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A

STATISTICAL REVIEW OF CANADA,

INCLUDING ITS

CONFEDERATED PROVINCES.

By CORNELIUS WALFORD, F.I.A., F.S.S.

LARRISTER-AT-LAW.

READ BEFORE THE STATISTICAL SOCIETY, MAY 20, 1884.

LONDON:

EDWARD STANFORD, 55, CHURCH LANE, S.W.

1884.

AN OUTLINE OF THE OBJECTS OF
THE STATISTICAL SOCIETY.

THE *Statistical Society* of London was founded, in pursuance of a recommendation of the British Association for the Advancement of Science, on the 15th of March, 1834; its object being, the careful collection, arrangement, discussion and publication, of facts bearing on and illustrating the complex relations of modern society in its social, economical, and political aspects,—especially facts which can be stated numerically and arranged in tables;—and also, to form a Statistical Library as rapidly as its funds would permit.

The Society from its inception has steadily progressed. It now possesses a valuable Library and a Reading Room; Ordinary Meetings are held monthly from November to June, which are well attended, and cultivate among its Fellows an active spirit of investigation: the Papers read before the Society are, with an abstract of the discussions thereon, published in its *Journal*, which now consists of forty-six annual volumes, and forms of itself a valuable library of reference.

The Society has originated and statistically conducted many special inquiries on subjects of economic or social interest, of which the results have been published in the *Journal*, or issued separately; the latest instance being the institution of the "Howard Medal" Prize Essay.

To enable the Society to extend its sphere of useful activity, and accomplish in a yet greater degree the various ends indicated, an increase in its numbers and revenue is desirable. With the desired increase in the number of Fellows, the Society will be enabled to publish standard works on Economic Science and Statistics, especially such as are out of print or scarce, and also greatly extend its collection of Foreign works. Such a well-arranged Library for reference, as would result, does not at present exist in England, and is obviously a great *desideratum*.

The Society is cosmopolitan, and consists of Fellows and Honorary Members, forming together a body, at the present time, of over nine hundred Members.

The Annual Subscription to the Society is *Two Guineas*, and at present there is no entrance fee. Fellows may, on joining the Society, or afterwards, compound for all future Annual Subscriptions by a payment of *Twenty Guineas*.

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Nomination Forms and any further information will be furnished, on application to the Assistant Secretary, 2, Adelphi Terrace, Strand, W.C., London.

J. G. Patterson }
with kind regards V
The Author

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CONFEDERATED PROVINCES.

A STATISTICAL REVIEW of CANADA, including its CONFEDERATED PROVINCES. By CORNELIUS WALFORD, F.I.A., F.S.S., Barrister-at-Law.

[Read before the Statistical Society, 20th May, 1884. ROBERT LAWSON, Esq., a Vice-President, in the Chair.]

CONTENTS :

	PAGE		PAGE
I.—Introduction	2	XII.—Shipbuilding; Vessels	
II.—Fisheries.....	5	Owned	16
III.—Fur Trade	7	XIII.—Canals	17
IV.—Lumber Trade	8	XIV.—Railways	18
V.—Landowners and Agricultural Holdings	9	XV.—Trade and Navigation....	19
VI.—Agricultural Produce.....	10	XVI.—Educational Statistics	21
VII.—Live Stock; Meat Supply .	10	XVII.—Post Office	22
VIII.—Mineral Products	11	XVIII.—Public Debt.....	24
IX.—Population	12	XIX.—Revenue	24
X.—Immigration	14	XX.—Savings Banks.....	25
XI.—Manufacturing Industries	16	XXI.—Conclusion	25

I.—*Introduction.*

OUR colonial possessions, as constituting essential parts of the British Empire, ever demand the interest of thoughtful men. An increasing importance has, in my opinion, attached to them since they became endowed with the privilege of self-government. In learning the art of governing themselves they will make some mistakes; but they will discover and that speedily, how to remedy these. It is impossible to believe that any body of business men, having the advantage of history and example to guide them, shall long remain in ignorance of what is best suited to their interests. That course they will pursue, and ought to pursue, in spite of all obstacles and all prejudices to the contrary.

Canada, as being one of our earliest (as it is by far our largest) colonial possessions—colonial in the strict sense of the term; and as being peopled mainly with an English speaking race, chiefly emigrants from our own shores, and their direct descendants—has a preponderating claim to our consideration. Its constituent provinces have quite recently been confederated and bound by common interests, and they constitute a dominion of vast magnitude, destined to become the home of millions of the British race.

This last fact alone should develop a never ending interest in Canadian affairs; but this is not all, Canada is at this moment engaged in an enterprise which has a most important bearing not only upon her own internal development, but perchance upon the destinies of the British Empire. The Canadian Pacific Railway for the first time opens up to settlement millions of acres, I might almost say millions of square miles, of land suitable for settlement, as being within the isothermal line, and therefore suited to grain growing and agricultural enterprise generally. And it also for the first time opens up a direct route, entirely under the protection of the British Flag, to India, Australia, and the East generally. The value of this prospectively it is not easy to overrate. Its importance may indeed become imminent at any moment. A little more oblivious blundering, and the transit through Egypt interrupted, then the true value of the Canadian Pacific Railway becomes apparent to all. Its eastern depôt at a port never closed (Halifax, with its commodious harbour); its western exit, protected by Vancouver's Island, and the Pacific Ocean is placed at our command; and thereby India, the Australian colonies, and all else that we hold of value there are brought within the range of rapid and uninterrupted communication. This is surely a consummation devoutly to be wished. Canada from this point of view becomes the centre of our United Empire: the base of operations offensive and defensive if ever, unfortunately, occasion shall arise. But I will not dwell upon the war aspect of the case. The peace prospect presented by this opening up of a Canadian Pacific Railway is equally grand. Here (in Canada) is an outlet for all who are willing to toil, and shrink not from the hardships of colonial life: or feel that these are fully compensated for in the political freedom gained. Here may be raised food necessary to supply, at a most moderate price, all the under-fed millions (if such there be) in this country. Here too the "land question" may be tested in all its bearings, either without the attraction of confiscation, or with it, if the Indian races at present in possession of the soil are to be regarded as its rightful owners. Problems of co-operation may also be tested without interference with vested interests. In this extended settlement of Canada—now for the first time rendered possible—there is then much to interest us all.

Some of the last suggested problems will necessarily take several generations to solve. The interest in these is rather in the future than the present. But are there no problems of present interest waiting solution? Is there not a great problem in national finance arising out of the fact that the Dominion Government has expended in connection with its north-western territories since 1868-69,

nearly 9 millions sterling (\$44,952,190); and has received in respect of the same less than 2 millions sterling (\$9,342,188)? May it not be fairly asked is this policy of speculating on the future a wise one? Towards answering this question, one pregnant fact may be noted. In 1870 the receipts in the Post Office department of the north-west were \$4,455; while in the financial year 1882-83, they had increased to \$132,239. Then is there not the greater, because the more immediate, problem of protection *versus* free trade?

I have not indeed shaped this paper upon controversial lines. I have preferred here to proceed upon a solid foundation of facts rather than enter upon the shifting expedients of party strife. What is required in the case of a country making great and sudden departures from established usages is a sort of *datum line* of fact, which all may agree to adopt as a base for future comparison. The main purpose of the present paper is to furnish in concentrated form statistics concerning all the leading industries of Canada, as they admittedly were up to and including the year 1879; and then in comparison with these, subsequent returns may be adduced, and deductions drawn therefrom as occasion may demand. It will be remembered that I adopted a precisely similar course regarding the United States some twenty years since, during the civil war there, in two papers read before this Society, and printed in its *Journal*.* The statistics there presented have been used as standpoints of comparison in that country and in this ever since.

It does not require any great political sagacity to discover that the real problem which Canadian statesmen have before them for practical solution is a twofold one. Will the opening up of the Great North-West induce a settlement of the territories, and an exchange of commodities, sufficiently rapid and sufficiently extended, to defray the annual charge upon the capital expended for the purpose? And will the population so settled be able and willing to consume the manufactured commodities of the Dominion in such a ratio as to prevent over-production, and the consequent financial and social disruption which follow upon such an event? The facts contained in the present paper will assuredly be too limited in point of time to enable any accurate deductions to be drawn at present on either of these heads; but they will not be without their use if they afford indications and forewarnings on points so vital to the national interests.

The following seems a convenient order in which to treat the data I have brought together:—

* "Recent Financial and Taxation Statistics of the United States," vol. xxvi, pp. 154—66 and 281—95.

II.—*Fisheries.*

The fisheries have played a prominent part in the history of Canada. When the supposed discovery of gold by the early voyagers had proved a delusion, and the region of Labrador seemed likely to be abandoned to its former desolation, the real discovery was made that there was a wealth in its waters greater, or more lasting, than any which had been associated with its shores. Those who are familiar with the history of Newfoundland (not yet indeed one of the confederated provinces), know how its fisheries developed in the sixteenth century; how the fishing fleets of the catholic countries of Europe congregated in its waters. The observances of religion in the matter of fish diet led directly to the development of trade, and so to the settlement of the country, for it is more than doubtful if France would have clung so tenaciously to Canada but for this question of its fisheries, and perhaps also its furs.

In more recent times the fisheries have constituted a bone of serious contention with the United States. I am not going to speak of the subject in a controversial spirit. The differences heretofore have been adjusted in the only spirit which becomes great and enlightened nations, viz., by treaty. There was awarded to Canada, under the Washington Treaty of 1872, as the value of the rights of free fishing during the ten years prospective currency of that treaty no less a sum than $5\frac{1}{2}$ millions of dollars; fixing the annual rental at \$500,000, or 100,000*l.* per annum.*

But not only do the seas which surround the eastern provinces abound with fish, these are equally abundant in the great lakes and the majestic rivers of the Dominion—furnishing a source of food supply of the utmost value, and as will be seen also an element of large commercial gain. In British Columbia too the fishery is growing into an important industry.

I meet with no very early returns of the products of the Canadian fisheries; probably from the obvious difficulty of procuring exact data as to an article carried away direct to other countries in the vessels by which they were taken. In 1871 their produce as an item of trade was given at $7\frac{1}{2}$ million dollars, while the quantity used for domestic supply was estimated at the further value of \$600,000. The entire proceeds hence reached 8 million dollars, while the capital embarked therein was stated to be 15 million

* Where dollars are reduced to sterling in this paper, 5 are taken as equivalent to 1*l.* unless otherwise stated. But I have generally retained the dollar currency, as being more convenient for future comparison. Where the dollars had been converted into sterling by the authorities quoted from, I have not re-converted into dollars: not being certain of the rate of conversion employed.

dollars, and the number of persons employed about 87,000. There was also a yield of 678,844 gallons of fish oil. These figures were an increase upon the previous year.

We will now review the details of the yield of 1882:—

Cod	quintals	1,130,771
Haddock, hake, and pollock	"	192,539
Herrings	brls.	574,503
Gaspereux	"	28,856
Mackerel	"	248,031
Sardines	"	25,384
Halibut	"	2,799
Salmon.....	"	73,897
Shad.....	"	10,385
Eels	"	8,012
Whitefish (from the lakes)	"	48,781
Trout	"	64,324
Other fish	"	170,052
Canned lobsters	ltrs.	11,983,648
Lobsters	brls.	189,127
Fish oil	gals.	870,328

The total value of the production of the fisheries (1882) was \$16,824,092, being an increase over that of the preceding year of 1,006,929 $\frac{1}{2}$., exclusive of the catch in Manitoba and the north-west territories, of which there are no returns. The Province of Nova Scotia came first with a production valued at \$7,131,416, the next in order, though at a considerable distance, being New Brunswick with a production valued at \$3,192,338. Quebec, Prince Edward Island, and British Columbia followed in order, each with a production the value of which was somewhat under \$2,000,000. It is estimated that fish to the value of \$4,885,000 was consumed by the Indian population alone. Fish was exported to the value of \$7,697,608, of which all but \$15,529 was made up of fish produced in Canada. The United States received the largest share of the exports, the value being \$2,454,323, though Great Britain was not far behind with a value of \$2,130,232. The next largest consumers were the British West Indies, which took fish to the value of \$1,188,819. The total value of fish imported into Canada in 1882 was \$1,231,917, and upwards of half this quantity came from the United States. An increased product from the Province of British Columbia is reported; the total number of cases of canned salmon produced there amounted to 255,061, and upwards of 5,000 barrels of salted salmon were also packed there. The demand is rapidly increasing for this latter kind of fish, and the British Columbia inspector considers that there is a broad field

open in connection with this industry for steady fishermen of moderate means.

The ships employed in the trade in 1882 were 1,147; the men on board the same 8,440. The boats 30,427, and the men on board these 43,621; the shoremen directly employed in the trade 7,992. The number of fathoms of nets was 3,150,259, and there were 3,868 fascines. Here the men directly employed seem to be only 60,053, against 87,000 in 1871. The latter was probably an estimate, and may have included the hands engaged in building the boats, &c., employed.

It is obvious that the fisheries must have largely aided in the development of shipbuilding, not only of the vessels employed in the catching, but also of those engaged in the carrying.

It is necessary to bear prominently in mind that the figures here given do not include the important fishing and seal trade of the Province of Newfoundland—wherein the fishery interests of Canada originated.

III.—*Fur Trade.*

During the last century and early in the present this was a great industry. It was largely monopolised by the "Hudson Bay Company" (chartered by Charles II in 1670), and later by the rival "North Western Company," founded in 1783.* The agents of these competing companies established trading stations and reared forts in many inhospitable regions. They cultivated the habits of barter with the native tribes, and otherwise prepared for the advent of the "settler." But with the settlement of the country and the expansion of agriculture, the domain of the wild animal was curtailed. The furs secured by the Indians were, during the French occupation, brought down to the annual fairs at Montreal and there disposed of. Later they found an outlet, in the summer months, by way of James's Bay (south of Hudson's Bay) through Hudson's Straits, by the company's ships. There is a proposal to utilise this route for emigration and commercial purposes. By means of the Canadian Pacific and the Intercolonial Railways, the fur trade from the North-West may find increased facilities. In 1871 the furs exported from Canada were valued at \$1,633,501.

In 1881 the value of furs was stated at \$987,555, to which the unsettled territory contributed \$428,177; the Province of Quebec \$163,310; British Columbia \$153,442; and the Province of Ontario \$129,578; Manitoba \$80,452; Nova Scotia \$17,177; New Brunswick \$13,895; Prince Edward Island \$1,524.

* These two Companies were amalgamated in 1821.

The export of furs for the year ending 30th June, 1883, amounted in value to \$1,098,004, viz., from Ontario \$260,641; Quebec \$218,272; Nova Scotia \$45,891; New Brunswick \$4,226; Manitoba \$378,426; British Columbia \$191,443.

I have already mentioned that the fur trade of Canada was regarded as of importance by France. The author Labontau said: "Le Canada ne subsiste que par le grand commerce des pelletries."

IV.—*Lumber Trade.*

The production of timber in the Dominion has been for many years, and still is, very great. At the close of the first quarter of the present century it was ascertained that the capital embarked in the business at Quebec amounted to 1,125,000*l.* sterling. This sum had been expended in saw mills, timber ponds, and other needful appliances. Now saw mills prevail on every stream in Eastern Canada, and are rapidly finding their way westwards. It is estimated that there are fully 1,000,000 square miles of timber lands remaining to be reduced. The export of timber in 1874 reached the aggregate value of about 5½ millions sterling; and of which about one-half found its way to Great Britain, about one-third to the United States, and the remainder to other European countries. British Columbia is now being rapidly opened up for this trade. Professor Davison has estimated 110 millions of acres (or two-thirds of the whole province) are covered with timber suitable for commerce. That province in 1880 produced 200 millions feet of prepared timber, of which three-fourths were sent to California, and the remaining one-fourth either used at home or sent to other countries.*

The timber trade in its various ramifications is one of the most important industries of Canada. It affords employment to a large population, and more especially in the winter, when other occupation is not available. In this sense it is of essential service to the poor. But in bad agricultural seasons many farmers find employment in it. For ships it affords a never failing cargo. All the branches of timber industry, from felling and rafting, to sawing and shipping, fall under the designation of "Lumbering."

The following are the details of the quantities of the different sorts of timber brought into the market, as returned for 1881, but presumably resulting from the season of 1880:—

* The Douglas fir or Oregon pine is the most valuable commercial tree. It frequently exceeds 8 feet in diameter above the ground, and rises to a height of from 200 to 300 feet, forming large and dark forests. The western hemlock and red cedar are the other important trees of the province, both of which, the latter especially, grow to a great size.

Square pine, white	cubic feet	40,729,047
„ red	„	2,815,755
Square oak	„	5,670,894
Tamarac	„	4,653,575
Birch and maple.....	„	4,414,795
Elm	„	3,191,968
Walnut, black.....	„	59,032
„ soft	„	754,219
Hickory	„	387,619
All other timber	„	49,956,958
Pine logs	No.	22,324,407
Other logs	„	26,025,584
Masts, spars, &c.....	„	192,241
Staves	M.	41,881
Lath-wood	cords	98,311
Tan bark	„	400,418
Firewood.....	„	10,993,234

All the provinces contributed in a greater or less degree to these totals; but Ontario contributed approximately one-half of the whole.

V.—Landowners and Agricultural Holdings.

It has been the peculiar feature of Canada, as of most newly settled countries, that those who settle become the owners of the soil. The first statistics I meet with on this point relating to the Dominion are in 1831, when there were 57,891 proprietors of real property, against 50,824 families engaged in agriculture. The number of farm servants employed was 7,602, indicating that the greater proportion of the agriculturalists were small farmers. The persons engaged in commerce were then returned as only 2,503.

In 1881 the number of owners had increased to 588,973; the number of acres owned was 67,645,162; the number of houses 712,440; of warehouses and factories, &c., 110,170; barns and stables 860,895. The occupiers were 464,025; of these 403,491 were owners, and 57,245 tenants; while 3,289 were employes.

The occupiers of 10 acres and under were	75,286
„ 11 „ to 50 acres were	93,325
„ 51 „ 100 „	156,672
„ 101 „ 200 „	102,243
„ 200 „ and over	36,499

As to the condition of the lands—

	Acres.
Total occupied	45,358,141
„ improved.....	21,899,181
Under crops	15,112,284
Pasture	6,385,562
Gardens and orchards	401,335

VI.—*Agricultural Produce.*

The agricultural produce returned for 1881, but presumably the crop of 1880, was as follows:—

Wheat, acres sown	2,366,554
" spring yield	bshls. 12,102,817
" winter "	" 20,247,452
Barley	" 16,844,868
Oats	" 70,493,131
Rye	" 2,097,180
Peas and Beans	" 13,749,662
Buckwheat	" 4,901,147
Corn (maize)	" 9,025,142
Potatoes, acres sown	No. 464,289
" yield	bshls. 55,268,227
Turnips	" 39,059,094
Other root crops, yield.....	" 9,192,320
Hay, acres sown	No. 4,458,349
" yield	tons 5,055,810
Grass and clover, seed yield	bshls. 324,317
Flax and hemp	lbs. 2,056,353
" seed	bshls. 108,694
Tobacco	lbs. 2,527,962
Hops	" 905,207
Fruits—Apples.....	bshls. 13,377,655
Grapes	lbs. 3,896,508
Other fruits	" 841,219
Maple sugar	" 20,556,049
Honey	" 1,875,745
Home-made butter	" 102,545,169
" cheese	" 3,184,996

Under this head too are classed—

Home-made cloth and flannel	yds. 7,040,250
" linen	" 1,293,802

VII.—*Live Stock; Meat Supply.*

The live stock devoted to labour consisted in 1881 of 857,855 horses, 201,503 colts and fillies, and 132,593 working oxen.

The live animals constituting farming stock consisted of 1,595,800 milch cows, 1,786,596 other horned cattle, 3,048,678 sheep, and 1,207,619 swine.

The animals killed or sold for food and for export during the year were 657,781 cattle, 1,496,465 sheep, 1,302,503 swine. Thus while there were two years' consumption of sheep in hand, there was less than one year's consumption of swine.

The wool produced during the year was 11,300,736 lbs.

The cattle *export* trade is becoming a growing one, as the following figures show: 1882, horses exported 21,006, value

\$2,358,887 (1875, exported 4,382, value \$460,672); 1882, horned cattle exported 62,337, value \$3,285,452 (1875, number 38,968, value \$823,522, and much smaller in the three following years). 1882, sheep, number 311,669, value \$1,228,957; (1875, number 242,438, value \$617,561, much smaller in 1876); 1882, swine, number 3,263, value \$10,875 (1875, number 16,779, value \$152,252).

The swine are now slaughtered and salted before being exported.

The total value of exported live stock in 1882 was \$6,884,171 as against \$2,074,007 in 1875. A considerable but decreasing number of cattle and live stock are *imported* every year for breeding purposes.

The Live Stock Exports for the Year ending 30th June, 1883, were as follows.

	Number.	Value.
		\$
Horses	13,500	1,697,901
Horned cattle	67,060	3,995,090
Sheep	308,662	1,392,279
Swine	3,858	12,281

VIII.—Mineral Products.

In Nova Scotia gold was discovered in 1861, and this led to a sudden influx of emigration; and again there is a note of recent discoveries in the eastern provinces, and at Quebec. In the former territories of the Hudson Bay Company it has long been understood that there are most extensive deposits of copper, waiting only facilities of conveyance for profitable working. But the region of future mineral wealth, far beyond all that has heretofore been realised, may be assumed to be in the Rocky Mountain section of British Columbia. The Canadian Pacific Railway will at an early period render these rich deposits available.

But it is not alone in what are known as the precious metals that mineral wealth consists. Iron and coal are as essential to national development as gold. Petroleum has probably added nearly as much to the wealth of the United States during the last twenty years as all the gold and silver of Colorado and California. It was, if I remember rightly, in the Province of Ontario in 1859-60 that petroleum was first discovered in quantities sufficient to pay for the working. Salt, again, is a commodity of vast importance in connection with the fish curing industry. While building stone and granite are essential to ornamental construction and the improvement of towns. In all these the Dominion abounds.

The returns for 1882 embraced the following:—

Gold	ozs.	70,015
Silver	"	87,024
Copper ore	tons	8,177
Iron "	"	223,057
Pyrites	"	20,770
Manganese	"	2,449
Other ores	"	5,924
Coal	"	1,307,824
Plumbago	"	28
Gypsum, lump	"	183,076
Phosphate of Lime	"	14,747
Mica	lbs.	16,076
Petroleum, crude	gals.	15,490,622
Salt	brls.	472,074
Grained marble	cubic ft.	40,126
Building stone, for dressing	"	8,141,227
Roofing slates	squares	10,536

In contemplating these results the mind is carried back to the late Sir William Logan, and the geological museum he founded a generation since in Montreal.

IX.—*Population.*

The growth of the population of the Dominion has been, of recent years especially, most surprising—due largely of course to immigration. I propose briefly to review such shadows of the past as are available. In 1674 the population did not reach 8,000, including such of the Indians as had settled down with the ordinary population; another estimate however gives to Lower Canada, two years later, 8,415. In 1708 the population was stated to be 15,000, and in 1713 25,000. In 1760 the population of Canada was described as being 65,000, mostly inhabiting narrow strips of territory on the banks of the St. Lawrence, and chiefly occupied in agriculture. The population in 1776, at the period of the declaration of independence by the American Colonies, was probably less than 100,000; and it very speedily increased from that time.

In 1811 the first census of the population of Upper Canada was taken. The number was returned at 77,000. The war with the United States at that period tended for a time to check the growth; but in 1823 it was returned by authentic enumeration at 151,097, and ten years later (1833) at 296,544—showing an increase of 145,447 in the decade. In 1842 the population of Upper Canada was found to be 486,055, with 1,927,816 acres under cultivation; in 1852 it had increased to 952,000, with 3,620,851 acres under cultivation. Such was the unexampled progress of this largely Anglo Saxon community.

As to Lower Canada no such statistics are available; but it may be stated generally that the progress was slow—certainly by comparison.

We now reach a period when the population of the Dominion can be regarded as a whole; but it will be convenient to note the progress of the separate provinces:—

Province.	1871.	1881.	Increase.	Rate of Increase per Cent.
Quebec	1,191,516	1,359,027	167,511	14.6
Ontario	1,620,851	1,923,228	302,377	18.6
Nova Scotia	387,800	440,572	52,772	13.6
New Brunswick	285,594	321,233	35,639	12.4
Prince Edward Island....	94,021	108,891	14,870	15.8
Manitoba	18,995	65,954	46,960	247.0
British Columbia	36,247	49,459	13,212	36.3
The Territories	—	56,449	—	—
Totals	3,635,024	4,324,810	689,841	18.98

The population of 1881 consisted of 2,188,854 males, and 2,135,956 females. It was mainly composed of the following nationalities: French settlers 1,298,929;* English 881,301; Irish 957,403; Scotch 699,863; German 255,319; Dutch 30,412; Indians 108,457; African 21,344; the remainder composed of small nationalities mostly from the north of Europe.

In 1871 the Indians of various tribes resident in Canada were estimated at 85,000. In 1876 more exact returns had been obtained, and the number was given at 91,910, of whom 29,826 were in the five older provinces; 31,520 were in British Columbia; 13,944 in Manitoba, under treaty; and there were about 10,000 untreatied between Peace River and the United States Boundary. Of the population in the older provinces 7,099 were children, and of these 2,105 were attending school. At the census of 1881 the number of Indians in the Dominion was 108,547—of these 25,661 were in British Columbia, and 56,239 in Manitoba and the North-West Territories.

The Indians in the five older provinces owned real estate to the value of \$7,633,708; owned invested capital to the extent of \$2,844,972; and had personal effects estimated at \$489,234.

The following additional facts relating to the density of population and the proportion of the sexes, drawn from the census of 1881, have considerable interest:—

* Viz., 1,073,820 in the province of Quebec, and the remaining 225,104 scattered through the rest of the Dominion.

	Persons to Square Mile.	Acres to a Person.	Acres of Unoccupied Land to a Person.	Females to 100 Males.
Quebec	7.2	88.8	79.5	100.4
Ontario	18.9	33.8	23.8	96.9
Nova Scotia	21.0	30.3	18.1	99.7
New Brunswick	11.8	54.1	42.2	95.7
Prince Edward Island....	51.0	12.5	2.2	98.9
Manitoba	0.53	1,195.5	1,159.3	77.2
British Columbia	0.14	4,456.9	4,409.5	67.6
The Territories	0.02	30,219.3	30,213.7	100.7
Averages for Dominion..	1.24	513.5	503.0	—

Amongst the social facts revealed by the census of 1881, were these: The married numbered 1,380,044; the widowed 160,330; the unmarried 2,784,396, the larger portion of which would be children. The proportions of the sexes, now seen by the last table to be so nearly equal, did not always present this feature. I have the returns only for Upper Canada. In 1821 the males were 65,792, the females 56,795; in 1828, males 99,465, females 89,093; in 1830, males 151,081, females 100,386.

Canada for the purpose of the census was divided into 192 districts, and 2,139 sub-districts.

The religious denominations of the people were (1881) reckoned as follows: Roman Catholics, 1,791,982; Presbyterians, 676,155; Adventists, 7,211; Baptists, 225,236; Free Will Baptists, 50,055; Mennonites, 21,234; Brethren, 8,831; Church of England, 574,818; Congregationalists, 26,900; Disciples, 20,193; Episcopal (reformed), 2,596; Jews, 2,393; Lutherans, 46,350; Methodists of all classes, 742,981; Pagans, 4,478; Protestants, 6,519; Quakers, 6,533; Unitarians, 2,126; Universalists, 4,517; no religion, 2,634; other denominations, 14,269; not given, 86,769. Total, 4,324,810. There is no State church in the Dominion.

X.—Immigration.

There has been a continuous, as also a considerable emigration from the United Kingdom, as from various other parts of Europe, to Canada. The history of this movement of the population it is impossible to trace with any degree of minuteness. In the first year after the peace with Great Britain and the United States, the number of emigrants into Canada was 1,250. In 1819, no less than 12,907 landed in Quebec; in 1825 it was 8,741, while into the United States the same year the number was but 5,551. In 1834 the number of emigrants into Canada was 40,060, some 7,000 greater than into the United States the same year. In 1847 the number was 89,562; in the following year but 27,939. In 1851 it

was 47,056. In 1861, 12,707; 1871, 32,671; 1878, 10,697; 1880, 24,997; 1881, 30,228; 1882, 44,850; 1883, 45,966.

It requires to be stated that these figures only embrace the immigration by way of Quebec and the St. Lawrence. There are other points of ingress to Canadian territory, viz., by way of Halifax (Nova Scotia), St. John (New Brunswick), Portland (Maine); many points on the United States frontier, and by way of British Columbia. Taking all these sources into account, the Minister of Agriculture gives the total immigrants in the years named, viz., 1878, at 29,807; 1880, 38,505; 1881, 47,991; 1882, 112,458; 1883, 133,624.

The nationalities of the European immigrants into Canada constitutes a point of interest. For the last four years they have been as follows:—

	1880.	1881.	1882.	1883.
English	11,059	13,154	20,881	21,897
Irish	3,183	3,785	8,195	12,095
Scotch	2,875	2,800	4,617	3,980
Germans	307	530	1,024	1,434
Scandinavians	7,402	9,600	8,279	4,763
French and Belgians	27	104	50	306
Icelanders	71	118	129	1,413
Russians	70	22	270	56
Swiss	—	—	—	22
Jews	—	—	1,375	—
Other origins	3	45	30	—
	24,997	30,158	44,850	45,966

The number of emigrants from European countries naturally varies with the condition of home industries, and in some degree with other social and political causes. That all persons who are suited to the requirements of a country where labour affords the most ready road to competency, can find a steady demand for such labour, is a fact of significance. Many have gone, and still continue to go, who are not suited to colonial life; and this is a circumstance which has led to much disappointment.

On analysis of the returns for 1873, the heads of families emigrating to Canada consisted of:—

Farmers	1,470
Labourers	6,202
Mechanics	7,662
Clerks and traders	62
Professions	7
Total	15,403

The proportions seem to be undergoing a change. Formerly

there were many more labourers, many fewer mechanics, and also more farmers. The class of persons for whom openings are presented, may be ascertained with certainty by applying at the Canadian Emigration Office, Victoria Street, Westminster, and thus much disappointment prevented.

XI.—*Manufacturing Industries.*

While the natural products of the Dominion have been reviewed in some detail, it may be expected that I shall be equally explicit regarding its manufacturing industries; but this is impossible, for several reasons—chiefly that of space. That progress is being made in a greatly accelerated ratio is obvious to all who visit the great towns—more especially Montreal, Toronto, Hamilton, and London. All I can attempt to do here is to produce a summary of aggregate results of a decade 1871-81; taking note that the present commercial policy of Canada was only adopted in 1879:—

	1871.	1881.
	\$	\$
Amount of capital invested	77,964,020	165,302,623
Value of raw material used	123,907,846	179,913,593
Aggregate value of productions	221,617,773	309,676,068
Number of persons employed*	187,942	254,935
Aggregate wages paid	40,851,009	59,429,002
Average wages for each person	217	233

* The number of persons employed includes men, women, and children. It will be in the decade 1879-89 that the progress, whatever it may be, will be revealed in full force.

XII.—*Shipbuilding; Vessels Owned.*

Canada has now become the "fifth maritime nation," that is to say its merchant fleet is only exceeded by four others nations. This is a striking fact, and is worthy of some elucidation. As early as 1723, shipbuilding was a branch of industry here. In that year six merchant ships and two men-of-war were built in this colony. In 1752 a 74-gun ship was built at Cape Diamond, (Quebec), but it was wrecked in the launching. In 1810 no less than twenty-six vessels, having an aggregate of 5,836 tons, were built in the provinces. In 1812, thirty-seven vessels were built at Quebec. But in 1820 only seven were built. In 1825 there were built sixty-one vessels, with an aggregate capacity of 22,636 tons; in 1830 but nine vessels, with 3,250 tons' capacity, were built. These fluctuations were occasioned by many and sometimes combined circumstances, such as peace and war, the restrictions or otherwise of the shipping acts.

In 1853 the trade revived, and there were built at Quebec alone forty-eight ships, tonnage 49,000 tons, value 500,000*l.*, being an increase during the year of twenty-two ships, and in value 340,000*l.*

The development of the fisheries in the eastern provinces has, in recent years especially, given great stimulus to shipbuilding; but on the other hand the increasing use of iron ships has diverted this industry to some extent.

I have not been able to meet with reliable returns of the vessels owned by the various Canadian provinces in the earlier half of the present century.

In 1878 the shipping and tonnage registered in each of the provinces of the Dominion was as follows:—

	Vessels.	Tons.
Nova Scotia	3,003	553,368
New Brunswick	1,142	335,965
Quebec	1,976	248,349
Ontario	958	135,440
Prince Edward Island	322	54,250
British Columbia and Manitoba	68	5,643
Total	7,469	1,333,015

In 1881 the number of seagoing sailing vessels owned in the Dominion was 3,909, having an aggregate tonnage of 860,450 tons, the average size or capacity being 220 tons. The number of steam vessels owned was 721, with an aggregate tonnage of 200,023 tons, giving an average capacity of 277 tons. Of barges and such other craft there were 1,782, with an aggregate tonnage of 96,468 tons, presenting an average capacity of 54 tons. Hence the total of vessels owned was 6,412 (being less than in 1878), with an aggregate tonnage of 1,156,941 tons, being also less than in 1878.

XIII.—Canals.

The necessity for canals in Canada was a very early one. It was only by their means, in consequence of the frequent recurrence of rapids in the St. Lawrence, that the full advantages of that great river could be obtained even in open weather. By the aid of ten canals, with an aggregate length of 71½ miles, but presenting great difficulties of construction in some cases, the lake and river system was made continuously navigable for 2,384 miles. This system extends from the Straits of Belle Isle to Thunder Bay, at the head of Lake Superior. Some account of the construction of these canals would be interesting; but the system, valuable as it has been in earlier years, important as it is even yet in the cheap

conveyance of manufacturing products, is on the decline; railways are superseding them.

Traffic on Canadian Canals, 1872-82.

Year ending	Tons of Freight.	Number of Passages.	Tonnage of Vessels.
1872.....	3,030,233	90,644	3,721,364
'77.....	2,734,153	146,375	3,576,698
'82.....	2,542,843	110,787	4,063,247

The tonnage of vessels using the canals is alone increasing, the goods and passengers carried are each decreasing.

XIV.—*Railways.*

The climate of Canada, and the consequent suspension of the means of water transit and communication, rendered railways a necessity. The first railroad commenced in the Dominion dates as far back as 1846, some eleven years after the opening for passengers of the first railway in Great Britain. The Great Trunk Line was commenced in 1847; the Great Western in 1854. The capital for each of these was largely subscribed in the United Kingdom.

The termination of the Reciprocity Treaty in 1866, rendered it incumbent upon the Government of the Dominion to devise means of communication between its several provinces, and still more with the outer world, at all seasons of the year. Hence the necessity for the intercolonial railway down to the harbour of Halifax (which is open for shipping at all seasons of the year), constructed at a cost of 20 millions of dollars, guaranteed by the Imperial Government.* Hence also, combined with many other considerations, the necessity for the Canadian Pacific Railway, which is being pushed forward with such unflagging energy, such indomitable spirit as against all obstacles.

I can only take a brief summary survey of the progress of the railways of Canada. They have been associated largely with its material progress. Facilities of locomotion are indeed of the first necessity to a progressive country. In 1873 there were in working 2,639 miles of railway in the province, the revenue of which was \$17,139,876. The subsequent progress has been as follows:—

* While the Imperial Government gave its guarantee for the repayment of this loan, it has never been called to make any advance for the purpose.

	Total Miles of Railways.	Number of Passengers.	Tons of Freight.	Earnings.	Working Expenses.
				\$	\$
1875	4,826½	5,190,416	5,670,836	19,470,539	15,775,532
'78	6,143½	6,443,924	7,883,472	20,520,078	16,100,102
'82	7,530½	9,352,355	13,575,787	29,027,789	22,390,708

The paid up capital invested in those lines was (1882) \$415,611,810; and it hardly needs to be said—for a comparison of the last two columns of the table proclaims the fact—that the rate of dividend earned upon that capital is a small one. The Government of the Dominion has had the broad fact before it—*railways are a necessity!*

The number of passengers carried in 1882 showed the extraordinary increase of 2,408,664, or 34½ per cent. upon the number of the preceding year; and the tonnage of freight an increase of 1½ millions of tons, or 12½ per cent. on 1881.

XV.—Trade and Navigation generally.

The commercial prosperity of a country is usually judged of, as a whole, by the volume of its imports and exports. In 1759 the exports were valued at 115,415*l*. In 1769 the exports (consisting chiefly of furs, oil, and fish) were 355,000*l*; the imports (consisting chiefly of British manufactured goods and West India produce) 273,400*l*. The trade then employed 70 vessels. In 1799 there is the record of a large exportation of grain. In 1809 there were 440 vessels, with an aggregate of 87,825 tons, entered at Quebec. During that year, too, the first steam vessel is stated to have entered that port. In the following year (1810) as many as 635 vessels entered the St. Lawrence—tonnage 138,057. In 1812 532 vessels, tonnage 116,687, cleared the port. In 1820 the trade was but slightly greater than in 1812—England was at war with the United States. In 1830 1,016 vessels, with tonnage 261,218, cleared the port. There was an export of 400,000 barrels of flour, chiefly to Britain.

In 1846 the navigation laws of Great Britain were modified, the old restrictive commercial policy was abandoned, and Canada speedily felt the benefit.

The following table shows the development of the commerce of Canada as a whole during the past sixteen years:—

Exports and Imports, 1868-83, distinguishing Home Consumption Imports, and showing Customs Duty.

	Total Exports.	Total Imports.	Entered for Home Consumption.	Duty, Import and Export.*
	\$	\$	\$	\$
1868	57,567,888	73,459,644	71,985,306	8,819,431
'73	89,789,922	128,011,281	127,514,598	13,017,730
'78	79,323,667	93,081,787	91,199,577	12,795,693
'82	102,137,203	119,419,500	112,648,927	21,708,837
'83	98,085,804	132,254,022	123,137,019	23,172,609

* The export duty, 1873, was \$20,152; 1878, \$4,160; 1882, \$8,809; 1883, \$9,756.

Note.—The financial year terminates 30th June.

These figures show considerable fluctuation at the different quinquennial periods. It becomes therefore necessary to review very briefly the more potent causes which have been in operation. We are thus carried back to the "Reciprocity Treaty" made between Great Britain and the United States, largely in the supposed interest of Canada, in 1854. This was made binding for a period of ten years, and could afterwards be abrogated on two years' notice by either side. The United States gave such notice, and the treaty expired in 1866. The desirability of such a treaty regarding articles in ordinary use between two countries with a frontier line then of 1,400 and now of 3,000 miles seems almost obvious; but outside considerations intervened, and although various attempts have been made in direction of renewal, these have always failed. Each country adopts its own tariff, irrespective of the wants and circumstances of its neighbour. The tariff of the United States on certain articles of British produce has been sometimes prohibitive, or nearly so.

In 1867 the confederation of the Canadian provinces obtained the Imperial assent; and on this question all presented an united front, except Newfoundland.

In 1879 the new protective policy of the Dominion came into force. It has been often charged (by politicians and writers on economic questions) that this step was aimed at the United Kingdom. I am not going to raise any issue on that point here, the experiment is much too recent for that. All I propose doing is to show what has been the effect of the policy, quite apart from any intention. A brief analysis of the preceding returns will furnish all that is necessary:—

		Great Britain.	United States.	Total Exports.
		\$	\$	\$
1878	Value of <i>Exports</i> from Canada to	45,941,539	25,244,898	79,323,667
'80	"	45,846,062	33,349,909	87,911,458
'82	"	45,274,461	49,940,711	102,137,203
'83	"	47,145,217	41,668,723	98,085,804
1878	Value of <i>Imports</i> to Canada (for consumption)...	37,431,180	48,631,739	91,199,577
'80	"	34,461,224	29,346,948	71,732,349
'82	"	50,597,341	48,289,052	112,648,927
'83	"	52,052,465	56,032,333	123,137,019

A survey of these figures furnishes the following results: the *exports* from Canada to Great Britain had, down to 1882, shown a steady decline; in 1883 a reaction took place, and the increase was nearly $1\frac{1}{2}$ million dollars upon the figures of 1878. The *imports* from Great Britain to Canada have very largely increased, while those from the United States had decreased until 1882, but in 1883 showed a very large increase, exceeding by nearly 4 millions of dollars those from Great Britain, and by nearly 8 millions of dollars those of the previous year from the United States. The total *exports* from Canada, which up to June, 1882, had shown a tendency to rapid increase, decreased nearly 4 millions of dollars during the succeeding year, being, however, still nearly 19 millions of dollars above those of 1878; while the aggregate value of *imports*, after showing a great decline in 1880, rebounded in 1882, and show a large progressive increase in 1883. I shall be surprised, but much gratified, to hear any rational solution of these variations. If the modern doctrine that the wealth of a country is to be measured by the extent of its imports over its exports, then Canada is indeed progressing most rapidly. May it prove to be so.

XVI.—*Educational Statistics.*

The provinces of Quebec and Ontario have separate school laws, adapted to the religious elements prevailing in either. Each township of Ontario is divided into several school sections, according to the requirements of its inhabitants. The common schools are supported partly by the provincial governments and partly by local self-imposed taxation and occasionally by the payment of a small fee for each scholar. All teachers must pass an examination before a County Board of Education or receive a licence from the Provincial Normal School empowering them to teach before they can claim any government allowance.

In 1797 a grant of 500,000 acres of unoccupied lands was set apart for the establishing and endowing a university and four

foundation grammar schools; but I have not been able to learn any details of its application.

In the Lower Province about 1830 there were in existence 1,216 schools, having 43,799 pupils—the sexes about equal—about one-half of whom paid from 5s. to 7s. 7d. per month and the other half were educated free. There were 670 male and 635 female teachers. The proportion of inhabitants in each school district varied greatly, as also the proportion of children attending school out of any given population.

In 1874 the public schools of the Dominion had 460,984 pupils, whilst the entire population between the ages 5 to 16 was 504,869, showing that a very large proportion of the children were under process of education.

I regret that I am unable to present later statistics.

XVII.—*Post Office.*

In a newly settled country one of the pressing difficulties is how to provide facilities of intercommunication. For instance, in a locality under process of being reclaimed from the forest or the prairie, the dozen or less of first settlers require communication with the regions they have left. But it is certain that the ordinary revenue obtained will not for some time meet the expenditure involved; yet if no steps be taken no development can arise. The more rapidly a country is being settled up, the more serious may be the excess of expenditure over income. The common exchequer therefore has to bear the burden of the outlay for the common good.

The growth of postal facilities, which is properly regarded as a branch of educational outlay in the Dominion, has been very remarkable. The earliest statistics I have are those for the year 1831; and it is here necessary to give the returns for the lower and upper provinces separately:—

Post office receipts, Lower Canada—letters, 10,494^l.; newspapers, 566^l.

"	Upper	"	—	"	9,870l.;	"	790l.

These figures included not only the internal postal rate, but also the British and sea postage. Any net proceeds after defraying expenses was to be remitted to England; but no details on this point are given. The gross amount of newspaper postage paid by proprietors or printers of newspapers in Canada that year was 1,022/.

In 1868 the number of letters which passed through the post offices of the Dominion was 18 millions; in 1870 it had increased to 24½ millions. A reduction in the rate of postage from 3 to 2 cents (1½ d. to 1 d.) had aided materially in producing this result.

The package post was reduced to 6 cents in 1869: produced an

increased income in 1870; the number of parcels carried in fact more than doubled, and amounted to 51,844 in 1870. The money orders rose greatly in amounts remitted; while the growth of the post office savings banks, which was considerable, appeared scarcely to affect the old savings banks.

The correspondence between Canada and the United Kingdom is very considerable. In 1870 the Allan line alone—and much of the correspondence from the western portion of the Dominion passes through the post office of New York—carried 1,215,104 letters, 1,321,718 newspapers, 39,969 books, and 6,400 patterns. There was an increase of 20 per cent. during the year on both letters and newspapers. There has since been a large and progressive increase; but I have not the later figures at hand.

The following figures, arranged by way of comparison, will show the growth of the postal department during the past three years, 1879-82:—

	1879.	1882.
Number of post offices.....	5,606	6,171
" miles of mail route	39,598	43,097
" miles travelled by mail	16,156,034	18,091,996
" letters by post.....	43,900,000	56,200,000
" postal cards	6,940,000	11,300,000
Newspapers from office of publication .... lbs.	4,085,454	4,855,000
" and miscellaneous otherwise } No.	10,664,000	14,730,000
than from office of publication		
Number of registered letters posted in the year	1,980,000	2,450,000
Amount of postal revenue..... \$	1,534,363	2,022,068
" expenditure..... "	2,167,266	2,459,356
" money order issues..... "	6,788,723	8,354,152
" deposit in post office savings } "	3,105,190	9,473,661
banks		

The aggregate of letters and post cards in 1882 showed the remarkable increase of 10 millions, or 17 per cent. over that of 1881. The postal revenue of 1882 showed an increase of \$254,935, equal to $12\frac{1}{2}$ per cent. over that of 1881; the total expenditure during the like period only gives about $5\frac{1}{2}$ per cent. increase. The postage revenue in Manitoba nearly doubled during the year. The revenue fell short of the expenditure during the year by \$437,258. The increase of revenue during three years had been 20 per cent., and of expenditure only $7\frac{1}{2}$ per cent.

Since 1st June, 1882, the newspapers and periodicals printed and published in Canada, and posted from the office of publication have been *carried free*, a step in advance of any European nationality.

The present rate of postage in Canada is 1 cent (i.e., one half-penny) for local postage in the cities; 3 cents for the Dominion generally and the United States; 5 cents for Europe.

The following statistics of the post office for 1883 furnish some items differing from those previously given :—

Number of post offices.....	6,395
Miles of post route	44,643
Annual rate of mail travel in miles	19,465,121
Letters	62,800,000
Post cards	12,940,000
Registered letters.....	2,650,000
Free letters	2,500,000
Newspapers and periodicals, not from office of publication	7,402,000
Books, circulars, &c.....	8,724,000
Parcels post, number of parcels	463,200

XVIII.—Public Debt.

The public debt of Canada has grown rapidly of late years. To make the figures appear quite clear and useful for all comparative purposes, a commentary upon the territorial and other changes would be necessary. For present circumstances the following figures as they stand must suffice :—

Year.	Amount Sterling. £
1860	13,665,098*
'64	15,616,557
'74	22,567,701
'79	29,789,662
'83	33,013,899

Between 1860 and 1883 nearly 6 millions sterling of debt had been paid off.

XIX.—Revenue.

More than half the revenue of Canada is drawn from customs duties, and the remainder from excise and other indirect taxation.

The following table will show the growth of the revenue and expenditure at various illustrative periods :—

Year.	Gross Revenue. £	Expenditure. £	Customs Revenue. £
1861.....	2,448,288	2,909,050	—
'70.....	3,396,934	3,546,921*	2,056,275
'79.....	4,691,121	6,271,606*	2,687,637
'83.....	7,457,218	8,820,698*	4,793,662

* Including expenditure from loans on public works, 1870, 387,128*l.*; 1879, 1,176,735*l.*; 1883, 2,835,248*l.*

(The dollars are here converted at the rate of 4*s.* 2*d.*)

* There seems to be some doubt as to how this total is made up. The dollars are here converted at the rate of 4*s.* 2*d.*

XX.—Savings Banks.

The deposits in the savings banks give some indication of the prosperity of the lower-middle and industrial classes. The statistics available do not extend over any long period: but such as they are I present them—the results indicating a state of progress I was hardly prepared for.

There are two classes of savings banks: those of the old Dominion before confederation, and the post office savings banks of later introduction:—

	Post Office Savings Banks Deposits.	Total. Savings Banks Deposits.
	£	£
1880.....	1,894,732	2,210,591
'83.....	2,395,247	5,243,821

The total number of savings banks is 330, the number of accounts 60,063, the average of each deposit \$196 as against \$184 three years previously.

XXI.—Conclusion.

The present paper has made no pretension to furnish a complete review of all the points of general interest affecting Canada. There are the important questions of the administration of justice, taxation, relief of its poor, the militia system, treatment of the Indian tribes, upon all of which much might be said. They must await another opportunity. To prevent misapprehension it may be mentioned that there is no poor law existing in Canada; and hence perhaps there are very few poor, *i.e.*, non-industrious persons. In some matters of secular convenience, such as the supplying of warm air to dwelling houses, in providing burglar alarms, and fire and messenger signals, and in the use of the telephone, as also the electric telegraph for domestic as well as business purposes, Canada is far in advance of ourselves.

Finally, I have to express my obligations to the High Commissioner from Canada, Sir Charles Tupper, and his able *locum tenens*, Mr. Colmer, and to Mr. Bateman, of the Commercial Department of the Board of Trade, for assistance readily afforded in the preparation of this paper.

DISCUSSION ON MR. WALFORD'S PAPER.

MR. S. BOURNE said he had come not so much to speak, as to lay the foundation for a good deal of the knowledge which he hoped to acquire when, in the course of the autumn, he paid a visit with the British Association to Canada. He would in the first place thank the lecturer for the copious details which he had drawn from various sources and had placed before them. Several important points had been raised by Mr. Walford. As to the grave question with which he started, whether the social and economic condition of the country in the course of a few years would be such as to justify the present large influx of population and expenditure of capital, he (Mr. Bourne) had for his own part no doubt that a very brilliant future awaited the Canadian Dominion, and it was very much to the credit and the foresight of her statesmen that she had thrown herself so very vigorously into the work of preparing for the large influx of population which was likely to visit her shores. Some years ago he read a paper on emigration at the Colonial Institute, the importance of that subject seeming to him at that time to be insufficiently recognised. But the question as to how we were to provide for the surplus population rising up in our midst was now pressing upon our statesmen at home, and it must be remembered that population in this country did not increase in a manner at all creditable either to our sanitary or economic arrangements. There was without doubt a vast waste of human life in this country, arising partly from the insufficiency of our sanitary arrangements, partly from the habits of the people—their herding together in crowded dwellings—and not a little from the loss of life and substance arising from the undue consumption of alcoholic liquors. Every reformation in either of these respects must necessarily tend to a very much more rapid increase of our population, and also increase the necessity of providing an outlet for it. Again, it was evident that skill in manufacture and the amount of capital invested in productive industries were increasing in other countries in a greater ratio than in our own; consequently we were being disturbed in a great measure of the success which had attended our previous history. As a result of this, there was a diminished demand for the employment of our home population in catering for the wants of the world; if not altogether by a diminution in the quantity of goods manufactured, yet certainly in the price which the world was willing to pay for them; in other words, in the margin of profit. All this must force a large portion of our population to seek homes in other parts of the world. This was one of the most cheering prospects for the future. As one who had lived abroad for some years, he rejoiced to live at home now. He would say to all men, "If you can get bread and cheese at home, do not go abroad to look for turtle soup; but if

bread and cheese fail you here, do not despair of getting something far better than that abroad." It was the destiny of the human race to overspread the world, and Canada was a place which would provide for a very large number of the population that we were producing, and which, for economical reasons, would have to be sent away. It was therefore extremely important that the position of Canada, and the means she had of providing for our people, should be fully understood. The two great English-speaking nations, the inhabitants of the United Kingdom and the inhabitants of the United States, were the consumers of the bulk of the produce which Canada parted with, while the English, already large producers of the goods which Canada took from the world, might greatly increase their supplies. He welcomed with very great satisfaction the proposal that the British Association should this year hold its meeting at Montreal. A very large number of our economists, statisticians, statesmen, and other thinking people would visit the colony, and the result would no doubt be productive of very much good. We must look, in the first place, at the capacity of Canada to supply the wants of those who come; and in the second place, her ability to yield a surplus for the supply of other nations. The fur trade, originally one of the greatest importance, might be said to be in process of exhaustion; as the population increased, the supply of furs would become reduced, and the price of sealskin jackets would possibly be something fabulous before our children grew up to wear them. But that was not to be regretted if the land, instead of producing only the wild beasts of nature, was made the means of supporting sentient beings who laboured for the benefit of their species, and thus honoured the Creator Who brought them into existence. Canada possessed two great sources of wealth, one being, undoubtedly, her agricultural resources. As the population increased, there must be a greater demand for food; and in the cultivation of the land was to be found the first source of occupation for those who went there. Bread was esteemed as the staff of life, and nothing that had yet been discovered equalled it in its power of sustaining human life. Secondly, in the development of her minerals, Canada possessed a most important source of wealth. The timber trade would probably, in course of time, to a certain extent decay, and wood was becoming increasingly expensive according as new uses for it were found. But forestry at present afforded a wide field of industry, much timber being required in the construction of the railways. As regarded the mineral wealth, recent discoveries showed an amazing extent of coal existing in the country, whereas on the shores of the Pacific there was very little. The coal trade of Canada would evidently be enormously extended so soon as the railway was completed right across to the Pacific. The existence of large quantities of petroleum indicated that a large amount of coal was to be found in addition to the discoveries recently made. Unlike the coal in this country, the coal of Canada being near the surface, could be easily worked, and did not require the sinking of deep and expensive shafts. There was, therefore, room in Canada for an almost unlimited increase of population, while

the climate was certainly somewhat congenial to those who liked our own, and though subject to greater extremes of heat and cold than that of England, suited the Anglo-Saxon race. It was matter for rejoicing that in Canada emigrants would find free institutions, and the means of further development, in comparatively close proximity to this country, for the distance separating them from their own land would not be so great as if they went further south, to Australia. Though emigration was progressing at a considerable rate, as yet it was only in its infancy. It was painful to see, even in London, the numbers of strong and active men, or at least men who would be strong and active were it not for the insufficiency of their food, loafing about our wharves and docks, destitute of employment, while within very close reach was a land in which they might raise the food needed for their own support, and lead happy and virtuous lives. He was very sorry that the legislature was not alive to the responsibility which rested upon them. We were wasting our resources in poor houses and in the support of paupers, and still more largely by the expenditure of private charity, in supporting people in idleness and sickness, rather than putting them where they might labour for their support, and where they would be less liable to the influence of socialistic reformers, who taught false opinions in regard to the rights of property, and where they would be still less amenable to the seductions of those who would supply men with the liquor that destroyed their health and their morals too. The most attractive portion of Mr. Walford's paper was that which spoke of the balance of trade. The policy of the Canadian Government was opposed to that of the mother country, in so far as she was pursuing a protective one. He had no doubt at all as to the superior efficiency of free trade as compared with either fair trade or a restrictive policy. Time would show that to be the case; but he wished to reserve judgment as to the absolute applicability of a free trade policy to the circumstances of all our colonies until he had had further opportunities of judging. Ardent free traders though they might be, it must be admitted that there were circumstances, not many, which justified a departure from it. He should not wish beforehand to prejudge the question, and so to visit his friends in Canada in a hostile spirit, without hearing what was to be said in defence of the different policy of fair trade. Free trade must ultimately prevail all over the world. There was something so absurd in artificially enhancing the cost of any production in order to benefit one particular class of people, that it was impossible to conceive that the good sense of the world would recede from the free trade doctrines that had been promulgated. There was possibly one limitation to the immediate universal application of free trade, viz., that there were some manufacturers and some productive interests which required nursing in their commencement, though absolutely certain ultimately to stand alone. That fact was recognised in England, as shown in our patent laws. It was a question of the whole community entering into a kind of partnership to bear the cost of investigation and the expenses of starting a manufacture for a time, looking forward to the extended benefit when the monopoly should cease, and it became free and open to

all. That might be the case in Canada, although he rather thought not; and he was fully prepared to find that Canada was suffering from the protective policy which she had adopted. The advantages of protection, he believed, were illusory, though that was a matter to be decided by further experience. It was impossible to argue upon Mr. Walford's import and export figures, because the circumstances of Canada were very peculiar. At present she was employing a large amount of capital, not for the purposes of present production, but with the object of producing in the future. In London a large amount of money had been spent in the construction of the Thames embankment. That was not in any point of view a productive work, but having regard to health and cleanliness, it was money well spent, and England, as a rich country, could afford to do that. Canada was expending her money, not in something ornamental or immediately useful, but in laying down rails to carry the produce of her agricultural and mineral resources to the markets where they were required. That fact would entirely upset any arguments that might otherwise be drawn as to the balance of trade. In one part of Canada there were 9,000 men employed in making railways. These must either be supported on imported food, or by the consumption of food which the country would be able to export but for their presence. A large population existing in the country without producing anything for export must tend to increase imports and diminish exports. Therefore the same reasoning could not be applied to Canada in this respect that might be applied to our own country, and no solid argument was to be based upon the figures in the paper on that point. With regard to the exports of the United States, Mr. Walford seemed to be in error when he stated their value in money was \$49,940,711 in 1882 and \$37,620,399 in 1883. According to the tables issued by the Dominion Government to which he (Mr. Bourne) had had access, the figures appeared to be \$47,940,711 in 1882, and \$41,668,733 in 1883, a drop of only 6 million pounds instead of 12 million pounds. This made a serious difference in the balance of trade, or at least in the progressive increase or diminution of that balance. Mr. Bourne also pointed out, in regard to the 9,000 men employed, that they were in receipt of wages amounting to nearly \$15,000,000 per annum, which money might have gone either to swell exports or diminish imports, if otherwise appropriated.

Mr. WILLIAM MILLER observed that Mr. Walford did not appear to have any idea that he should begin at the beginning with his statistics, viz., with that most essential point, the cost of Canada to the mother country. Canada had really cost Great Britain the whole national debt. Taking into consideration the wars with France and the United States on her account a hundred years ago, Canada cost this country about 200 million pounds sterling, and interest on such a sum for these past hundred years would represent the whole amount of our present national debt; so that if we had had nothing to do with Canada, there need have been no national debt upon this country. With regard to what had been

spoken of as the patriotic expenditure of Canada in making her railways, this simply meant that the politicians and speculators of that country were squandering the value of this magnificent landed possession, which was the common inheritance of the British people, by using it up for their own immediate benefit. Moreover, both English and Canadian statesmen were now endeavouring to promote a large emigration from this country to Canada as much as possible, at the expense of the people of England, but without any idea of drawing from Canada that proper return which we in this country should receive for the immense amount of blood and treasure spent in the acquisition, and the settlement and maintenance of that colony. Yet, notwithstanding the great concern which had been shown by our English statesmen in the affairs of Canada, and the appointment of such governors-general as the Marquis of Lorne, and other big wigs, the bulk of Englishmen knew absolutely nothing about Canada; the people of this country took but little interest in Canada, and Canadians took but little interest in the people of this country. In proof of this statement he might instance the fact, that there was not at present upon the Council of the London Chamber of Commerce a single individual in the remotest degree connected with Canada, and when he had said at a large meeting in the Chamber of Commerce that it was a farce under such circumstances to talk about this London Chamber of Commerce representing the commercial interests of the empire, everybody there seemed to look upon the observation as something perfectly out of the way and unnecessary.

Mr. E. HEPPLE HALL said it was impossible on the present occasion to do more than scant justice to Mr. Walford's full and discursive paper, the gist of which was he thought to be found in the following passage of his general introduction: "It does not require any great political sagacity to discover that the real problem which Canadian statesmen have before them for practical solution is a twofold one. Will the opening up of the Great North West induce a settlement of the territories, and an exchange of commodities, sufficiently rapid and sufficiently extended, to defray the annual charge upon the capital expended for the purpose? And will the population so settled be able and willing to consume the manufactured commodities of the Dominion in such a ratio as to prevent over-production, and the consequent financial and social disruption which follow upon such an event?" He hardly thought that Mr. Walford answered both these questions, and therein the paper was perhaps chargeable with being somewhat deficient. Certainly the answer to the first question was not sufficiently borne out, though he was prepared to rest contented with the picture which Mr. Walford had drawn as to the capabilities of Canada and the North West; for really the capacity of the country was such as to enable them to average the return at a higher standard even than he had done. When he first went there he certainly had an idea that where there were such fabulous reports as to the production of wheat ranging from 25 to 50 bushels per acre, a good deal of chaff must be mixed up with

the wheat. But he had now reason to know that it was a positive fact in the fertile belt, particularly that portion of it lying west of Winnipeg. As population poured into the country, and as the settlement of these prairie lands took place, there would be a constantly enlarging area of land under cultivation; the whole question therefore turned upon the cost of production—at what price could it be put down in Liverpool or in London? He understood from Mr. Beg, who was the financial head of the Canada Pacific Road, that for 28 cents per bushel the grain grown in the Red River or Old Selkirk settlement could be put down in Liverpool. If that were so, they could compete successfully with American growers. He knew very well what Manitoba, Iowa, Missouri, Illinois, Dacotah, and Ohio, could produce their wheat for, and that land was very much inferior to that of the whole range of the North West. The average growth of the North West Territory was from 18 to 20 bushels per acre, while the average in the United States was not more than 11 bushels, and in some instances as low as 9 bushels. That the growth of the North West would be greater in the future than it had been in the past, was a fact already settled by the very conditions under which we lived. When the Canadian Pacific Railway was completed to British Columbia, which might be expected to take place in 1885, we should see a development in Canada for which the history and experience of the past had scarcely prepared us. With regard to Newfoundland, it was the only colony under the British Crown to-day that occupied the peculiar and anomalous position of being entirely free of debt, and for that reason she was unfavourable to consolidation with the Dominion. With regard to the forests he agreed with Mr. Bourne that they were in process of depletion, and being gradually worked out; but in the prairie regions, where it was thought to be impossible that trees should grow, they had been planted successfully, and their culture had been encouraged in such a way by forestry and other laws, that the whole area of timber growing land to-day in Canada was not less than in the palmy days of Quebec. No doubt the approaching forestry exhibition about to be held in London would direct attention to this branch of labour, and forestry would be more successfully taken up than in the past. As to the subject of emigration, Canada had a grievance against all the world, inasmuch as the nature of her climate had never been properly understood. The Canadian climate was a most healthful one, and that was the great point for Englishmen to consider; and he knew of no country in the world where greater advantages, with greater robustness and ruggedness of situation were obtainable, than in Canada. The United States got a very large share of the emigration which should go to Canada, and was in reality despatched to Canada. He was prepared to challenge figures upon that point. There was a constant drift across the line into the United States, and that would continue so long as there was so large a portion of untilled land. But on the other hand there was a drift from the United States into Canada, and the tables were pretty evenly kept. He knew that several thousands of Americans had gone from

the contiguous territories of Minnesota, Dacotah, Kansas, and Nebraska, into Manitoba, and he would have been surprised if a considerable number of Manitobans had not drifted into those States. The tables were pretty evenly and squarely balanced, and the temper of the people from their constant intercourse was very well sustained. One or two matters had been lost sight of in the paper, as for instance the canals, upon which Mr. Walford, though he had mentioned them, did not dwell at any length; nor perhaps would it be thought necessary in a great country like Canada, which was connected by a system of railways and canals extending almost from one sea board to the other. Canals however supplied a very important means of transportation in this country. Much competition existed between the United States with their Erie canal, and the Canadian Government with their Welland and other canals; and no doubt when further facilities existed at Montreal, a very much larger proportion of the produce of the West would be sent by water, and voyage to Europe much more readily and much more cheaply through Canada in the future than it had done in the past. One word with regard to the postal department. His knowledge of the Canadian Post Office dated from rather an early period. When he first went to Canada the method of dealing with letters was rather primitive. They were deposited in a bag and hung on the bough of a tree, to be forwarded to their destination by the first man, generally a stray emigrant or trapper, who happened to pass. That remark applied only of course to the unsettled portions of the country, and especially to the north-west, that he loved so dearly, where the means of transportation were few and far between, and rough in character. The growth of the postal system had been very ably traced, and the sources from which Mr. Walford obtained his statistics placed them beyond all question. The figures which he had given however were generally for 1881 and 1882, whereas he might have obtained access to the figures for 1883, and in some cases 1884. The returns were made up in Ottawa in such a way that the High Commissioner ought to have had the figures for 1884, and certainly for 1883.

Mr. WALFORD observed that he had given the figures for 1883.

Mr. HALL said that with regard to thrift the testimony of all visitors to Canada was that the settlers were of first-rate character, and did not drift into the wild habits which were indulged in by the people of the United States. As settlers they were amongst the most thrifty colonists in the world. Canada was certainly entitled to have that much said. We had a greater Britain beyond the sea, and it should be our privilege to people it.

Mr. L. L. COHEN said he had no especial connection with Canada, and had therefore no special claim on the attention of the meeting; with reference however to the observations of a previous speaker, he could not but remark that it was as much to the purpose to talk about the cost of Canada to this country having

been 200 million pounds, as it would be to charge the cost of the Thames embankment on the few houses which abutted upon the Thames. Our struggle for that part of the world was but an incident of the wars with France, and the original cost of Canada should not be saddled with the general expenses of those wars, any more than with the expenses which attended incidents occurring through those wars in India, or in Egypt, or in Spain, or other places where the two nations came into contact. Another expression which had been made use of was, "that the land of Canada had been in some measure filched from the people of this country to whom it belonged." But what was it that the possession of land implied in these new countries; it was like the possession of wealth, and could not be considered without its attendant obligations, which implied a trust to be used for the purposes and for the benefit of the country in which it was situated. They could no more lock up a piece of land of that enormous size in that part of the world, and say that nobody but Englishmen should go upon it, and then expect this nation to derive a direct profit from it, than they could absolutely and permanently alienate any other possession. One of the consequences of the possession of land was that it must be worked in some degree for the benefit of those persons who happened to be in the country. We were only entitled to regard the land as being ours in the light of a trust to be developed through us and made beneficial for mankind at large. There was only one question in Mr. Walford's able paper to which he felt capable of addressing himself, namely, as to whether Canada was now going on at a rate which was too rapid, and whether the expenditure now being made was useful having regard to the progress of the State itself. Upon that point they might consider the example of other large States which had been improved by an expenditure which at the time of its being incurred seemed rather free. Take for instance the most backward country in the world, Russia: there there was a vast extent of territory and of uncultivated land, but the density of the population was far larger than that of Canada. The increment of revenue arising from the opening up of the country had been something enormous, and but for the political tendencies of the empire, improved credit and improved prosperity of the State must have resulted. Take the example of India. He was sorry to say he was old enough to remember when the Indian Government gave guarantees at 5 per cent. for the making of railways to the extent of 100 million pounds, and it was said at the time that the country was imprudently granting those guarantees; but the result was, that India was now borrowing at 3 per cent. instead of 5 per cent. The making of railways not over arid wastes, but extending as new districts became cultivated, was perhaps the wisest expenditure which a country could incur. The rate at which such an expenditure might be incurred could no doubt be measured and decided most usefully through the help of such papers as that of Mr. Walford, giving in detail the history and progress of the country. He did not think there was any cause for apprehension with regard to Canada at the present time, nor that there could be for many years to come, because although there were checks to the

progress of a country, such as we saw in the United States at the present time, such was the recuperative power of a new country, that any check was overtaken more quickly than we were accustomed to see in the older countries.

Mr. J. B. MARTIN said that he would first refer to the statistics of the fur trade, which he thought would be most interesting to the ladies, who had attended in such unprecedented numbers that evening. Mr. Walford stated that the value of the furs exported from Canada in 1881 was \$987,000, and in 1883 \$1,098,000, representing an increase of 11 per cent. It was remarkable that coincident with these figures the shares of the Hudson's Bay Company (which should strictly be called "The Company of Adventurers Trading with Hudson Bay") had declined from 32 to 24. If the value of the furs exported had been so much increased, how was it that the value of the shares of the company had so much decreased? He was afraid it was because the company was no longer a fur trading company, but a land speculating company, and the loss on land more than swallowed up the profit on the staple and original industry of Canada. At the same time, while this increase in the value of the furs had taken place, there had necessarily been a decrease in the area of the forests in which the animals supplying these furs found a living. The question of the forestry of Canada was one which he ventured to regard as of the utmost importance. To use Mr. Walford's own words: "It is estimated that there are fully 1 million square miles of timber lands remaining to be reduced." He (Mr. Martin) could not read that expression with entire approval. An area of 1 million square miles was inconceivable to those who lived in this small country. The area of the United States was about 4 million square miles, from which about 1 million square miles had to be deducted for the water surface of the great lakes and rivers. This vast area, equal to one-third of the United States, which (notwithstanding the great forest fires that caused ruin and disaster, and reduced townships and almost entire counties to ashes) still awaited the axe, seemed a quantity which could hardly be wasted; yet notes of warning as to the destruction of the Canadian forests had been already heard, and while remembering the direct consequences to the timber industry which might ensue, we had also to take most seriously into consideration, not only in Canada but in every region of the world, and especially in India, what would be the climatic effect of the destruction of the forests. The question was deserving of even more attention than Mr. Walford had given to it. With regard to the production of the soil, as Mr. Bourne had already reminded them, it was not very much more than half the average production of land in England. It would be interesting, he thought, to the Canadian emigrant to know the conditions under which he was likely to raise his agricultural produce, and how far he was likely to compete with an emigrant to the United States. He would pass over the question of petroleum, merely observing that he had seen it stated that petroleum had been a greater source of wealth to the United States than the gold discoveries. Still he ventured to think

it was not without its drawbacks, considering the amount of gambling which had had its origin in petroleum. As to the railways, Mr. Walford said that they paid but a small dividend; but that was not to be wondered at, seeing that 7,530 miles of line represented a capital expenditure of \$415,611,810, which might be taken at 83 million pounds sterling, or equivalent to 11,000*l.* a mile. \$20,000 or 4,000*l.* a mile was a very full mortgage charge on a first class railway in the United States. With regard to the figures dealing with the imports and exports, they were certainly most extraordinary, and required most careful consideration before they could be finally accepted. Under a protective tariff smuggling took place to a great extent across the frontier, and he took it that that system of smuggling, among other things, must be taken to give a great amount of uncertainty to the figures purporting to represent imports and exports from Canada to the United States and *vice versa*. They must thank Mr. Walford for bringing before them this subject, which was a particularly interesting one, at a time when a great part of the science of England was about to commit itself to one frail ship in the hope of enlightening Canada with the radiance of British wisdom. That expedition had already caused at least two papers to be read in London on the subject of Canada, and the popularity of the subject had been shown by the attendance at those meetings. The object of the British Association should be not only to give learned lectures to the Canadians, but to see what sort of country Canada really is. He wished that Mr. Walford had given them some elements of comparison as between Canada and the United States, and he hoped that the result of the visit of the British Association to Canada would be to show that the pretensions which she had put forward were amply and abundantly justified.

Mr. R. HAMILTON, referring to those plots of land in Canada where the yield was reported to be equal to the average obtained in England, said it would be interesting to learn under what conditions these results were obtained; many of the best class of emigrants, "hinds," and small farmers from the north of England and Scotland had taken farms in Canada. In many parts of the west large areas of land were very cheaply tilled, affording only a very small yield per acre to this rough mode of cultivation. Did those who obtain the larger yield per acre cultivate a comparatively small quantity of land on the higher system to which they were used in the old country? It would be a point of interest both statistically and otherwise to know whether the exceptionally large returns occasionally given were owing to the superiority of soil and climate, or to the adoption of a different style of culture by different farmers.

Mr. A. E. BATEMAN said he wished to correct the statement as to the wheat growth of Canada being so much higher than in the United States. The fact was that it was only 14 bushels, or about 2 bushels to the acre higher, and the true figures were not anything like those stated by Mr. Bourne. With regard to the tables

of revenue and the like, he would ask that they might be corrected before the paper was printed in their magazine, because it would not do for this Society to send out a statement to the effect that the revenue of Canada jumped from $4\frac{1}{2}$ million pounds sterling to $10\frac{1}{2}$ millions. With regard to the figures relating to the imports and exports, upon which some criticisms had been made, these figures of United States' trade he knew to be perfectly correct for all the years except the last, but it was difficult to account for the differences presented in 1883.

Mr. WALFORD, in reply, observed that one section of the speakers had to a large extent been answered by another section. With regard to the figures as to imports and exports which Mr. Bateman had declared to be perfectly correct, he had himself felt some difficulty in the first instance; they were taken from the Board of Trade Returns compiled by Mr. Patteson of Montreal, for the Board of Trade of that city. When he found that there were circumstances connected with them which he could not explain, he submitted them to the High Commissioner, and with his able assistance they were confirmed; he could do no more than give the figures which were confirmed in that way. With regard to the revenue returns of which Mr. Bateman had spoken, he took them from the official returns of the Canadian Government, which he thought the best source to go to; there were difficulties in regard to them which he could not himself overcome. He made several attempts to solve the difficulty, and now thought he saw his way to do so. Perhaps some day the civilised nations of the world might come to keep their accounts on a uniform system. It might seem a very simple thing to bring a number of statistics together, and say "these are the figures;" but a good deal of allowance must be made for the time and trouble and difficulties of going through them, and harmonising results and solving difficulties. The object in view was of course to afford means of comparison in regard to past and future growth. With regard to the cost of Canada to this country spoken of by Mr. Miller, he had taken the trouble to prepare a statement showing the incidents attaching to the different provinces of Canada, and how they had been acquired by this country; but his colleagues in this Society thought that that kind of historical retrospect was unnecessary. For his own part he thought that history was the proper accompaniment of statistics, without which they were frequently not understandable in their true sense. It was a very remarkable thing that so little was known about Canadian history by Englishmen generally. However, he had presented his paper with such statistics as were thought desirable, and they must be taken as they were given, certainly as being in the main absolutely correct; with regard to the question of the comparative productiveness of Canada and the different States, he had introduced no figures, because having travelled in nearly all the States of the Union, he had found that each claimed a greater amount of productiveness than the others, and consequently he did not know which to credit upon that point. Mr. Bateman probably gave the true figures

when he assessed the average production of wheat at 12 bushels per acre in the United States, and 14 bushels per acre for Canada. There were of course some parts of each country which produced very much more than that; but if he had gone into the controversy upon that question, the paper would not have got finished that night. In preparing a paper of this sort one had to consider time and place, and circumstance. Those who thought his statistics might be supplemented, would have every opportunity afforded them on some other occasion. He had taken all the trouble he could to correct the figures here furnished, gathered from many sources, and he was confident they would turn out to be substantially true when properly tested. He wished to thank his friend Mr. Lionel Cohen for the facts he had given, which were of great interest and considerable value. For his own part he was very well satisfied with the discussion which had taken place, and he hoped that when it was boiled down and printed with the paper, it would be found that the Society had some information in regard to Canada which it did not before possess. There were several other gentlemen present who could throw light on the subject if time had permitted; and he himself regretted the fact that Sir Charles Tupper and Mr. Colmer, were each absent from England.

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LIST OF THE FORMER

Patron and Presidents

OF THE

STATISTICAL SOCIETY,

From its Foundation, on 15th March, 1834.

Patron.

	Period.
HIS ROYAL HIGHNESS THE PRINCE CONSORT, K.G.	1840-61

Presidents.

The Most Noble the Marquis of Lansdowne, F.R.S.	1834-36
Sir Charles Lemon, Bart., M.P., LL.D., F.R.S.	1836-38
The Right Hon. the Earl Fitzwilliam, F.R.S.	1838-40
The Right Hon. the Viscount Sandon, M.P. .... (afterwards Earl of Harrowby.)	1840-42
The Most Noble the Marquis of Lansdowne, K.G., F.R.S.	1842-43
The Right Hon. the Viscount Ashley, M.P. .... (now Earl of Shaftesbury.)	1842-45
The Right Hon. the Lord Monteagle.....	1845-47
The Right Hon. the Earl Fitzwilliam, F.R.S.	1847-49
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