the world is in North America, fifty per cent of the timber of the world is being cut on this continent.

It is estimated that Canada loses, annually, half a billion dollars of capital assets through forest fires.

The shortage of power caused by low water conditions has already become acute in different sections of Canada.

A remarkable feature of the 1929 forest fire situation in Manitoba and Saskatchewan was that fires occurred and were fought in every month of the calendar year.

During the 1929 forest fire year on the northern wooded fringe of the Prairie Provinces some precipitation occurred but for the most part the wooded sections of this region suffered severely from lack of rain and the consequent fire outbreaks.

Forest authorities in British Columbia have stated that 95% of their forests have been destroyed to only 5% utilized, and a close survey along the Transcontinental Railway during its first eight years shows that twenty cords of wood were destroyed by fire to every cord shipped.

The forests of Canada rank second only to agriculture in value of products and of exports and from the standpoint of employment afforded and value through the manufacture of the raw material, the pulp and paper industries are the two most important in the Dominion. The wood-using industries in Canada represent a capital investment of over \$1,000,000,000, give employment to 200,000 persons, and the value of the products is over \$500,000,000 annually, to which must be added the \$300,000,000 received from the tourist trade. Without forests we should have no tourists. Canada produces over 37 per cent of the newsprint paper manufactured in the world and exports more than all other countries.

Mr. O. Schierbeck, Chief Forester for Nova Scotia, says:

"Nowhere in Canada today has there been anything done towards treating the forest as a crop. We are still mining our forests, without any thought of the future. Although the phrase 'Mining vs. Crop' has been repeated until it has been worn thin, yet nothing has been done. We are doing a lot of talking but there is very little action.

"Everybody agrees that forestry is necessary, and that the proper treatment of our forests should be undertaken at once, but everybody, although agreeing in the abstract, passes the buck when it comes to putting the theories into practice."

As the late Dr. Fernow once said, "You Canadians are practicing forestry everywhere except in the forest."

The United States had nine thousand billion feet of standing timber when they had only 10,000,000 people and now two thousand billion for 120,000,000 people, and this latter is largely over-estimated.

During 1929 a total of forty-six million acres of all kinds of land were burned over in the United States, the largest area ever burned in one year in the history of that country.

HOW CORNFIELD AFFECTS WEATHER

Dr. J. M. Aikman of Iowa State College, speaking before the Ecological Society of America, studying the "micro-climate" of a cornfield, set out instruments to measure the humidity and evaporating power of the air, the temperature of air and soil, and the intensity of sunlight. He measured three different plantings of corn in this way: one a field with two stalks to the hill, one with three and one with five. In general, he found that the denser the stand the higher the humidity, the lower the evaporation rate among the stalks, and the less sunlight reached the lower leaves. The evaporation rate, for example, was ten per cent higher in the "thin" field than in the densely planted one. Missing stalks in the hills, causing irregular gaps in the field, introduced wide fluctuations in all the "micro-climatic" readings.

When the planting of five stalks of corn in a hill instead of two reduces the amount of evaporation in the soil 10%, it is easy to understand what a tremendous effect the forest exerts on moisture conditions—just the difference between a desert and a fertile country.

RAIN AND ELECTRICITY

A decline in rainfall means a smaller streamflow, a smaller streamflow means a reduction in water-power electricity, and that reduction means a corresponding increase in the consumption of coal for the production of electricity. This year, what the weather man calls a deficiency in precipitation has covered a period of several months and one consequence has been a burning of 2,600,000 more tons of coal this year than last by the electric light and power plants of the United States.

The facts are presented in statistical form by the Research Department of the National Electric Light Association. In September less than a third of the total output of electricity was produced by water power, the lowest ratio since the dry October of 1925; in September last year the ratio was nearly two-fifths, and in May, 1928, nearly half the total. Thus far in the present year the total water-power output of electricity is only 170,000,000 kilowatt hours more than in the corresponding period last year, but big as that figure seems it is an increase of only six-tenths of one per cent, which is the output of only a day and a half. During the same period, however, the fuels-power output has been 19 per cent above that of last year. All of which is to say that a dry spell affects the city hardly less closely than the country.

CANADA IS THE CHIEF SOURCE OF THE WORLD'S PAPER SUPPLY

The forests of Canada continue to be the chief source of the world's paper supply. During the past month Canadian paper has been exported to thirty-three countries, ranging through the alphabet right from Australia to Uruguay. Without the forests and paper mills of Canada the business of supplying the world's news to the public would be seriously restricted.

DUST STORMS NEAR MEXICO CITY STIR DEMAND FOR REFORESTATION

Mexico City, March 15 (A.P.)—The season of dust storms in the high, dry valley of Mexico is in full swing, and the abundance of the powdery alkaline dust in the air has stirred the newspapers to renew their annual crusade for reforestation, which, they say, will end the trouble.

"El Universal," leader in the campaign to replace the great forests that once thrived about Mexico City, asserts that cutting of these forests for fuel and lumber is the sole cause of the storms which sometimes descend on the city with the density of fog.

RAW MATERIAL SHORTAGE

Paper Trade Journal, New York

In recent years, the question of pulpwood exports and imports has assumed an international aspect, in that it has created a certain tension between the wood-producing and the wood-consuming countries. Relations between the United States and Canada in this respect are too well known to need further comments; while Germany's large imports of pulpwood are attracting a steadily increasing attention. So far, the raw material requirements of the German paper industry have been mainly satisfied by imports from Poland, Finland and Czechoslovakia. For a long time these countries were quite willing to supply Germany with their surplus output of pulpwood which was not claimed by their own paper industry. But with the increased consumption of the home timber resources, partly amounting to excessive exploitation, and with the progressing expansion of the home paper industry, these countries have become more and more reluctant to feed the German paper industry, especially as Germany has built very high tariff walls against imports of ready-made paper and wood pulp, and, moreover, has established a very keen competition, particularly with Finland, in the international paper market.

Forest conditions in Finland, Norway and Sweden are, thus, of a special importance for the whole European paper market. Norway has already reached the point where her own forests have ceased to satisfy the requirements of her paper mills, so that imports of wood pulp have become necessary. Sweden, on the other hand, is still in a position to fill her own needs for pulpwood, thanks to her well-managed forests. But Finland, which has proportionately less spruce forests than her western neighbors, is watching with growing anxiety the considerable export of Finnish wood pulp to Central Europe. The Finnish Board of Forestry has recently published the result of an official survey of the country's timber resources, showing that the forests in the southern parts of the country are already subject to excessive exploitation. This means that the country cannot afford to continue indefinitely the export trade of pulpwood without running the risk of gradually creating a serious timber shortage for her home paper industry. Already for some years past the value of pulpwood has been continuously advancing in Finland, while on the other hand the finished article has become cheaper in the world market.

Forest conditions in Poland and Czechoslovakia are hardly better than in Finland, as also in these countries there is a certain amount of excessive consumption, and it is therefore very probable that a protective policy will also eventually be adopted in these timber exporting states.

WASTING OUR SUBSTANCE

The Montreal Star

Friday, February 5, 1926.

Still the farce goes on. In spite of the warning of the experts, Canada continues to ship her raw material with a prodigal hand, as if her supplies were inexhaustible. In so doing she is hastening the day when her own newsprint industry, which has grown with such rapid strides, until in output Canada has surpassed every country in the world, will be hampered, and if conditions are not remedied, must eventually collapse. . . . To continue our present policy of exhausting our national capital without seeking a profitable return for its investment is to court bankruptcy.

THE APPALLING DRAIN AND DESTRUCTION MUST BE STOPPED; GOVERNMENT MUST ACT AT ONCE

The Halifax Herald

J. M. Swaine, Dominion entomologist, declares that "during the past generation the forests of Eastern Canada have been literally swept by two great insect scourges." One is "the spruce

bedworm epidemic, killing enough balsam and red spruce to last the pulp mills of Eastern Canada for thirty years or more." "In many years," he adds, "on very large areas, forest insects have caused quite as much destruction as have forest fires."

Mr. Swaine states that "the recent spruce budworm outbreak in the forests of Ontario, Quebec, New Brunswick, Nova Scotia and Maine was probably the most destructive and extensive injury of the kind in North America of which we have definite records."

CRIMINAL WASTE

A bulletin issued recently by the Canadian Government declares that "forest insects have caused quite as much destruction as have forest fires."

SAVE THE FORESTS

Victoria, B.C., Times

When people talk about unlimited natural resources and include in the wealth of British Columbia a so-called unlimited supply of timber they would do well to study a few figures which were made public yesterday as a result of the initial meeting of the officials who will be responsible for launching a "Save-the-Forests" week. These show that of this province's original stand of 1,000,000,000,000 feet, less than 40 per cent remains, but the potent fact to be noted is that legitimate exploitation has accounted for less than 5 per cent and fire has destroyed the rest.

MINING ENGINEER TAKES A VERY PESSIMISTIC VIEW OF CANADA'S NATURAL RESOURCES

Montreal, March 4.—"Over-estimation of Canada's natural resources and talk about the Dominion's inconceivable wealth is the antithesis of patriotism and the curse of Canada." This was the assertion made by Mr. C. M. Campbell, mining engineer, Montreal, at yesterday's session of the three-day convention of the Canadian Institute of Mining and Metallurgy.

"The inconceivable propaganda goes on apace," said Mr. Campbell. "Premier King at Vancouver has stated that we still have untouched natural resources beyond our wildest dreams."

Mr. Campbell gave other similar views of prominent Canadians, and then gave his own opinion as follows:

"There is as much consistency in speaking of inconceivable wealth in this country as there is using Premier Baldwin's expression in speaking of a 'chilly Hell.' I have traversed this country from Victoria, B.C., to Sydney, C.B., and from Essex County to Churchill Harbor. I have not spent my time in our princely hotels or on our palatial limited trains. I have been to where the resources are supposed to exist in inexhaustible quantity. I have gone on foot, from tidewater to above the timber line up where the anemones bloom beside snow patches in August; I have carried my pack over the ridges and through the pitcher plants, among the muskegs of the pre-Cambrian in Saskatchewan, in Manitoba, in Ontario and in Quebec, and I have travelled the green slopes of the Maritime Provinces. I say, as an engineer, that these resources never existed in anything but a limited quantity, and further, that the depletion has been such that, in important cases, only a remnant remains."

Mr. Campbell found the timber resources were going down and reforestation "was a joke."

Depletion of soil fertility in agriculture was a serious matter.

THE MISSISSIPPI PROBLEM—AND OTHERS

Pulp and Paper Magazine, January 19, 1928

I do not think that there exists at present in the whole of the United States a problem of greater economic importance than the periodic floods of the Mississippi River. To solve it people talk of reinforcing the levées, or of raising them higher; the suggestion is also made to construct high artificial reservoirs or lakes where the flood water could be caught and controlled to a certain extent; but I remain convinced that if this problem is ever to be solved successfully, **reforestation on the headwaters** of the Mississippi river-system will be one of the most important and at the same time most economical measures employed in the gigantic undertaking.

The disaster would certainly have been of less extent if a greater proportion of the country had been kept under forest. It must be admitted that the destruction of the forests by our neighbors to the south, apart from depriving the whole nation of the wood that it required to feed numerous industries, has removed a restraining influence that nature provided to control some of her most important forces. The laws which govern the flow of water are simple, but as soon as they are violated catastrophes follow that are often quite beyond repair. It is impossible to outrage nature with impunity.

* * *

I have already said that the Mississippi is very unlike the St. Lawrence—thank Heaven for that! But have we not, all the

same, in the Province of Quebec, a number of rivers, of less importance it is true, the floods of which in spring and autumn are nevertheless increasing every year and continually causing appreciable loss to the proprietors of the land on their banks, whether in town or country? It is only necessary to mention the floods of the Rivers Chaudiere, St. Francois, Ste. Anne de la Pérade and others. The principal cause of these disorders is always the same, namely, heavy deforestation carried on around the headwaters of the rivers.

Have we not also hydraulic powers of incalculable importance, the value of which depends principally on the regular flow of our streams? There are in Canada nearly a billion dollars tied up in the hydraulic industry. Forty per cent of this capital is invested in the Province of Quebec and we ought to do our utmost to preserve the value of this investment. The total figure for hydraulic power in this province may be estimated at 15,000,000 horsepower. Of this hardly 2,000,000 horsepower has yet been harnessed. These installations, however, bring us in, at a low estimate, \$40,000,000 annually, and if it were possible to develop them all we should draw from them a revenue of \$150,000,000 to \$200,000,000 a year.

WHAT WATER POWERS SAVE US

Let us remember, too, that to produce one horsepower for a year requires about ten tons of soft coal. This coal costs here about \$8.00 per ton; if we had to produce the 2,000,000 horsepower that our "white coal" gives us from the black variety it would cost us \$160,000,000. Thus we are already saving at least \$120,000,000 per year.

If the forest were one day to disappear from this province, whether by fire or otherwise, the conditions regulating the streams would be totally changed and those which prevail in the south of the United States would certainly be repeated here. Our rivers would have less water than today in the low-water period on account of the greater evaporation that would take place on the bare lands. The floods would also be much more considerable on account of a quicker run-off.

It must be borne in mind that the forest acts like a sponge, that it holds rain-water better than any other substance, and that it serves as a huge reservoir storing up a whole sea of water. The trees in the forest, through their foliage, decrease the intensity of heavy rains, the leaves break up the drops of rain and cause them to fall softly on the forest floors, and the small growth that covers the soil again holds up the droplets of rain and subdivides them still more finely. The porous soil of the forest, with its network of thousands of roots, further retards the run-off of the water. Little by little the water penetrates into the soft soil of the woodland and works its way gently downwards to feed the small springs that give rise to the greatest and most imposing of our rivers.

The air is always damp under the shadow of the forests where there are so many natural obstacles to the run-off of the water. The sun's rays can only penetrate the leafy cover with difficulty and evaporation is very limited; while on the other hand, when water falls on barren lands from which the forests have been removed, it evaporates rapidly and in abundant quantities into the atmosphere as soon as the soil is saturated. If we desire to preserve forever the value of our hydraulic forces and to avoid repetition of the disasters caused in recent years by the overflowing of the streams, we must before all things have a care to the conservation of our forests.

The Ontario Forestry Branch have surveyed and estimated the timber and pulpwood on seventy million acres of forest land. Now, I think I do not misstate the case when I say that as a whole the results of these surveys are disappointing. They found one billion feet of white pine on areas where they expected to find ten billion feet. They found one cord or two cords of pulpwood per acre where they expected to find five or ten cords per acre. To be sure, the aggregates are large because the territory is large, but when we express these results in the average yield per acre of the forest lands they are disappointing. It sounds good and encouraging to say that we have 200 million cords of pulpwood in Ontario when we are using about one-half a million cords each year, but it puts a different face upon the matter when we state the fact that that 200 million cords are to be found on 100 million acres or 150 million acres of forest land. It indicates something of what you will have to pay for paper in the future when those low yield areas come into use.

FOREST AND FLOODS

And from a widely different source I quote a statement made by Edouard Branly, France's grand old man of wireless, who says:

Trees are lightning rods and the increasingly bad weather is due to the destruction of forests. If there are no longer seasons, deforestation is the principal, if indeed, alas! not the sole cause. Trees on the heights, with their pointed tips toward heaven and their roots deep in the damp ground, are nothing less than so many lightning rods, constantly discharging into the earth the atmospheric electricity and thereby preventing its accumulation in the clouds, an accumulation that would cause terrible storms. In wooded districts there was calm, but now that the woods are being cut down, there are constant hard storms.

The simple facts are that nature's entire equilibrium has been upset by the hand of man. Nature's laws cannot be transgressed without paying the penalty, and this continent is certainly paying a very high price for the devastation that is being caused by the reckless waste of our forests.

A GHASTLY LESSON

The Halifax Herald

The Mississippi River, sweeping ruin on its way to the seas, gave a terrible Forest Week lesson—we must have snow-holding and rain-retarding trees at the headwaters of our rivers and streams.

Watch the snow in your own yard hold longer under a tree, and you get the idea. Look at the window-pane the next time it rains, and you will get the lesson of what Nature is doing because man slashes down the forests—and leaves the country bare.

Flood and drouth, hurricanes, extremes of weather conditions within short spaces—all these, if we only realized it, follow the heedless destruction of the forests.

And people never miss the water till the well runs dry!

AND THE WELLS RAN DRY

The Gazette, Montreal

FACE SERIOUS PROBLEM

FARMERS OF CENTRAL ONTARIO FEAR WATER FAMINE

Toronto, November 28.—Lack of water is constituting a serious problem for the farmers of Ontario and Peel Counties.

According to reports, the situation is specially bad in the vicinity of Myrtle, Ashburn, Prospect and the Scugog Island. Wells which have never lacked water for years are totally dry, and some have been forced to the extremity of hauling water for a considerable distance in order to keep a supply on hand for the livestock.

Some families in the rural sections are finding it difficult to secure pure drinking water.

Prayer for rain is not an uncommon thing at rural church services these days.

Residents of Toronto Township are alarmed at the outlook for a water famine during the coming winter, and so far no solution appears in sight. More than 50 per cent of the wells in the district have run dry, some of them for the first time in forty years.

In the Lakeview section a single well supplies as many as fifty families, and this may soon become dry in view of the heavy drain on its supply.

WARNING IN LOSS OF FORESTS

By Dr. Frank Crane in McClure's

Nature, our intelligence and the busybody reformers keep reminding us that we ought to do something. We neglect it and pooh-

pooh it possibly and then comes along fate and hands us a wallop. Then we wake up. The Almighty got tired of lecturing and hectoring people about taking care of their forests. Many a time they had been reminded that forests regulate and control water supply and mitigate the force of streams. They didn't mind but gaily went on pillaging the forests and doing as they — pleased.

Then arises the Father of Waters and oozes all over the landscape. Thousands of square miles are inundated. Towns are wiped out and the river changes its course so that river towns become inland and thousands are made homeless.

In another part of the country the wild and frisky tornado takes a crack at human beings. It sweeps across the State of Illinois, chewing up town after town in its wild orgy.

Now perhaps the public may sit up and take notice. They may recall that they have often been told by authoritative persons who knew what they were talking about that the best flood control had its origin in the forests and the best temperer of winds is the woodland.

If things go on at the present rate the country will be denuded of its forests and the wild floods and wilder winds will make more and more havoc.

It is of vital interest that the people of this country wake to the danger that lies before them. It is not a danger to any one class but to all classes. We talk about national defense, fixing up airplanes and gunboats, but the best national defense is to strengthen our inward resources.

This country is not only going to be a sad and desolate place without its forests, but it is going to be a dangerous place in which to live.

Of the great forests that covered this land years ago when there were only ten million population and with twelve times as many people now as there were then, there is one-sixth as much forest supply. That one-sixth is worth more now than the six-sixths were one hundred years ago.

If we are going to save this country for comfortable living conditions and natural beauty we must give heed to the forests.

An organization called The Green Cross has been formed for the purpose of awakening public opinion to the necessity of forest conservation. It deserves universal support.

The railroads use 15 per cent of the total lumber cut and its consumption is rising. It takes an oak tree 60 years to get tie size and the life of a tie is only ten years.

The newspapers, with their demand for wood pulp, are making constant inroads on the woods. Something must be done and done immediately.

TREES AMONG BEST FRIENDS OF MAN

By Dr. Frank Crane in McClure's

Swollen by a hundred rain-flooded drains, the Los Angeles River rushed in a torrent during the four-day downpour, carrying away trees, small buildings and twenty bridges important to street car and vehicular traffic.

In this connection it is interesting to read the report of George H. Barnes, president of the American Reforestation Association, who says:

"Trees make rain a blessing instead of a danger. It is through the physical action of the tree that seven-ninths of the rainfall is produced. Through the humus or leaf mould under the trees, 88 per cent of the water which falls as rain is absorbed by the forest floor, and it takes approximately twenty-seven months for its proper distribution under normal conditions.

"When this covering has been destroyed, either by fire or cutting, 92 per cent of the rainfall goes away in disastrous floods, carrying with it rich mineral phosphates, silt soil and detritus."

Besides this, forests have much to do with inducing rainfall and in regulating the climate.

One cause of the disastrous floods in China is the denudation of the land there.

Trees are the best security against extremes in climatic conditions.

FORESTS GREAT RAIN PRODUCERS

Ithaca, New York

Forests contribute more water vapor to the air than lakes and streams and consequently are the actual rain-producing sections of a continent, Raphael Zon, of the United States Forest Service, St. Paul, Minn., told the forestry section of the International Congress of Plant Sciences here yesterday.

SURVEY OF DENUDED LANDS ALONG MISSISSIPPI RIVER AS AID TO PERMANENT FLOOD CONTROL

That "Congress in providing for a plan looking to the permanent control of the Mississippi River, should arrange for a survey of the lands on the watersheds of the river and its tributaries that are adapted to reforestation," is the opinion expressed by George D. Pratt, president of The American Forestry Association.

"There are millions of acres throughout the twenty states that form the drainage area of the Mississippi River," declared Mr. Pratt, "that have been deforested during the past fifty years, and that can and should serve the nation in the dual capacity of producing timber and improving the run-off conditions of the hundreds of streams and rivers that empty their flood waters into the Mississippi."

Mr. Pratt declares that these lands are chiefly valuable for watershed protection and for timber production, and that unless they are reforested and properly protected from fire, they will continue to lie idle and to aggravate the flood problem of the Mississippi River.

"The influence of forests upon run-off is so well established that it is incumbent upon Congress to examine exhaustively into the possibilities of reforestation as one method of regulating the flood stages of the Mississippi and its tributaries. Water companies have found that the best way of regulating their water is by forestation, and the state and national responsibilities in averting a repetition of the present Mississippi catastrophe are too great to permit reforestation to be ignored or discarded.

MUST INSURE AGAINST WIND

Springfield Mortgagees Face New Requirement of Banks as Result of Storms

Storms of the last year accompanied by destructive winds have resulted in the requirement by local banks that owners of mortgaged property provide wind insurance. One bank is requiring not only takers of new loans but holders of old ones to meet this condition.

PROTECTION IN FORESTS

Whatever else may be said of it, the Mississippi has certainly dramatized Forestry Week. There is a definite connection between its sudden rise and the disappearance of trees and thousands of square miles of territory along its banks and tributaries.

Where their watersheds are covered with forests rivers rise slowly, because it takes the rain a long time to seep through the moss and leaf mould. Where watersheds are barren of forests the rain runs down over them as it does over a roof.

Forests not only prevent floods but they hold rain water in storage for dry seasons.

There is more benefit in the preservation of forests than arises from the supply of timber and pulp wood it insures.

LAY FLOODS' RAVAGES TO LACK OF FORESTS

Experts Urge Action to Plant Trees Around the Headwaters of the Mississippi

Special to the New York Times:

Charles Lathrop Pack, President of the American Tree Association, declared today that the lack of trees around the headwaters of streams that pour into the Mississippi River was responsible for the unusual floods in the Middle West and South, and urged immediate action to remedy the deficiency.

"The flooded Mississippi River," he said, "is giving America a terrible Forest Week lesson."

Mr. Pack, who has just given the schools of America a million and a half forestry primers in an endeavor to interest the coming generation in the importance of reforestation, added that an editorial in *The New York Times* today set forth this lesson "in graphic style."

Representative Martin L. Davey of Ohio wired President Coolidge today urging the adoption of a national forestry conservation programme. He declared the present flood to be "largely unnecessary" and "a part of the tragic price we must pay for our folly of forest devastation."

Mr. Pack outlined the need for action in a statement explaining how the lack of trees affected stream flow.

"We must plant snow-holding and rain-retarding trees at the headwaters of our rivers and streams as a result of this terrible Forest Week lesson," he said. "In this lesson we have a counterpart in the floods of the Yellow River, which the Chinese call the River of Sorrow. The important part which forests play in the development of our country is shown by the fact that from the streams of the national forests over 700 Western cities and towns, with an aggregate population of nearly 2,500,000, obtain their domestic water supply."

Mr. Davey, in the course of his telegram to the President, said:

"The appalling flood in the Mississippi Valley leads me to make a special appeal to you to champion the cause of conservation and reforestation in order that the cause of floods may be cured at their source. What a coincidence it is that this greatest flood of recent years should be doing its deadly work in the midst of this American Forest Week, which you were thoughtful enough to proclaim according to custom, in order to direct the attention of the American people to the dangers of forest devastation and the need of conservation."

THE WASTEFUL FLOODS

"Approximately 5,000,000 trees are cut each year to make telephone and telegraph poles." What has the cutting down of so many trees to do with the floods?

A very great deal.

For the forests are Nature's storehouses where the winter's snow is kept under cover and only permitted to melt gently and gradually, so that the streams are supplied slowly, and no rush of water takes place.

By destroying our forests and not replanting them we are not only using up a valuable commercial and attractive asset, but we are inviting disaster and loss by floods.

But the paragraph quoted above only shows a partial picture of the rapid progress of deforestation that we Canadians are so proud of.

What about the millions of trees cut down every year to make paper?

And a large quantity of that paper is used by the newspapers in the United States which will use big headlines to announce the "awful floods" in Canada.

END OF PULPWOOD FORECAST IN HOUSE

Mr. Dickie declared that the end of this country's supply of pulpwood was in sight. "We are bribing people to go on the land here, there and everywhere, and not building up our industries," the British Columbia member declared. "It costs \$25.00 a cord to raise spruce, according to experts, and we are selling it out of the country for \$10.00 a cord."

DEFORESTATION RUINED TRIBE

Expedition at Last Discovers Why Ancient Pueblo Bonito Was Abandoned

WASHINGTON.—A thousand years ago the citizens of Pueblo Bonito, in northwestern New Mexico, committed community suicide by deforestation. That is the verdict reached at the end of the sixth season of work on the ancient Pueblo ruins by the National Geographical Society, under the direction of Mr. Neil M. Judd, archaeologist of the Smithsonian Institution.

"The present sterility of the soil in Chaco canyon, especially around Pueblo Bonito," says Mr. Judd, who has just returned and reported to the National Geographic Society, "forces us to believe that marked geographical changes must have taken place since occupancy of the prehistoric village. In the heyday of the pueblo 1,200 people lived on the produce of the soil which they cultivated with sharpened sticks and stone implements. Those once fertile fields are barren today—acres of desert sand and supporting a sparse growth of rabbit brush and greasewood. There are no trees excepting scattered pinyon and juniper, high on the Mesa tops. The nearest pine groves are 40 miles distant.

THE SOLE SURVIVING PINE

"Yet the Bonitians, armed with stone axes, cut thousands of pine logs with which to roof the 800 rooms in their great dwelling. Lacking beasts of burden, the ancient village folk necessarily carried in on their shoulders such trees as they felled. The distance such great timbers could have been transported conveniently was thus limited to a few miles.

"Some of these deductions were reached during previous explorations, but we wished additional facts. So this past summer we vigorously pursued our geographical studies of the Chaco drainage. After patient search we found a number of pine logs buried in the talus slopes of the canyon in such a position as to indicate that they had at one time grown just below the upper rim. The sole survivor of this prehistoric forest, so far as we know, is a young pine about 20 feet high standing on the Mesa about one mile from Pueblo Bonito. This tree died last summer.

MYSTERY BELIEVED SOLVED

"In 1924 we discovered evidence of an ancient arroyo which had long been completely filled and silted over. We have since traced this channel over one-half mile. It was 18 feet deep and on its former bed we found fragments of pottery that was made during the third and greatest building period of the pueblo. This apparently trivial discovery, when supported by the results of our archaeological researches, thus proved that flood waters, rushing through Chaco canyon when Pueblo Bonito stood at the height of its glory, speedily brought about agricultural conditions that hastened abandonment of the village.

"We believe therefore that the mystery is finally solved. The Bonitians wasted their pine forests, baring the soil to wind and water. The summer rains, without which desert plants do not mature, thus drained immediately into the newly formed arroyo, increasing it both in depth and width. In a relatively few years fields cultivated throughout many generations were no longer available to produce food for 1,200 people. The inhabitants began dribbling away a few at a time, so that in a comparatively short while Pueblo Bonito fell from its position of economic and cultural leadership to a mere handful of conservative families, loath to leave the empty shell of their ancestral home."

In report 252, United States, Dr. George B. Clements of California said: "It takes 95% of the State's surface to furnish water for but 5%. California's three million irrigated acres produce crops valued at 470 million dollars, while the five and three-quarter million acres of dry farm land in that State produce but ninety-one and one-half million dollars in crops."

Secretary Wilbur said: "The great conservation problem of the West is the conservation of water. From Nebraska west, water and water alone is the key to our future; we need the mountains, the hills and the great protected back country, or we cannot have sufficient water for our valleys."

BIRDS, INSECTS AND FORESTS

"American Forests"

. . . In certain of the better agricultural districts, particularly the tremendously fertile Corn Belt, the population of insect-loving birds has been reduced to such a pitiful remnant that many agriculturists are becoming concerned over the future possibilities of raising crops in the face of the constantly increasing army of insect pests. Because the scarcity of birds is influenced by the enormous reduction in the area of their natural habitat, the woods, the Central States Forest Experiment Station, at Columbus, Ohio, recently made a series of studies of the effect of woods grazing on bird life.

The amount of remaining woodland in the Corn Belt is less than ten per cent of the original area of forest. It is well known that most of our important insectivorous birds spend a good portion of their lives in the woods. Charles C. Adams, director of the New York State Museum, is authority for the statement that seventy-seven species, or seventy per cent of all the common species of birds nesting in the State of New York, are normally residents of woodlots. Obviously such a tremendous decrease in the wooded area has driven these birds from their former haunts to the rougher, less fertile, and better-timbered sections. . . .

The recent statement of Dr. Gus H. Radebaugh, director of the Illinois Department of Conservation, will give some idea of the tremendous economic value of the birds of the farm woodlot. "Birds are one of our state's most valuable assets," said Dr. Radebaugh. "Destroy them and in a few years insects will have multiplied to such an extent that trees will be denuded of their foliage, plants will cease to live and crops cannot be raised." He estimates that 150,000 bushels of insects are consumed by all the birds in Illinois for each day's fare. This amount of insects will fill up three average-size grain elevators each day, having a capacity of 50,000 bushels each. . . .

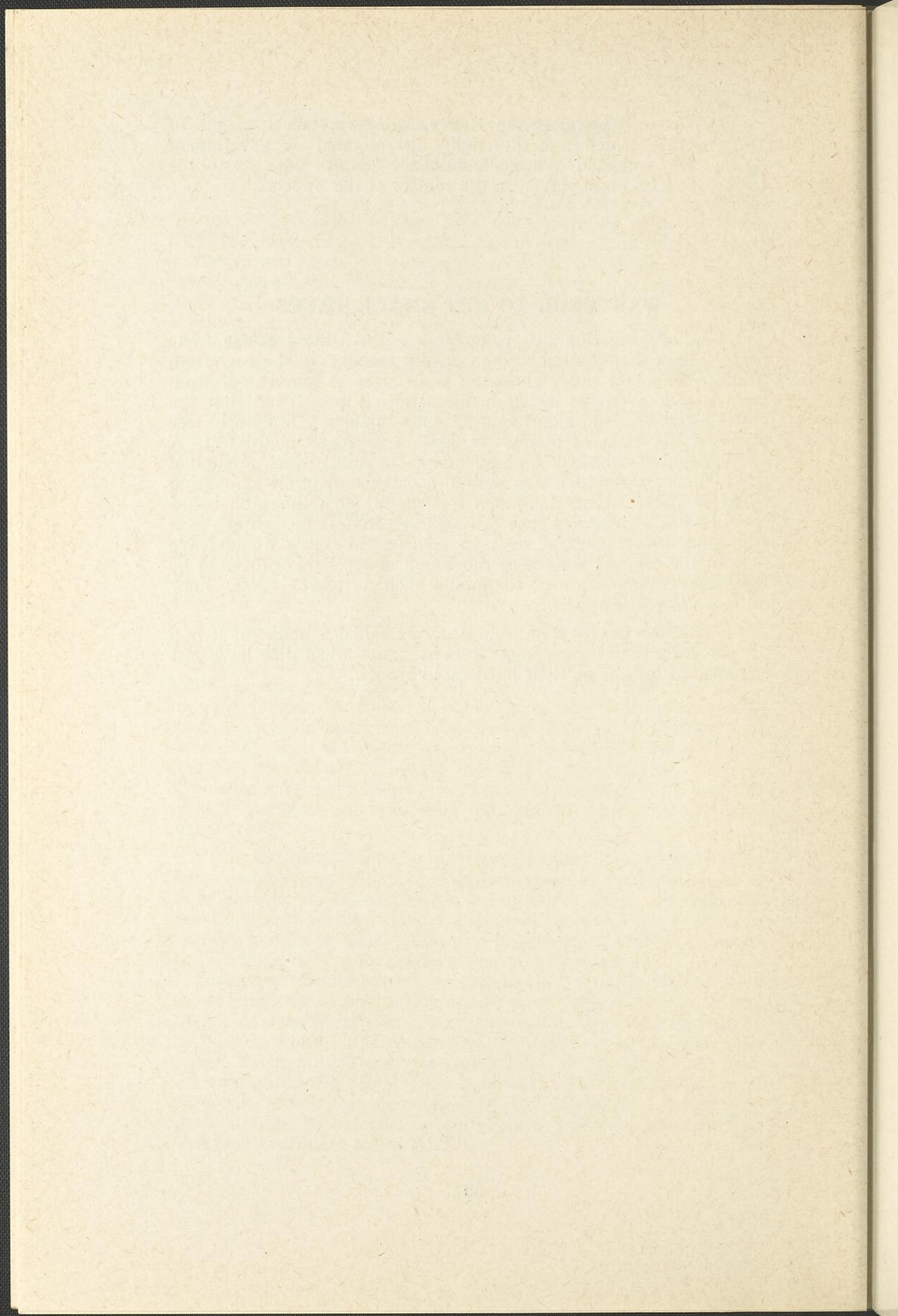
The instances where birds have directly controlled serious insect epidemics are legion. Junius Henderson in *Practical Value of Birds* devotes an entire chapter to authentic cases. Perhaps the best-known incident of the sort is that of the gulls and crickets in the early history of Utah. While not illustrating the value of woodland birds, it is of sufficient interest to bear repeating. "Myriads of crickets, having destroyed one crop in the Salt Lake Valley, were fast ruining the second, which would have left the people, in the absence of transportation facilities or ready communication with the outside world, in dire distress. Before it was too late gulls arrived by hundreds and thousands and saved the crops from destruction and the people from starvation. In commemoration of this event, which was considered by the Mormons a miraculous intervention of Providence, the people have erected a beautiful and expensive monument to the gulls."

Henderson also cites the Rocky Mountain locust plague of 1873 to 1876 which was thoroughly investigated by government agents who collected a large amount of definite data as to the important part birds played in the control of the insects.

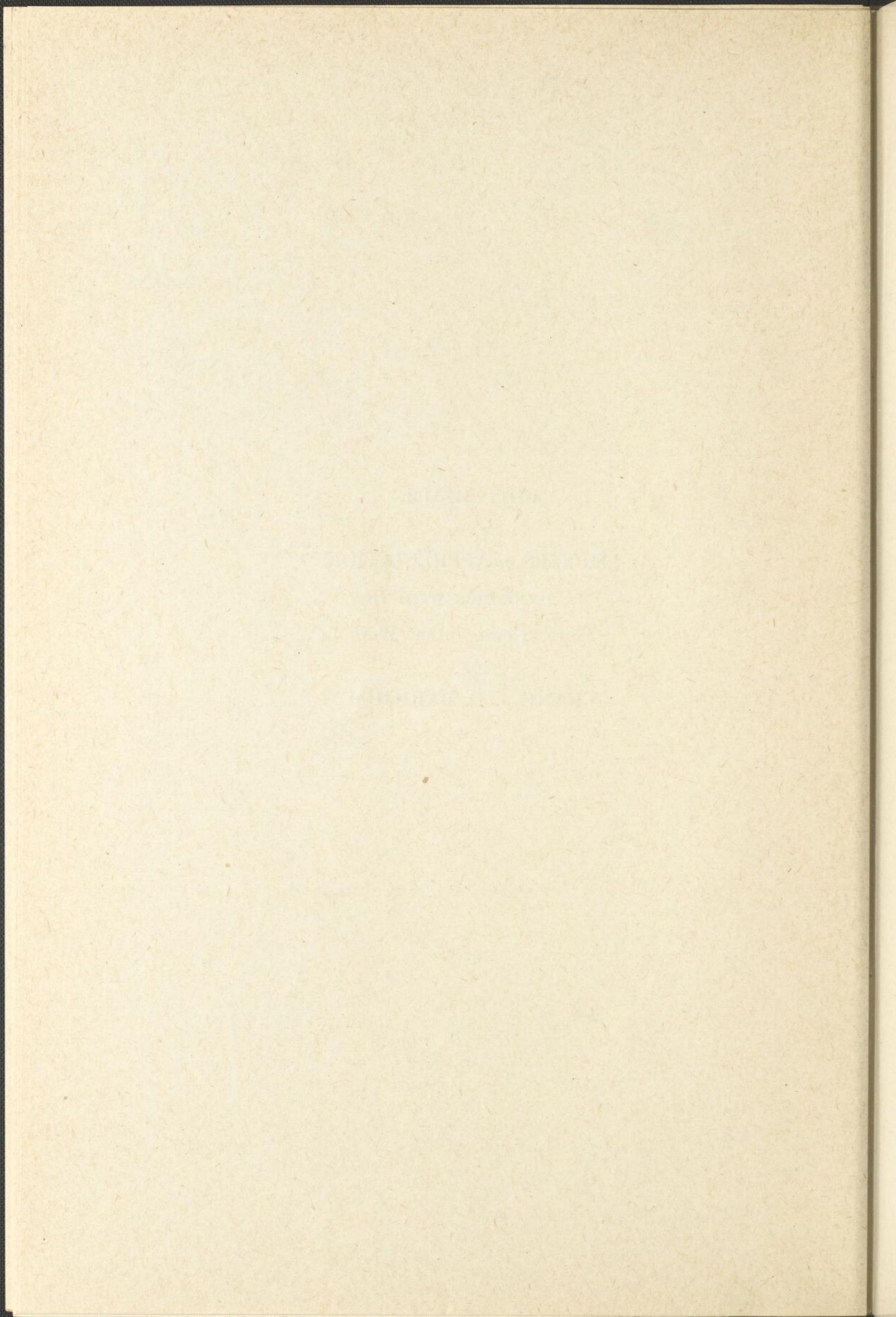
WASTEFUL TO CUT SMALL TREES

"An investigation just completed in the United States Lake States shows that the lumberman pays a penalty all the way from \$1.05 to \$4.66 for every thousand board feet of lumber cut from trees less than twelve inches in diameter. It was found that the cost of felling and manufacturing into lumber a nine-inch tree exceeded the value of lumber by \$4.66 a thousand board feet. A twelve-inch tree showed the first balance in profit which amounted to \$1.00. A sixteen-inch tree showed a balance of profit amounting to \$9.21 and a twenty-four-inch tree of \$21.59 a thousand board feet. It was also shown that the highest profit is in eighteen-inch trees and larger. Cutting over an area on this basis would leave 41% of the original volume of the stand, and yet this proves to be the most economical way to handle such a forest."—*New York State College of Forestry*.

The above proves that from a purely selfish standpoint it is a useless waste to cut these small trees at a time when they have just commenced to take on their most rapid growth.



EDITORIALS
AND
LETTERS *of* APPRECIATION
IN CONNECTION WITH THE
Forest Conservation Work
OF
FRANK J. D. BARNJUM



LORD ATHOLSTAN'S TRIBUTE IN THE MONTREAL STAR

"It is unfortunate that too many of our politicians and administrators view the resources of the Dominion from the Current Revenue angle. Of the school which regards our natural resources, and more especially our forests, as a sacred trust, there is no more sincere or zealous advocate than Mr. Frank J. D. Barnjum. For years past, Mr. Barnjum has conducted a vigorous propaganda for the spread of his confessions of faith. He has devoted his energies, his long experience in the lumber business, and a large fortune, to the common good. It would be difficult to duplicate in Canada, or indeed in any other country, the record of such devoted service to a cause, of time and goods so freely spent for the benefit of the community.

"For many years Mr. Barnjum was a voice crying in the wilderness. Today his importunity, his unselfishness and the efficiency of his evangel is generally recognized and many organizations are marshalling their forces under his banner. This growing interest is the first fruits of Mr. Barnjum's efforts. The real harvest will only be gathered by generations yet to come in resources husbanded and forests saved from the destroying hand of the exploiter and the indifferent.

* * *

"If the Dominion cannot be stirred to action before it is too late by the ringing appeal of this Covenanter of the Cause of our Canadian Forests, it is difficult to say what lever will move them."

"FINE CITIZENSHIP"

The Ottawa (Ont.) Journal

Mr. Frank J. D. Barnjum, internationally known as a lumber man, who makes Annapolis Royal, Nova Scotia, his headquarters, having acquired a fortune in the lumber business, is now devoting some of it, and all of his time, to the cause of forest conservation and replacement. His efforts are attracting wide attention and are therefore bound to have results.

Countless sermons have been written and preached on the need of forest preservation, but not nearly enough has been done in actual effort. Not enough will be done until the public insists on it. Such steps as Mr. Barnjum is taking will help to bring the public to the point of this insistence.

His latest contribution is the offering of prizes aggregating \$2,500 for practical assistance in the cause.

Mr. Barnjum is setting a splendid example to Canadians who have reached the point in their careers when they have time and means for public endeavor. Too few recognize, as he does, the field for useful service that is open to them. His is a fine idea of citizenship.

OUR FORESTS IN DANGER

Ottawa Journal

"One may but hope that for Canada's sake, for the sake of coming generations, Mr. Barnjum does not have to wait too long for converts to his preaching. For it is becoming increasingly apparent that our forest wealth is in real danger, facing a peril that, unless it be grappled with at once, may mean the end of one of Canada's greatest assets. No one who reads Mr. Barnjum's letter in today's Journal can have much doubt of that. The real question is, what is the Government of Canada trying to do about it?"

FOREST PROTECTION

The Gazette, Montreal

Mr. Frank J. D. Barnjum, the Maritime Provinces lumber man and forestry conservation philanthropist, who has for many years conducted vigorous patriotic campaigns in the interests of the preservation of Canadian forests and who has spent time and money liberally in pursuit of his schemes, is again to the fore in a project to stir up action in parliament, feeling, as he himself puts it, that forestry conservation "is one of the most vital problems facing this country today." Mr. Barnjum has offered thousands of dollars—not once, but several times—in prizes for suggestions as to how best to conserve the forests; preserve the trees from the ravages of the budworm and other harmful insects; and also prohibit the export of unmanufactured wood. Mr. Barnjum has recently addressed a personal letter to the Federal and provincial members of parliament, emphasizing the obvious necessity for immediate action, more particularly in the latter aspect of the problem. . . .

Mr. Barnjum's letter is concise and is worthy of careful and serious perusal by our legislators, who would do well to heed its suggestions, the adoption of which might go a long way towards increasing the wealth of the timber crop. The older wooded countries regulate the tree resources and see to it that their capital stock remains intact by cutting only the annual increment. If Canadians use up their wooded capital, the only alternative must be a forestial bankruptcy.

THE HALIFAX HERALD

Mr. Barnjum has been doing work of incalculable value in his province and other parts of Canada. He has been preaching in season and out the doctrines of timber conservation. He has told us where we are heading; and he has warned us to stop our destruction ere it is too late. He has aroused public opinion. His generous gifts of prizes for essays on several aspects of the timber asset of the country have set thousands of people thinking.

His contributions through the press have had wholesome educative effect. His warning advice has arrested public consideration. It even awakened the government of Nova Scotia. And many people who never gave the subject a moment's consideration are becoming alive to the dangers of the situation.

The creation of sound public opinion is one of the greatest achievements to be credited to any one, and it is only justice to say that Mr. Barnjum has done splendid work in that regard.

But he must be supported. He cannot do it all, or bring about the desired results without the co-operation of the people whose interests he has so much at heart. He wants to save the wood. He wants to safeguard public interests. He leads the way—it is for the people to follow him and act on the wholesome advice which he offers to them.

OUR FORESTS' FUTURE

The Daily Gleaner, Fredericton, N.B.

The not distant future, however, will have its problems to solve. More than fifty per cent of the entire stand of pulpwood in the eastern provinces has been destroyed by the spruce budworm, bark beetle and borer. Unless the remaining supply is preserved and adequately protected an already serious situation will become intensely serious. Our Governments or their land departments have been in the past more interested in the immediate revenue producing capacity of the Crown timber lands and the political service they could accomplish, than in the preservation and protection of a great asset for permanent public service. Our province is the victim of unpardonable indifference in men sworn to do their duty to the Crown. Authorities of repute in Forestry deplore the conditions under which we have been laboring, and several have openly criticized severely the administration of our timber affairs. Mr. Frank J. D. Barnjum, a gentleman of practical experience and, in the light of the great national service he is performing, one of our greatest Canadians, has been leading the way in creating and inspiring that healthy public sentiment which now emphatically demands preservation and protection of the remaining supply of our timber as well as the adoption of an enlightened system of reforestation. In his splendid efforts he has earned the respect of the people and of the press of Canada; he has their full confidence and their hearty support in the grand national work he has undertaken at his own expense. Writing recently to a friend, Mr. Barnjum said, among other things, on the subject uppermost in mind: "I have retired from business and am devoting all of my time and the larger portion of my money in endeavoring to prolong the life of our small remaining supply of living trees. I have, as you know, no interest at stake other than the general good of the country." There are none who will say that Mr. Barnjum's policy is not sound; and the accuracy of his figures and statements can not be questioned. The Government of the Province must not longer delay in decisive action in the public interests.

NOT A SINGLE TRACK MIND

The Evening Mail, Halifax

For some years, Mr. Barnjum has given unsparingly of his time, energy and resources in an almost single-handed fight to conserve for Canadians their own supply of pulpwood. He has sent his appeals broadcast over the Dominion, until there is hardly a hamlet or settlement in which the name of Frank J. D. Barnjum is not known. He is a man who has stirred Canadian sentiment to its depths.

Mr. Barnjum entered public life in June last, because he believed he could be of service to the province and its people. He is not a man of one idea, he is a man with a dominant idea, and that is to reserve for the Canadian people the advantages and enjoyment of their own rich heritage.

THE HAMILTON (ONT.) HERALD

For years, Frank J. D. Barnjum of Nova Scotia, a wealthy retired lumberman, has been spending most of his time and much of his own money in the self-imposed task of conserving Canada's timber resources.

Those whose interest it is to get away with the standing timber without regard to the future call him a crank who interferes with business. But Mr. Barnjum is one of those cranks who are the salt of the earth. He is the best sort of patriot—wise and far-seeing, as well as energetic and public-spirited. It would be well if Ontario had more cranks than it has of the Barnjum type.

MR. BARNJUM'S WARNINGS

Le Devoir

The Montreal Star last Tuesday printed an interview with Mr. Frank J. D. Barnjum . . . Mr. Barnjum, it is well known, is the great apostle of forest conservation. He has had the sad joy of seeing the realization of his pessimistic predictions. He returns to the charge untiringly and his last interview is one more fervent exhortation to conserve our forests. . . . It is certain that Mr. Barnjum has been a voice crying in the wilderness, but a voice crying the truth. We have not listened. If we had put a curb sooner on forest destruction, we should have saved ourselves floods which have cost us tens of thousands of dollars and which have ruined miles of our roads. We should have assured ourselves a more stable and normal temperature, which has great influence on our crops, and we should have escaped hurricanes, those terrible destroyers of the forest, caused undeniably by too greedy, too shortsighted, and too hasty a cutting down of our timber.

THE GLOBE, TORONTO

No one seems to dispute Mr. Barnjum's statements regarding the forest situation and therefore it is up to the Government to either prove he is wrong or pay heed to his warnings.

RECOGNITION OF SERVICE

"Canadian Pulp and Paper Magazine"

On another page of this issue an announcement is made of the award of the Barnjum prizes for the best suggestion on the control of insect enemies of the forest, the fight being chiefly directed against the spruce budworm. Mr. O. Schierbeck is to be congratulated on winning the prize and we hope to have his essay for publication in the near future. That well over two hundred suggestions were received shows the widespread interest in the problem of insect control and the general appreciation of the seriousness of this menace to our incomparable forests.

Government entomologists have realized the importance of this problem, and have been quietly and conscientiously working on it for years, even when they had little encouragement, not much co-operation, and little incentive beyond the satisfaction of knowledge gained and avenues opened for an attack on a common foe—for the enemy of the forest is the enemy of the country. The award of \$1,000 each to Messrs. Swaine, Craighead and Tothill will, we venture to assert, do more to arouse the public to the nature of the work of our unassuming, underpaid research men—and women—in government and college employ than even the princely prize of \$5,000, so well deserved by Mr. Schierbeck.

Canada is in Mr. Barnjum's debt, not for the money he has spent, because that has brought him pleasure, but because he had the sense and foresight to see and size up the problem and the ability to arouse enthusiasm in the search for a remedy. The generous prizes are not merely an award for winning a good contest, but are also and even more a very happy expression of appreciation for conscientious endeavor to promote the welfare of the public.

WAKE UP FOR THE FORESTS!

The Globe, Toronto

Genuine alarm felt by a large section of the Canadian people over the forest fire situation is one of the hopeful results of a crisis through which the forested areas have been passing. For a month there has been a period of rare drouth, extending over most of the provinces, and scores of small and several large fires have been located and combated.

In view of the conditions, Mr. Frank J. D. Barnjum of Montreal, whose voice and pen have been unremitting for years in the cause of forest preservation, makes a fresh appeal for further action. In an open letter to Right Hon. W. L. Mackenzie King, as Prime Minister, Mr. Barnjum says: "I once more respectfully urge you to call a conference of the Prime Ministers, Ministers of Lands and Forests, and Chief Foresters of all the provinces for the purpose of devising and agreeing upon a national forest policy, which should include, among other reforms, a reduction in the annual cut on all Crown lands and the adoption of uniform slash disposal regulations. Without this last all-important fire preventative measure, all other means would be practically worthless.

"It is, of course, now too late to prevent the present forest catastrophe with its untold loss of forest and soil wealth, and probably greater losses through August and September, the worst fire months of the year, which may, in fact, result in a major calamity, but at least an attempt can be made to forestall similar tragedies in future years."

It is inconceivable that the same destruction of any other form of natural wealth of the country could be witnessed without a great public outcry. A partial crop failure sets agog all the financial tongues of the Dominion, but a forest fire, destroying wealth which will be wanted day after tomorrow, causes little stir. Forest products in Canada rank next to agriculture as a yearly harvest, and the place of agriculture has long been cherished at the top of the list. It is true that many forest fires are caused by lightning, beyond the control of man, and that much wealth is lost through insects. But Mr. Barnjum puts his finger on the need of aroused public bodies and concerted action. Nothing less will satisfy those who have the country's real welfare at heart.

A WOODLESS FUTURE

The Sentinel, Kamloops, B.C.

Readers of the Sentinel by now must be fairly familiar with the opinions of Frank J. D. Barnjum of Montreal, who has steadily campaigned for a restricted use of our forest resources, more stringent regulations of the woods operation and the proper disposal of slash. From many sources of independent opinion it is believed that Mr. Barnjum is right. . . .

It is a pessimistic outlook, but others among woodsmen have an even gloomier view. . . . It is asserted that he has spent a quarter of a million dollars from his private resources to bring the facts home to the Canadian public. Somehow, if we were Prime Minister, we would be inclined to make use of his undoubted knowledge, his publicity methods and his enthusiasm to improve our forestry methods and policy, *so that we would not face a woodless future.*

The depletion of our forest resources is a grave menace to the future of Canada. Courage, the will to act, a determination to grasp

at the essentials, are needed at this moment. Will Mr. Barnjum succeed in his splendid service? We hope so. Anyway, like scores of other newspapers, the Sentinel feels bound to give him space in its columns.

"A LONE CRUSADER"

"The Western Producer," Saskatoon, Sask.

In twenty-five years or so, when monuments have been erected to all the war heroes and those interested in perpetuating the great men of Canada are searching the records for some one to honor, they will probably find time to pay tribute to Frank J. D. Barnjum of Montreal. Every now and then some public man or public body issues a note of warning concerning the depletion of Canadian forests, but for years, month in and month out, Mr. Barnjum has been relentlessly engaged in calling attention to the imminent destruction of our forest wealth . . . With letters to newspapers and with a barrage of pamphlets, he makes desperate efforts to call to the attention of the authorities the need for some drastic and effective policy in connection with the preservation of the remaining free timber limits. His last effort is an open letter to Premier MacKenzie King. He informs the premier that the responsibility for the whole matter rests directly on him. Two things he maintains are urgently necessary. One, the immediate restriction of the wholesale cutting operations of the great companies, and the other, a systematic programme which will insure the proper disposal of forest debris which accumulates in the wake of logging and pulp operations. The strange part of the whole matter is that no one seriously disputes Mr. Barnjum's contentions. There may be disagreement over the length of time during which the remaining standing timber can withstand the ravages of mill, fire and insect, but it is generally agreed that at the rate at which the destruction is proceeding, the death-throes of all the industries based on Canada's timber cannot be long postponed. The government, it may be said, has, during the past few years, through the use of aeroplanes and the employment of more fire-rangers, made some effort to keep the fire menace under control. With every year, however, the fire hazard grows, and this dry year, with a thousand fires burning in British Columbia and hundreds of others raging clear across the northern part of the Dominion, there is every prospect that the destruction will be on a greater scale than ever before. Mr. Barnjum should not be left to cry alone in the wilderness. His pleas for drastic action should be echoed in every part of Canada. It is perhaps not too much to say that the preservation of our forests is the most important national duty confronting Canada at the present time. It is not only important from the standpoint of the lumber and paper industries alone, but is of definite and critical importance to agriculture. Standing forests mean the preservation of moisture. Square miles of blackened stumps mean the disappearance of natural reservoirs; the destruction of soil; the removal of natural control of river and lake

levels; that alteration for the worse, of climate, and a growing inability of the land to produce. Let the voice of Barnjum be heard! The value of what he endeavors to preserve cannot be measured in dollars and cents.

THE BATTLE FOR THE FORESTS

Fort William (Ont.) Times-Journal

No one can have failed to hear some echo of the campaign carried on by Frank J. D. Barnjum for the preservation of the forests of Canada. He has made himself the leader of the battle to protect the forests and has spared no effort in their defense, nor has he stinted his own expenditure of money. He is known all over Canada through his work.

More and more are those interested in forest conservation becoming convinced that Mr. Barnjum is right and that he has not been scared by some imaginary bogey, but is trying to arouse public interest in what is a real danger to the Dominion.

The necessity for conservation is more obvious than ever. The demand that forest fires shall cease, that timber operators shall exercise judgment in their work, that the giving away of the Canadian timber to outsiders shall be checked and that cut-over forests shall be left in such a state that natural reforestation may take place, is only a portion of the story of the fight for the preservation of the forests.

LE DEVOIR

Mr. Barnjum does exist and exists intensely—for twelve hours every day at least. He drives towards an objective which is coming nearer and nearer; for twelve hours daily, at least, his moral power drives ahead with an iron will along an inflexible straight line. And this man driving ahead, straight as a shell, will reach his objective.

Every day, or nearly so, from his office, only one single question is undertaken. It is one of his maxims that you must first drive the nail into one idea before taking up another; and therefrom goes one of those convincing letters which sounds a warning and puts upon the latest public report and the last government move the proper criticism which is in accord with his general theme. Nothing is said or written—no move is made in Canada, the United States, or the whole world in connection with his campaign—that he does not at once pick up, classify and digest. He is just like one of those clever masons of the good old days who used such good quality of cement that all sizes of stones could be imbedded in the construction. The Barnjum propaganda pick up small facts and imposing statistics and 'twixt and between build up everything within the walls of the embargo.

An English paper said of him recently that he was the most powerful propagandist of modern times, and we are of the same

opinion; for he has back of him an incomparably stimulating enthusiasm; and, above all, he is entirely disinterested.

The love this man possesses for the tree is wholesome and striking. He loves everything in the tree—its national wealth, its serene beauty, its shaded nooks. He mourns forest fires in his heart just as if the flames had destroyed those he loved.

To Barnjum the thanks of the forest; he deserves them.

"MR. BARNJUM"

The Gazette, Montreal

What manner of man Mr. Barnjum is, Mr. Edward Beck, of the Canadian Pulp and Paper Association, thus tells:

"Those who know Mr. Barnjum intimately know that he has worked harder and spent more liberally in the cause of forest conservation than any other man in Canada. It was Mr. Barnjum who, by the offer of a prize of \$5,000, succeeded in securing a treatise on the best means of combating the budworm evil (from which Canadian forests have suffered enormous loss), which has been accepted as authoritative by the leading foresters of the world. The Canadian Forestry Association has reason to remember Mr. Barnjum as one of its substantial supporters, both morally and financially. Nova Scotia is indebted to Mr. Barnjum for the establishment of a forest nursery under the management of one of the leading forest experts in Canada. He has encouraged tree planting on farm woodlots and greater efficiency on fire ranging by substantial money rewards in both these directions. His work in educating the public through the offer of prizes for the best essays on preserving Canada's timber resources has interested thousands of people and brought good results."

It is not our intention at this time to expose the weak and vacillating policy of the Dominion government in the matter, but to give appreciation to the splendid work of Mr. Barnjum for forest conservation.

OUR TIMBER SUPPLY

The Montreal Star

Unfortunately, it is also the situation in actual fact, as Mr. Frank Barnjum and other experts of incontestable authority have pointed out to us within the past few years. The problem is so serious that the apparent apathy of those in authority takes on almost the aspect of criminal negligence. . . .

WINNIPEG, MANITOBA, TRIBUNE

According to Mr. Frank J. D. Barnjum, one of Canada's recognized authorities on forest conservation, the only possible hope of reducing our forest fires is through slash disposal.

As this remedy is so easy to apply, one may naturally ask why it is not done. The answer, says Mr. Barnjum, is pitifully simple. It is because of lack of co-operation on the part of the Dominion and provincial governments in formulating a national forest policy with uniform slash disposal regulations, so that all Canadian woods operations would be on an equal basis. As a result of such neglect our governments are spending millions of dollars of the taxpayers' money fighting forest fires for the setting of which they themselves are in a large measure responsible.

VICTORIA (B.C.) COLONIST

Mr. Frank J. D. Barnjum, through his campaign of publicity has done more than any individual in the country to direct attention to the need of the conservation of Canada's forest resources.

NEW WESTMINSTER, B.C., BRITISH COLUMBIAN

The missioner of reforestation in Canada has been Mr. F. J. D. Barnjum, a citizen of the Atlantic provinces, whose theme has been the disappearance of the forests of his home province, and of those of Ontario and Quebec particularly. In all those sections the "logs" of today are little if any bigger than the fence rails of a generation or two ago. Mr. Barnjum would control wood just as potatoes and eggs and apples are now controlled. He says:—

A reduction in the amount of the cut and the consequent increase in price of all products of the forest are the only practical paper control and forest conservation measures available at this late day. You can not force conservation of any low-cost commodity.

That there are "reforms" in the forestry of today Mr. Barnjum is fully conscious; but in his opinion these "have come too late to be of any use to the present generation. So long as this appalling loss through fire, insects, and disease, and the enormous present cut, are allowed to continue, all these much-advertised reforms are a mere gesture, and are simply intended as a sleeping potion for the people, while the last of the trees are being cut, allowing the exhaustion of the forests to come upon us like a thief in the night, without warning."

He speaks well of the efforts of the schools of forestry, but regrets that they are so seriously handicapped by lack of funds. "I know men," he says, "who are sacrificing the best years of their lives in forest school teaching and are in the governmental forest service for a mere pittance, all out of sheer loyalty to a cause which they know is vital to their country."

THE FOREST MENACE

Moncton (N.B.) Times

Mr. Frank J. D. Barnjum, whose name is familiar to all newspaper readers, continues his agitation for measures for the preservation of our forests, which are important not only to our wood-using industries and those who get employment with them, but for agriculture and other interests. Without forests, a large part of Canada would be waste, and this is the experience of every country.

Mr. Barnjum deserves much credit for the work he is doing, spending money as well as giving his time, and our governments generally should be giving more attention to his warnings. Too many of those who are entrusted with the serious business of directing the affairs of the country think more of maintaining themselves in power and office than they do of the public welfare, and especially of things that pertain to the future and are not immediately pressing.

FOREST IMBECILITY

Fort William, Ont., Times-Journal

Under the above caption, Frank J. D. Barnjum, who has won for himself a unique place in the story of forest conservation in Canada, writes an open letter dealing with the critical situation of our forests and the futility of the steps that are being taken to save them from destruction.

FORESTS AND TREES, BONDS AND INTEREST COUPONS, SAYS THE MONTREAL GAZETTE

The Gazette, Montreal

"A line about a tree in Homer has outlived nearly every tree on the face of the earth except the redwoods of California—the line in which, after speaking of Nausicaa as the most beautiful object he had ever looked upon, Ulysses paused and added, 'No; once I saw a tree.'"

"Recent discussions have shown a keener appreciation than hitherto of the pressing nature of the forest protection problem. The time for deploring the losses of this natural wealth of the

country has long since passed, and the time for effective action has come. It is a notorious fact, which will bear re-emphasization, that the destruction of Canadian forests is very much greater than the natural increases and that it will be only a matter of a comparatively few years till we shall be faced with the actual depletion of the forests. In other words, what happened in the United States may as easily happen here. The virgin forests of the States once covered well toward a billion acres—822,000,000 acres—over a million square miles; a tract, if all the trees were put together, 1,500 miles by 2,000 miles. There remain 137,000,000 acres, just one-sixth of the original acreage. If such a thing occurs in Canada the old saying about not being able to see the forest for the trees will have no meaning to future generations.

“But men of vision in the Dominion of the Barnjum type are conspiring together to prevent utter deforestation, and these good, patriotic citizens look upon timber, not as a mine to be exhausted as rapidly as possible, but as a crop to be cultivated and harvested when ripe, though in such a way that other trees will grow to be harvested in the future. It is good to know that many private owners are utilizing all the known resources of fire protection, insect and disease control, and the cutting in such a way as to provide for renewal growth. But until this practice becomes universal and all Canadians generally are as careful to avoid setting on fire a forest as a wheat field, and have as much reverence for a tree as Homer, we shall have a ‘forest problem.’ Forest protection is an agricultural problem. Timber is a crop. The public would be well advised to stand firmly behind this viewpoint in Canada and see that it is generally observed. A forest, let us say in conclusion, can be likened to a bond and the amount of wood which the trees lay on each year to the interest coupons. If we take from the forest more wood than grows in one year, we are spending our capital and not living on our income.”

A SERIOUS CHARGE

Manitoba Free Press

By allowing the overcutting of our Canadian forests and by permitting the accumulation of an enormous amount of slash in the woods ready to feed forest fires during dangerous periods, the governments of this country are inviting disaster as far as forest industries are concerned, according to Frank J. D. Barnjum of Montreal, whose letter appeared recently in the Free Press.

Mr. Barnjum has been interested for many years in the protection of the forests and has intimate knowledge of conditions, and he states that no adequate disposal of the slash is enforced. We have had some terrific forest fires in past years, and he declares that the leaving of this refuse—the tops and branches of trees—will certainly bring another and far greater tragedy when the next dry season comes.

The danger to the forests is greater than ever, he holds, not only because of the immense amount of slash due to the cutting on a larger scale, but also because there are more people ranging through the forests—wood pulp cutters, lumbermen, prospectors and miners, hunters, tourists and others with their cigarettes and camp fires. When a forest fire gets started in a dry season, every pile of dead slash gives it more strength and helps it to work itself up into a devouring fury.

In regard to the cutting, Mr. Barnjum says that, with over-production of newsprint already and bound to continue for four or five years, the erection of new mills and the increasing of the cut will not only tend to deplete the forests but also to jeopardize the pulp and paper industry.

TOO MANY "IFS"

Fort William Times-Journal

Too many "ifs" surround the suggestion that, if scientific management were employed, and if all the potential timberlands were planted, and if the people were educated to refrain from burning the forests up, and if insects could be trained to eat something else, Canada would have a self-perpetuating timber supply.

FOREST FIRE PREVENTION

The Evening Telegram, Toronto

"Forest fires have been more widespread in Canada this year than ever before in the history of the country, conflagrations occurring simultaneously over wide areas in every province in the Dominion. Some of these fires that are now burning in the north will not be extinguished till winter sets in. This great catastrophe will be worth all its terrible cost, if it proves the means of forcing our governments to inaugurate a few common-sense, preventative measures that will cost practically nothing except passing the regulations, instead of spending millions of dollars fighting forest fires caused largely through lack of these simple reforms." This statement was made to the Telegram today by Frank J. D. Barnjum, of Montreal, who has been an energetic campaigner, through the press and on the platform, for forest conservation.

"Unfortunately, from a publicity standpoint, practically all of Canada's splendid force of forest engineers are in the employ of either our governments or the wood-using industries, both of which seem to be interested primarily in hiding the impending wood shortage," said Mr. Barnjum.

"Why something has not already been done is because of lack of co-operation on the part of the Dominion and provincial govern-

ments in formulating a national forest policy, with uniform slash disposal regulations, so that all Canadian woods operations would be on an equal basis. This is why I have appealed to the Prime Minister of Canada, urging him to call a conference of the provincial government heads to formulate such regulations."

FOREST FIRE PERIL

Edmonton (Alberta) Journal

The rains that fell over the week-end have helped greatly in checking the forest fires that have been raging in Alberta. But much damage has already been done, and it may be that the relief is only of a temporary character.

Ten years ago, an Eastern lumberman, Frank J. D. Barnjum, retired from business and has in the interval been studying the question of forest conservation from every angle. He is said to have spent \$250,000 in the effort to arouse the governments and the people of the country to the necessity of more thorough-going action towards this end. In an interview that he gave at Montreal the other day, he was especially critical of the failure to require the disposal of logging slash, which he holds responsible in a large degree for the fire hazard. The latter, he insists, is yearly increasing instead of diminishing. So long as the slash is allowed to accumulate by the governments, Mr. Barnjum tells us, "all their propaganda is insincere and ends in nothing." The present situation he regards as most deplorable and demanding "immediate and drastic steps for the protection of our small remaining forested areas."

Mr. Barnjum considers that conditions are such that a national conference should be held to deal with them, and in an open letter to the Federal Prime Minister urges that it be called.

FOREST CONSERVATION

To the Editor of "The Gazette":

Sir:

You have a correspondent whose most frequent theme is preservation of the forests. The public owes this writer much for his persistent efforts in this direction, and much to you for your constant aid by giving publicity to his remarks through your valuable and widely circulated columns. The fourth column of your editorial page is always full of interest and I think eagerly looked for. I trust I may not be considered intrusive if, in connection with this important subject, forestry, I suggest that for that fourth column Addison's essay, "Spectator," August 20, 1714. That Addison (the great and good Joseph A.) nearly 250 years ago should have advocated what Mr. Barnjum of our days constantly preaches is of itself incontestible evidence of the righteousness of the doctrine.

(Signed) B. D. McCONNELL.

North Bay, Ontario.

SLASH AND FIRE

To the Editor of "The Halifax Chronicle":

Sir:

In following the correspondence contributed to your paper for many months past, there is none that appeals to me more than the logical and good common-sense advice given by Mr. F. J. D. Barnjum on forest conservation. What surprises me most is the apparent apathy shown by our government, both federal and local, as to ways and means of preventing disastrous forest fires caused by slash being left after lumbering operations. Mr. Barnjum in his recent letter suggests a remedy which I think is the only logical way of dealing with the slash menace. I trust this question will be taken up at the present meeting of the Union of Municipality so as to bring more pressure on the powers-that-be to take measures to eliminate the great waste that is annually taking place in the destruction of our forests by fire.

(Signed) D. WILLIAMS.

OUR FORESTS

To the Ottawa Journal:

Sir:

Some years ago you kindly published a letter of mine on the subject of the preservation of our forests. You headed it "Forestry Convention," but it is the conclusion of a long private agitation for the common-sense treatment of our forest areas. Mr. Barnjum, to whom all honor is due, entered the public arena, and has unflinchingly kept up the fight for the same cause.

What he states as, to the illegal size of small log cutting, anyone can test by noting the stranded logs at the new Driveway Bridge and other spots. The truth of the matter is, that our political leaders, not having a statesmanlike outlook, are afraid to place themselves alongside the governments of Norway, Sweden, etc., and refuse to permit any cutting, small or large, except on an agreement to replant. Our forestry associations are dominated, as are the politicians, by the great lumber interests. Of course, I am aware of the late efforts of the present Ontario government in the matter, but they need to adopt a much bolder policy to save us from large losses in the future.

(Signed) GEORGE BOUSFIELD.

Ottawa.

REFORESTATION

Moncton Daily Times

In his letter in another column, Mr. Frank J. D. Barnjum gives some facts from his own experience as a lumberman to show that

large timber has practically disappeared from this country except so far back in the deep woods that it is inaccessible or too expensive to operate. Everyone who is able to vision things as they were thirty or forty years ago knows that Mr. Barnjum is not drawing too gloomy a picture. Time was when whole logs of immense size were shipped from Moncton and later much sawn lumber. Now a lumber-laden vessel is rarely seen, and any timber brought into town for local use is very small—some of it would have been considered too small for fence poles a generation ago. Everything points to the fact that our forests will soon be a thing of the past unless some vigorous policy is adopted.

“STEALING FROM THE BABIES”

Port Arthur (Ont.) News-Chronicle

Concluding one of his characteristic letters on the forest situation in Canada, in which he points out the disastrous treatment the forests are receiving at the hands of the present generation of despoilers, Frank J. D. Barnjum asks: “Has the present generation so lost all sense of honor and common decency that it is willing to rob future generations of their inheritance by destroying immature trees that we had nothing to do with producing, trees that were provided by nature and to which we have no right other than the use of the actual growth? By so doing, we are not only stripping the country bare of its forests—we are interfering with nature, wrecking our climate, and disfiguring the country. If we keep on, do we not run the risk of repeating the experience of China which, with the loss of its forests, is suffering untold miseries today?

“The only remedy is an immediate reduction of the amount of the annual cut on all Crown lands, and the adoption of compulsory slash disposal regulations.”

“THE PROBLEM OF SLASH”

Brockville (Ont.) Recorder and Times

Mr. Frank J. D. Barnjum of Montreal, who has taken a great interest in Canadian forestry matters and who is relentless in his endeavors to bring about more scientific woods operations that much of the wastefulness now accompanying them may be removed, sees in the lack of a uniform policy in regard to slash one reason for the unusually large number of destructive forest fires which have raged this year with consequent loss of additional timber. It is Mr. Barnjum's opinion that the only possible way in which Canada's heavy forest fire loss may be reduced is through proper disposal of slash, an opinion that is supported by forestry experts.

The different governments might very well give consideration to the campaign which is being waged by this experienced timber operator in behalf of more scientific woods operations to the end

forests should cease and the cut of mature stands be restricted in method and quantity under a policy considering natural regeneration and growth capacity. Public liberties in the woods should be rigidly regulated to reduce fire hazards. Unless the warnings are heeded a sad day is coming for Canada and American industries dependent upon Canadian lumber."

In view of this alarming situation I respectfully urge that this Committee pass resolutions calling for:

(1) **An immediate reduction of at least 35 per cent in the amount of the annual cut on all lands held by the Crown, thereby automatically providing a market in Canada for all the fee land wood now being exported to the United States, and also thereby extending the life of our wood-using industries.**

(2) **Adoption of universal slash disposal, as 90 per cent of all forest fires originate in slash.**

(3) **A substantial increase in remuneration for all members of the forestry service, as well as improved housing conditions for these organizations, in order to prevent the Empire from losing some of the most valuable members of its staff to other countries through more attractive inducements. The need of foresters in the days to come will be greater than ever, in fact the only hope for the future lies in the forestry profession.**

It has been stated by some that I am over-pessimistic with regard to forest conditions in Canada. This is a ridiculous assertion, as the statistics I quote are not mine, but are all taken from the data furnished by the Dominion Forest Service, and corroborated by the results obtained by Mr. Thomas Maher, well-known Consulting Forest Engineer of Quebec, based on actual surveys made by him for the Quebec Government and the paper companies of that province during a period of more than twelve years.

These conditions are amplified by statements made by the ex-Minister of the Interior, and are still further corroborated by Lieutenant-Governor Bruce of British Columbia and many other forest authorities. **Consequently if these views are pessimistic the highest authorities we have are the pessimists.**

SUPPLEMENTARY REPORT ON CANADIAN FOREST CONDITIONS MADE BY FRANK J. D. BARNJUM OF THE FORESTRY COMMITTEE OF THE IMPERIAL CONFERENCE

What object is to be gained in trying to mislead the people by stating that "if" fire, insects, wind and disease can be controlled in our forests our annual cut today will be provided by the increment, or that government statistics "would indicate that with anything like reasonable forest protection, the forest wealth could be maintained for a considerable time as at present."

When is this "reasonable forest protection" to begin, how long will it be in the making, and just how is it to be accomplished?

Even in the very latest reports circulated by the Dominion Forest Service it is stated that "it is quite probable that not more than 100,000,000,000 cubic feet of conifers and 15,000,000,000 cubic feet of hardwood are at the present time accessible."

For the sake of argument let us assume that this figure is correct, though no one has yet been able to show me where all this wood is located; it certainly is not visible to the naked eye.

We are next advised that annual cutting depletion now amounts to 2,708 million cubic feet, which figure is an under-estimate, according to figures furnished to me by this same authority, and even they were under the mark. However, even if we allow that this smaller figure is correct and then again take the Forest Service figures for the depletion from causes beyond man's control, namely, four and one-half feet wastage for each foot utilized, then add these two causes of depletion together and divide the result into the 115,000,000,000 cubic feet of our supposed stand, the supply will even then last only about eight years.

Under our present forest conditions it is futile to depend on reducing this wastage of four and a half to one utilized, and I will prove this by summarizing a few of the elements that enter into this wastage, as follows:

WIND

Canada's losses through wind in her forests today are probably as great as the loss by fire. The more open spaces created through fire, wind and cutting the greater the force of the wind becomes, and, consequently, the greater its power of destruction. Surely no one will claim that wind can be controlled under any such forest conditions as those prevailing in Canada today.

INSECTS

With regard to loss caused by insects, it is only necessary to point to the fact that these pests are increasing in Canada's much abused forests from year to year, for, in addition to the periodical epidemics that wipe out vast areas at one attack—as was the case in our last budworm disaster, which resulted in a loss of two hun-

that the rapidly disappearing forest wealth of the Dominion may be preserved. There is no use denying the fact that we have been dissipating our forest resources in a particularly reckless manner, and it is only now, when the authorities are commencing to arrive at some conception of the shortage which will be felt in the course of a few years, that limited restrictive measures are being introduced. But in the meantime the production of paper continues without diminution and even additional mills are being placed in operation. In addition, vast acreages annually are being rendered useless for logging through fire and pests, and while millions of dollars are being spent every year in an effort to fight forest fires, nothing is being done to remove one of the principal causes of the spread of these fires, the great mass of litter in the form of slash which fills the woods.

If, as Mr. Barnjum continues to argue, there is actually only six years' wood supply in this country, and if it takes forty years to raise a new crop, it is high time that the different governments commenced to give co-ordinated attention to the proper conservation of the supply that remains. The provincial conference which it is proposed to hold in Ottawa within a comparatively short space of time furnishes an opportunity for this question to be thoroughly discussed and some concerted form of action decided upon.

"GOVERNMENTS DOING LITTLE TO STOP FIRES"

Canada Lumberman

Frank J. D. Barnjum, Montreal, the widely-known conservationist, has sent an open letter to Right Hon. W. L. Mackenzie King, Prime Minister of Canada, in regard to the suppression of forest fires which have been raging in various parts of the country. In a recent interview, Mr. Barnjum said that instead of diminishing, the fire hazard in the Canadian forests becomes worse from year to year. He declared that not only were Canadians adding to the fire peril through the vast accumulation of slash, but in cutting off the forests they are drying up the earth's surface and lowering the water table at the alarming rate of three feet per decade, and with lack of forests they get freshets in times of heavy precipitation, with succeeding low water periods and long drouths.

Ten years have passed since Mr. Barnjum retired from the lumber business, and in those years he has spent \$250,000 in his own private efforts toward forest conservation. He has studied the question from every angle, travelling constantly, and spending much time in other countries to see how fire hazards are controlled there.

"Prophecies made a year ago have been corroborated, and I have no hesitation today in saying that the present deplorable situation is but a prelude of what is bound to happen unless our governments take immediate and drastic steps for the protection and conservation of our small remaining forested areas."

"A VOICE IN THE WILDERNESS"

The Evening Telegram, Toronto, June 8, 1929

Even enthusiasts sometimes become tired of bumping their heads against the stone wall of apparent indifference. Frank J. D. Barnjum, of Montreal, who has conducted a constant and assiduous campaign for the protection of Canada's forest wealth, has written an open letter to Rt. Hon. W. L. M. King and announces that it is his last appeal to the present Government to take definite action. If the warnings contained in this letter remain unheeded, he says, the cause of forest conservation in Canada might as well be abandoned so far as the present administration is concerned.

Mr. Barnjum's letter paper is an indication of his enthusiasm. Across the letterhead runs the slogans: "Prohibit export of raw wood," "Plant forest trees," and at the foot of the page is the concluding injunction: "Ask, 'Was it made in Canada?'"

Mr. Barnjum suggests a national uniform forest policy to check the inroads of the axe, fires, insects and disease. The critical forest situation he declares to be the most vitally important problem facing Canada, incidentally involving not only the great industries directly dependent upon the forests, but also our water-powers, agriculture and the railway systems.

Instances are cited from official records to show the rapid impoverishment of our forest areas, and he concludes with a statement put out by the Dominion Forest Service to the effect that in the past four and one-half cords of wood have been wantonly destroyed for every cord utilized. From this he deduces that we are confronted with the practical exhaustion of our commercially available wood supply within the very brief period of between six and seven years.

Mr. Barnjum has done well to call attention to the prodigality with which Canada has continued to draw on its forest capital as though it were illimitable. His suggestion of a conference of provincial authorities to draw up a national forest policy seems obviously rational.

MR. FRANK BARNJUM ON A VISIT TO QUEBEC

The Great Nova Scotia Forester Tells Us of the Devastation of the Canadian Forests

l'Evenement

Mr. Frank Barnjum, the great owner of forests, was in Quebec yesterday. Mr. Barnjum was in conference with his friend, Mr. Thomas Maher, Forest Engineer, president of the Association of Forest Engineers of the Province of Quebec, when we went to extend our greetings to him at the Chateau Frontenac.

There is in Canada probably not a man who knows our forests better than Mr. Barnjum. He has toured the majority of them and

he knows their value thoroughly. This great captain of industry has now retired from business, and he is using his time and money to show the necessity for Canada to protect its forests against reckless cutting, fires, insects, tree diseases, all the scourges that are imperilling this national wealth. Gifted with a facility in writing, Mr. Barnjum has selected the newspapers as a medium for waging a campaign in favor of forest protection. He writes letters full of spirit, and when he meets a journalist, the forests are his favorite topic.

"In seven years," he told us yesterday, "I estimate that we shall no longer be able to continue the unsystematic exploitation of our forests which has been going on for several years."

"But what remedy do you suggest?"

"The governments," he replied, "ought to regulate the cutting of wood by reducing considerably the quantity of trees that may be cut on lands belonging to the Crown by virtue of leases or contracts. This would force the paper manufacturers to buy wood from the settlers. This wood is at present exported to the United States. A commission composed of a representative of the manufacturers, a representative of the settlers and a representative of the government could fix the price of wood yearly."

"It is necessary," added Mr. Barnjum, "that precautions be taken because we shall soon not have any more accessible forests, and in ruining our country we will change our climate. People are complaining that the temperature has become very variable and that the climate is not healthy as in the past. The devastation of the forests is the cause of these disturbances."

CRIMINAL WASTE

Montreal Daily Star

Canada is wasting one of her richest natural resources with a prodigal extravagance that is criminal.

Canada is not only taking no trouble to conserve her timber wealth, but the policy she is pursuing is helping to deplete her forests with thoroughness and rapidity.

It is not only on the present generation that the disastrous effects of her neglect and short-sightedness will rebound but on the citizens of the future. The Federal and Provincial Governments, who are trustees of the natural resources of the Dominion, are selfishly wasting their substance without any regard for their responsibilities, without appreciation of the trust that is morally laid upon them.

In a striking letter on this page, Mr. Frank J. D. Barnjum submits a few of the main heads under which our forest riches are being wasted. He points out that insects which attacked our trees destroyed one hundred billion feet of merchantable spruce.

Canada is cutting and burning her merchantable lumber just as if her citizens were a handful of settlers set down in the midst of a wide-reaching and seemingly limitless virgin forest. The limit holder and the land owner are not the chief sufferers from the policy of negligence and indifference that is being pursued. Perhaps if they were we should have pressure brought to bear upon the Government to put a stop to this national tragedy. As the visible supply shrinks, the price of lumber and pulp, reacting to the changeless law of supply and demand, goes higher and the increase is passed on from the concessionaire and the leasing company to the ultimate consumer. It is the man who buys the wooden box, the kitchen chair, or any one of the innumerable articles made of or derived from wood that will have to pay the price of public carelessness and folly.

"There is wood enough for us to cut and burn," say the limit holders, and the forest owners—let the generations to come look after themselves. What crass ignorance! What wrong-headed stupidity! Such an attitude is reminiscent of the notorious pacifist statesman who boasted that if war was declared upon his country a million men would spring to arms over night. They would have the spirit perhaps, but they would not have the arms, the equipment or the training. So the generations to come who find timber scarce and the cost of cutting high owing to its inaccessibility, may have the will and the urge to cut more, but they will not have the raw material.

Armies do not spring up full statured over night, forests do not lift themselves from seedlings to great trees at a magic touch. Nature builds perfectly but slowly and not all the wishes or even the necessities in the world can in an instant add a cubit to the stature of a forest sapling.

It is high time that Governments ended this period of criminal lethargy and bestirred themselves to the adoption of a policy of reforestation, of planting and of protection.

Much of the damage that has been done is irreparable, but with the facts clearly before us we shall deserve, and receive in full measure, the censure of the generations of Canadians yet to come if we delay any longer in staving off a national calamity while there is yet time.

F. J. D. BARNJUM RETURNS TO EUROPE

Canadian Pulp and Paper Magazine

Mr. F. J. D. Barnjum, whose return from a prolonged visit to several European countries was noted in *Pulp and Paper Magazine*, left Montreal again for another visit to Europe on July 16th. Mr. Barnjum plans to finish investigations into forestry matters in Europe which he began on his previous visit. There are few men on this side of the Atlantic so thoroughly versed in economic forestry as is Mr. Barnjum.

"BRITANNIA," LONDON

by

MR. E. T. BROWN

"Canada alone is now exporting 50% of the world's timber requirements, and is drawing on the remoter parts of the Dominion to meet the demand.

"Mr. F. J. D. Barnjum, an international forestry expert, recently stated that owing to the rapid denuding of the forests of eastern Canada, pulpwood is being drawn from such great distances that it takes two and three years to drive it down the rivers to its destination, and in some cases it is being transported 1,000 miles by water and rail.

"The same authority, in a reference to the U.S.A., says that the amount of timber cut for all purposes, annually, according to government figures, is sufficient to form a solid pile of wood four feet high and four feet wide, which would encircle the globe fifteen times.

"It is obvious that if such wholesale cutting continues, the world will in a very few years be threatened with a timber shortage. In Canada and Australia, immature wood, which should not be touched for another twenty years, is being cut, and even the shelter belts which protect the young seedlings and the crops are being thinned.

"In Australia, many timber industries have already had to go out of business owing to the failure of forest management to maintain the continuity of yields, and the Forestry Committee in that country has now recommended the recognition of forestry as a learned profession."

MR. BARNJUM'S SUCCESS

The Gazette, Montreal

Of the individual successes registered in the sweeping Conservative triumph in Nova Scotia, one that will arouse unusual interest and satisfaction outside the province is the return of Mr. Frank J. D. Barnjum in Queen's. A self-made man, possessed of ample resources won by his native abilities and energy, Mr. Barnjum has for years constituted himself the chief champion and protagonist of forest conservation, and to this cause he has devoted his time and his means without stint. The genuine public spirit which has actuated him in this course is generally acknowledged. His aggressive and disinterested efforts have done much to arouse the people of Canada to the menace to the national well-being represented by the various agencies which combine to deplete and destroy the forest wealth of the country, but there still remains a large and untouched field of usefulness for him in his chosen work.

" WASTED TIMBER RESOURCES "

" Farm and Dairy "

As fully half of the population of Canada resides in the rural sections, the farmers of the Dominion have a very real and vital interest in the timber resources of the country. Most of us do not understand as much about this subject as we would like to, but there is a very general impression that our timber areas have been exploited to a dangerous extent and that the Dominion government as well as our provincial governments are not doing all that they could or should to protect the interests of the country at large in these matters.

For some years an able and vigorous campaign has been conducted by Frank J. D. Barnjum, of Montreal, a successful timber operator, through the press and otherwise, to arouse the people of Canada to the seriousness of the situation. Mr. Barnjum has spent large sums of his own money in this work. The situation, as pointed out by Mr. Barnjum, is a critical one. He states that criminal destruction is being practiced with regard to the forest resources of Canada and he challenges the government to reveal the true situation.

**FROM THE RIGHT HON. SIR ROBERT L. BORDEN, P.C.,
G.C.M.G., K.C., LL.D., FORMER PRIME MINISTER
OF CANADA**

Glensmere, Ottawa,
Nov. 4th, 1922.

Dear Mr. Barnjum,—

I venture to send a word of warm appreciation and of very sincere congratulations upon your earnest, constant and, I trust, effective efforts towards the awakening of our people to a sense of their responsibility for the preservation of our forests. It is my belief that these efforts are having no inconsiderable effect.

I am sending you this message in order that you may realize more fully that there is appreciation of your work in many quarters throughout the country.

Yours faithfully,

R. L. BORDEN.

Frank J. D. Barnjum, Esq.
Annapolis Royal,
N.S.

FROM THE HONORABLE C. HOUDE, MAYOR OF MONTREAL, AND LEADER OF THE OPPOSITION IN THE QUEBEC HOUSE

Montreal, August 6th, 1929.

Mr. Frank J. D. Barnjum,
Annapolis Royal, N.S.

Dear Mr. Barnjum,—

May I be allowed to tell you that your campaign for the preservation of our forests is the most foresighted one ever undertaken by any individual in Canada that I know of or that I have read about. You are proving your tenacity, your vision, your public spirit, your patriotism, and I think that our Provincial Government in Quebec, instead of thwarting your ideas, should beg you to supervise and check the activities in our forests, so as to find out to what degree the depletion of that most important part of our national wealth has taken place. That is what I think about you and your services, and this is no personal or confidential letter. It is a public recognition of your services from a man in public life with heavy responsibilities on his rather young shoulders, but who wants to give credit where credit is due. This letter has been inspired by your communication dated July 8th last, which I have read with the utmost attention.

The protection of our forests against dilapidation and natural enemies is the real problem and any one who spends a fortune of his own to help to solve it is deserving public recognition of public men worthy of that name.

Yours truly,
(Sgd.) C. HOUDE.

FROM C. A. SCHENCK, ESQ., Ph.D.

Lindenfels im Odenwald,
Hessen, Germany,
June 21st, 1929.

Frank J. D. Barnjum, Esq.,
Montreal,
Canada.

My dear Sir:

You have had the kindness to send me recently copies of your public statements made with reference to the approaching exhaustion of Canada's pulp wood supplies. Permit me to say that I am very deeply interested in the movement and that I admire the courage with which you are waging, single-handed, a war, for the benefit of the Dominion and, indeed, of mankind.

What forestry there is in Europe, was established by strong monarchic forms of government. For the U.S.A. as well as for Canada it might be said that the forestry problem is a real test problem of the efficiency of democratic governments.

Wishing you the best of success,

Admiringly yours,

C. A. SCHENCK.

SIR WILLIAM PRICE

The Quebec Chronicle

When the attention of the late Sir William Price was drawn by a Chronicle reporter to the editorial of a local French morning newspaper, in which statements were made purporting to come from Provincial Foresters with the apparent object of discrediting the efforts of Mr. F. J. D. Barnjum, who is endeavoring to make the public realize the danger of the exhaustion of our forests through fire, natural enemies and bad forest management, the late Sir William said with emphasis:

"The statements made by Mr. Barnjum are correct and his warnings in no way exaggerated. If Provincial Foresters have really expressed themselves in an opposite sense, which I can hardly believe, they are running directly contrary to the professed conservation policy of the Government by whom they are employed, and to their own knowledge of the facts."

"BARNJUM IS RIGHT," SAYS MR. BIERMANS

During the course of an interview today in respect to the pulp and paper industry in Canada, Mr. H. Biermans said that Mr. Frank J. D. Barnjum of Montreal had been criticized often by people other than Canadians, but that Mr. Barnjum had been absolutely right and the day would come when the Government would realize their folly in not taking his advice. "I will not hesitate to repeat that if this state of affairs continues," he adds, "bankruptcy in the paper industry is absolutely unavoidable."

**MINISTER OF LANDS AND MINES
FREDERICTON**

Moncton, N.B.,
December 5th, 1922.

Frank J. D. Barnjum, Esq.,
Annapolis Royal, N.S.

Dear Mr. Barnjum,—

I am glad to note the article in the paper today with regard to the awarding of your prize to the best forest ranger in the Province, and especially that you were good enough to reward two other of the rangers for their exceptionally faithful services.

I am sure that this programme of yours is going to be of very great benefit to us in this Province. I do not know of anything which is more calculated to stimulate our rangers in the work they are doing, and I thought it only right that I should drop you a line to let you know how much it is appreciated.

We are all very much impressed with the earnest efforts you are making for the protection of the forests and hope that we may be able to see a greater interest taken by the public generally as a result of your work.

Trusting that you may have good health and abundant energy to carry on the work for many years, I am,

Yours very truly,

(Signed) C. W. ROBINSON,
Minister of Lands and Mines.

FROM C. A. SCHENCK, ESQ., Ph.D.

Lindenfels i. Odenwald,
Hessen, Germany,
November 29th, 1929.

Frank J. D. Barnjum, Esq.,
Halifax, Nova Scotia,
Canada.

My dear Mr. Barnjum:

Your circulars are reaching me on this side of the ocean and I assure you that I am interested in the last one as much as I was in the first. Your life as well as mine are and have been devoted to the solution of the woods in America; thus we are brothers in spirit; and being the older, I dare say I am mighty proud of my younger brother.

The chief difficulty with our problem does not lie in financial straits, nor does it lie in the historic failure of democracies to tackle

the problem efficiently. The chief difficulty lies in the fact that the solution of the problem might be postponed better than the solution of any other problem confronting the Canadian public, for a year or so. It does not make any difference whether we begin a new forest policy in 1929 or whether we begin it in 1930.

For that reason the problem of forestry is being postponed in Canada from one year to the other year and from the other year to the third year.

The crux of forest conservation is its "postponability."

I fully agree with you when you say that the price of stumpage is much too low. If Canadians are willing to give their heritage away without rebuilding it, they should obtain at least more than the price of a mess of potage. The cost of a ton of newsprint will not be increased by more than 2% when the price of Canadian stumpage is increased by 100%.

Nothing will be conserved—neither coal nor water nor oil nor soil nor forest—unless it pays to conserve it.

I am, dear brother Barnjum,

Admiringly and faithfully yours,

(Signed) C. A. SCHENCK.

**PROVINCE OF NEW BRUNSWICK
DEPARTMENT OF LANDS AND MINES**

Fredericton, Nov. 23rd, 1922.

Mr. F. J. D. Barnjum,
707, New Birks Building,
Montreal, P.Q.

Dear Mr. Barnjum,—

I have just completed going over the large number of reports submitted by our fire wardens in competition for what we are pleased to call the Barnjum \$250.00 Fire Warden Prize.

You would be astonished by the wealth of splendid suggestions that have come in through this medium. The prize has stirred up efforts and interest in all parts of the province, and many of the suggestions that have come in in regard to improving fire protection are already being carried out and others are being planned for. It is simply splendid, the way many of our fire wardens entered into the spirit of this contest and gave it their hearty support.

In order to show you some measure of the enthusiasm you aroused amongst our rangers, I have taken the liberty of enclosing ten of their reports, selected from various parts of the province for different months, also a few of the summaries of their fire reports, and I am sure you can see that the information submitted to this department is worth many, many times the prize you have so gener-

ously donated in the interest of fire protection, and which I believe is the first prize of its kind ever given out in Canada, and the results obtained have certainly fully justified your course.

Very truly yours,
(Signed) G. H. PRINCE,
Provincial Forester.

FROM C. A. SCHENCK, ESQ., Ph.D.

Darmstadt, Germany,
18, February 1930.

Frank J. D. Barnjum, Esq.,
Montreal, Canada.

My dear Sir:—

Your last pronunciamento of January 30th is, indeed, your very best. Our disappearing forests! You have a wonderful knack of the English language and a clearness of diction rarely seen.

1. Sure enough, the people of today have no right to spend the capital of the nation. They are acting like a concern, paying dividends out of capital with the result that bankruptcy must come.

2. Suppose that the government reduces the annual cut by 25%: Will there be a decrease in governmental revenue? By no means! If you were here with me, I would show you the Spessart mountains with their capital stand of English white oak. From the Spessart is derived the best oak veneer log of the world. The government, owner of the Spessart, sells no more than 1000 trees p.a. If they were to sell 1500 or 2000, the market would be overstocked and the receipts would be less for the larger quantity than for the smaller.

3. The Canadians do not realize the uniqueness of their position. In their hands are all the trump cards of the spruce game. Some of them may play poker: Just imagine, what psychological result there will be on the spruce market in Finland, Sweden, Russia, Germany, Czecho-Slovakia if the annual cut in the limits is reduced by 25%!

In Asia there is very, very little spruce; practically none, strange to say, in Siberia; a trifle merely in mixt stands in the maritime provinces of the Sowjets, a trifle in Hokkaido and a trifle, absolutely inaccessible, in Western China.

The German stands are so little that the entire Black Forest does not produce spruce enough to supply one single concern situated at the foot of the Black Forest, i.e. the Zellstoffabrik Waldhof.

The spruce situation of the world is really precarious, but the Canadian governments do not know how to play the game for the benefit of the present Canada as well as for the benefit of the greater Canada of the future.

I do not know, dear Mr. Barnjum, whether my admiration for your far-sightedness is greater than is my admiration for your courageous manhood. You began single like the biblical crier in the desert, but the time is near at hand when your cry will find an echo the world over.

Very sincerely yours,

(signed)

C. A. SCHENCK.

Mr. Aime Guertin, member for Hull in the Quebec House, in discussing forest depletion, said:—

"It is all very well for the Government to call the Opposition, and those who think like it, visionaries," he said. "We still have Mr. Frank Barnjum, who made a proposition to this Government which it never dared to take up. Challenged as to his claims regarding the spoliation of our forests, Mr. Barnjum invited the Government to name a commission of inquiry, for which, were he proved in the wrong, he would defray all expenses. If he were proved right, then he would ask nothing but that the Government pay for the inquiry." But the Government had never taken up the offer. There was undoubtedly reason for uneasiness as to the future.

URGES TREE SEED PLANTING

(The Telegram, Toronto, Ont., October 8, 1930)

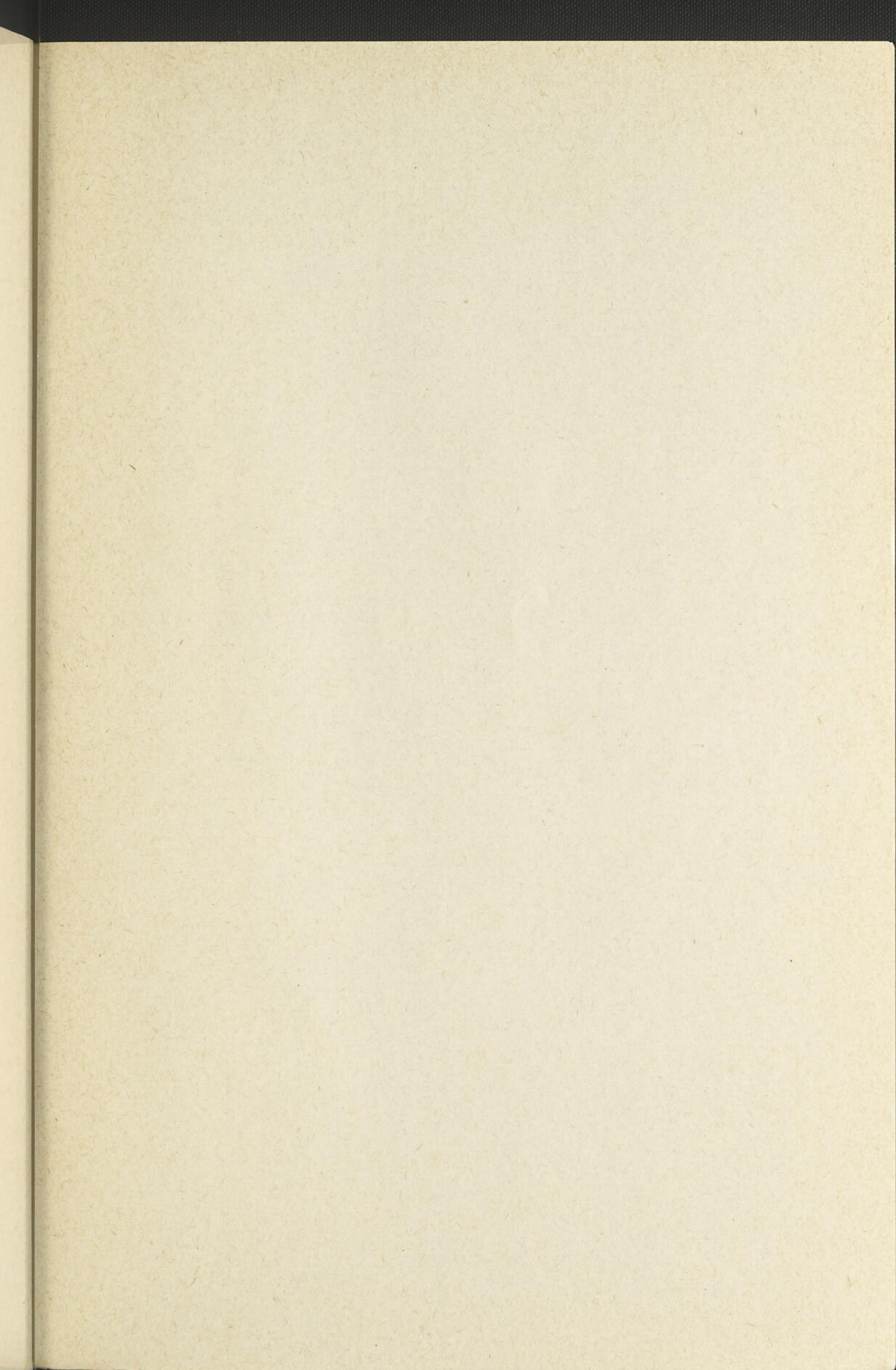
UNITED STATES MILLIONAIRE IS THE FRANK J. D. BARNJUM OF HIS COUNTRY

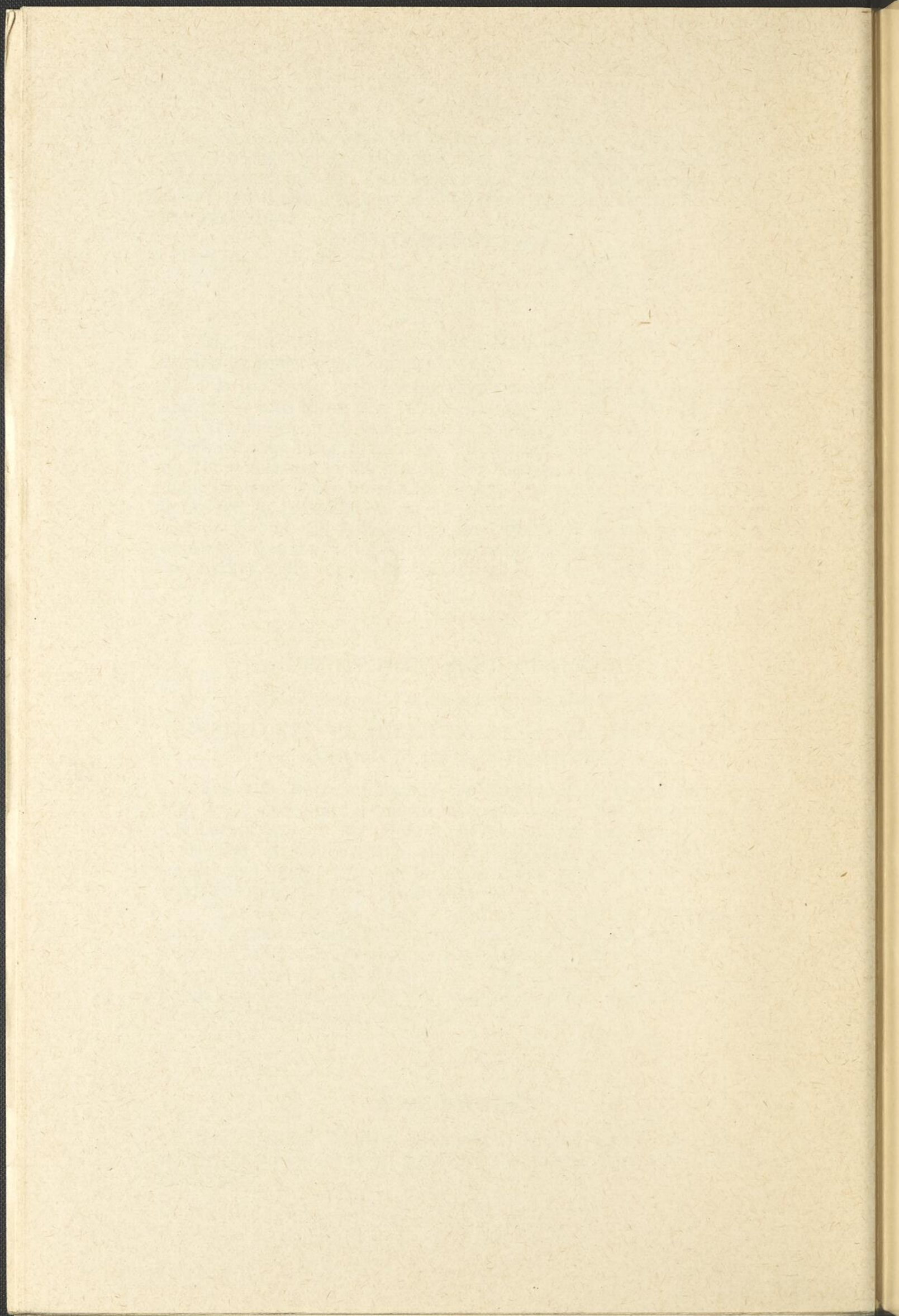
Frank S. Betz, millionaire philanthropist of Hammond, Ind., who is a visitor here, is known throughout the United States as the "father of trees." Mr. Betz is devoting time and money to the promotion of reforestation and has distributed 63,000,000 pine, spruce and maple tree seeds which have been planted by over 400,000 pupils of United States schools.

"There is just as great a need of this work in Canada," he said. "You are cutting your forests and exporting millions of dollars worth of lumber every year and no consistent effort is being made to replenish your idle forest land. The time will come when the pupils now in your schools will want trees or buy expensive lumber imported from foreign countries."

WISE SWEDEN

The Swedish Timber Association decided on October 28 to reduce the output of wood goods for the coming season of 1931 by 20 per cent.





God has lent us the earth for our life; it is a great entail. It belongs as much to those who are to come after us as to us; and we have no right, by anything that we do or neglect to do, to involve them in unnecessary penalties, or deprive them of benefits which are theirs by right.

—*Ruskin.*

BNQ



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