THE CANADIAN ILLUSTRATED MONTHLY

Vol. 7 MONTREAL, AUGUST, 1922 No. 1

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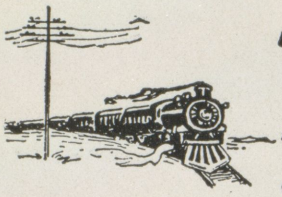

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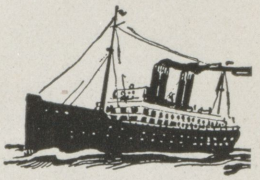

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OUR DOCTRINE—To assist in the development of the great resources of the Dominion of Canada through the dissemination of conservative information relating thereto, and to give entertainment, refraining from discussion of religious, racial or political questions

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THE RIGHT HONORABLE WILLIAM LYON MACKENZIE KING
PRIME MINISTER OF CANADA

THE CANADIAN ILLUSTRATED MONTHLY

Vol. 7 Montreal, August, 1922 No. 1

Nova Scotia—The Storied Land of Evangeline

By Garnault Agassiz

THROUGH romantic association as the storied land of Evangeline, the Province of Nova Scotia is known casually to everyone, but it is only in the past few years that its compelling attractions as a summer playground are becoming known to the outside world.

This being so, it would not seem improper to describe briefly the outstanding physical characteristics of the most important of the Maritime Provinces and to enumerate some of its endowments.

Including its island foster child, Cape Breton—once a separate province and even now frequently so treated, Nova Scotia has an area of some 21,000 square miles. Almost surrounded by water, the province is connected with the mainland of New Brunswick by a narrow isthmus only ten miles in width. The landscape is picturesque and ever-changing, embracing scenery of almost every character—rugged mountain, indulating valley, rolling hill, level prairie, silent forest, turbulent river and sequestered lake, being planted together in exquisite harmony, a complete picture of the perfect symphony of nature.

It would be difficult, indeed, to find a more diversified land than Nova Scotia. Possessing almost every variety of scenery to be found in the northern half of the North American continent, and richly endowed by nature, Nova Scotia produces mightily all the products indigenous to our soil and climate, the apple orchards, paricularly, being the pride of the Dominion. Its mineral products, embracing iron, coal, and to a lesser degree, gold and copper, have an approximate annual value of more

Photograph, courtesy Canadian National Railways

The enchantment of the Bras D'Or Lakes is attracting tourists in constantly growing numbers

Photograph, courtesy Dominion Atlantic Railway
A typical Nova Scotia life-saving station

than $47,000,000. Its commercial fisheries are among the most important of the earth. Its forests, embracing fully one-third of its entire acreage, are a source of ever-increasing revenue. Its shipbuilding industry, in the "Clipper" period, the pride of Canada, which during the War had a big revival, promises better things for the future. Its manufacturing and commercial industries are growing constantly.

But mighty as is the industrial development, it is small indeed compared with the area of the province, the fertility of its lands, and the magnificence of its resources. In fact, so vast seems this richly endowed domain that one has difficulty in appreciating such development as there is. For splendid as is this growth and reflecting as it does the constructive effort of many succeeding generations, it is confined almost exclusively to the seacoast, and even here so well has the esthetic been conserved that the industrial never protrudes—is woven together, one might say, in the great general scheme of nature.

Along the shores, too, run the railways, interlocking the well-known innumerable fishing villages and affording carriage to the products of land and sea. So with very limited transportation facilities it is natural that the interior should be as primeval almost as in the day of the first settler—its streams and lakes alive with fish, its forests abounding in game.

It is because of this remarkable intermingling of the wild and the developed that Nova Scotia is so favorably endowed as a summer region,—because of this, of its equable climate; of its magnificent coast line, affording a larger number of splendid beaches than any other section.

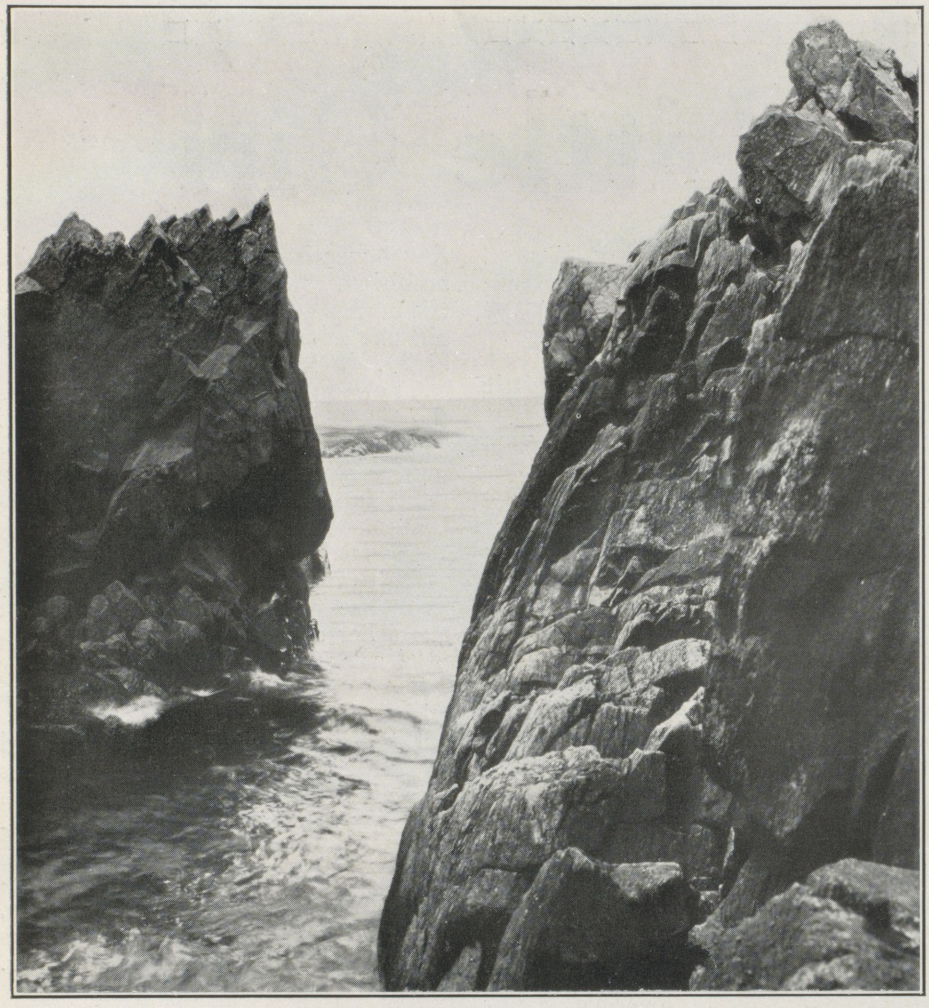
Nova Scotia, indeed, is the great seaside province of Canada. All told, it has a shore line on the Atlantic Ocean, Gulf of St. Lawrence, Straits of Northumberland, Bay of Fundy, of fully 1500 miles in extent.

There is a rugged South shore, where the waves of the open Atlantic break in eternal fury on the rocks of time, which stand guardian to the sequestered beaches that are the magnificent heritage of this wonderful summer land. There is the indulating shore of the Northumberland Straits in its picturesque pastoral beauty, much like that of its over-the-water neighbor, Prince Edward Island. There is the ever-changing shore line of the Bay of Fundy, with its tributary basins of Annapolis and Minas, and its mighty 40-foot tides, there is ever-changing Cape Breton, with its undulating lowlands, its picturesque Bras d'Or Lakes, and, against, its cliffs, rising in mighty precipitous escarpment sheer a thousand feet above the sea.

It is this infinite variety of landscape that constitutes the compelling charm of Nova Scotia. No matter what one's taste, it can be gratified somewhere in this glorious summer land. If the whirl of pleasure attracts, there is Halifax, gay all the year, but at its best in summertime. If one inclines to the pastoral, there is the surpassingly fertile Annapolis Valley, smiling Land of Evangeline, with its productive farms and countless orchards; or for the opposite extreme, rugged Cape Breton, with its wild grandeur and the unrivaled majesty of its Bras d'Or Lakes. Or should the seaside appeal, then there is shore of endless variety.

Along the Bay of Fundy and its tributary basins are many popular

Photograph, courtesy Canadian National Railways
The rugged shores of Cape Breton



Photograph, courtesy Canadian National Railways

The coastal scenery of Nova Scotia is magnificent

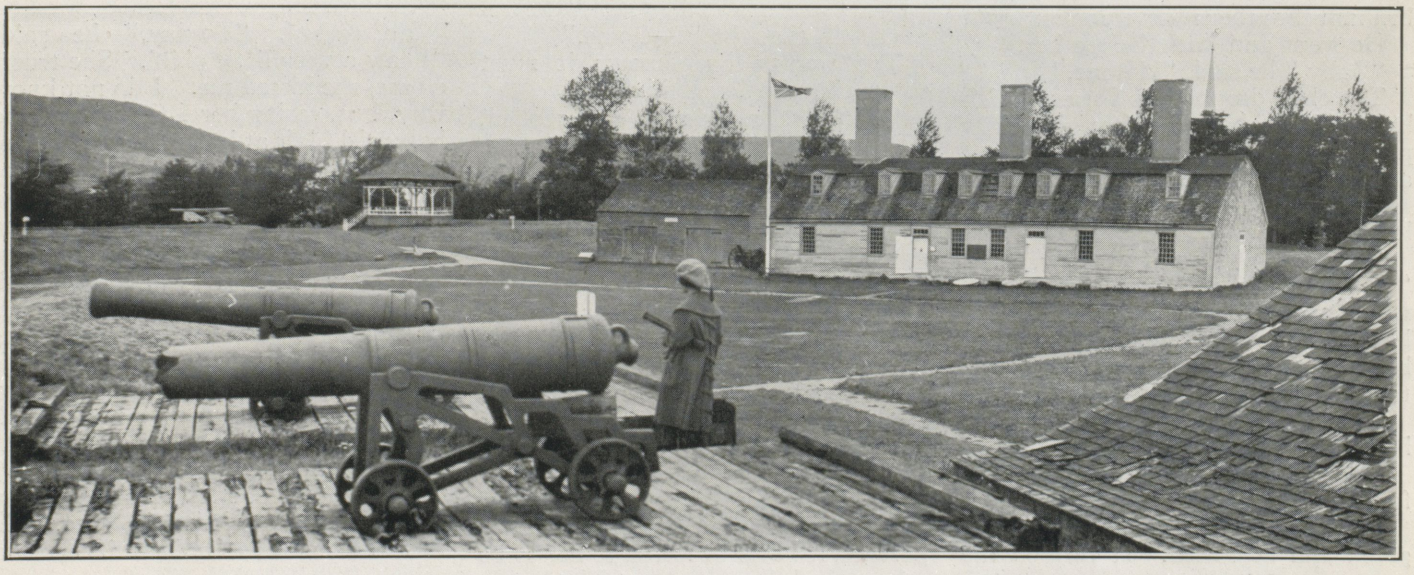
resorts, chief among them Digby, first of Nova Scotia watering places, it is in the Annapolis Valley overlooking the unrivaled Annapolis Basin.

Then there is Yarmouth, the western gateway to the province, beautifully situated on the Atlantic, amid a country of surpassing loveliness. Or Chester, where many of the first citizens of Halifax have their summer cottages. Or Pictou, on the Northumberland Straits, summer home of the late Lord Strathcona. Or a myriad of other enchanting spots along this wonderfully diversified coast.

But of all Nova Scotia's many advantages as a summer region, climate is by far the most outstanding. Here is a climate indeed that has no counterpart. Knowing no extremes of heat, she has an average summer temperature of 66 degrees. From July to November fair weather can be relied upon with a degree of certainty almost absolute—the transition from summer to autumn being hardly perceptible; one of the characteristics of the land that enjoys a beautiful Indian summer.

The opportunities for outdoor sports in Nova Scotia are unlimited. Golf links are to be found in various parts of the Province, those of Halifax, Digby and Yarmouth being very inviting. The great stretch of sea coast provides excellent salt water fishing, while inland are a myriad of lakes and streams abounding with salmon and trout. And the rivers and lakes of Nova Scotia are open to all. The tuna fishing of the South shore of Cape Breton, too, is said to be fully comparable to that of California. A sportsman's paradise in the hunting season, the whole country abounds in in game of almost every species.

A journey to Nova Scotia will be to most but the forerunner of many succeeding trips. For there is a latent charm about this beautiful, historic Province that clings to one in spite of changed surroundings and changed conditions, a charm that has in it the echo of exquisite music, such as that which our own famed Evangeline left in her wake as she passed up the village street. A call to Nova Scotia once heard, cannot go unanswered.



Photograph, courtesy Dominion Atlantic Railway

In Annapolis Royal, one of Canada's most historic places, we live again the past

A Very Little Girl

By May Wynne

IT needed—Life.

All around were flowers, masses of flowers, scarlet red, blue, yellow, pink; a blaze, a medley, blended as only Nature can blend without clashing. Above the glory of it the blue sky of Sicily, beyond, the blue of the sea, the rocks less grey here than marble white with the golden sands touched by the white line of drifted foam. And over all the sunshine, glorifying a gorgeous scene. Towering in the distance—the wonderful mystery of mountains, watchful, silent.

All Nature was silent here, except that the birds sang.

Paul Maravale, himself a singer, a lover of nature, found something missing. It needed — Life. Bird-song was insufficient, beauty of nature insufficient. Then the touch was given. A child came out on to a ledge of rock about which a mass of fern and flowers grew twining and festooned, a very little child in a blue frock, her long, fair curls hanging over her shoulders, her white pinafore filled with flowers. In a shrill, sweet treble she sang some baby-song as she danced forward.

The man, watching, smiled. It was perfection. Then, moved by a quick impulse, he went forward to where the child gathered more flowers. This was no Sicilian peasant-child. Strange though it seemed he knew her for an English bairn, set here in a brilliant Southern environment.

He went and knelt before her.

"Baby," he said, "kiss me."

The child dropped its flowers which lay heaped about its feet, its brow puckered, then cleared. It held out a large, bell-shaped flower.

"Not Baby," it lisped, "but Mairley."

"Mairley," repeated the man, "Will you kiss me, Mairley?"

She hesitated, the perfection of baby-coquetry, the flower pressed to her pouting lips, her head drooping towards one half-bared shoulder.

Then a change—shyness was lost in a radiant smile.

"Yeth," she lisped and raised her face to the sunshine—and the man.

It was a solemn kiss, ceremoniously given and bestowed. It thrilled the man.

"Little Mairley," he said, "Little Mairley, where do you live?"

She pointed to a tiny white villa with green shutters which stood amongst olive orchards half way up a slope.

"That's where Mummie an' Mairley comed to," she said, "when we left Engledland."

The man laughed. "I shall come and find you," he said, "and steal another kiss."

The child regarded him gravely.

"Mairley *gived* you the kiss," she said, "you didn't steal it. I like you better van Stefano, cos he talks funny."

Then she went back up the slope to the villa with the green shutters and the man watched her with quite a new pain at his heart.

That night Paul Maravale sang magnificently in the opera and was congratulated by his friend the Signora Mitalini as they paced to and fro on a terrace under the white moonlight.

"You surpass yourself," she said. "What a voice! But there was a new note in it to-night, *amigo mio*."

She spoke English perfectly—and she was a beautiful woman.

Paul gazed towards the mountains, "There was something new," he replied, "I thought of—home."

The woman had known it must come and she loved him.

"You are married," she replied, "You think of your wife."

He sighed. "Will it tire you," he asked, "to hear a dull tale?"

"It will not be dull," replied Signora Mitalini.

"I married a farmer's daughter," said the man. "She was beautiful, refined, good. But she lacked ambition. Her only dream was of home. Mine of the great world. She entreated me to be content with the duties which claimed me as landlord of a small estate. I chafed and refused. She loved her home. She would not have lived away from it. She adored her parents, it never occurred to her to be ashamed of them—or that I had married beneath my rank. She had no ambition. So I left her. She had the home, sufficient money, the baby girl she adored. I came to Italy, to Sicily. I fulfilled my ambition."

The woman did not look towards the mountains, she looked at the man.

"To-night," she said, "you surpassed yourself. You can claim a great future. You are already celebrated. You can become more so *if you wish*."

He turned impulsively to her. He knew she was his friend, he did not guess her secret.

"I ask your advice," he replied.

The woman stood still. It was a crisis in both their lives.

Because she loved him she refused to speak by impulse though the fires flamed in her Southern blood.

To and fro they paced on the moonlit terrace.

If she told him to fulfil his ambitions he would come to her again, he would forget the little unambitious wife at home, he would belong to her.

But she loved him.

The moonlight lay across their path, the scent of roses was in the air. A nightingale sang in a bush of myrtle near. Sang of love—of—passion—of sacrifice.

The woman's hands were clenched. Her dark eyes were closed. She saw a picture of the future.

"Tell me," she asked, "why you need advice?"

He sighed. "To-day," he said, "I saw a very little child. She trusted me, she kissed me. I do not know why, but, seeing her I thought of the baby girl I left at home four years ago. This child might have been my own. That very little girl."

The woman smiled sadly. She knew now it must be—renunciation.

"You ask my advice?" she said. "Ask your own heart. Go back to your home and the narrow duty which was nearest. Go back to the little wife and your child. Make them happy. It is your duty. In doing it I think you find happiness yourself. Ambition is not enough for you, my friend. It is not enough for any of us. A Napoleon found that in Elba. He *must* have found it even if he had

(*Continued on page 39*)

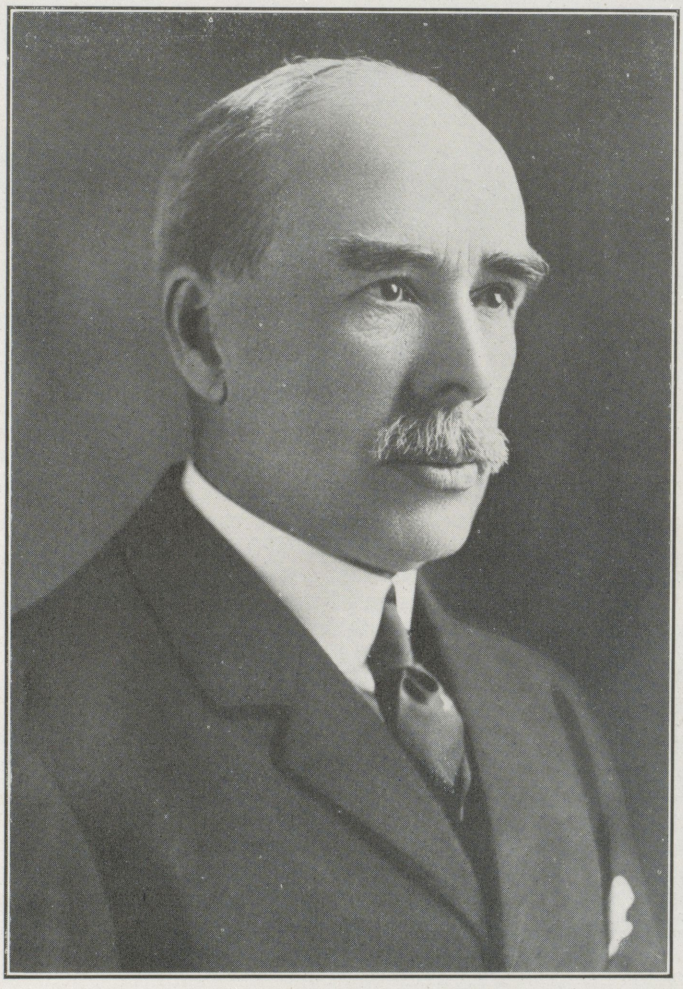
How Shall We Best Colonize Canada?

By Col. J. S. Dennis, C.M.G.

I HAVE no hesitation in saying that, today, the question of the establishment of a well considered and aggressive colonization and development policy is the most important matter with which we, as Canadians, are faced. It is the foundation upon which the superstructure of the solution of our railway, industrial and unemployment problems must be erected, and my effort in this brief address is to try to convince you that my views are sound.

The question, like our Dominion itself, is vast in size and many-sided in character and it will only be solved by wide vision and broad views on the part of our Governments and citizens, and will, of necessity, involve extensive expenditures.

I have spent the past 50 years of my life in dealing more or less directly with this problem. My experience began with my arrival in Winnipeg 50 years ago next month, and finding there a village of about 1,000 inhabitants, with nothing west of it in the way of colonization and development until one reached the Pacific Ocean; since that date, in the service of the Dominion Government in exploring that vast Western country; then in the Land Department of the Hudson's Bay Company, then as Deputy Minister of Public Works of the old Territorial Government; and for the past 21 years in the service of the Canadian Pacific. My activities have been all more or less intimately connected with colonization and development, and I frankly confess that the subject is now becoming more or less of a hobby.



COL. J. S. DENNIS, C.M.G.

Chief Commissioner, Department of Colonization and Development, Canadian Pacific Railway, who has been an outstanding figure in the field of Canadian Colonization

In spite of my long experience in connection with this important matter, my suggestions in connection therewith, have lately been characterized as madness by Sir Clifford Sifton. I have the greatest respect for his opinion. We have known each other for forty years. I worked under him when he was Minister of the Interior and realize that the immigration policy that he put into effect was the only progressive and aggressive policy that we have ever had, and one that produced results up to the time that it died through excessive "red tape" and inaction. Further, I would point out, that while we had an immigration policy, we succeeded in 1913 in moving as many as 402,000 emigrants to Canada in one year, and it is certainly not madness to assume that, with increased desire and the necessity of emigrating, on the part of the people of the United States, Great Britain and certain desirable portions of Europe, that number can be largely increased annually, if we had a definite and well-administered colonization policy.

In any case, I much prefer to be called mad for aiming at ten million colonists in ten years and only hitting five million, than to continue shooting at nothing, as we are at present doing, and, as the Irishman said, "hitting it in the same place we missed it before."

To prove that Colonization and Development is our most important and pressing problem, I want you to consider the following facts:—

Canada occupies a larger portion of this North American Continent than is contained in the United States, including Alaska, and while the United States has a population of over 100,000,000, yet our population is only 8,700,000. Here we begin to consider this problem, faced with the immutable law of the greater attracting the lesser.

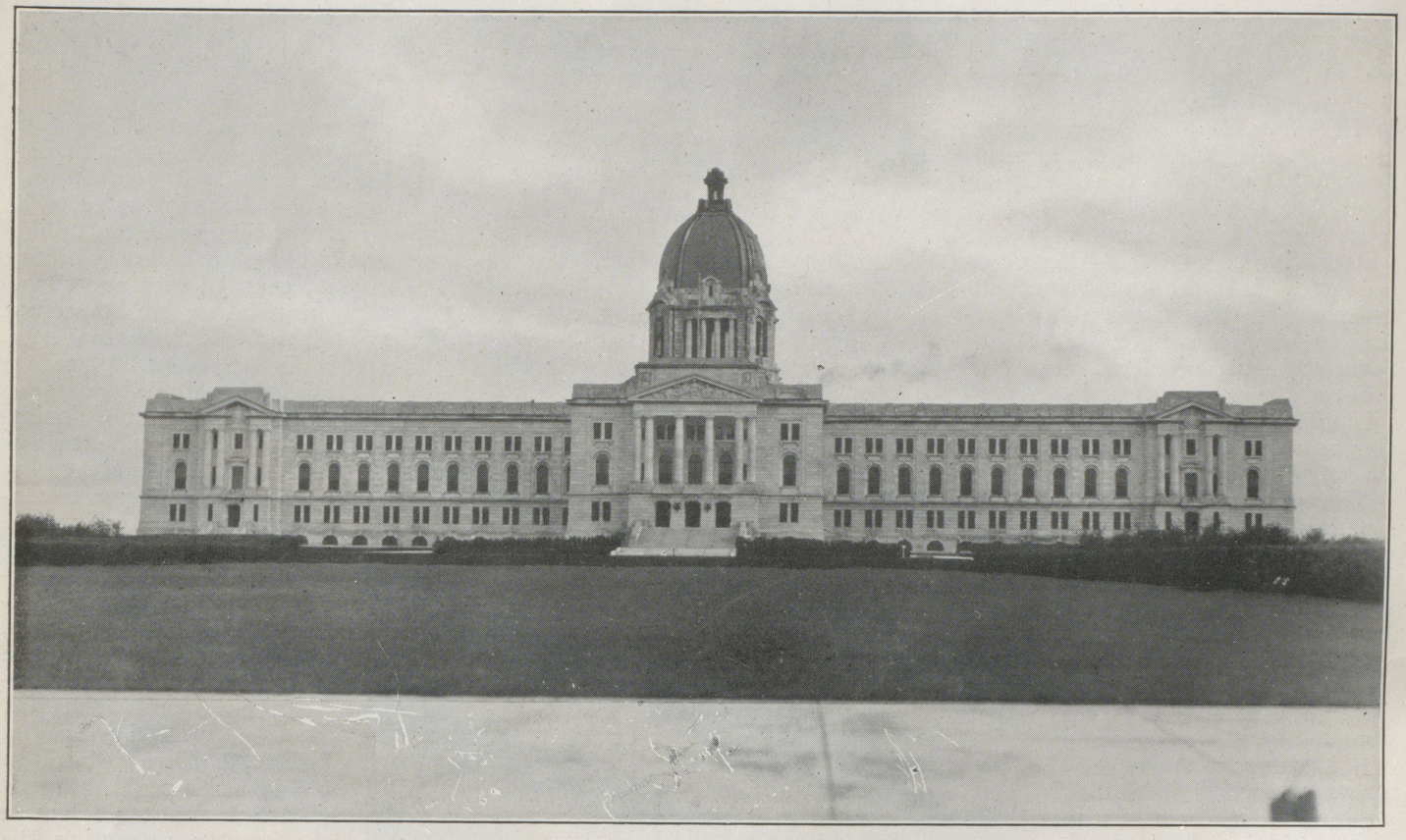
In Canada today we have 1 mile of railway for every 236.5 of our population, and, in the four Western provinces, 1 mile for every 110. Compared with this, the United States has one mile of railway for every 404 persons, and Great Britain one mile for every 1804.

In the three provinces of Manitoba, Saskatchewan and Alberta, we have 30 million acres of land suitable for immediate cultivation, unoccupied and non-productive, within 15 miles of each side of the railways now in operation.

In the older provinces of Canada we have many thousands of improved farms, unoccupied and non-productive and waiting for colonists.

Our National Debt of Canada today is $2,372,000,000, or about $275 per capita of the population, and the annual interest on this debt amounts to $114,000,000 as compared with a total Federal Revenue in 1913 of $168,000,000.

If the facts I have quoted are facts, and I do not think they can be disputed, am I not justified in asking



British & Colonial Press Photograph

The New Legislative Assembly Buildings at Regina, Saskatchewan, reflect eloquently the growth of the Canadian West

you the question—"What are we going to do about it?"

My answer is—"Colonize and develop."

When I say "colonist," I use the term in the broad sense of the immigration to Canada of the colonist who will occupy and make productive, available agricultural areas, and also laborers, skilled and unskilled, who will develop our mineral and timbered areas and extend our industrial life, and finally, colonization of the necessary capital to make both of the preceding activities possible; but before I proceed to discuss the policy under which, I consider, this desirable end should be reached, I want to point out to you that colonization and development is no new matter in Canada.

During the period of 1905-1914 we had an immigration into Canada of 2,500,000 people, divided roughly, one million from Great Britain, one-half million from the United States, and one million from European and other countries. During that period we had a great constructive development program under way, including the construction of additional transcontinental railways, the completion of branch line railways, particularly in Western Canada, and, in that operation, the growth of side tracks into villages, villages into towns, and towns into cities, almost over night, together with vast expenditures by the Dominion and Provincial governments upon public works, by the municipalities in similar amounts, and in a vast expansion of our industrial activities.

That expansion through the medium of colonization and development was, of course, checked by the War, and during the War, and practically up to date, both our colonization and development have been standing still. We are now faced with the question of how we can again stimulate a large movement of desirable colonists to Canada and where they can be obtained.

Naturally, as part of the British Empire, we should first look to obtaining the greatest possible number from Great Britain or, rather, from the United Kingdom of Great Britain and Ireland. But, in doing this, we are confronted with certain limiting conditions which make it clear that no large proportion of agricultural colonists which we need can be obtained from there.

The present population of the United Kingdom as shown by the last census is, in round figures, 47,000,000, but it may surprise you to know that of this number, something less than 4,000,000 are engaged in agriculture, and you will, therefore, readily see that unless we are prepared to take a large number of colonists without any previous knowledge of agriculture, we cannot look for the immigration of large numbers from Great Britain. Further, it would now seem to be perfectly clear that the United Kingdom, and particularly England, must look forward to the emigration of many millions of its people, and our policy should be aimed at co-operative action between our Government and that of the Home country, to evolve some scheme under which many of these people of the younger generation can be fitted for agricultural life in Canada by some preliminary training at home, and finishing the training here, together with final assistance to enable them to establish themselves as farmers after this training had been obtained.

In this connection there are immense possibilities, and one need only point to the remarkable results obtained through the medium of organizations like the Dr. Barnardo's Homes, to realize what can be done in making good citizens of the younger generation from Great Britain, if properly assisted and guided; and, in this connection it might be of inter-

est to you to note that 6,211 Barnado boys who have been sent out to Canada by that organization served in our Canadian Expeditionary force, of which some 531 were killed on active service, and that amongst those that served, many decorations, including the Victoria Cross, were earned. We also know that, to-day, we have many leading citizens in all of our professions and in our business and political life who came to Canada through this organization.

We must, naturally, look for the larger proportion of our agricultural colonists from the United States, where there is a large agricultural population, and draw from where the conditions of climate, agricultural methods, currency, weights and measures and other conditions are so analogous to those existing in Canada, and where, under existing conditions to-day, prices for farm lands being high, and the value of the farm products being low, there is a marked disposition on the part of the people, particularly in the Middle West, to emigrate.

We should also look forward to the immigration of large numbers of desirable colonists from Central Europe. I know that I will be, probably, charged with advocating the immigration of so-called foreigners. After all, what colossal egotism is it, on our part, to speak of foreigners? We should realize that we are in fact, all foreigners on this Continent, and that while it should be our aim to maintain and extend British ideals and our Canadian citizenship, we must not forget that many of those who have come to us from so-called foreign countries are to-day amongst our most progressive and valued citizens and who have been, and are taking, an active part to solve our national problems and are proving by their willingness and desire to become good Canadians, as is proved by the fact that in one of our Western Universities over 50% of the students are of so-called foreign parentage, and that, during the War, many of our military units, which gave the name of "Canadian" a new standing throughout the world, contained upon their rolls the names of many so-called foreigners.

I have indicated where we should go to look for colonists that we need, but it is perfectly clear that there is no use in going to look for them unless something more can be done than is at present being done to encourage them to come. We have no definite emigration or colonization policy at present, and, in fact, the enforcement of the existing Immigration Act, and the regulations thereunder, during the past two years, has done more to discourage immigration and colonization than to encourage it, and, as far as Great Britain is concerned, has, without doubt, through the medium of our excessive regulations and unwarranted deportations, created the general feeling which now exists in Great Britain that we in Canada have closed our door and do not want British Colonists.

We have under our existing law and regulations, a provision for the deportation of colonists who do not come to Canada on a so-called "non-continuous journey." The enforcement of this regulation has resulted in the deportation of many desirable colonists, and, if followed to its logical conclusion, the regulation today can be utilized to refuse admission to Canada to any desirable colonist, due to the observed fact that he did not happen to start on his journey from the country of his nationality—and the application of this regulation will be realized by you when I say that of the deported immigrants handled by the Canadian Pacific ships during the last year, 20% were deported on the ground of

Photograph, copyright, Underwood & Underwood, N.Y.

A view of one of Edmonton's principal business thoroughfares. Edmonton is the capitol of the Province of Alberta

non-continuous journey, irrespective entirely, apparently, of whether they were the character of colonists we wanted or whether they would have made good citizens.

It may be taken for granted that, unless our Dominion Government is disposed to give this great problem of colonization the attention which its importance warrants, and make the necessary amendments to the Immigration Law and frame and enforce a system of regulations which will do away with many of the present unwise and unnecessary restrictions, we cannot hope for any large movement of the colonists that we so urgently need to help in developing our resources.

In considering the question of development, I would direct your attention to the fact that Nature has blessed us in Canada with resources of agricultural land, timber, minerals and other things which, potentially, are ample security for our vast national debt, but the possibility of taking care of and discharging that debt is entirely dependent upon our development policy. These resources, undeveloped, are of no value, and, without men and women, cannot be developed.

I find that, at the present time, a general idea that we should close our doors except to those colonists who come here with the avowed intention of undertaking farming and I admit frankly that, particularly in Western Canada and in certain of our older provinces, recolonization of our unoccupied farms and agricultural development are the main factors in the problem we are discussing.

But let me point out the following facts: Taking the railway traffic of the Dominion as an indication of the wealth that is the result of national development, I would like to point out that in the year 1920 the products of our mines provided approximately 35 per cent of the aggregate tonnage of the country's railroads; the products of our forests, approximately 18 per cent, while agricultural products of all kinds furnished the lines with only 17 per cent of their traffic.

These figures indicate the urgent necessity for vastly increasing our agricultural activities, for, after all, the future wealth of Canada must come largely from the soil—in my opinion, the railroads will have to look to the farmer for tonnage more and more as the years go by—but at the same time they serve to emphasize the importance for a still further development of the products of our forests and mines, and the important role that such development will play in the solution of the great problem that now confronts Canada.

In conclusion I desire to affirm that the problems I am outlining are non-political, and that a policy for their solution must be developed on broad lines and with the assistance of all interests, and must include, more or less, an open door, and the establishment of a well-considered, thoroughly-staffed and well-administered world-wide organization to make our principles known and to ensure that we shall, through the medium of colonization and development, begin now, and carry on for many years, an aggressive and progressive policy for colonization and development, through the medium of men and money, of the natural resources with which Nature has so bountifully blessed Canada.

Our railway problem is by far the most complex of all the economic questions now confronting Canada. It can be solved only by the adoption of a sane and patriotic national policy that will contribute to the general development of Canadian industries as a whole, for, after all, the railroads depend for their prosperity, as we have seen, not on any particular industry, but upon the activities of the many industries that make for the greatness of Canada.

A harvesting scene in the Canadian West

A Phase of Canada's Power Question

By Henry K. Wicksteed

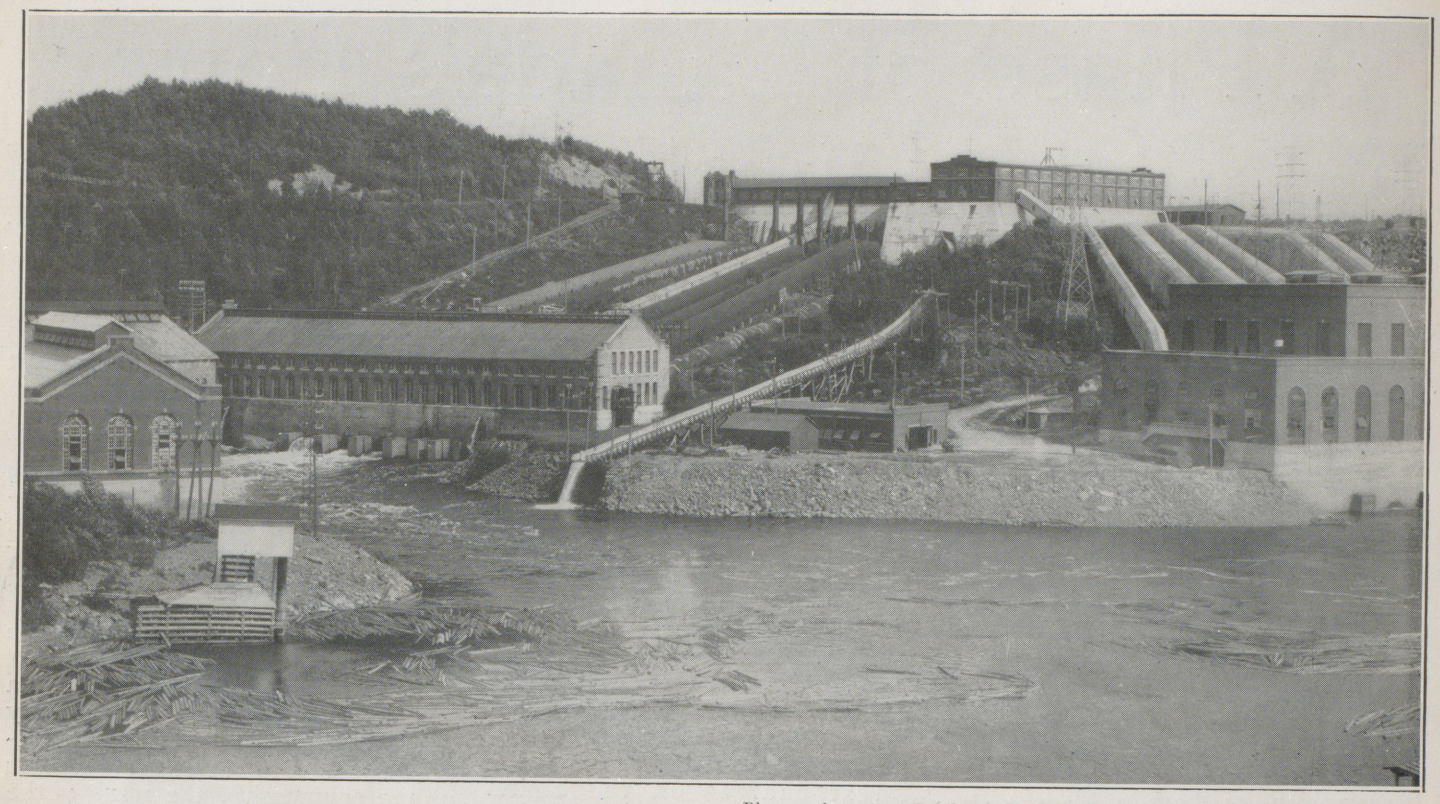
FOR some time past, and more especially in the last few months, there have been dozens of articles in the newspapers and periodicals of the country urging the necessity for the conservation of coal and oil fuel and the utilization of water power in its stead. Enormous sums have been spent and still more enormous expenditures of public funds are in contemplation for ambitious schemes of power development, the most familiar to most of us being the now famous Chippewa development of the Niagara Falls—and, more recently, the St. Lawrence project from Lake Ontario to the sea.

Such articles have been nearly all written by enthusiasts—men possessed of an idea—and it would be well, perhaps, if some one would, in the present juncture, take up the economic aspect of the questions, and treat of the need for a more adequate conservation of both private and public money. The great mass of our voters have, unfortunately, no experience, in the field of finance; overhead charges do not appeal to them; the trolley car runs along in charge of two men or possibly only one; occasionally some others are seen at work on repairs, and of course there are a few visible about the car barns; but this is all the expense that shows upon the surface, outside of the propelling power which is known to be supplied by Niagara Falls, or some other water power. Surely, they conclude, under these circumstances, the electric railway must be vastly cheaper to operate than the steam, and fares should be reduced to a minimum. The fact that under the surface, quite unseen, but working steadily day and night, Sundays and holidays, whether traffic is being carried and fares collected or not, are the interest charges on the capital employed in building the track, the buildings, the power houses, the transmission lines, the transformers, the convertors, the generators and all the other costly apparatus of a hydro-electric plant, is not taken cognizance of at all. If they think about it at all, it is to dismiss the thought with the comment that the failure to pay interest is the concern only of the wealthy man, who loses a few dollars of his ill-gotten gains, of which he will never feel the want. At the present time something of this must be coming home to some of them who find that a Toronto concern, which has been carrying them for years at four cents or less and contributing handsomely to the city's income besides, and so lowering their tax rate, is now under the new conditions for which they have clamored and voted for, proposing to charge them seven cents and contribute nothing to the city's revenue.

There is still, it is to be feared, a vast misconception in the community as to what capital is and what it represents. Primarily it means the savings of the community, the result of the excess work and power of thrift and self-denial, and foresight of the individuals forming that community. These savings are at the basis of all civilization, and most of our laws are con-

Photograph, courtesy Canadian Pacific Railway

An unusually good view of the Niagara Cataract, whose vast power has so materially contributed to the industrial development of the Niagara frontier



Photograph, courtesy Exhibits & Publicity Bureau, Department of Trade & Commerce

Canada's Waterpowers are a great asset to her Pulp and Paper industry. This is the Central Power Station of the Shawinigan Water & Power Company, Shawinigan Falls, Que.

nected with their protection and safeguarding. Savings took the form, in the first place, of mere hoarding of coins or other valuables for future use—but early in the history of the world, the idea grew that surely savings could be made use of in everyday business and should increase of themselves. The Patriarch put his savings into increased flocks and herds; the farmer into more land and labor to work and fertilize it, and gradually the idea of interest evolved and grew.

Human nature and human laws are fallible and imperfect—and as our civilization became more complex, and banks and trust companies took the place of money lenders, and joint stock companies superseded the individual land owner or manufacturer, and as it became possible to carry out immense financial transactions without the use of a single coin or article of intrinsic value there grew up with the community, a very numerous class of middlemen, stock brokers, bond dealers, financial agents, etc., men who did not work or create wealth in the original sense, but who bought from and sold to the savers, paper securities, representing interests in mortgages, mining and industrial enterprises, and so on.

Up to the present, the use of Niagara hydro power, whether through the Hydro or some other agency, has undoubtedly been a success as an economic measure. It has saved a large amount of coal and has appreciably cheapened the cost of power—to what extent it has actually stimulated industry, generally, it is more difficult to say. A man with a going concern in London or Brantford, would, unquestionably, use the transmitted power in preference to coal, but if he were starting a new industry altogether, would he consider London or Brantford in comparison with Welland or Thorold or Niagara Falls itself? The first utilization of Niagara power was on the American side of the Falls and took no cognizance of long-distance transmission. These industries are extremely well situated at the present day and steps are being taken to develop more power in the same locality. The Chippewa development was undertaken to supply a moderate shortage which had developed. As obviously it would be less expensive per unit of power if developed on a large scale than on a small one, so it was decided to develop many times the amount of power originally concontemplated, and to find a market for the power afterwards. Part of it was to go to the projected Toronto-Hamilton-Niagara and other radial systems, and the balance was to be sold in the United States. We have sold an enormous quantity of our pine timber to the United States and a great deal of our pulp wood, and in both cases we have come to regret the sale and are feeling the pinch ourselves. It seems to me quite likely that we shall eventually regret not only the large capital expenditure, but the loss of the power itself. For once diverted to the United States we can hardly expect to get it back again without at least a dispute with our very powerful neighbor.

The proposed canalization of the St. Lawrence below Lake Ontario is a still greater and more ambitious scheme, estimated to cost from 250 to 750 millions.

There are several peculiar features about this scheme. It is advocated and promoted in Ontario, and yet more than half the power estimated to be developed is wholly within the Province of Quebec, and one-half of the remainder is tributary to the State of New York. There are already four development plants in the Quebec section—which are transmitting power to Montreal, and, it is claimed, doing so more cheaply than the Hydro is carrying power the same distance in Ontario. If this be true, it would seem to imply that as far as power is concerned Montreal at present may well be left to private enterprise, and does not need Govern-

ment assistance. As far as the Ontario-New York section of the river is concerned, the only large manufacturing centre within easy reach is Ottawa, some sixty miles to the North. Ottawa has a large power development within its limits, and it has large potentials on the Ottawa some thirty-five miles away at the Chats on the Gatineau, within ten miles and on the Lievre, less than twenty miles distant.

Cornwall has already expressed itself as being content with present conditions. The power development would appear, therefore, to be proposed entirely in the interest of New York and New England. It may be possible that Canada is justified in leasing the power potential under her control to the extent of something less than 1,000,000 horse power to the State of New York; it does not seem that she is justified in spending capital with such an object in view.

Thus, there remains only the navigation from Lake Ontario to the sea to be considered.

That a 20-foot scale of navigation from the upper lakes to Montreal would be considerably used there seems to be little doubt, provided it were, as at present, practically toll-free, but if such tolls were charged as would pay for interest on cost and for maintenance I think the traffic would be negligible. I have never been able to see why the railway should be expected to stand on its own financial foundation while the canal is not. The interest charges have to be paid in some way, and the only alternative to tolls is that they have to come out of general revenue. In order then to secure a slightly lower freight rate on some commodities between Port Arthur and Montreal the ordinary taxpayer, including the Western grain grower, must be taxed more heavily, not only to support the canal, but to make up the deficit of the railways which are not only his own property but were built to carry this very traffic and need it for support. It is hard to see how any one is benefited unless it be the steamboat man.

But the navigation scheme goes further than this and proposes 25 feet, possibly 30 feet, so as to admit ocean steamers. That the existing upper lake harbors and channels have only 20 feet and that large sums will be needed to improve them seems of no consequence and it would appear there are lots more millions where the proposed 250 millions, and the Welland canal's 85 or 100 millions are to come from. We don't know yet where that is, but presumably it means more income tax and, when the money is found and the canals are built, are the larger vessels going to use it? The existing light-draught steamers, built for the purpose take 40 hours to make the upward journey to Toronto and only 27 for the return; the tramp steamer will be infinitely slower and more unwieldy in locks and submerged channels. Only in the case of full cargoes, exclusively for Toronto and its immediate vicinity, can much be expected, and this is certainly not enough to justify a canal costing 250 millions or more. Between Montreal and Quebec many millions have been spent on a navigable channel, and many years of continuous work, yet even at this day the largest of the liners do not come above Quebec, although there are no lockages or delays involved in the river channel between Quebec and Montreal.

Canada's transportation plant has a margin of capacity over present requirements, and a plan of intensive development is to be counselled rather than great expenditures on further duplication of the existing systems. Canadians should not forget that initial successes were not due to lavish expenditures but rather to in-

Photograph, courtesy Grand Trunk Railway System

Breakey Mill Dam on the Chaudiere River

The West Kootenay Power Station, Bennington Falls, near Nelson, British Columbia

dustry and thrift of former generations, who were wasteful of natural resources but careful of their own.

The first great transportation enterprise in Canada was that of the Grand Trunk Railway, built mainly at the expense of the British investor. It did wonderful things for Canada and fully repaid her own investment but the ordinary shareholder went hungry, and it has never been a financial success in the strict sense.

Next came the Intercolonial, a political necessity, but only relatively a commercial success, but now coupled up with Canada's national transportation system, of which it forms a valuable unit.

When the time came for the Canadian Pacific, the undertaking seemed too great for the country's finances and private capital was again enlisted on the principles that had successfully carried through the Union and Central Pacific in the United States. Great tracts of land were granted as subsidies, and much criticism has since been expended on the government which assented to the alienation of these lands. The critics forget that the lands were useless without the railway—and that even with them the railway had several years of hard times during which it barely was able to pay its way. It probably could not have done so had not the same thrift and economy been used in its early construction, which had characterized the still earlier American roads.

The Canadian Pacific built up the central prairie country and demonstrated its capabilities. Population poured in and there came a demand for branches, and further development of its vast area. The Canadian Northern took up the task, and, due to the same thrift and economy, became a success from the start. The idea of the second transcontinental line developed, and in preparation for it, existing lines in Ontario and Quebec were acquired and linked together, with a view to their being finally coupled up with the central system. Still the development was a success, although the margin became narrower. Assisted by popular clamour for more competition and public-ownership, the National Transcontinental and Grand Trunk Pacific schemes were launched, and carried forward simultaneously with the Canadian Northern. Then came the War and —the deluge, before the transcontinental lines of these two systems were completed. The War and the elimination of the money market could not, perhaps, have been foreseen, but we had had ample experience of the results of building railways through sparsely-settled and absolutely unsettled country on lines which would be permissible only in the case of districts which were already densely populated. The G.T.P. and National Transcontinental were not able to pay their way. Combined with the I.C.R. and C.N.R. into the Canadian National Railways System—and now the lines of the parent Grand Trunk are being added—the country now has a network of its own lines competing for traffic with the Canadian Pacific.

Now the proposition is gravely put forward that we borrow 250 millions, or much more, at an additional cost of one and a quarter millions per month, to take traffic from both systems, and still further reduce the earnings; and it should be noted that this 15 millions per annum of interest is equivalent to a tax of 5c per bushel on the largest wheat crop we have ever had in the Prairie Provinces. The saving in transportation of wheat is probably the principal argument for the navigation scheme, and its

fallacy will be readily apparent. Still more apparent when we reflect that much of the wheat now moves from Montreal in winter, when the canal is closed, and that in future an increasing quantity will probably go west to the Pacific, en route to the Panama Canal, of to other Pacific ports for local consumption.

I would point out that in the above analysis, there is no intention whatever, to reflect on any Government, for this absurd financial situation. It is the people who are the government, and it is the people who have endorsed and even insisted on one competitive scheme after another set out in glowing terms by their projectors, and it is the public who are even inclined to be dazzled by the project of millions of horse power of cheap power, and the vision of a procession of ocean steamers up the St. Lawrence to the Great Lakes.

Interest on borrowed capital has no terrors for the poor man, because he conceives that it is the rich man who will pay it. This is a fallacy. An impoverished treasury means timid banks and financiers. It means smaller borrowing power for the manufacturer, and a general curtailment of business. It means, in fine, hard times and unemployment.

The development of more power, which we cannot use for an indefinite time, means that we are aiding industries in the United States which are more or less competitive with our own—some of them directly competitive.

If we need more power, as time goes on, and we shall, would it not be wiser to develop it within our own boundaries, where it can be distributed north and south instead of north only. There are numerous opportunities for doing so. As to transportation routes, I think it is unquestionable that we have more facilities for cheap carriage than we have commodities to carry. We need both population and production more than transportation facilities—at any rate in the East. Give our railways all the traffic they can handle and we will find them, of their own accord, devising means to carry it more cheaply, more safely, and, in the case of passenger traffic, more comfortably and speedily. Starve them by superfluous competition and you deprive them of the incentive.

At the present time, when we need revenue very badly, it might, perhaps, be permissible to lease to the United States, Ontario's share of the St. Lawrence power in the rough, and allow them permission to do their own development, provided the navigation interests are taken care of. There is much more power than this in the Ottawa valley, only a fraction of which is being utilized at the present moment, and it will take a couple of generations more, before it is needed. If, in the meantime, our successors find it advisable to open a waterway from the upper lakes to Montreal, this same Ottawa valley affords a route four hundred miles shorter and very much cheaper than the one in contemplation, and one wholly with-

(Continued on page 41)

Photograph, courtesy Exhibits & Publicity Bureau, Department of Trade & Commerce

Plant of the Belgo Pulp and Paper Company, Shawinigan Falls, Que.

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Our Prolific Natural Resources

IT has been stated as an elementary principle that wealth to be enduring must come from some natural resource. That being the case, Canada would seem to be in a most favored position. The products of the Dominion are almost wholly those of the field, forest, and mine. Agricultural development is largely predicated on an extension of the cultivated area of a country by immigration. The development of a nation's fisheries is also to be attributed very largely to individual effort. But the development of the latent wealth of a country's forests, mines, and waterpowers is essentially the province of the corporation. It is certainly a fact that many of the greatest commercial enterprises, such as hydro-electric developments, irrigation schemes, and other engineering works that have been successfully completed could never have been undertaken if it had not been for the corporation. This applies with especial force to Canada, whose prosperity depends so largely on the capital of other countries. Thus every liberality should be extended to foreign capitalists who are willing to invest in Canada's future. Happily this has been the attitude of the Canadian Government for many years, and Canada has not lost therefrom.

Prosperity On The Wing

EACH week sees a gradual betterment in the general conditions of Canada, and it begins to look as though prosperity were at last really on the wing. The labor troubles in the United States, if protracted, must of necessity influence the everyday life of the Dominion, but we believe that at the worst their effects will be only transitory. A few years ago, the whole industrial scheme of the country would have reacted in direct proportion to the extent of any upheaval across the border, but in the past two or three years Canada has become more independent, both economically and industrially, and is thus better able to negotiate her own road.

Certainly there are unmistakable signs of a quickening of industry in every part of the land. It is not only from a survey of the country's present statistics—in themselves very concrete evidence of a returning stability—that one is able to realize this improved outlook; one senses it in the atmosphere, from the changed viewpoint of banker and business man, from the rising spirit of optimism fast becoming universal.

Only a few months ago, dire forebodings were rampart, and they ran the gamut of Canadian industry. Happily for this favored land, however, the predictions of the pessimists have not materialized. All of our industries have gone through a period of deflation, and to some of them this period has been trying, and fraught with consequence, but the soundness of Canadian institutions and Canadian business life has triumphed, and to-day there is an evidence of defined improvement in almost every sphere of the national life.

We are at what might be truthfully characterized as the turn in the psychological road. Let us think prosperity, then, and we will have it.

Canada Must Prepare For Expansion

BEFORE the Great War brought such sudden chaos to most of the civilized countries of the world, Canada had in course of construction or contemplation a number of important public works. These works were confined to no single province, but their consummation would have benefitted the nation as a whole. They were projected, of course, in a period of unexampled prosperity, and at a time when the country was attracting capital and immigration at an unprecedented rate. At that time—perhaps the conditions warranted it—the mere fact that a contemplated work tended to promote a more rapid national development, was of itself sufficient justification for undertaking it. The War prevented the completion of many of even the necessary public works, and since peace has come, although a period of nearly four years has elapsed, the finances of the country have not permitted the resumption of public schemes on any large scale, only desultory work, even, having been performed on such an important public undertaking as the Welland Ship Canal.

We, ourselves, however, while we appreciate the necessity of caution, and a policy of reasonable conservatism in national expansion, do not see the economy in postponing some of the works which in themselves will repay the country many times in service in the course of a few years. It is our belief that we are facing a period of splendid national growth, and that everything should be done to provide the facilities, particularly in the West, that will be needed within a very few years at most to transport the products of Canada.

Irrigation and the Transformation of the West

By E. L. Chicanot

A DECADE ago the agricultural irrigation was unknown in Western Canada. Farmers placed blind faith in Providence, or followed their pursuit with pronounced fatalism, scorning any suggestion that Nature might be assisted in her work. They believed largely in a world made ready for them, though run perhaps on lines often difficult of comprehension, and had no appreciation of the fact that in the creation of the cosmos, certain things were left undone; that difficulties had to be surmounted, and that man's creative faculty and ingenuity were given him to be brought into play upon them.

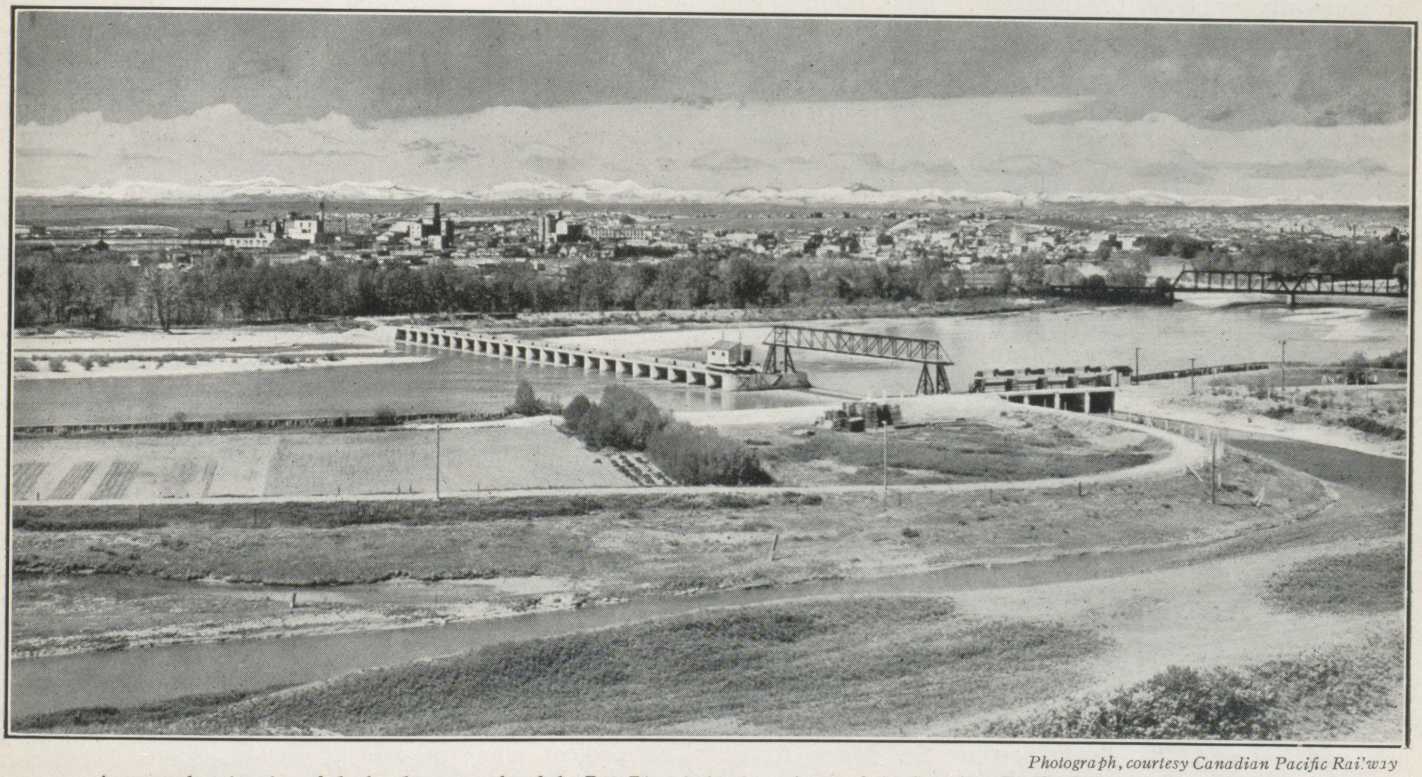
When irrigation was first timorously mooted by a few dreamy, long-sighted visionaries, it was scoffed at and met with the profoundest scepticism. The gigantic and elaborate planning the scheme involved was difficult for ordinary minds to grasp. To be incomprehensible was to lack feasibility, and the conviction could never be forced upon them that the artificial watering of land would benefit the agricultural situation to such an extent as to repay the huge expenditure involved.

Contrast this attitude with that which exists today. Farmers in the southern portions of the Prairie Provinces are clamoring for irrigation, and irrigated land is being bought up as fast as it can be prepared. Legislation has been enacted to provide for the cooperative creation and operation of irrigation districts, and the provincial governments are even going to the length of fully guaranteeing the bonds of such districts. Farmers are eagerly seizing the opportunities offered, and are banding themselves together for the formation of new districts. The situation, in fact, exhibits an absolute right-about-face in sentiment compared with that with which irrigation was formerly regarded throughout the Western Canadian provinces, for such was the scepticism and pessimism which formerly characterised the general attitude that had it been left to the farmers themselves to engineer projects and bring districts into actuality, irrigation would still be in its infancy, the country in general, would not be experiencing the tremendous benefits which have already accrued from existing projects.

As it was, a few men with long vision, but with a practical knowledge of the problems confronting them, and the manner in which they could be surmounted, were bold enough to suggest irrigation as the one practical method of successfully farming the semi-arid regions of Southern Alberta. Their enthusiasm and sane logic confirmed others, capital was attracted, and thus we have the splendid results which today can be seen throughout the West.

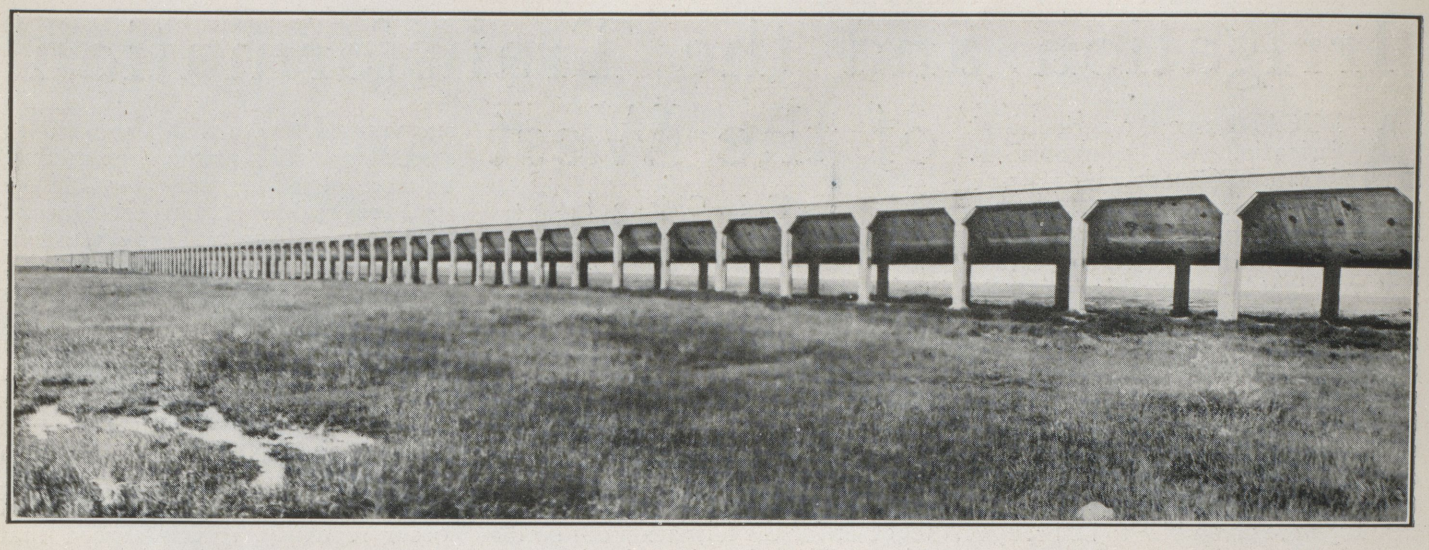
The general opposition to irrigation in Western Canada when the subject was first mooted would appear to have arisen from the belief that such a system was not necessary there. Because conditions of drought did not occur regularly, it was argued that there was not the same urgency for irrigation as in less fortunately situated countries, where the rainfall is usually so small as to make agriculture practically impossible without irrigation.

The tract to be brought under irrigation was of a semi-arid nature, one experiencing in cycles, seasons of adequate and inadequate rainfall, thus securing paying crops in corresponding cycles. The superiority of crops grown on irrigated land over those raised on dry land in so-called wet years has since proven beyond argument the benefits of irrigation, even when the amount of rain which falls over the area is considered adequate for agricultural purposes.



Photograph, courtesy Canadian Pacific Railway

A comprehensive view of the headwater works of the Bow River irrigation scheme of the Canadian Pacific Railway, showing Calgary, Alberta, in the background



Photograph, courtesy Canadian Pacific Railway

The construction of the two-mile concrete aqueduct of the C. P. R. System near Brooks, in the eastern section of the project, was an engineering feat of some magnitude

The semi-arid portion of the provinces of Alberta and Saskatchewan stretches one hundred and sixty miles north of the United States' boundary, and from the Rocky Mountains in the West to the Cypress Hills in Saskatchewan in the east. All prominent American engineers after thoroughly investigating conditions were of the opinion that the rainfall was insufficient to follow farming profitably in that region, being unamimously of the opinion that irrigation was necessary to develop this area into an agricultural success. The government conducted the surveys, and it remained for someone, or some organization, with both foresight and large capital, to initiate the work.

As a great portion of this semi-arid area was adjacent to the main line of the Canadian Pacific Railway, the feasibility of the scheme was naturally of immense interest and, value to the company, so after securing the most expert advice it decided to undertake it.

The bringing into being of this gigantic project involved the utilization of the efforts and energies of an army of men, and though the success of the achievement of construction was assured because of the unlimited resources of the company behind it, there was, nevertheless, element of doubt among some in the ultimate issue.

For convenience in designation and development, the huge block is divided into three parts: the eastern, western, and central sections. The eastern section has an area of 1,156,224 acres, of which about 400,000 acres are irrigable; the western section comprises an area of 1,039,620 acres; the central section has not yet been fully developed as an irrigation project. The Eastern and Western sections are furnished with water diverted from the Bow River, a most admirable stream for this purpose as it depends for its repletion not upon rain, but is fed by the snows and glacial flows of the Rocky Mountains.

In the western section the first irrigation works are located at Calgary, where by means of concrete headgates water is admitted to the main canal. The eastern section presents some novel and titanic engineering features. To raise the level of the Bow River a necessary forty feet a huge dam, one of the largest on the American continent, has been constructed at Bassano, Alberta. This dam, of reinforced concrete, is 720 feet long between abutments with a maximum height of forty feet to the overflow crest, above which eleven feet of water are obtained by twenty-four electrically-operated sluice gates. This dam supplies water to a great artificial reservoir near Brooks, known as Lake Newell, which has an area of about twenty-five square miles and a storage capacity of 185,000 acre feet. A few miles from the lake the water is carried across a great depression in the prairie by means of a reinforced concrete aqueduct two miles long and at places fifty feet high. Both the Bassano dam and the Brooks aqueduct are among the most remarkable engineering feats of the continent.

A separate and distinct irrigation section is the Lethbridge Irrigation District, surrounding the hustling little city of Lethbridge, and containing about 45,000 acres of irrigable land. The water is drawn from the St. Mary River. The project was put on foot and developed by the Alberta Railway and Irrigation Company, being acquired by the Canadian Pacific Railway Company in 1912, by whom it is now administered.

The only private irrigation concern besides the Canadian Pacific Railway at present engaged in irrigating and colonizing land in the Prairie Provinces, is the Canada Land Irrigation Company, which owns a block of about half a million acres in extent, in Southern Alberta, southwest of Medicine Hat. This company came into being as the result of the amalgamation of three smaller irrigation companies. About 200,000 acres of this project are susceptible to irrigation. This land was secured from the Government in the first place under the Federal Irrigation Act, all school lands and Hudson's Bay sections being purchased.

Gradually the area under irrigation is being extended and settlement accomplished. Though active operations in inundating the land and putting settlers on the farms commenced only a few years ago, ten thousand acres are already irrigated and the greater part settled and productive. By this summer the company expects to have fifteen thousand acres inundated and ready for settlement.

The main project of the company surrounds the town of Vauxhall, about sixty-five miles directly west of Medicine Hat, which contains 94,000 acres, of which 50,000 acres are irrigable. Irrigation water is obtained from the Bow River and carried through two large reservoirs with capacities of 300,000 and 30,000 acre feet respectively. Land is divided for settlement into 80-acre and 160-acre units.

Photograph, courtesy Canadian Pacific Railway

A field under furrow irrigation

The success of agriculture on the irrigated lands of Southern Alberta is so self-evident as to be beyond argument. Experience has proven not only that Western Canadian irrigated land will produce excellent crops, when land farmed under ordinary conditions is a practical failure, but that in so called wet years, when sufficient moisture falls to ensure crops all over, irrigated lands, upon which the moisture applied can, to a great extent, be regulated as to amount and time, will produce in greater richness and abundance than adjacent dry-farming land. Thus in the years 1915 and 1916 which were unusually wet, Southern Alberta produced the best crops of all the prairie West.

The value of irrigated land in Southern Alberta has been proven more clearly and conclusively every year since the inauguration of the system, and irrigation has made this territory one of the richest farming areas on the American continent. The value of irrigation in crop production is well evidenced in the returns for the year 1920, where the Lethbridge Block, with approximately 80,000 acres under crop, produced a harvest worth some four million dollars, exceeding in its average yields the average production of the Dominion by a wide margin, the average for wheat in this block being 27 bushels to the acre against 14.5 bushels over the Dominion, and 15.5 bushels, the Dominion's average for the previous five years; the average for barley being 32 bushels to the acre, compared with 24.75 over the Dominion, and 24.5 the five-year average, and the average for oats being, 45 bushels to the acre compared to the Dominion's 33.5 bushels and its five-year average of 32 bushels. A producing acre of irrigated land in this district was worth $49.31 in revenue to its owner which, a figure which, very few sections of the Dominion growing the same crops could equal. Some acres sown to potatoes and garden crops averaged $750 to the acre. Alfalfa in cases returned $125 per acre; while wheat often exceeded a hundred dollars an acre.

Not only has Alberta irrigated land been found to surpass similar areas not inundated in the matter of production of cereals which have made the Prairie Provinces renowned, but it has been found possible to cultivate with success other crops, the production of which in other portions of the province is always considered problematical and for this reason seldom attempted. The irrigated districts are now one of the first alfalfa producing areas of the continent and in their yields of fodder corn have broadened the corn belt by hundreds of miles and introduced corn silage into the winter dietary of the dairy farms of Alberta. Fruits of many varieties and of a high lusciousness and flavor attain a surprising size here, while the cultivation of vegetables has agreeably astonished those farmers who have undertaken their growth on a commercial scale.

With the average yield of cereals showing such remarkable increases and such harvests being obtained from other crops not possible elsewhere, it is little wonder that farmers cultivating land in adjacent territories, are clamoring for irrigation. This insistent and widespread agitation moved the Dominion government to action, and it is instituting a thorough system of investigation into the feasibility of irrigating certain semi-arid tracts of land where crops are never assured. Seven survey parties spent the summer of 1921 in the fields in various parts of the province of Alberta, their work covering territory in the vicinity of Lethbridge, Medicine Hat, and Rocky Mountain House. The reports of these surveys indicated the practicability of certain irrigation districts, and many new

Photograph, courtesy Canadian Pacific Railway

Under irrigation wheat shows an increase yield of at least one-third

projects are now in course of construction or in contemplation.

One of the largest of these is the Lethbridge Southeastern, south and east of Lethbridge, embracing 511,000 acres. In what is described as the United Irrigation Scheme, three large projects are being developed, the United the Lone Rock, and the South MacLeod. The irrigable area of the first two will be 16,000 acres and 10,000 acres respectively, while that of the third has not yet been determined. The Lethbridge Northern project comprises 97,000 acres, whilst an extension of this is proposed to the north and east to be known as the Sundial. At Medicine Hat, investigation is being made into the possibility of irrigation from the Seven Persons' Creek and other sources in the neighborhood. The most ambitious project, perhaps, is the plan to obtain water from the North Saskatchewan river at Rocky Mountain House to irrigate a vast area extending roughly from the South Saskatchewan river to the North Saskatchewan, including territory in Eastern Alberta and Western Saskatchewan.

It will be seen that these projects cover a large portion of settled Southern Alberta and a slice of Southern Saskatchewan, stretching from the boundary between Alberta and the United States up to where the prairie leaves off and the parklands begin, and from the Rocky Mountains to well within the province of Saskatchewan.

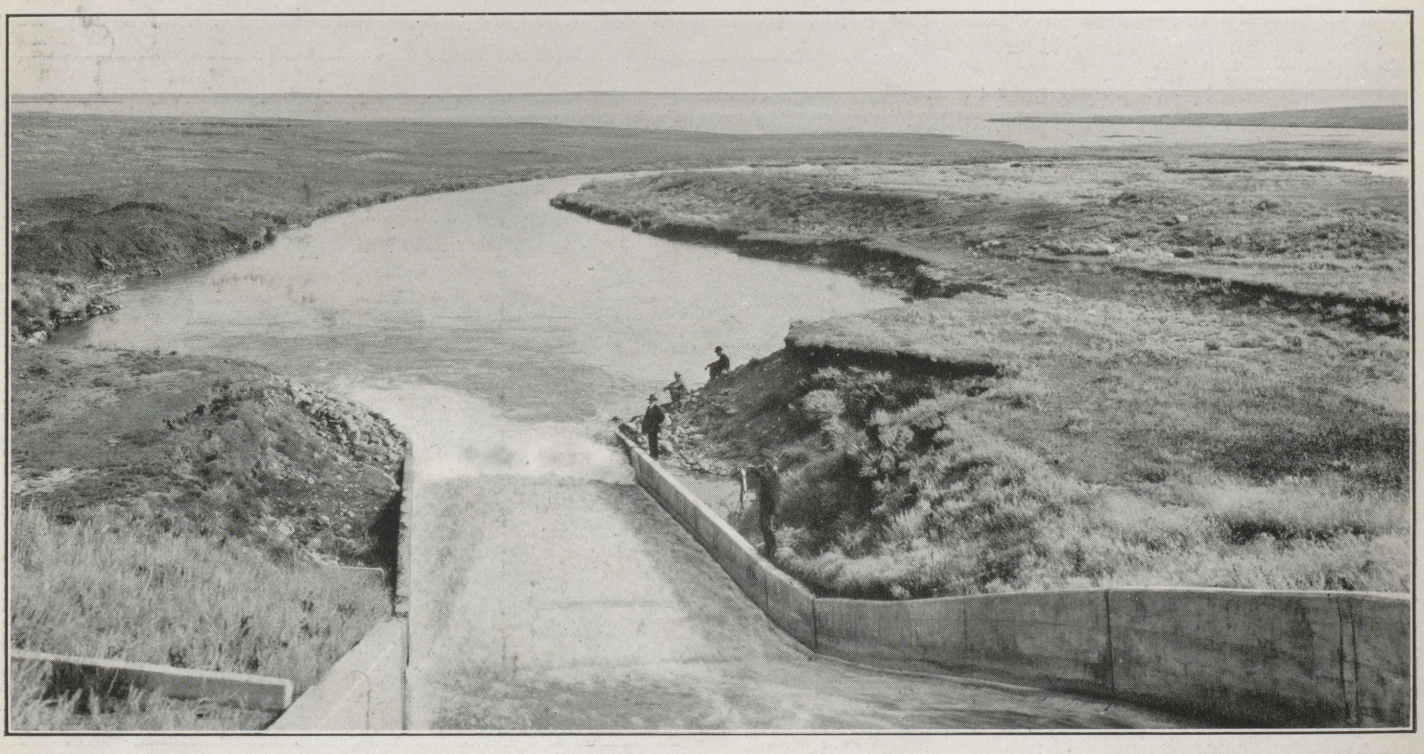
The favor with which irrigation is regarded now in the West and progress which follows such sentiment are not confined to the province of Alberta. Tales of record harvests travel rapidly and the tidings of achievements in Southern Alberta, travelling east and west, have caused farmers in Manitoba and British Columbia to emulate their friends. At the present time, in these last two provinces, widely separated, there are a number of projects varying in extent, under consideration or development.

Irrigation has for a long time been a very live issue in British Columbia and there is a wide appreciation of the especial benefits of this system as applied to fruit growing. Irrigation projects in this province are necessarily miniature in comparison with the gigantic enterprises of the Prairie Provinces, a considerable area of the land under irrigation having been inundated by private enterprise, though the Provincial Government has undertaken extensive irrigation works in the south end of the Okanagan Valley as well as having under consideration similar works elsewhere. In British Columbia farmers can form an irrigation district, subject to the approval of the Provincial Government, and the necessary money for the construction work can be obtained from the Conservation Fund, a depository which came into existence as an amendment to the Water Act, security for the loan being the farmer's own land.

The Okanagan Valley of British Columbia has made especial progress in irrigation, with several districts already formed, while the Osoyoos Irrigation District, containing 22,000 acres of some of the best fruit land in the country, is one of the largest schemes in the province. The largest irrigation in the Okanagan Valley is located at Vernon; at Kelowna there are the Black Mountain and the South East Kelowna districts, while there are districts also at Westbank, Peachland, Penticton, and Naramanta.

All of the projected irrigation projects in Alberta were formed under the Alberta Irrigation Districts Act, a measure of legislation conceived with an appreciation of the benefits of this method of farming to the province at large, and in order to satisfy the widespread demand for extensions to the works already in operation. The Government clearly realized that for the undertaking of ventures of such large proportions, and momentous consequence, supervision during the formative period was absolutely necessary, and that if they were to be successful the various projects must have its financial and moral support. According to the workings of the statute, a petition

(*Continued on page 43*)



Photograph, courtesy Canadian Pacific Railway

The irrigation spillway into Lake Newell, at the extreme eastern end of the project

A Cruise on the West Coast of Vancouver Island

By Donald A. Fraser

All Photographs courtesy Canadian Pacific Railway

CANADA has a Western seaboard on the Pacific of about six hundred miles, but half of this is protected by the Island of Vancouver, which parallels it for 285 miles like a huge breakwater, receiving all the force of the ocean breakers, and rendering the harbors and sounds of the intervening waterway calm as and safe as millponds. Nature has indented it with innumerable inlets, and furnished it with a liberal supply of outlying islands, which, in their turn, are as prolifically indented as the mainland itself. Allowing, then, for these sinuosities of the shore, British Columbia's, or Canada's, real length of coastline must be at least ten times its apparent length.

These long, narrow, winding waterways resemble the fjords of Norway, or the firths of Scotland, but are known on the coast of British Columbia under the various names of inlets, sounds, channels, arms, harbors, and canals—a feature of the coastline north of the 49th parallel which distinguishes it from the coastline south of that famous imaginary line; for the Western Coast of the United States has only about three respectable harbors in all its 1,300 miles of sea-frontage.

In common with the rest of the British Columbia coast, the principal feature of Vancouver Island's western coast is the number and variety of its inlets and detached islets. The coastline, as a whole, when viewed from the sea is not particularly attractive, being just a succession of hills, covered with a dense mantle of dark-green coniferous trees, with here and there a backing of taller, snow-clad summits; while along the water-rim runs a succession of clay cliffs or ragged rocks which show their white teeth when snarling at the attacking rollers. But in among the waterways that pierce the heart of the island, or wind between its shores and flanking islets, there the beauty is seen; there the charm seizes on one, and the rocks, seas, trees, and skies seem to vie with each other in producing ever-varying pictures for the entrancement of the delighted beholder.

The West Coast of Vancouver Island is not only a scenic wonderland, but it is also a spot of great historic interest, for it is here that Northwest American history began. First came the Spanish navigator, Juan Perez, in 1774. Then the world-famous Captain Cook, while on his final tragic voyage, spent a month in Nootka Sound in 1778. There, also, the industrious chart-making Captain Vancouver, and the gallant Spaniard Quadra met in 1792 in the effort to make a settlement of the dispute

Cameron Lake is one of the many beauty spots in the interior of Vancouver Island

The salmon canneries of Vancouver Island are among the most modern on the Pacific Coast

between their respective countries over the ownership of this very coast. Besides these, consider the vast number of explorers and fur-traders from the countries mentioned, and from Russia, France, and America as well, who came in their daring ships in search of fame and furs; many of them to experience thrilling adventures, and many to find watery graves, or a dreadful death at the hands of fierce savages. Many indeed are the stories of romantic and absorbing interest that could be told, which have for their background some strand or inlet of this rugged coast.

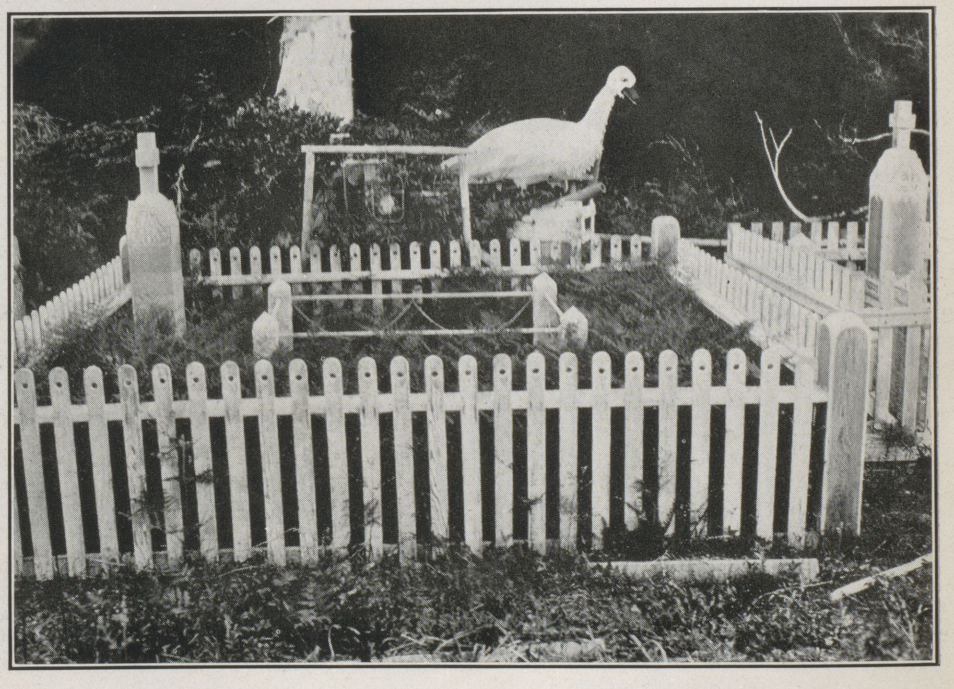
The West Coast of Vancouver Island is best reached by boat from Victoria, and for most of the coast it is the only way; unless one possesses independent means of locomotion. The Canadian Pacific coasting steamer, "Princess Maquinna," makes trips three times a month along the whole coast from Victoria, around the south end to Quatsino Sound, near the northern extremity. The return trip occupies about a week.

Victoria, the capital of British Columbia, is situated about twelve miles from the south end of the island, but on its eastern side, so to reach the west coast it is necessary to round the south end of the island known as Rocky Point. Off this lies a group of rocks with a lighthouse called Race Rocks. These form Canada's most southerly point on the west, as they are about 48 miles south of the 49th parallel. Once around this southern point and we are on the west coast of Vancouver Island, and our steamer is ploughing the waters of Juan de Fuca Strait towards the Pacific Ocean thirty miles distant.

What a magnificent sheet of water this strait is! On the north are the dark rolling ranges of Vancouver's fir-clad hills; on the south, the blue Olympics of Washington State raise their snowy summits into the heavens. In front, and all around, the clear, green foam-crested billows of the straits gleam in the golden August sunshine, and stretch away out till they are lost to the eye in the misty distances of the mighty ocean—a fitting portal for two such great countries as Canada and the United States, who share it equally.

Juan de Fuca strait receives its name from an old Greek navigator, Apostolos Valerianos, but who sailed in the service of Spain under the name of Juan de Fuca. This navigator told Michael Lok in Venice, that in 1592 he sailed into a strait between the 47th and 48th parallels of North Latitude, on the West Coast of North America. Said Lok then wrote a note to the celebrated Hakluyt, telling him of the old navigator's yarn. Samuel Purchas evidently found it among Hakluyt's papers, and published it in his famous "Pilgrimes." The bluff old sea-dog did sail into this strait, I suppose, but he told a big whopper when he said it was more than thirty leagues wide at the mouth, for the distance is not more than eighteen miles.

The first eighty miles of the coast contain only two openings of any size, Sooke Harbour, and Port San Juan. Near the entrance to the first are situated a number of salmon traps. The great shoals of this succulent fish on their way in from the ocean to spawn in the fresh waters of the rivers, skirt this shore, and the traps, being built right out in their path, sometimes make large hauls. It is quite a sight to see a trap "lifted." From twenty to forty thousand fish at one lift is quite common. Being so near the ocean, the fish are in prime condition when caught. The fish are shipped in scows to canneries at



A typical Indian cemetery on the West Coast of Vancouver Island

A Canadian Pacific steamer discharging passengers and freight at one of the many wayside ports

Sooke, and on the Fraser River. Splendid trolling for this excellent fish can be indulged in off these shores, too, in the running season, during July and August. Salmon, ranging in size from five-pound cohoes to sixty-pound springs, rewarding the patience of the angler.

Sooke Harbour is a land-locked sheet of water about five miles in length, surrounded by some good farming land, all taken up, but not by any means all worked. Here the first bona-fide farm in British Columbia was started in 1849; that is, a farm owned by a free settler, having nothing to do with the Hudsons Bay Company. This farm was created by a Captain William Grant, a young Scotch army officer who took up land here in the year mentioned. Later, Sooke had a gold excitement, when that precious metal was discovered in the Leech River in 1868. The Leech is a sub-tributary of Sooke Harbor. Gold to the value of a hundred thousand dollars was taken out in three months. It is still found in it. I, myself, saw a solitary miner cradling for the yellow grains there a couple of years ago. Sooke appears on the early Spanish maps as Porto Revillagigedo.

Between Sooke and the next harbour on the coast, Porto San Juan, there is a stretch of twenty miles of shoreline, gradually rising into hills of two or three thousand feet, and clad with a thick growth of timber. These trees are principally Douglas Fir, Menzies Spruce, Red Cedar, and Western Hemlock. Here and there are great bare patches, showing where the lumber-jack has been at work. Then, again, there are patches of tall dead trunks, where forest fires have destroyed thousands of dollars worth of splendid trees. Other trees growing in this neighborhood in more open locations are the large-leafed Maple, the Alder, and the Arbutus, or Madrona. The latter is a most artistic-looking tree, with its odd shape, glossy green leaves, and smooth red bark.

Port San Juan is a wide-mouthed, oblong bay, extending five miles inland. Its settlement is called Port Renfrew. A wharf, a large abandoned salmon cannery, a hotel, and a new saw-mill form, perhaps, the nucleus of some town of the future. There are agricultural and mining possibilities in the surrounding country, which should do something towards that end when more fully developed. The name of the harbor is a relic of the eighteenth century Spanish occupation.

Twenty miles farther on, the steamer anchors off the Indian village of Clo-oose, and freight and passengers are transferred by means of small boats and Indian canoes. In choppy weather this is an interesting performance for the onlooker. In really rough weather, no attempt is made. Near here is a splendid sandy beach called Clovelly, which some day should be a famous bathing resort.

We are now quite out of the Straits of Fuca, and on the swelling waves of the great Pacific. Four thousand miles of rolling water separate us from Japan, while at a different angle, six thousand separate us from Australia. Some puddle, this Pacific! It is a kind of friend to this coast, however; for it sends its warmest currents and mildest breezes swirling around this way, keeping the harbours free from ice in winter, and making the air balmy and spring-like, when paralleling latitudes on the East Coast of the continent are confined in cold storage.

And now the steamer approaches the largest of the West Coast inlets, Barkley Sound, and in entering it we round Cape Beale. The water is usually rough here, and some pas-

A view of the copper mine at Sidney Inlet

A Totem Pole

sengers hastily depart below, while others offer an enforced oblation to Neptune. The lighthouse on this point has telephone connection with Victoria, and acts as outpost and sentinel for outgoing and incoming commerce, as Tatoosh Island Lighthouse to the south of the Straits does for the United States.

Barkley Sound was entered and named by Captain William Barkley of the "Imperial Eagle," a British trading ship of 400 tons and 20 guns, in the year 1787. He had his wife with him, a young bride of seventeen years. She had thus the honor of being the first white woman to visit these shores. This brave young lady kept a diary of her voyage, and it is interesting reading for those who like delving into the records of those early days.

The Sound is fifteen miles wide at its mouth, but about twelve miles in it contracts to a narrow channel varying from half a mile to two miles in width, which penetrates the island for twenty miles farther, where its head comes within fourteen miles of the eastern side. This narrow water way is known as Alberni Canal.

Just inside the mouth of Barkley Sound, on a little side creek called Bamfield Creek, is the Pacific Cable Station. From here runs the longest stretch of ocean cable in the world. From that towered frame building on the high bank, that looks like a summer hotel, runs a wire with its "thunderless lightnings smiting under the seas," away out to Fanning Island in mid-Pacific, and from there another stretch to Sydney, Australia, a matter of six thousand miles or so.

Opposite the Cable Station, on the same creek, is the Dominion Government Lifeboat Station. Many tragic wrecks have taken place on this coast; indeed it has earned the name of "The Graveyard of the Pacific," and so this station has been established to render assistance to vessels in distress.

The wide mouth of Barkley Sound is liberally sprinkled with islands, and the sail through them is reminiscent of the Thousand Islands of the St. Lawrence; but the blue ocean water, and the fresh ocean breeze with its salty tang makes a marked difference in the effect.

At the far end of Alberni Canal stands Port Alberni, the chief town of the West Coast. It is a promising little place, with some good business blocks, a post office with a clock tower, mills of one kind and another, and railway communication with the East Coast of the Island. Inland lies the beautiful Alberni Valley, a a rich farming region twenty miles long and five wide. This is one of Vancouver Island's beauty spots. Settlement was begun here in 1862.

There are two large salmon canneries on Barkley Sound, one at Kildonan on Uchucklesit Harbor on the north, and the other at San Mateo on the south. Here the silver-scaled salmon are turned into canned dinners, or preserved in cold storage to be shipped off to appease the hunger of the swarming denizens of Montreal, Chicago, or New York. There is also a whaling station at Sechart, at present closed. Herring are caught in these waters in great quantities at times.

Before leaving Barkley Sound the steamer pays a visit to Ucluelet Harbor, a narrow inlet running in about five miles, on the north side, and just inside the entrance of the Sound. The place is noted for its herring. A number of people have settled around its shores, and as there is some level land in the locality, some day it may be quite a farming community. Level land, I might remark in passing, is a scarce article on the West Coast of Vancouver Island. There is one old Scotchman of the same distinguished patronymic as myself, who has made a success in the cultivation of Scotch heather. His

Vancouver Island boasts a myriad of lighthouses such as this

product has often been sold on the streets of Victoria, where it is eagerly purchased by Auld Scotia's loyal sons and daughters.

Coming out of Ucluelet Harbor, we round Amphitrite Point, with its tiny little lighthouse, and are once more out on the Pacific. We skirt the shore for another twenty miles before we come to the next opening, Clayoquot Sound.

Clayoquot Sound has several entrances separated by islands. Our steamer takes the southern or Templar Channel entrance, passing Leonard Island with its lighthouse on the left. Just inside the entrance is a small island with an Indian village on its shore. A very insignificant-looking place indeed, but it was the scene of a terrible tragedy over a hundred years ago, and on that account memorable.

John Jacob Astor, in 1812, sent out the good ship "Tonquin" from New York laden with men and means to found a trading-post at the mouth of the Columbia River. There they proceeded, and founded the city of Astoria. Captain Thorne, of the "Tonquin," had instructions to the effect that when the Astoria party were landed and securely established, he was to go north to the Vancouver Island Coast, and trade with the Indians for furs. Acting according to instructions, he entered this beautiful inlet and anchored before this village. Captain Thorne, a bluff, honest, but highly irascible old sea-dog, had never dealt with Indians before, and when they came aboard to trade, and began demanding exorbitant prices for their furs, he became so incensed that he threw the skin that one chief was endeavoring to barter with him into his face, and kicked him over the side of the ship. This was an indignity that no Indian chief of those days would endure. All the Indians left the ship in great wrath. Next day they returned as if nothing had happened, and asked leave to trade. The captain took no notice of the fact that they all wore long cloaks, and he would not listen to the warnings of some of the more experienced members of his crew, but everyone of the Indians had a knife concealed beneath his garment, and had come prepared to do desperate deeds. When the trading had proceeded briskly for some time, each Indian suddenly sprang on his man, killed him, or threw him overboard. Captain Thorne fought bravely, but was overpowered and slain. Several of the crew managed to get below and secure guns, and opening fire from the companionway, soon cleared the decks of their savage foes, who returned to their canoes and to their village, gloating over their bloody victory. Five members of the crew survived, but one, Lewis, was in a dying condition. The other four, thinking it impossible to work the ship out of the bay, owing to the wind, resolved to try to escape in a small boat down the coast to the Columbia River. Lewis refused to accompany them, being resolved on a terrible revenge. The others left in the boat, but were forced to land before they had gone very far, and were captured by the Indians, and tortured to death. The only man left on the ship, then, was Lewis, and he was in a dying condition. Next day the Indians came prowling around in their canoes, seeking to plunder the ship if possible. Lewis made signs to them to come aboard, and when they began to gather on the deck he slipped below. It was not long before the ship was thronged with half-naked savages looting to their hearts' content, when, suddenly a terrific explosion occurred, blowing the ship and its dusky plun-

A typical Indian fishing village, showing totem poles

The whaling station at Cachalot, on Kyuquot Sound

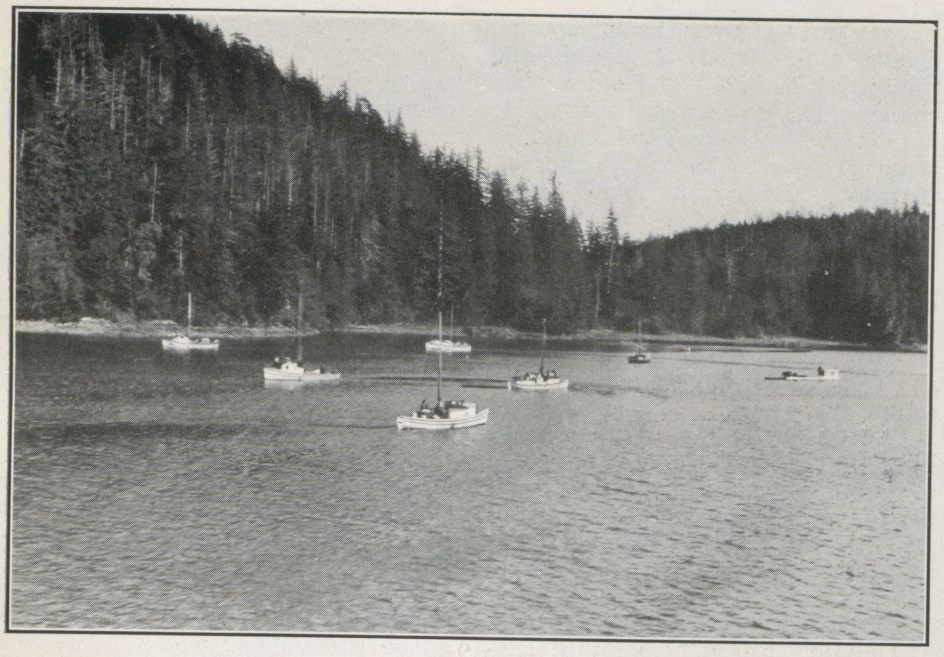
derers into the air, and sprinkling the waters with their mangled remains. Lewis had fired the powder magazine, thus more than avenging the cruel massacre of his shipmates, and the only survivor of the expedition left to tell the tale was the Indian interpreter that they had taken from Astoria.

Farther in, the steamer stops at the little settlement of Tofino, situated on a peninsula on the south side of the Sound. What a lovely view is to be obtained at this point of our journey. High, blue mountains, presenting a greatly varied sky-line, deep blue water, with stretches of sandy beach here and there, gleaming almost white in the golden sunshine. Facing Tofino is an island of the same name as the Sound, Clayoquot. It boasts a wharf, hotel, store, several houses, and a fine sand spit and beach, which if it were nearer a centre of population would be crowded with delighted bathers. The Sound has several large branches, among them Tofino Inlet and Bedwell Sound, and many islands, the two most important being Meares Island and Vargas Island.

Clayoquot Sound was known to the early fur-traders as Port Cox. The American captain, Gray, the discoverer of the Columbia River, had a narrow escape from a similar fate to that of the captain of the "Tonquin." He was in this Sound in 1792 in his ship the "Columbia," when the chief, Wicananish, the same warrior, evidently, who later perpetrated the other outrage, planned to massacre captain and crew after bribing a Sandwich Islander to wet the priming of the guns. The plot, however, was discovered in time, and averted.

From Tofino north, the steamer travels through sheltered passages for about forty miles. These are the winding channels of Clayoquot Sound, sheltered from the ocean by Vargas and Flores Islands. Through Deception Channel, Hecate Pass, North Arm, Rocky Pass, and Shelter Arm, we pass into Sidney Inlet. At Kakawis, on Meares Island, the steamer stops, and goods are put ashore by means of a small boat, managed by an Indian, for a large Roman Catholic Mission School. A little farther on, near the Indian village of Ahousat, she is stopped again to unload some freight. This time, quite a fleet of small boats and canoes, and a trim little gasoline launch, take a share in the work, the Presbyterian missionary piling in with the rest. The Indians all along the coast are rapidly becoming Christianized, as there are several Protestant and Roman Catholic Missions laboring for their conversion, with more or less success. The Coast Indian, while not so picturesque an individual as his brother of the plains, is more independent and dependable. He is a good worker, and makes good money, and is not stingy with it when he has made it. He works for canneries, sawmills, in the whaling and fishing industries, and at berry and hop picking, etc., travelling to and from his various places of labor, or returning to his home village in his canoe, or by means of the coasting steamers. Many a load of Indians has the "Maquinna" carried up and down this coast on her lower deck, with all their household appurtenances accompanying. These Indians differ from their plains brothers in appearance as well as in character. While the Indian of the plains is tall, angular, and sinewy, the Coast Indian is short, fat, and bow-legged. The sea has provided him with his food close to his door. All he has to do is to squat in his canoe, and paddle after it. His arms, therefore, became more developed than his legs. The white

Lumbering is one of the chief industries of the Island



A fleet of fishing boats off Clayoquot Island

man's liquor and the white man's diseases are his worst foes.

At the head of Sidney Inlet the "Maquinna" stops at the wharf of a copper mine. The mine is situated some seven hundred and fifty feet up on the slope of the hillside, and the ore is lowered to bunkers on the wharf by aerial tram.

Coming out of Sidney Inlet, the "Maquinna" has another ten miles of ocean coast to skirt, stopping, however, for a short time off the Indian village of Hesquiat, at the mouth of Hesquiat Harbor. It was here, in 1874, that Christian Missions were first started among the Indians, when Father Brabant established his first Roman Catholic station. Here he was shot and nearly killed by one of the men he was trying to convert, but he lived to see the work prosper, and many of the natives brought into the fold of the Church he loved so well.

Now our steamer rounds Estevan Point, with its lighthouse and wireless station, and approaches the most interesting part of West Coast, for she is now plowing the waters which Captain Cook's two ships, "Resolution" and "Discovery," found themselves in one March morning in the year 1778, when after several days' stormy weather, out of the mist arose the fir-clad hills and snow-tipped peaks that surround Nootka Sound. Here four years previously, the Spanish navigator, Juan Perez, had anchored his corvette, the "Santiago," and called this curving bay, Porto San Lorenzo, although he did not enter the sound as a sudden storm forced him to put to sea again. Cook, more fortunate, however, noticed an opening and entered. He was welcomed by the dignified chief Maquinna, the chief ruler of the aborigines of the district, whose village, because of his attitude, was afterwards known as Friendly Cove. Cook put into the Sound, and anchored in a cove on the shore of Bligh Island, which occupies about half of the main sound, and spent a month, repairing his ships, exploring, and trading with the Indians. This was the beginning of the fur trade on this coast, as the skins secured from the natives were sold by the officers and crews of the ships on their homeward voyage at Canton, at such fabulous prices that the attention of the trading world was at once attracted to this part of the Northwest Coast of America.

Nootka Sound runs inland in a northeasterly direction for ten miles, when it branches off into three arms, one to the east called Muchalat Arm, twenty-three miles in length; one continuing on from the main channel in a northeast direction for ten miles, called Tlupana Arm, and the other going north for eighteen miles, known as the Tahsis Canal.

The Indian village of Friendly Cove is situated just inside the entrance to Nootka Sound on its north side. There is no wharf there, so the steamer proceeds three miles further up to the Nootka Cannery wharf. All the passengers are eager to pay a visit to the cove, so the captain secures a small tug and takes everyone who wants to see the historical spot, while his steamer is discharging her freight at the cannery. The cove itself is a beautiful little bay, with a fine sandy beach, on the Southern end of Nootka Island, which forms the northern shore of Nootka Sound. The island is the largest that fringes the coast, being twenty miles long, and eighteen broad. In this cove, where our little tug comes to anchor, ships of many nations, on errands of war or peace, have cast their anchors. Spanish, English, French, and American flags have floated over these waters. Here in 1788 came Captain Meares with his ships "Felice" and "Iphigenia" from Macao, to get a share of the fine furs that were making others rich.

Japanese fishing boats are increasing in number each year

Chief Maquinna gave him a little cove not far distant, where one can see the little Catholic church and presbytery, and there he built a storehouse, and on the beach in front of it he constructed the first ship ever built on the northwest American coast, and fittingly named it the "Northwest America". Next year, along came the lordly Spaniard, Don Estevan Jose Martinez, highly indignant that what he claimed as his Catholic Majesty's domains, having been poached on in this way, and he proceeded to confiscate the property of the Englishman. Meares would not stand for this sort of thing, and he addressed an elaborate memorial to his paternal government, which took up cudgels on his behalf, and Spain and Britain found themselves face to face, with daggers drawn. At last, however, Spain realized that it was useless to oppose the English, and she backed down gracefully. Captain George Vancouver, on behalf of Britain, and Don Juan Francisco de la Bodega y Quadra on behalf of Spain met here in 1792 to formally effect the transfer of the place to Britain; but the instructions of each emissary not coinciding, they could not complete their commissions.

They sailed away from Nootka, Quadra to die shortly afterwards, and Vancouver to spend two more years charting the Northwest Coast. He put into Nootka several times in those two years, but no further instructions arriving, he finally sailed for home in 1794. The formal session of the coast to Britain took place in the same year, Lieutenant Pearce and Brigadier General Don Jose Manuel Alava being the officiating parties. Spain's flag came down, and the Union Jack has waved over the sound ever since.

In 1806, old Chief Maquinna made himself more famous, when in return for some fancied indignity, he, with his followers, massacred the crew of the American ship "Boston", two members only, escaping. They were John Jewett, a young twenty-year-old Englishman, and an older man, Thompson. These he kept in captivity here two years, and though kindly treated in a way, they were made to assume the position of slaves to the chief. They escaped at last on another American ship, the "Lydia". Jewett afterwards published a narrative of his adventures, which became very popular.

The present village consists of a row of barn-like frame houses, facing the shore. Several of these houses are very large, as they are the homes of more than one family; more like community houses, in fact. Two of them have tall totem poles standing in front of them, grotesquely carved with figures of birds, beasts, and men in strange commixture. Back of the village and facing a fine strip of beach, and the entrance to the sound, is a grave-yard where "the rude forefathers of the hamlet sleep". The graves are badly overgrown with wild bushes and other shrubs, and are ornamented with various objects that have been the possessions of the sleepers below. Although nominally Christian, the Indian clings with great tenacity to some of his tribal customs and superstitions.

There is a curious opening in the shoreline about a mile and a half above the village, which bears the ominous name of Boca del Inferno, or Mouth of Hell. This opening is very narrow, and not noticeable till it is closely approached, but it leads into a small bay or lagoon. With the rise and fall of the tide, the water runs swiftly in or out, forming a reversible rapid. The name survives from the Spanish occupation.

It is such scenes as these that lend such a latent charm to Vancouver Island

The chief industry of Nootka Sound is that of salmon canning and curing. The cannery is a large one, and employs mostly Indians. The process of canning is most interesting to watch, but not in the least appetizing. The fishing boats are usually small gasoline launches, with a mast, and they go miles out into the open ocean after the salmon, catching them by trolling. On each side of the mast is a long pole, which is let down when desired, over the water. At the end of the pole is a small bell, and from the pole trails the baited line. When a fish is caught, its struggles agitate the pole and ring the bell. The fish you see thus announces its own capture, and is promptly hauled in. Other fish besides salmon are caught in these waters, cod, halibut and pilchards, among others.

During the fishing season, more Indians are to be found at the cannery than at Friendly Cove, or the other nearby reserves. They live in rather wretched little shacks in the rear of the cannery buildings, but when a steamer arrives with its load of curious tourists, out of these unlovely dwellings are brought some of the most beautifully woven baskets and mats, and a brisk trade is carried on till the steamer's whistle blows.

The scenery around Nootka is very charming. There is greater variety in the mountain outlines than in some of the other inlets, and the tinting of the distances, in all shades of blue, gray and purple is beautiful in the extreme. The view up the Tlupana arm from the cannery wharf is particularly pretty. One sharp-pointed cone, called Conuma Peak, catches the eye by its steeple-like shape. It is nearly five thousand feet high. Down the Muchalat arm are many fine views, particularly when the water is calm, and every tree, rock, and snowy peak is duplicated in its mirroring bosom. In this arm is a valuable deposit of marble, at present unworked.

Leaving Nootka Sound, the steamer sails up the northern arm called the Tahsis Canal, through Tahsis Narrows and Hecate Channel, and so into Esperanza Inlet, a total distance of forty miles, before it again comes out into the Pacific. These channels separate Nootka Island from Vancouver Island, and are all beautifully calm waters, but the scenery is somewhat monotonous, being an eternal succession of densely-timbered hills.

The next stopping-place of the "Maquinna" is in Kyuquot Sound, and we smell it before we see it; for it is the whaling station at Cachalot. Of all the unholy odors I ever smelt this is the most profane. A huge cloud of black smoke is first observed, and then suddenly everybody is holding his nose. The nose cannot be held for ever, so the individual makes up his mind to breathe, even if he die in the attempt. No death occurring, he defies the smell, and on the steamer tying up at the wharf, he marches boldly down the gang-plank to inspect the works.

Steam whaling boats cruise off the coast, and when a catch is secured, the carcase is inflated so that it won't sink, and then it is towed into the station, run up on a slip, and soon cut up and disposed of. The poor cetacean, which a few hours before cavorted so gaily among the great waves of the Pacific, now rests diffused among sundry barrels of oil, sacks of fertilizer, and tins of canned whalemeat, to say nothing of the diabolical odor aforementioned, spread over so many miles of sea and land.

Coming out of Kyuquot Sound, the steamer passes through a small archipelago of rocky islands, of many curious shapes. The huge swells of the ocean tear themselves to rags of foam on the rugged reefs, presenting an ever-changing panorama of delightful seascapes. The skyline of the mountains on shore is very jagged, the peaks standing up like the teeth of some gigantic cross-cut saw.

Just north of this, there stretches out from the general coastline, a peninsula five miles broad, and ten miles long, called the Brooke Peninsula. Its tip is called Cape Cook. To round this, the steamer's course takes its farthest bend out into the Pacific. As we doubled this peninsula, the sun was setting, a great red ball of fire, into a thick purple-black belt of mists on the distant horizon. The clouds flared with a wealth of golden glory, enhanced with great splashes of crimson, and ruby and amethyst flames leaping up the sky and overflowing the glistening waves and the purple mountains. It seemed as though the Great High Priest of all nature was offering an evening sacrifice for the atonement of the adoring world. A more thrilling sunset I do not think I ever witnessed.

From the south end of the island up to this peninsula, the Indian tribes met with belong to the division known as the Nootkan Stock; but from here to the north end of the island, they belong to quite a different class, known as the Kwakiutl. Language, customs to some extent, and appearance differ. The Kwakiutl resemble more the tribes of the mainland of British Columbia.

Quatsino Sound is the last of the great inlets of the west coast of Vancouver Island, and a magnificent body of water it is. It runs straight in for a distance of thirty miles, throwing out one twenty-mile arm to the west, and another fifteen-mile arm to the southeast. The head of the sound is only seven miles from the other side of the island. There is a trail across from the Sound to Port Hardy on the other side, and persons can walk across and catch coasting steamers, and travel down the east coast, thus making a circumnavigation of the island.

This inlet has quite a different appearance to the others, because the surrounding country is flatter. From here to the north end of the island, a distance of thirty miles, there are no very high mountains, but the land slopes down till it disappears beneath the sea at Cape Scott, the northern extremity. This district ought some time to support quite a large population, as there is a quantity of good farming land available. There are settlers scattered here and there, and at Holberg, at the extremity of the West Arm, is a flourishing settlement of Norwegians.

Where the Southeast Arm branches off, is the small town of Quatsino, and near the end of the same arm is the great pulp mill of Port Alice. It is quite a little town, made up entirely of the mill buildings, and the employees' cottages, etc. It is a very interesting sight to see the great spruce and hemlock logs being drawn up into one side of the mill, and coming out at the other end in huge oblong packages of snow-white paper.

This is the "Maquinna's" ultimate point of call, and so, after loading on many tons of the mill's product, she retraces her way to Victoria, occupying about the same time in doing it.

From Quatsino Sound to the end of the island coast there are only two more inlets of any size.

While, historically, this west coast of Vancouver Island is a land of the past, commercially it is a land of the future. Its possibilities have only been scratched. Fish, timber, and minerals are its great staples that can be counted on to produce wealth; but its exceptionally mild climate, its scenic attractiveness, and the fertility of its available soil are the extremely potential elements to its future prosperity. Vancouver Island is indeed one of Canada's coming regions.

Photograph, courtesy Exhibits & Publicity Bureau, Department of Trade & Commerce

Bow Falls, near Banff, the great resort of the Canadian Pacific Railway in Alberta, is a famous stream for trout

The "Manoir Richelieu," one of the chief summer hotels in Canada, has a magnificent situation, commanding the St. Lawrence, near Murray Bay, Que.

ON LAKE AND STREAM IN CANADA

The Canadian Mountain Trout

By Robert Page Lincoln

IN THE early days before the white man got to tampering with the fish question there were no black spotted trout east of the Rocky mountains; and the black spotted trout of the west being the only true trout found on the North American continent, it goes that there were no true trout in the eastern half. But, it will be stated, the speckled brook trout were found by the millions, in the streams of the east; how about that? It is then that the scientific man will get in his licks by making the statement that the so-called brook trout is not a trout at all but is a charr,—and there you have it. This is not to say that the charr is crowded out of prominence by the black spotted trout, merely that they are different, of different species. The truth of the matter is that the charr or speckled brook "trout" takes leadership amongst all of the fishes of this continent; it is not only gamey, but it is the most beautifully colored of them all, for long the apple in the eye of the poet, writer, and artist. Even today, when the brook trout is speedily passing, and it should be watched and preserved, men write about the joy of angling for it in its haunts; the brilliance of its coloration; this and many other things, and if any other trout is held as being a greater fighter than the brook trout or even more beautiful, at once the defenders will rise as one to smite the antagonist and lift the banner *Salvelinus fontinalis* on high that all men may see and doubt no more.

It has been remarked that in a native state the black spotted trout were not found west of the Rocky

Such trout streams as this are to be found in many parts of Canada

Photograph by Robert Page Lincoln

It is in such streams as these that the land-locked salmon is found at his best

Mountains; but in the present day they are found all over the country, for the very reason that they have been transplanted, propagated and planted here, there, and everywhere, so, that, now the black spotted trout are found in most waters that once were speckled brook trout waters solely. At the same time it may be said that as the black spotted trout come on the native charrs, or brook trout, vanish, which has led many to believe that the true trout are the destroyers of the native charrs, which may or may not be the truth. The fact of the matter is that the native brook trout are fast disappearing, and unless they are carefully watched and preserved in the future they will soon be a thing of the past.

The black spotted trout are the true trout, and they belong to the genus *Salmo*, coming from the salmon family. Where did they spring from in the beginning? It has been contended that these true trout in the beginning came from Asia to America; that the original birthplace was perhaps not more than a thousand miles from the Baltic Sea; but that since the time of their birth they have entered the streams and rivers of the greater part of Northern Europe, Siberia, Alaska and all of the Rocky Mountain region from the far north down to the South. And, as one writer has it, they are found "from Scotland to Chihuahua from Montana to the Pyrenees", and give the angler the time of his life capturing them in their haunts. However, it is also held that our black spotted (true trout) did not come from Asia at all, but were originated and diffused from specimens in North American waters. In just this strain writes Dr. William Converse Kendall, Scientific Assistant, U. S. Bureau of Fisheries, (1920 Proceedings of the American Fisheries Society), in which he says: "If the trout originated in fjords and mossy brooks on the flanks of European glacial mountains, as Jordan once wrote, what was the incentive for wandering to remote seas? It seems to me that the present distribution into fresh waters, far inland, must have been due to some cause other than aimless wandering from one stream to another and that it must have been in conformity to some natural law. There is no known European or Asiatic trout closely related to the small scaled forms of the Pacific coast of North America. There are trout on the other side of the ocean from Kamchatka to Formosa which are more nearly related to the coarser scaled forms. *Salmo-mykiss*, of Kamchatka, has 138 scales and the *Salmo* of Formosa 130, according to Jordan. As Jordan now says, *Salmo-mykiss* is more like the American steelhead. It would therefore seem that the trouts of America were native Americans."

In regard to the so-called cut throat or red throat trout (*Salmo clarkii*) Jordan holds that it "was born in Alaska and has worked its way southward as far as Eel River in California." It is held by some that all other forms of the black spotted trout in America sprang from this specie, which, as the saying goes, has probably more truth than poetry to it. In some of these trout (as for instance the rainbow trout and the steelhead trout), the difference between the two is generally very slight indeed and has led many to make the statement that the steelhead and the rainbow trout are one and the same fish. Indeed many authorities are now given to classing the two as one and the same. Others, however, cleave to the old beliefs. In a letter written to me, H. F. Moore, Deputy

Photograph, courtesy Grand Trunk Railway System

The Seven Mile Narrows of the Georgian Bay District

Photograph, courtesy Canadian Pacific Railway

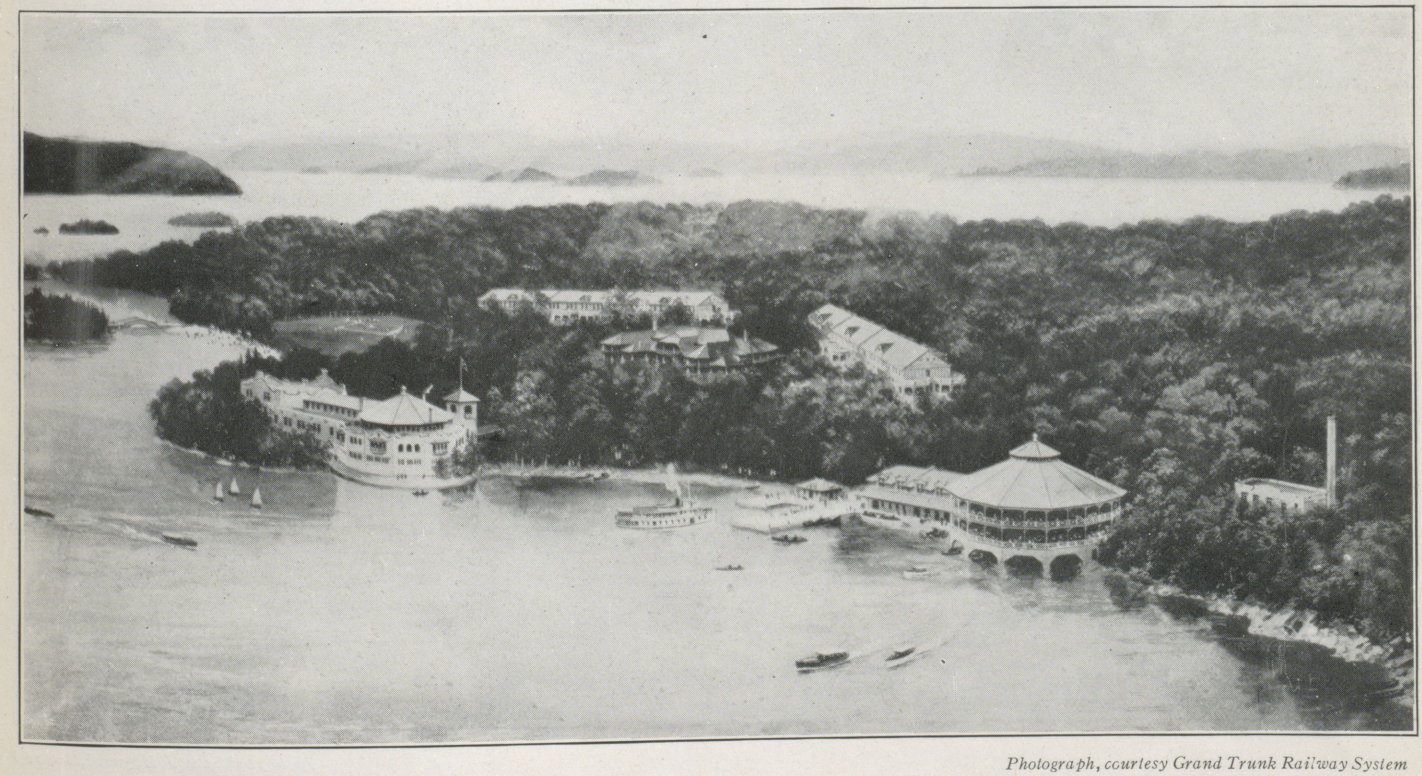
A Western Canada trout stream

U. S. Fish Commissioner, makes the statement that: "It is quite likely true that *Salmo irideus* and the steelhead are, taxonomically, at least one and the same species. It is, however, absolutely true that the first trout propagated at the McCloud Station in California was a distinct species from *Salmo irideus*, and this latter name was wrongly applied with more or less deplorable results. In several instances fish culturists have regarded *Salmo shasta* and *Salmo gairdneri* as the same species and mixed, crossed and distributed them all as rainbow trout."

Whatever or wherever was the origin of the so-called salmon trout (which is the name given the black-spotted trout: the black spotting being a salmon characteristic) the fact remains that they are now found in abundance in some of the states and the northwest of Canada, British Columbia having some of the best fishing grounds in the country or the world.

The three principal black spotted trout or salmon trout are the cut-throat trout, the steelhead trout and the rainbow trout. There are numerous sub-species of these, some important, others of them scarce deserving the importance of sub-specific rank.

The angler who would go out for trout in the western mountains or would drop down to the sea will fish under different circumstances and conditions. On the headwaters of the stream he will catch small trout, some hardly more than six inches in length; while on the lower waters, and in the bays of the ocean, fish of the same specie may be caught weighing up to twenty, or even thirty, pounds. It is the same with all three of these main members of the black spotted trout contingent, they are all sea-run, which is to say that they run down to the sea from the fresh water they are



Photograph, courtesy Grand Trunk Railway System

Bigwin Inn, the most modern of the Lake of Bays summer resorts

born in and some spend a great deal of their time in salt water, living and growing great in size owing to their feeding on the prodigeous life of the sea. Some steelhead trout for instance, are caught around the mouths of the rivers and the estuaries of the northern Pacific, that have gone up to thirty pounds. These are salmon-like fellows, often mistaken for salmon, having a silvery sheen to them, the native freshwater coloration lost. What is true of the steelhead trout is also true of the rainbow trout which also runs down to the sea if it has a chance and there grows fat.

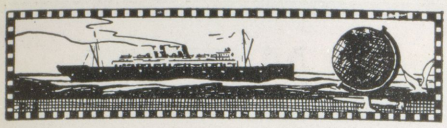
Sea run rainbow trout and sea run steelheads are so very nearly alike that there is little chance of telling them, one from the other. It is principally for this reason that the anglers of the Pacific coast have consistently maintained that the two are one and the same—at least the trout they call the rainbow trout is like the steelhead but certainly it is not the true rainbow trout, *salmo shasta*, fo the McCloud River; and this trout is sea run. Like the so-called rainbow trout and the steelhead, the cutthroat trout is sea run and often attains to thirty pounds. Even in some of the inland lakes the cutthroat trout have been caught weighing up to seventeen pounds.

There is, of course, every reason in the world for the trout that go down to the sea to grow large in weight owing to the enormous food supply at their disposal. Far inland in the mountains where the food supply is not so voluminous, conditions are utterly at variance with the conditions above mentioned. Here (on the small streams where these mountain trout are found) the food supply is far from great and the fish are forced to follow up feeding with might and main and even then find but a trifle to sustain them. Now the sea run trout that goes high in weight may be huge at the time of maturity; the little trout in the mountains may be mature at six inches of length. This may be astonishing to many but it is nevertheless the truth. Also, some of the trout caught in inland lakes of the mountains may attain to but nine inches in length and one-fourth of a pound in weight when mature. These small trout of the mountain regions have caused a great deal of discussion amongst some people, their belief being that these smaller trout are a distinct species or sub-species. The fact of the matter is that the large sea-run cutthroat trout and the small mountain trout of the same specie compare so favorably as to body structure as to make it impossible to place them even in the rank of sub-species. Merely, the difference lies in the weight of the individual; one having grown fat from the harvest of the sea, the other forced to satisfy himself with the small quantity of insect and other life produced along a mountain brook. Naturally, the higher up in the mountain you go, the smaller will the trout be, but so tenacious are they in cleaving to these tiny streams that they are as one, apparently, from birth to death. It may be said that the trout of a species are largest that are in the ocean, some in the mid-river and streams and lakes higher up are more like the rainbow trout that are caught in eastern and northeastern waters in which they have been planted, while the smallest trout of all are the trout of of the high altitudes. This is the trout that is often mature at six or eight inches in length, as agile, cautious and wise as they make them.

(*Continued on page 42*)

Photograph by S. J. Hayward, Montreal

A view of the Saguenay River, one of the most awe-inspiring streams of Canada's northland



"A Very Little Girl"

(*Continued from page 10*)

remained at Versailles. Ambition is not enough. We need Love."

In the myrtle bush near the nightingale poured out its ecstacy of song. The moonlight shewed a woman's face, white but triumphant.

She had answered Love's appeal. It meant Love's highest claim—sacrifice.

"You are right," said the man, "I knew it when an innocent child's lips touched mine. Ambition is not enough. But I needed you to tell me I was right."

So a man leans unconsciously on a woman's strength in the great moments of life.

The moonlight faded, the nightinggale's song was hushed. The man and the woman had reached the terrace steps. It was here they parted.

The woman knew they should never meet again, for she had heard the name of the tenant of the house with the green shutters.

But she had given Love her best. She went indoors alone and closed the window.

* * * *

A man went up a path towards a tiny villa set amongst olive orchards. He was to start for England tomorrow but the fancy led him to say goodbye to one who unconsciously had been the cause of his giving up a brilliant career.

So strange is human nature!

Standing under a porch smothered in white roses and purple clematis he found her. She was trying to make love to a ginger-coloured cat.

At sight of the visitor she dropped the cat and came running towards him.

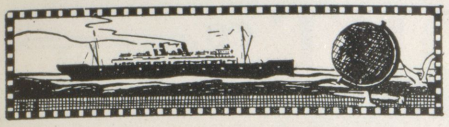
"I watched for you to come," she laughed, "I wanted you and Mummie does, too. She telled me so."

He knelt on the path, putting one arm about her.

"You wanted me?" he said, and wondered why the sight of that dimpling baby face, the welcoming clasp of soft arms were sweeter to him than the applause of a packed audience.

"But why?" he asked.

It was not the child who answered but a woman, still young and beautiful, but with a wistfulness in her blue eyes as of one who has watched a long time and watched in vain.



When the man saw her he understood, and rose to his feet. The child still clung to his coat, but it was the woman he saw.

"Mary," he cried softly. And wondered how he had been content to leave home for four years.

* * * *

The sun set in the west, flowers were nodding to the lullaby of the evening breeze. The waves still broke rippling over the golden sands, there lay a hush on all around.

On a wide, low rock a man and woman sat together. She had been telling him how the wistfulness of one who watched had grown in her eyes. He listened, remorseful.

"When I heard," she said, "of you here, of your fame and success I had to come. It was the child who seemed to draw me—our child. I took the little villa with the green shutters for a month. I came to hear you sing. You did not see me. I thought—if I could see you I should be satisfied, but it was not so. I did not know what to do. I love you so, and you had gone out of my life. I told myself that I had made a mistake in coming. It—was more than I could bear. Then the child wandered away one day, she came back with a tale of how a big Englishman had kissed her. I knew by her description it was you. We have waited for your coming—she and I."

They were looking into each other's faces. The man was smiling. A very little child came dancing over the sands, its hands were filled with flowers. This was the land of flowers. But there was no flaw in the picture today.

The man took the child in his arms, but he spoke to the elder Mary.

"Dear," he said, "another woman was right, Ambition does not satisfy. I want home—and Love."

She gave him both—that is the woman's way. For four years she had watched, waited, prayed in vain. Now, at his first whisper, she stood with both arms open to give—always to give.

A woman's way.

The child rested a curly head on the man's shoulder.

"You shan't *steal* Mairley's kisses," she said, "I'll give vem to you. I love you welly much."

It was Paul Maravale's triumph. The woman never told him that that night when he sang so magnificently and she sat, unnoticed amongst a spellbound audience, she had guessed another woman's secret.

* * * *

Signora Mitalini's fame became world-wide. Ambition was gained, fulfilled, twice over. She knew that was all life offered. The better part she had viewed as she stood on a moonlit terrace and heard a nightingale sing in a myrtle bush near.

But that part could never have been hers. She never regretted letting Love triumph then. Love's sacrifice. She knew that, when a man asked her advice, claiming her help, she gave him—her best. She knew he would be happy for she had seen the tenants of the house with the green shutters.

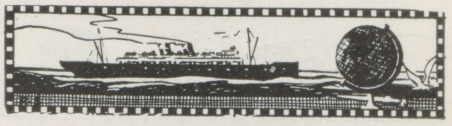
When Signora Mitalini was alone sometimes, she stood gazing out into the moonlight, smiling.

"Paul," she whispered.

It was the secret of her success, the mysterious note of a perfect voice.

What is the best of life? Love and home.

None knew it better than the woman who had neither.



A Phase of Canada's Power Question

(*Continued from page 19*)

in Canadian territory; but I am inclined to think that a waterway open only two hundred days in a year and interrupted by numerous lockages cannot compete with a low-grade, double-track railway, for general transportation business in the true economic sense though as already shown in these columns in certain certain specialized traffic it can.

As regards the conservation of fuel, our railways are among the largest consumers of coal and the locomotive in its present state of development is still, measured in comparison with stationary engines, a wasteful agency. The era of electrification has already commenced. Only the question of increased capital charges has prevented the change from going on much more rapidly than it has. If we have two hundred and fifty millions or more to give away in transportation improvements, let us present them to the railways for this pur-

The Canadian Mountain Trout

(Continued from page 38)

No need in these upper rivers or small streams to look for the proverbial monster, for it is not there. But the little fellows are there and they certainly do creditably at the end of a taut leader.

The large trout of the ocean may be caught on large spoons and any one of a hundred other contrivances that are to be had on the market but if you would angle for the small trout of the high altitudes you must use something very different, altho you are fishing for the same fish specie as you fished for below. The trout streams of our eastern waters for instance produce winged insect life in such super-abundance as to clutter and fairly mat the waters at times. In such streams the trout, of course, have food galore to keep them going. But not so in the mountain regions. Insect life and insect species are not numerous. The few that obtain are exceedingly small in proportions, not at all like the great stone flies, crane flies and caddis flies that the trout of the eastern waters feed on in such great amount. The eastern angler fishing in the mountain streams in the west will, of course, bring with him a fly-book full of the flies that he has been wont to use in fishing for the trout of the eastern waters and must find out through experience that large flies are not exactly what the trout want—but the very small flies are always winners, especially if these are selected to imitate as closely as possible the natural flies of the stream on which the trout makes its living. Probably to have success in fishing some of these mountain streams greater care and caution must be taken than in fishing eastern streams—but the use of small flies abides as a rule to carefully follow. On eastern streams flies tied to Number 8 hooks are often used. The size 10 and 12 is also in great demand as a hook around which the fly is built. For the streams of the west (particularly the high mountain streams) the flies to use are those tied to Number 12 and even the midges Numbers 14 and 16. I am given to believe that the midge type of fly will catch more trout than any of the other sizes combined. Flies that are particularly good for mountain regions, or practically any fishing for trout in the west, are gathered together in this list of so-called wet flies. They follow: The Coachman, Professor, Black Gnat, Brown Hackle, Cow Dung, Royal Coachman, White Miller, Grizzly King, Montreal, Scarlet Ibis, Silver Doctor and Queen of the Waters. These are all known as standard regulation flies. The dry fly, however, has been used on the western mountain streams with success and are well worth trying out under the various conditions that are met with on such streams. Dry flies are readily obtainable in the so-called midge types, those tied to the very

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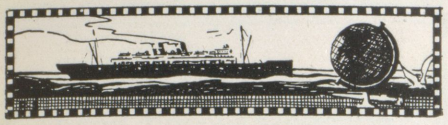


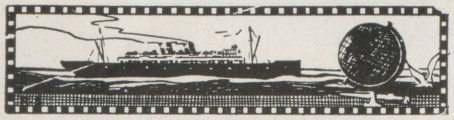
pose. The opportunities in Eastern Canada are enormous as also in British Columbia and Central Canada. The prairie district has no cause to worry about fuel for many generations to come. Two hundred and fifty millions is a very large sum of money. It would take several years to spend it judiciously. In the meantime, suppose we take up the business of reforestration more seriously than we have done, and try to replace some of the natural resources we have so recklessly and shamefully wasted in the past. This would give us, in time, something to manufacture, something to transport, and to employ our population, and I think I cannot too often repeat that we need goods, manufactures, and materials and passengers to transport, much more at the present time than we need new methods of transporting them.

Irrigation and the Transformation of the West

(*Continued from page 24*)

must be forwarded to the Government defining the confines of the proposed district, together with evidence of the practicability of the project as reported on by a qualified engineer. The Government then has a vote taken in the district, which must be favored by two-thirds of farmer ratepayers. If this is successful, the district is formed and a board of three trustees is elected having full power to acquire water rights and perform the necessary construction under the Federal Irrigation Act and to make by-laws and regulations. It has also the necessary powers for borrowing money and fixing the annual rentals.

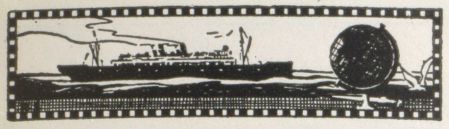
The completion of the irrigation projects affecting Alberta and Saskatchewan, which in 1920 had proceeded only as far as formation, hung for the greater part of the present year upon the development of the Lethbridge Northern District, which was the farthest advanced of the cooperative schemes and came to the fore in development. The stumbling block to further procedure was the financing of this project as well as the numerous others affected. This very necessary



factor to success did not enter into the difficulties which had to be contended with in putting on a secure footing those districts now in operation, the heavy expenditures involved being borne entirely by the rich corporations which undertook their construction. The Lethbridge Northern became, therefore, a test case for the sale of Canadian irrigation bonds with the fate of the other districts, to a large extent, depending upon the successful outcome.

The amount of the bond issue was $5,400,000, being the estimated cost of the construction of the project, plus a small margin to carry on operations for a year or two. The Alberta Government, in accordance with legislation passed in 1920, created a fund equal to two years' interest, which was made available for covering any arrears on the part of the ratepayers. Despite this guarantee, and rigorous methods provided for the protection of the investor, not a bid was received for the bonds when they were put up for sale in January. Following this an application was made to the Provincial Government for a further guarantee, with the result that it arranged, in regard to the bonds of irrigation districts where the projects are advanced to the stage of requiring funds for construction purposes, to advance from time to time funds up to ninety per cent of the value of the bonds, thus enabling the district to proceed with its work. Under this plan the Government assumed no other responsibility for the bonds other than that of holding them until such time as they could be placed on the bond market at a fair price. When this further guarantee was not successful in disposing of the bonds more pressure was brought to bear upon the Government, and finally it agreed to guarantee the bonds up to the full extent. They were disposed of almost immediately, and the construction of the Lethbridge Northern project has been under way for some months. Thus the successful financing, construction, and operation of the other cooperative projects in Southern Alberta is assured, and the greater part of the preliminary work, has already been effected on many projected districts.

Irrigation bonds are a new kind of investment in Canada, and probably for this reason Canadian bond dealers and investors are as yet reluctant to



handle them. Another reason, without doubt, is deficiency in knowledge of the proven success of irrigation in Western Canada and the appreciable increase in value irrigation puts upon land. Irrigation stands in a word for crop insurance.

The Dominion Government is the sole owner of water rights in the prairie provinces, and must be thoroughly satisfied as to the feasibility of an irrigation scheme and the adequacy of the water available before it permits the project to be proceeded with. Furthermore, there is the Government guarantee, and an arrangment for action against landowners in case of default to recover money by means of tax sales of delinquent lands.

There is the brief but entirely satisfactory history irrigation has written for itself in Western Canada. A well known Western Canadian irrigation engineer, who has been in touch with irrigation affairs since the beginning, is responsible for the statement that a mortgage has never been foreclosed on an irrigated farm in Southern Alberta. What greater or surer guarantees could investors have than this?

The greatness as well as the happiness of most peoples depends upon the prosperity of their rural populations, and this is pre-eminently true of Canada, where agriculture is the first industry of the land. It follows that any factor which makes for increased production, and therefore greater individual prosperity, is a national asset of prime worth. Such without question has irrigation in Western Canada proved itself to be. To irrigate is to ensure a harvesting, banishing the worry of the summer months, and the strained, weary scrutiny of passing clouds when the land is parched and dry. Irrigation in Southern Alberta costs on an average between $40 and $50 per acre, and it is no uncommon experience for a farmer to pay this off from his first crop on inundated land with the increased value of the produce he has harvested.

From the viewpoint of the community, irrigation is highly desirable as instrumental in bringing about smaller farm units, and consequently closer settlement, more agreeable social relations, more satisfactory methods, progression in agriculture, and all all those benefits accruing from man's closer intercourse with his neighbor. Irrigation through its

multiplicity of crops encourages mixed farming, a system which is more and more coming to be recognised as the future backbone of successful Western agriculture.

Sir John Wilcox, the noted international irrigationist, was wont to say that the Garden of Eden was an irrigated farm, and such an assumption a traveller might well feel justified after leaving the barren plain, parched and sweltering, for adjacent irrigated land, with waving fields of heavy wheat, sturdy stands of alfalfa, well nourished cattle and contented farm owners. If irrigation can so transform the barren desert into a smiling fertile garden it is a factor of inestimable importance in nationalupbuilding not only worthy of, but compelling the attention and support of the Canadian people.

The Canadian Mountain Trout

(*Continued from page 42*)

fine, exceedingly small 14 and 16 hooks. The complaint that the dry fly man will make about using the floating fly on such water as the mountain streams offer is that the water is too rough. But there are placid pools where the dry fly can be used and since some of the finest of the trout are found in these pools it follows that the choicest fly will get them there. It should be a rule therefore that if one goes into the mountains fishing bent he should not forget to bring the dry flies along. And an even better idea (if one is staying in a region a certain length of time), is to pick up specimens of insects along a stream and tie as nearly as possible imitations of them on the hook.

It may be said in general that mountain trout fishing offers not one half the difficulties placed in one's way when fishing the streams of the east. In the eastern part of the continent it sometimes means breaking one's way through the density of a cedar swamp, or a tag alder thicket; to fishing out of rivulets at times and then again on wide rivers and deep streams. In the mountain regions it is often a case of making one's way from stone to stone along the river's edge and sometimes lying flat on the rocks in some critical place and casting

from advantage point. But, although thereare difficulties to be met with these difficulties are often done away with and some stretches of a stream are almost perfect from the point of view of being easily gotten at; and invites one naturally to put up a camp and stay awhile.

Where one is packing it in the mountains, either with a pack-sack on the back or on the back of a horse the demand is that the rod does not take up a great deal of space. Not that it may break or anything like that but simply that it will take up less room amongst the paraphernalia. A rod especially made for packing around in this manner is actually called the "pack" rod and one who contemplates a trip in the mountain regions, fishing bent, would do well to look it over. Generally a fly-rod comes in three or four pieces. In the case of the pack rod it comes in many pieces or joints; a nine-foot rod having a matter of nine joints or pieces. The principal claim to preference that the three-piece rod has is that none of its resiliency is lost since it has so few ferrules or jointing places. The pack rod having many ferrules, it is true, is somewhat stiff but this is readily forgotten when one considers the great amount of service that can be gotten out of it and how readily it can be thrust away in the pack without taking up much space. It is often the better part of wisdom to take more than one rod along, and certainly two rod tips, as the opportunities are always great when it comes to breaking tips to fly-rods in mountain regions.

The pack-rod, as I should have mentioned, is made of split bamboo, —indeed it is the only rod put out in that style. Steel fly rods are greatly in use and for a general all-around rod, in mountains or elsewhere it certainly has a host of devotees. The steel rod while not unbreakable will stand a great deal of rough handling and knocking around. It comes in three pieces with an independent butt piece (the handgrasp and reelseat part).

Mountain fishing is generally one of mighty sensations, thrilling experiences, incomparable views and thereafter a refreshing memory that does not soon leave one, if ever!

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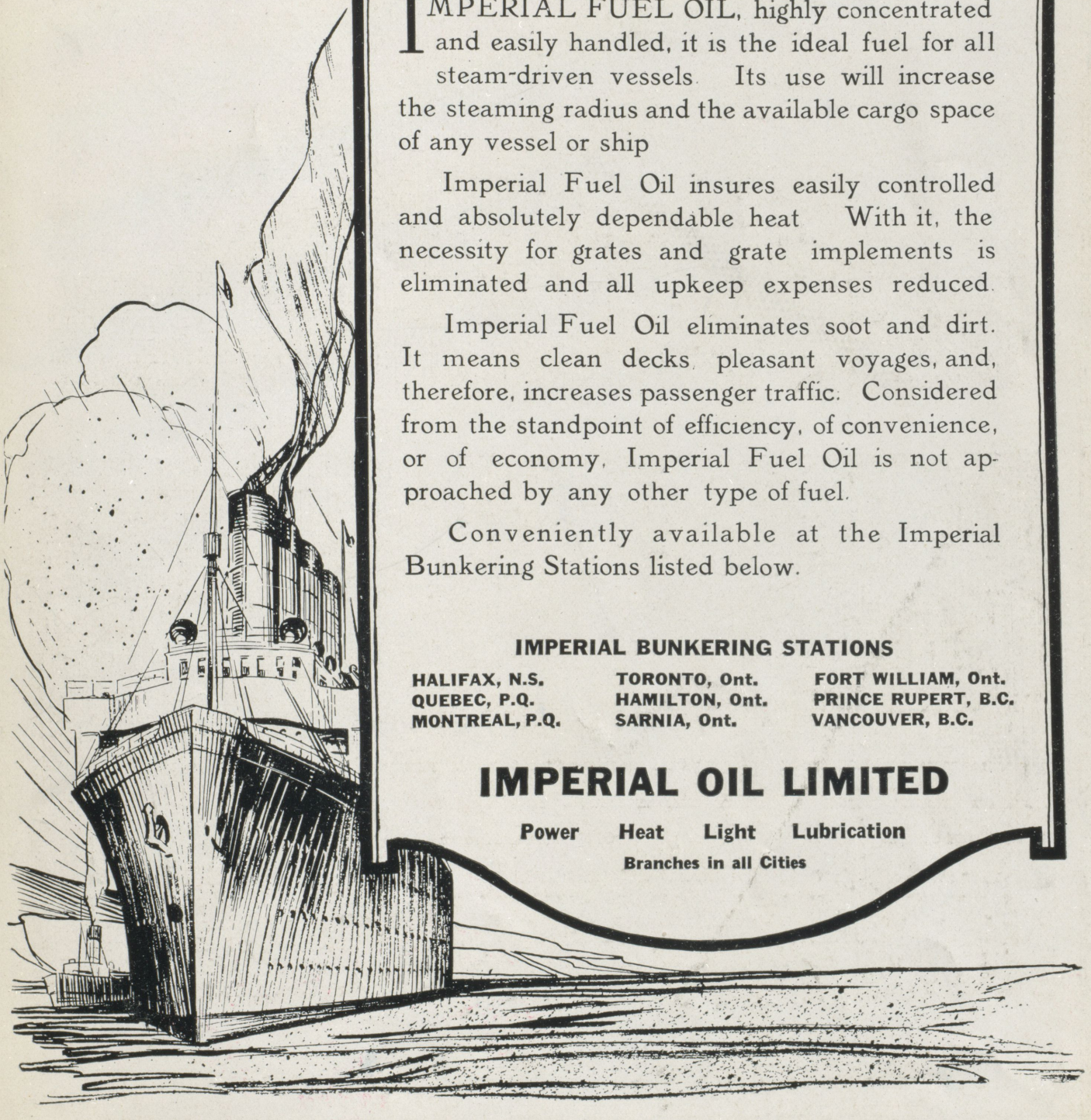

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