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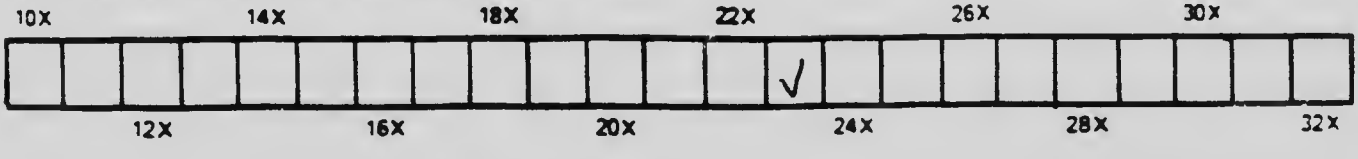

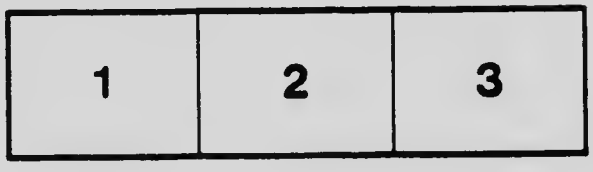

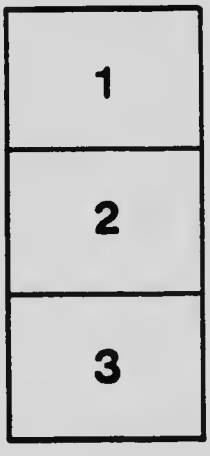

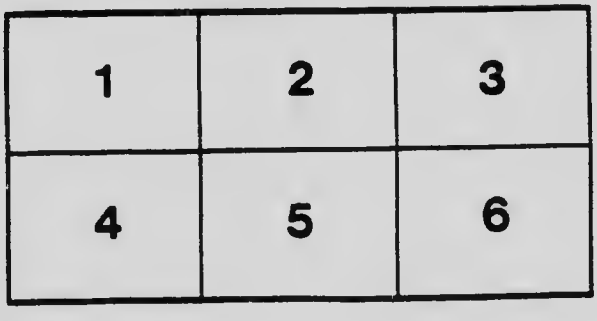

Shipbuilding in Canada

A Memorial Presented
to the Canadian
Government

April, 1913

Shipbuilding in Canada

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I. Water Transportation in Canada

It is the purpose of this Memorial to represent that the shipbuilding industry of Canada merits a greater degree of support and countenance from the government than it hitherto has enjoyed. It is the purpose of the memorialists to rest their claim upon the position of the industry as a vital link in the great marine transportation interest of Canada; upon the importance of that industry as an essential feature in the National Policy of all-round development of Canada; upon its present proportions; and upon its immense future possibilities.

A Transportation Country

Canada is marked out by nature as essentially a transportation country. Her land surface is set off into great separated producing areas. At the very heart of the country, on the prairies, there is in process now a species of economic explosion, forcing vast quantities of products, not so much to other areas on the same continent, as across them, and across the ocean. The moving of products in this country is on a large scale. As if to fit in with this peculiarity, Nature has devised for Canada a wonderful system of waterways: a disproportionately long oceanic coast-line; a chain of lakes and rivers penetrating from the east 2,500 miles inland and almost to the very prairies; the great indentation of Hudson Bay penetrating almost to the prairies from the north. The history of Canada has been largely a history of transportation.

Water Transportation Development Unsatisfactory

On the whole, this history has worked out thus:—That Canada has been brilliantly successful in developing her land transportation, in which her difficulties have been greatest and her facilities fewest; and that she has been unsuccessful to a mortifying extent in developing water transportation, for which she has been given uncommon advantages. Her transportation development thus has been uneven and ill-balanced.

This lack of balance, productive as it is of great immediate loss, has a serious meaning for the future. Canada is so placed between Europe and the Far East that she should be able, if her land and water transportation systems were well developed and skilfully combined, to add to her other commercial advantages an immense carrying trade between those two enormous masses of population. As long, however, as the Canadian transportation system is weak on its water side this possibility cannot be realized.

What Canada Loses

Apart from this, the atrophy of the Canadian marine deprives the country of profits at once possible and immense; and in addition inflicts positive and severe loss. *Including allied and subsidiary interests, not far short of* 200,000 *persons draw pay from the railway industry of Canada: that is, not far short of a million Canadians are supported by it.* Thus not only do the producers of Canada get their goods carried, but the carriage of those goods greatly increases their home market. Further, the producers have under substantial control the rates at and conditions under which their goods are carried; and they value this control highly.

Using Non-Canadian Ports and Non-Canadian Ships

Compare with this the marine carriage of Canadian goods. It is very largely done by non-Canadians. On the Great Lakes Canadian shipping amounts to a contemptible fraction of the total bulk of tonnage afloat. On the ocean Canadian ships in 1911-12 carried only about one million out of nine million tons carried to and from Canadian ports; and in addition huge quantities of Canadian goods had passed through American

ports. *We are using non-Canadian ports and non-Canadian ships.* Canadians pay from $30,000,000 to $50,000,000 yearly in ocean freight rates, and these almost wholly go to outsiders; compare what we get in increased development, in increased home-markets, from the $150,000,000* which Canadians pay annually in railway freight rates. Associated with this is entire lack of control of water transportation rates. At the moment when a powerful effort is being made to force the railways to lower their rates, ocean rates are shooting up with scarcely a word of comment. "On October 23, wheat was quoted at Fort William 11 cents cheaper than it was quoted there the same day last year, yet the same price was asked at Liverpool. Where had the extra 11 cents gone? Not to the Canadian producer! But to the lake and ocean steamship men."† Canada suffers in the water branch of her transportation at once from inadequate public control of rates, lack of accommodation, and outside ownership. Nearly all the freight-money she spends on this branch of her transportation goes to build up other countries' home markets.

Canada's Railway Transportation Policy

It now is time to inquire to what we owe the great national success achieved by our railway transportation system. Apart from the personal element, which of course is intangible, the government has pursued a resolute and skilful policy towards railway transportation, the outlines of which are as follows:—

1. There has been heavy direct building of railways, such as the Intercolonial and National Transcontinental. This now stands at more than $200,000,000 and is bound to increase considerably in the near future.

2. Public aid has been given unsparingly to private railways, alike as cash grants, loans, grants of land, and guarantees of credit. The cash aid is as follows:—

Dominion	$154,000,000
Provinces	36,000,000
Municipalities	18,000,000
Total	$208,000,000

*Exact figures, $149,961,140. Railway Statistics, 1912, p. xxix.
†Canadian Collier's, December 2, 1912, page 13c

The land grants have amounted to 56,000,000 acres.

The guarantees of credit so far amount to $245,000,000.*

The yearly subsidies now stand at over a million dollars.

3. The tariff is specially devised to direct traffic into east and west lines, so as to throw the business to Canadian instead of American railways.

4. Simultaneously, the tariff includes duties, ranging as high as 35 per cent., *to oblige the Canadian railways to purchase their rails, equipment, locomotives, cars, etc., as far as possible in Canada. Thus great subsidiary industries, such as rolling mills, locomotive works and car shops are being developed, and they directly develop mining of ores and coal, the lumbering industry, foundries, manufacturing of machine tools, paints, building materials, etc.* The Canadian Pacific alone in 1912 placed in Canada orders for rolling stock and equipment amounting to $48,000,000.

5. The rates are under public control.

The Canadian railway system thus has been the object of a well-devised coherent National Policy, aimed at general development. This policy has been resolutely carried out. The result has been success.

Canada's Marine Transportation Policy

What the country has done for its water transportation interests may be summarized thus:—

1. It has constructed the canal system. The cost so far since Confederation has been over $100,000,000. The canals are open to our competitors. Only 10 per cent. of the traffic which passed through the Canadian canal at Sault Ste Marie in 1911 was Canadian. Eighty per cent. of the traffic passing through all the Canadian canals originates in the United States and only one-third of the tonnage using our canals is Canadian.†

2. It has spent perhaps $150,000,000 on aids to navigation, ocean and river service, etc. These aids are used by non-Canadians as well as by Canadians.

3. It has granted sundry bonuses to dry-docks, bounties on net tonnage constructed, etc. These aggregate about

*Railway Statistics, 1912, pp. xii to xxi.

†Canal Statistics, 1911, pp. 9 and 64.

$300,000. The shipyards have practically no protection, while these railways have practical protection of their trade which is worth more to them than the original bonuses that they received.

4. It has reserved the coastwise trade to Canadian and other British ships, qualifying this by (1) permitting the incursions of Norwegian and certain other vessels on the ocean coastline; * (2) periodic admission of Americans to the purely Canadian lake traffic.

5. It has left the industry otherwise under free trade conditions, though the country as a whole is under protectionist conditions. *One result has been that the subsidiary shipbuilding and repair industry has never been properly encouraged and is in a languishing condition.*

An Incomplete Policy

It will be observed that the policy of the government towards the whole water transportation interest, while involving heavy expenditure, has been less liberal, less resolute and less complete than that towards railways. In particular, the railways, liberally as they have been aided, have been required to develop subsidiary industries. No such obligation has been laid upon the Canadian marine. It is submitted that the all-round policy has paid in the one case and the incomplete, though none the less expensive, policy has not paid in the other case.

II. The Steel Shipbuilding Industry

At this point the memorial must take leave of the general marine interest and devote itself to the particular industry concerned with the repair and building of steel ships. *It is contended that as the development of the rolling stock industry has not injured but instead has greatly benefitted Canadian railways, so the revival of the Canadian marine would be aided by the development of great Canadian plants so equipped as to be*

*This has been curtailed of late, but Norwegian vessels of 1,000 tons and upward still are allowed to ply between Nova Scotia and Quebec.

able to do the work of Canadian shipowners in their own ports, to the increase and upbuilding of Canadian communities.

Present Proportions of the Industry

Even in its present depressed condition the Canadian steel shipbuilding interest possesses respectable proportions. Any industry so complicated has wide ramifications; in addition to the actual building plants there are the marine engineering works, and the building of a ship means employment for numerous outside trades, going back as far as the works and mines whence the steel is derived. Leaving these indirect employments aside, the number of men directly employed in steel shipbuilding and marine engineering works in Canada may be set down approximately as follows:—

Maritime Provinces	2,000
St. Lawrence	2,000
Great Lakes	2,000
Pacific Coast	2,000
Total	8,000

If we allow for indirect employment, we have 15,000 or more Canadian workmen drawing their pay from this industry. Most of these are highly skilled artisans and most of them are married. *Even as it is, some 70,000 or 80,000 Canadians are maintained by our shipyards.*

A Crisis Point

The Canadian shipyards now are at a peculiar point in their development: *the future means either great expansion or heavy shrinkage.*

These yards began life as repair establishments. In earlier years, especially in inland navigation, there was a great deal of repair work. The season of navigation is short so that vessels always make haste. Narrow channels, rocky bottoms, thick weather, all prevail. There was a great deal of bottom damage, and in the earlier years this meant a great deal of business—so much that Canadian yards were started and maintained themselves on this class of work.

Developments in the Repair Business

As time went on aids to navigation were multiplied and the skill of navigators increased; but simultaneously a change took place in the nature of the vessels. The modern lake freighter has a double bottom, with a depth between the bottoms of from 3 to 6 feet. This enables the carriage of a large water ballast when going without cargo. Should such a vessel ground while going light, the water ballast can be pumped out and the vessel released. If a rocky bottom is struck, the inner bottom will protect the vessel; sometimes the outer bottom is ruptured and flattened up against the inner bottom without the cargo being damaged. This kind of construction leads to a system of taking a certain amount of risk, and great bottom damages not infrequently occur; these range in cost from $5,000 to $50,000 each; quite a number reach $100,000. At the same time the ships are far larger and more expensive; *a modern lake freighter costs her owners from* $100 *to* $1,000 *on every day of the season.* Further, these ships, while insured in other respects, are not insured against loss of time. *The situation thus is that the repairs at once are extensive and must be done at intense speed.*

Big Establishments Needed

This condition means large yards, extensive equipment, and numerous workmen. These heavy damages must be repaired at a yard where there is a good dry-dock, the best shipbuilding machinery and tools, machine and boiler shops, foundries, cranes, derricks, the latest improved air tools and plenty of power to drive them all. A well-equipped yard must carry in stock from $50,000 to $100,000 worth of iron and steel to draw from, as well as lumber and timber and wood-working machinery for immediate repairs. The shipyards and engineering works of Canada probably carry $2,000,000 of stock supplies. As for personnel, *a yard must be prepared to put at least* 300 *men on one ship, to work night and day; thus a staff of from* 300 *to* 1,000 *workmen is indicated.* In addition, as shipbuilding is divided into a great number of highly specialized branches, a surprisingly large superior staff is needed. Thus the repair business, originally one which could be carried on by a small yard with moderate equipment, has undergone the

development in size and complexity which is common to so many lines of business now.

American Competition for Repairs

Canadian yards now find themselves at once obliged to conduct business on this extensive scale, and subjected to intense competition from American yards. The repair business of the American yard is effectively protected by a duty of 50 per cent. on all repairs executed upon an American ship in non-American yards; this is levied upon dry-dock charges, upon the material used, upon the wages paid out, and upon every charge incurred as a result of the damage, descending even to the fees of the surveyors who inspect the ship. *This gives the American business absolutely to the American yards.* Nominally Canada levies a duty of 25 per cent. on repairs; but in practice this has been so interpreted in some cases as to be levied only on labour charges, taking no account of dry-dock fees, materials, etc.; it thus in these cases has been much less than 25 per cent. of the shipowner's bill. Cases have occurred where the duty charged has been only half of what the charge would have been if levied with American strictness. Thus the Americans can compete with great effect for repairs to Canadian ships. Speaking generally, it may be said that the Canadian transportation interest gets the work done no cheaper ; but the money paid out goes to American instead of Canadian workmen. This evil is experienced by Canadian yards everywhere—in Halifax, Quebec, British Columbia and on the lakes.

The Need for a Large Staff

In this competition for repair work the most formidable difficulty, however, is the great number of men that the heavily protected American yards can place upon a repair job when haste is required; and it has been noted that speed in repair work has become peculiarly important. This means that a shipyard to do modern repair work must have on call a great mass of labour, a large and well-established power plant, huge electric travelling cranes, great numbers of pneumatic and electric tools and an equipment of the most modern machinery for doing the necessary work on the steel, wood or other

materials. *The management must be able at an hour's notice to lay their hands on from* 300 *to* 1,000 *skilled workmen. They cannot keep such a force waiting idly between repair jobs*, which largely depend upon the casualties of navigation. It arrives at this point:—*That a shipyard to do modern repair work successfully must have on hand some permanent work upon which a large force of men can be employed in ordinary times and from which they can be drafted when a hurried repair order is booked. In other words, to do repair work a certain amount of new construction must be on hand.*

The Repair Business Threatened

This, then, is the curious position into which the development of business has thrust the Canadian yards. The repair business has so changed in character that it will get away from them unless two things happen:

1. An adjustment of the duty on repairs which will put Canadian yards on a better footing as compared with their competitors.

2. The development of a shipbuilding industry in those yards.

The Canadian ship repair and shipbuilding business in a word must go forward or go backward. At present it is gasping, alike on the Atlantic, on the Pacific and on the lakes.

The Wooden Shipbuilding Industry

Canada has a standing object-lesson in the value of a shipbuilding industry to the country. Wooden shipbuilding was a leading resource of the Maritime Provinces and Quebec; its decline was a severe blow. When the iron ship replaced the wooden, Canadian industrial organization had not advanced sufficiently to allow the business to be continued under the more complex conditions. If Canada had been advanced enough to enable her to hold that industry, a heavy loss would have been averted. If she can re-develop it now, that loss will be made good. Canada now has a steel industry to serve as a basis for such a re-development; in the old days she had none.

Why Not Build Our Own Steel Ships?

It is difficult to see why Canada cannot build her own steel ships. The demand for such craft is enormous; they are being constructed in great numbers close to the boundary but in the United States; and the general economic effect of the building of American ships for the American coastwise trade is that the American producers get their goods carried by these ships at extraordinarily low freight rates. In 1911 the rate on wheat per bushel from Chicago to New York, lake and canal, was 5.35 cents. In 1880 it was 12.27 cents and in 1870 it was 17.11 cents.

The Fleet on the Great Lakes

On the St. Lawrence and the Great Lakes is an enormous fleet of steel steamships. It is expected that in 1913 these ships will be able to carry 90,000,000 tons of freight up and down the waterway. The increase of this fleet is incredibly rapid; in 1910 the tonnage-carrying capacity was 80,000,000, so that we shall see a capacity increase of 10,000,000 tons or more in three years. This fleet is overwhelmingly American. The whole of Canada's registered tonnage in steam coastwise vessels large enough to venture into rough water is 200,000 tons. About 4 per cent. of the vessel tonnage on the lakes is owned in Canada; 4 per cent. more is owned in Great Britain and not registered in Canada; and 92 per cent. is American.

The British vessels to which reference has been made are small tramps which make incursions into the lake trade when freight rates are high. When the rates go down these vessels, having salt water appliances for their boilers, leave the lakes for the ocean.

Canada possesses half the coastline of the lakes. She originates a considerable proportion of the traffic. She bears more than her full share of maintaining the waterway, canals and aids to navigation. She has hundreds of lighthouses, and thousands of buoys, beacons, fog whistles, etc.

The Canadian Share in the Business

Canadian products west of and along this waterway are increasing very rapidly. The Canadian wheat brought east

through the Sault Ste Marie canals in 1911 was nearly 70,000,000 bushels. For the crop year ending August 31, 1912, 113,250,000 bushels of grain of all sorts were shipped east from Thunder Bay; 6,300,000 bushels are in storage afloat; and a large amount went out by American ports. The American fleet, which is an advantage to, not a burden upon the general business of the United States, is stringently protected, and in turn is obliged to support the American shipbuilding industry. No non-American ship is allowed to do business between American ports. *No ship built outside of the United States is allowed to become an American ship. Under this system the general trade of the United States has made enormous progress, and the American ship and the American shipyard alike have flourished in the coastwise trade.*

Slight Protection to the Canadian Shipbuilder

The Canadian fleet is far less strongly protected. The Canadian coastwise trade is nominally confined to Canadian vessels, and to vessels of British register, if built in Great Britain, but oceanic coastwise trade privileges in the past have been extended to Norwegian and other vessels, and the lake trade from time to time is thrown open to American vessels. The Canadian shipowner on the lakes in good times is exposed to the competition of the British tramp. Of the correlated protection to shipyards there is none in Canada. Ships coming from Great Britain are free.

It perhaps is not generally understood to what lengths the free admission of British-built vessels is carried. A ship constructed in the United Kingdom to operate in Canadian waters not only enters the Dominion free of duty as to her hull and machinery, but in addition fetches with her free of duty every item of equipment, from her engine-room stores to the very crockery, silverware, bedding, linen and carpets in the cabins—on all of which the Canadian shipbuilder must pay duty. In other articles the cost of transportation adds to the effective protection enjoyed by the Canadian manufacturer; even this advantage is denied the shipbuilder in the Dominion, for the competing vessel often brings out with her a cargo which defrays this expense.

Since 1900 there have come into the Great Lakes and St. Lawrence district the following steamships:—

From the United States (mostly old)	90
From Great Britain (new)	50
Registered on the Canadian shipping list	140
From Great Britain, unregistered in Canada	40
Total additional steamships in the trade	180

These vessels cost about $18,000,000.

The Loss to Canada

The modern steel ship built on the Canadian side of the lakes costs about 25 per cent. for iron and steel and 75 per cent. for labour and Canadian products. Canadian workmen in the shipbuilding trades draw wages nearly 70 per cent. in excess of those paid in British shipyards.* Had these ships been built in Canada, the volume of building, coupled with some encouragement, would have enabled the owners to procure the ships at reasonable prices.

During this period the shipyards on the lakes have constructed about 32 ships and some smaller craft. These ships cost $7,000,000. The shipyards reaped no profit; they practically built these ships for cost and looked to repairs and local work for profits, on the principle, already explained, of keeping men available for emergency jobs.

Thus in 12 years the new shipping in the lakes has been about 210 ships, costing $25,000,000. Of this $18,000,000 has been spent in building up non-Canadian home markets.

Compare with this the statement that in 1912 one Canadian railway alone, the Canadian Pacific, placed rolling stock and equipment orders in Canada to the extent of $48,000,000.

Indirect Advantages of the Shipbuilding Industry

A feature of the situation is the advantage possessed by the British shipbuilder in the great specialization of industry in the United Kingdom. Few yards there can turn out a ship

*See Appendix B.

complete; none need to do so. As soon as a contract is obtained by the ordinary British yard it breaks the work up into numerous sub-contracts; the engines come from one firm, the auxiliary machinery (steering gear, davits, condenser, circulating pumps, air pumps, evaporators and distillers, etc.) come from others; chains, anchors, winches and capstans, special castings, engine-room telegraphs, swell the list; and all that the ostensible constructor does is to construct the hull and fit into it the engines and other appurtenances. The sub-contracts sometimes number 150. Canadian yards that wish to compete must do all or nearly all of the work themselves. *A greater volume of business will help forward in Canada this specialization, so desirable in the public interest as meaning the development of numerous special industries, greater population and increased industrial resources.* The development of Canadian rolling mills would be the first consequence of a revival of shipbuilding. Conversely, the development of a shipbuilding industry as a customer is a corollary of the energetic aid given to the Dominion iron and steel industry.

Peculiarities of the Situation

Other considerations are:—

1. The high wages of which notice has been taken have the express countenance of the Canadian government. Wages elsewhere are beyond its control. This feature in the situation becomes very odd when the government orders vessels. *If it purchases from a Canadian yard it takes special pains to oblige that yard to pay the Canadian "fair wage" rate; if it buys from non-Canadian builders, it does not require them to pay the Canadian "fair wage" rate.*

2. Much of the steel the shipbuilders use is protected; rivets, for example, carry a duty of 51½ per cent.; and bar iron and steel, small angles, sheet steel, etc., carry duties. The ships they fashion it into are not protected as against Great Britain.

3. If direct aid were given, for some time half of it would return directly to the government in duties.

4. Further, the additional population created by any greater volume of business done by the shipbuilders would

contribute considerably to the Dominion treasury through the tariff.

5. On the lakes the development of shipbuilding *would aid the mercantile marine indirectly by giving winter employment to the men it employs in summer and lays off when navigation closes.*

Need for Action

Such, then, are the circumstances of the shipbuilding industry of Canada. The memorialists urge that *the situation calls for action.* A clear alternative is presented to the people of Canada. If they do nothing, the business will collapse, and will practically cease to exist. The situation then will be that *no ships that can be counted for serious transportation work, will be built in Canada, and that scarcely any repairing will be done in Canadian ports.* Incidentally many thousand Canadians will migrate to American yards, whose business will be swollen by getting all the Canadian repair business and possibly some Canadian building; the exodus thus will be increased. *Canadian ship-owners then will be dependent upon American yards for repairs;* on the lakes at least these yards work closely together, and in the absence of Canadian competition Canadian owners may not find themselves favoured as much as they now are. *Insurance rates on ships frequenting Canadian ports will be increased by the absence of repair facilities.* Meanwhile, the products of the West will be increasing every year by millions of tons, and the West's purchases from Eastern Canada will be increasing enormously. The tonnage of Canadian goods to be moved will more and more outstrip the tonnage capacity of Canadian ships. As there always will be difficulty in letting American ships into the coasting trade, *the tendency will be to throw the carrying of Western Canadian goods eastward into American ports as well as American ships.* Buffalo and New York will profit. Thus the old state of affairs which has exasperated Canadians ever since there was a West, will be perpetuated. To acquiesce contentedly in a whole branch of our national life being carried on by outsiders who may regulate it to suit their convenience, to the profit of outsiders and the building up of non-Canadian cities and home markets, is contrary to the protective policy which Canada has followed for the last third of a century.

The Case for Government Encouragement

The alternative is to resolve that Canadian products shall be carried by Canadian ships as well as by Canadian railways. A beginning must be made to build up our coasting trade and the lake and St. Lawrence shipping; and in time an effort must be made to carry Canadian products overseas in Canadian ships. It is not the object of this memorial to discuss the shipowners' case directly; but it may be observed that *it is of vital necessity for the shipowners to have suitable dry-docks in Canada; to have in proximity to the dry-docks ample repair plants; to have available in each plant several hundred workmen.* Quebec, Montreal, St. John and Halifax, for example, cannot throw off the prohibitive discriminating insurance rates which are a subject of national concern and protest, until our Atlantic coastline has *this three-fold equipment of big dry-docks, big repair plants, and thousands of workmen.* But on what does such an equipment depend? It has been shown earlier that *an efficient repair plant depends upon new construction. New construction depends absolutely upon government encouragement.*

Steps to be Taken

The form which government encouragement should take is a matter for government to decide. A readjustment of the duty on repairs may properly be asked for. As for new construction, the present bounty is entirely ineffective and indeed absurd. It is of very old standing, deriving its origin from the days of wooden shipbuilding. With wooden construction gross tonnage and net tonnage were practically identical, and the rate of 65 cents to $1.15 per net ton sufficed in that period of small and cheap ships. With steamships net and gross tonnage vary greatly, and in an exceedingly irregular manner. One Canadian yard has built a ship which measures 300 tons net and some 3,000 tons gross. In another case a ship which carries 3,200 tons of cargo on 17 feet of water measures 1,254 tons net; this vessel cost the yard, apart from profit, over $150,000 to construct. The ordinary vessel built on the lakes obtains only 65 cents per net ton. The principle of a bounty thus is accepted, and is of long standing; but the method of computation and the amount alike are obsolete.

A Permanent and Continuous Policy Necessary

Apart from managers, superintendents, draughtsmen, clerks, etc., the staff of foremen for the ship-fitters, pipe-fitters, plumbers, coppersmiths, boilermakers, sheet iron workers, rivetters, moulders, patternmakers, machinists, blacksmiths, carpenters, joiners, painters, mould loftsmen, riggers, pneumatic tool men, helpers, etc., is very large; and these men must be permanently employed, carefully selected and gradually picked up. It takes about seven years to build up a good organization. *This last-named consideration makes it apparent that any scheme of aid, once embarked upon, should be guaranteed for a fixed period long enough to enable yards to get their organization established and then to show results. A period of ten or fifteen years is indicated.*

Develop Subsidiary Industries

Government assistance, it is apparent, might take one of two or three forms, such as free raw materials, direct aid, or some combination of these.

With regard to free raw materials, it is fair to argue that if ships made by competitors are to be admitted free, at least all the materials used by Canadian builders should be admitted free. Your memorialists would observe in this connection, however, that *such a course would prevent or at least delay and discourage the development of the numerous subsidiary industries which depend upon a shipbuilding industry. If, however, protection is to be extended to all of the various materials which Canadian shipbuilders use, it should also be extended to the ships which they manufacture.*

The Case for Direct Aid

The case, however, goes farther. Canada did not content herself with tariff protection in building up her system of land transportation; she gave direct aid, on a far more generous scale than has been vouchsafed to water transportation.

It is to be noted in this connection that our national system of railway transportation, although so much more heavily subsidized, has enjoyed two great advantages over our national system of water-transportation. A Canadian railway

can cut into purely American trade. All that it needs to do is to change its name and attend to certain formalities prescribed by the Company law of the States invaded. Customs regulations also are much less onerous in the case of a railway. A Canadian ship cannot change her register, and cannot carry an ounce of American trade. Customs regulations hamper her more than is the case with railways. None the less, the Canadian privately-owned railways have received at least $300,000,000 in subsidies.

Naval Shipbuilding

So far nothing has been said about the proposal that Canada should embark upon naval shipbuilding. This, however, cannot be overlooked, the government having expressly undertaken to try to develop this. It is submitted that *the true way to procure plants equal to the construction of naval vessels is to develop a healthy mercantile shipbuilding industry.* This is clearly shown by the experience of Great Britain and other countries. The volume of mercantile construction turned out by the yards of the United Kingdom during the four years 1907 to 1910 inclusive, averaged 750,000 tons a year; it fluctuated from 600,000 to 1,000,000. In 1911 and 1912 the total output was 1,700,000 tons a year. The average output of warships in 1907 to 1910 was 120,000 tons, and the fluctuations were from 67,000 to 138,000 tons. The fluctuations thus were greater in naval than in mercantile construction. Nevertheless, *the enormous volume of mercantile work steadied the situation as regards naval vessels,* and the effect has been, first, that Great Britain gets her warships built more cheaply than other countries do; secondly, that British yards build most of the warships for the smaller powers. British Dreadnoughts cost from £80 to £90 per ton of displacement; German Dreadnoughts nearly £100 per ton. If, then, the Canadian government were to encourage the setting up of yards devoted wholly or chiefly to naval construction, and were to allow the mercantile construction to languish, the effect would be that *as soon as the warships originally ordered were completed the yard would be in difficulties,* and would be obliged either to close down or *to beseech the government for more orders for warships, irrespective of the fact whether the country needed more war vessels or not.*

Again, suppose that the only shipbuilding plants left in Canada were those established to do naval construction and that alone. Whenever accidents happened in the vicinity, these yards would be tempted to bid for the repair work; they might, indeed, be asked to do it. *That would mean taking men off the warships, to put them on the repair jobs;* and if the government were in a hurry for its warships a conflict of interests would ensue. In short, if the yards do naval business and other new construction the result will be unsatisfactory. If, however, government policy proceeds on the double line of ordering naval vessels and encouraging mercantile construction, the industry will expand more rapidly, will be in a more healthy condition, and will the sooner be able to quote low prices to the government. There would be a wide difference in the efficiency of a yard which had in hand a cruiser, a government surveying vessel, an Admiralty tank steamer or collier, some repair work and nothing else, and a yard which in addition to the foregoing had several merchant ships under construction; the addition of the merchant vessels would give the elasticity of staff as between government work and emergency repair work.

Direct Aid Elsewhere

Finally, the attention of the government may be called to the enormous extent of subsidies, bounties and other forms of direct aid to shipbuilding and navigation elsewhere. In 1909 Mr. E. T. Chamberlain, United States Commissioner of Navigation, reported that the several powers aid their respective systems of water transportation to the extent of nearly $50,000,000; the exact figure was $46,907,220.*

Conclusion

Your memorialists submit that they have made out a case which calls for government action. The situation is that the naval policy of the government makes it necessary for it to consider the question of naval shipbuilding at the moment when the circumstances of the existing mercantile shipbuilding industry have become unbearable. The mercantile industry, as already observed, has reached a point where it must either

*For particulars see Appendix A.

make progress or collapse. Your memorialists cannot believe that in any case the government would acquiesce in the failure of a considerable industry with great possibilities, and the throwing of a great section of the water-transportation interest into non-Canadian and alien hands. Much more is action on broad lines demanded when public policy demands the upbuilding of naval construction yards. Your memorialists do not intend to put forward specific requests; they are contented that the government of Canada should take the whole subject into their serious consideration.

Appendices

Appendix A

Aids to Shipbuilding and Navigation

An exhaustive study of the means taken by the various countries of the world to encourage their mercantile marine is to be found in the annual report of the United States Commissioner of Navigation for 1909. The particulars which follow are abstracted from it. After speaking of the failure of the American Congress to pass the measure generally known as the "Fryc-Hanna-Payne" bill the Commissioner, Mr. E. T. Chamberlain, states that between that date and 1909 "Great Britain has executed the new Cunard contract and put an 'all British' clause into her other principal mail contracts, Germany has increased her North German Lloyd subsidy, Japan has passed the law of April, 1909, Spain the law of June 1909, Austria the law of February 1907, and Italy is now revising her laws and mail subsidy contracts. Holland, in 1907, subsidised for fifteen years a line to South America, and Norway is contemplating a subsidised line to the United States. In France revision of subsidies, bounties, laws and contracts is almost incessant."

Japan, according to Mr. Chamberlain, passed her Navigation and Construction Bounty Acts in October, 1896. When these Acts went into operation she had fifty-three ocean steamships, aggregating 106,383 gross tons, and almost wholly British-built. The Japanese list of merchant vessels for 1909 gave the names of 206 ocean steamships of over 2,000 gross tons aggregating 725,010 gross tons, while since 1895 the entire commercial fleet of Japan had increased from 360,695 tons to 1,288,853 tons. Practically all of Japan's large and fast ocean mail steamships by 1909 were being built at home; she had on her list 18 steel steamships each over 6,000 tons which came from Japanese shipyards, and two of the ships on her list were vessels of 13,450 gross tons, 8,000 tons cargo capacity, and 21 knots speed. The Japanese shipbuilding bounty is $10 per gross ton for steel steamships over 1,000 gross tons and also $2.50 for each indicated horse power developed by Japanese-built machinery.

As is well known, Japanese merchant-vessels are driving those of other nations out of the carrying-trade of the Pacific.

The increase in German shipbuilding and navigation is well known. In 1885 Bremen and Hamburg had 299 ships of 228,437 net tons and crews numbering 9,518. Twenty five years later, in 1908 these two ports had 1,162 ships with a net tonnage of 1,924,004 and crews numbering 47,-953. This growth had been fostered by the application to shipbuilding

of the general protective system of the country, the demand for ships being fostered by energetic aid to navigation; partly by liberal subsidies, partly through preferential rates on the state railways extended to goods destined for transportation in German vessels.

The French law of 1906 provides a shipbuilding bounty of 145 francs, or $28 per gross ton for steel steamships, to be reduced gradually to $19.30 in 1916.

In Austria-Hungary a shipbuilding bounty of $8 per gross ton on steel steamships is granted.

Following is a list of Governmental aids to shipbuilding and navigation. It will be seen that in 1908 it aggregated $46,907,220:—

Shipbuilding and Navigation Bounties

France, shipbuilding bounties (1908)	$2,007,200
France, navigation and armament bounties (1908)	6,079,500
Japan, shipbuilding bounties (1908)	997,700
Italy, shipbuilding bounties (1909)	886,266
Spain, shipbuilding bounties	not ascertained.
" navigation bounties	$ 1,291,826
Austria-Hungary, navigation and shipbuilding bounties (1908)	880,000

Other Bounties, Subventions, Subsidies, Etc.

United Kingdom, subsidies and mail pay (1908)	$3,320,454
" " Admiralty subvention (1909)	729,000
" " Royal Naval Reserves (1909-10)	1,783,620
Canada, subsidies and mail pay (1910)	1,581,800
" Fisheries bounties (1909)	160,000
Australia and New Zealand, subsidies and mails (1909)	1,263,600
Cape Colony, subsidy (1909)	656,910
Jamaica, subsidy, (1909)	194,000
France, mail subsidies (1908)	5,217,037
" fisheries bounties	120,000
Japan, mail subsidies	4,379,000
" fisheries bounties	37,000
Italy, mail subsidies (1908)	2,328,917
Spain, mail subsidies	1,858,186
Austria-Hungary, Austrian Lloyd subsidy (1908)	1,450,400
" " Suez Canal refunds (1908)	375,000
" " Hungarian mail contracts (1908)	279,130
Germany, mail subsidies (1908)	1,706,460
" mail pay, (1907)	594,569
Russia, subsidies (1908)	1,878,328
" Suez Canal refunds (1908)	334,750
Norway, mail subsidies (1908-9)	561,788
" trade subsidies (1908-9)	513,555
" tariff refunds, (1908-9)	26,800

Netherlands, mail subsidies (1908)	$841,827
" Naval reserves (1908)	38,184
Sweden, South American and Asiatic subsidies (1909)	140, 000
" mail pay (1908)	137,752
" State loans	not ascertained.
Denmark, harbour dues exemption	145,000
Belgium, trade bounties (1908)	23,160
" pilotage refunds (1908)	32,810
Portugal, mail subsidy (1908-9)	50,000
South American countries, Mexico and Egypt (1908) subsidies and mail payments	1,682,707

Appendix B

Comparative Rates of Wages

Following is a comparison between British and Canadian labour rates. The Canadian figures are those paid in yards on the Great Lakes. Those relating to Great Britain relate to the large private shipyards. The comparison is approximately accurate, and from the figures given it would appear that the rates paid on the Lakes are about 68%, taken all round, higher than those paid in the best shipyards in Great Britain and Ireland, and between 70% and 80% higher than the rates ruling in the British Government dockyards. The information available regarding the rates in the dockyards is not comprehensive enough to form a thorough comparison.

The figures given do not allow for the apprenticeship system which obtains in Great Britain, where a great amount of good work is done by youths earning from 2.22c. per hour in their first year to about 5.33c. per hour in their fifth year. If this were taken into account the excess paid here over the rates paid in merchant establishments would probably come out at about 70%.

Trade.	Rate per hour. 60 hours per week. Average rate.	Rate per hour in Great Britain 54 hours per week. Standard rate.	Canadian Rate higher by.	Government Dockyard Rates. Per week of 48 hours.	Per hour.	Canadian Rate higher by.
Carpenters	27.50c. and up.	18.00c.	52½%	$8.70	18.12c.	52%
Joiners	27.50c. and up.	"	52½%	7.35	15.27c.	80%
Plumbers	28.50c. and up.	"	58⅓%	"	"	86.5%
Blacksmiths	27.50c. and up.	17.32c.	59%	"	"	80%
Machine Shop	27.50c. and up.	"		"	"	80%
Machine Shop Helpers	16.00c.	8.66c.	85 %	.....	.....	
Painters, Red Leaders	19.18c.	17.32 / 12.00 } 14.66c.	30 %	"	"	25%
Patternmakers	30.50c.	18.00c.	69 %	"	"	100%
Riggers	20.60c.	17.32c.	19¾%	.....	.....	
Platers—Time rates	30.00c.	18.22c.	64 %			
" —Piece rates	40c. to 60c.	18c. to 54c.	39 %			
" —Helpers, time	18.58c.	9.10c.	104%			
" —Helpers, piece	.....	12c. to 15c.	.....			
Caulkers on time	27½c.	16.88c.	63 %			
" " piece	37c. to 64c.	.....	.....			
Drillers on time	20c.	10.00c.	100%			
" " piece	37c. to 49c.	.....	.....			
Hand Riveters—Time	30.00c.	16.88c.	78 %			
" " —Piece	36c. to 46c.	24c. to 48c.	14 %			
Labourers	17.50c.	8.88c.	97 %	$5.14	10.70c.	63½%
Stagers	20.00c.	10.00c.	100%			
Boilermakers	27.50c. and up.	18.00c.	52½%			

Appendix C

I. Ships Built in Great Britain Now on the Canadian Register

OVER 10,000 TONS

Royal George	11,146 tons.
Royal Edward	11,117 "

BETWEEN 5,000 AND 10,000 TONS

Oceana	7,815 "
Robert Dollard	5,356 "

BETWEEN 2,000 AND 5,000 TONS

Damara	4,988 "
Harfleur	4,596 "
Bessie Dollar	4,329 "
Hazel Dollar	4,304 "
M. S. Dollar	4,216 "
Assiniboia	3,880 "
Keewatin	3,856 "
Princess Charlotte	3,844 "
Himera	3,606 "
Usher	3,594 "
Trebia	3,586 "
Gellasia	3,474 "
Eretria	3,464 "
Albuera	3,460 "
Pandosia	3,326 "
Tanazza	3,317 "
Princess Aliee	3,099 "
Prineess Adelaide	3,061 "
Leuetra	3,027 "
G. R. Crowe	2,940 "
Rupert City	2,898 "
Alberta	2,829 "
Athabasea	2,784 "
Saguenay	2,777 "
Rosalind	2,568 "
Earl Grey	2,357 "
Heatheote	2,345 "
Princess Sophia	2,320 "
Dundee	2,278 "
Glenellah	2,272 "
Thomas J. Drummond	2,201 "
Newona	2,179 "
Kinmount	2,112 "

Winona	2,085	tons
Prince George	2,040	"
Prince Arthur	2,041	"

BETWEEN 1,000 AND 2,000 TONS

Midland Queen	1,993	"
Glenmount	1,957	"
Stormount	1,955	"
Prince Rupert	1,908	"
Donnacona	1,906	"
Fairmount	1,895	"
Strathcona	1,881	"
Westmount	1,875	"
Cascapedia	1,849	"
Renvoyle	1,830	"
Louisburg	1,816	"
Algonquin	1,806	"
Neepawah	1,799	"
Cape Breton	1,764	"
Princess May	1,717	"
Princess Mary	1,697	"
Boston	1,695	"
A. W. Perry	1,601	"
Rosemount	1,580	"
Wahconda	1,554	"
Wobun	1,551	"
Rosedale	1,507	"
Scotia	1,461	"
Yarmouth	1,452	"
Cacouna	1,451	"
Montcalm	1,432	"
Camosun	1,369	"
Princess Ena	1,368	"
Empress	1,342	"
Bonavista	1,306	"
Northumberland	1,255	"
Lady of Gaspé	1,189	"
Chelohsih	1,134	"
Minto	1,090	"
Turbinia	1,064	"
Coban	1,063	"
Lady Laurier	1,051	"
Tyrian	1,039	"
Prince Albert	1,015	"
Venture	1,011	"

BETWEEN 500 AND 1,000 TONS

Natashquan	991 tons
Cowichan	962 "
Chicora	931 "
Stanley	914 "
Simcoe	913 "
Amur	907 "
Prince John	905 "
Salvor	887 "
Douglas	741 "
Lady Grey	733 "
Beatrice	712 "
Canada	704 "
Tees	679 "
Lady Sybil	676 "
Aberdeen	674 "
Princess Patricia	665 "
Seal	608 "
Halifax	595 "
Chebucto	578 "
Cartier	556 "
Quadra	573 "
Princess	542 "
Macassa	529 "
Champlain	522 "
Druid	503 "

II. Ships Built in United States Now on the Canadian Register

BETWEEN 2,000 AND 5,000 TONS

Raipoonge	2,517 tons
Marina	2,410 "
Atikokan	2,004 "

BETWEEN 1,000 AND 2,000 TONS

Windsor	1,962 "
Masaka	1,913 "
Wiley M. Egan	1,733 "
Ionic	1,708 "
Tadousac	1,701 "
Robert R. Rhodes	1,599 "
City of Hamilton	1,574 "
Lansdowne	1,571 "
Massachusetts	1,530 "
City of Ottawa	1,529 "
Bickerdike	1,515 "
Gargantua	1,490 "
Rock Ferry	1,454 "
John S. Thom	1,440 "
Fairfax	1,424 "
Rapids Queen	1,307 "
Senator Derbyshire	1,246
Dundurn	1,120 "

BETWEEN 500 AND 1,000 TONS

Murray Bay	969 "
City of Montreal	868 "
Mary F. Graff	864 "
Yukoner	781 "
Samuel Marshall	772 "
Congercoal	672 "
Ossifrage	632 "
Adiramled	630 "
Governor Carleton	582 "
John C. Barr	547 "
Michipicoten	511 "
Stephen C. Hall	511 "
Soo City	500 "

III. List of Steam Vessels Owned in Canada, Built and Registered in Great Britain and Operated on the Great Lakes

	Gross Tonnage.
A. E. Ames	1,637
A. E. McKinstry	1,964
Acadian	2,305
Beaverton	2,012
C. A. Jaques	2,105
Canadian	2,214
Carleton	1,351
Corunna	1,269
D. A. Gordon	2,301
Dunelm	2,319
Edmonton	1,983
Empress of Fort William	2,181
Empress of Midland	2,224
H. M. Pellatt	1,592
Imperial	796
Impoco	1,683
J. A. McKee	2,158
J. H. Plummer	1,582
Kaministiquia	2,173
Keyport	1,721
Keystorm	1,673
Keywest	1,725
Kenora	1,955
Kinmount	2,112
Leafield	1,454
Mapleton	1,782
Meaford	1,889
Neebing	1,879
Nevada	1,276
Paliki	1,578
Port Colborne	1,729
Regina	1,957
Saskatoon	1,798
Scottish Hero	2,202
Sindbad	897
Tagona	2,004
Toiler	1,659
Turret Chief	1,881
Turret Crown	1,827
Wexford	2,104
Yorkton	1,772