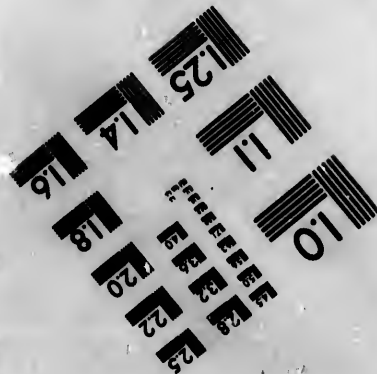
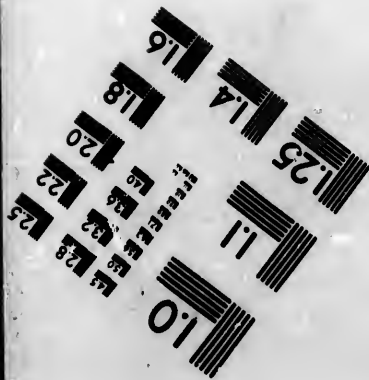
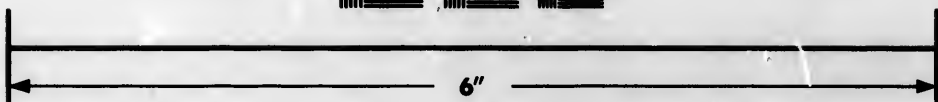
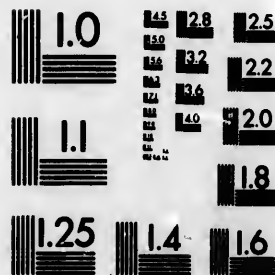


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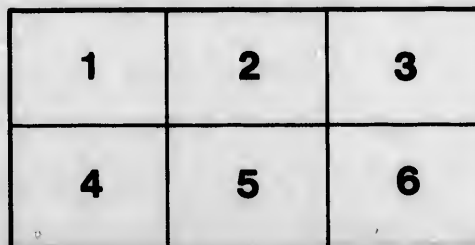
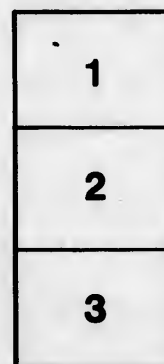
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SUPPLEMENTARY VOLUME

TO

A TREATISE ON THE THEORY AND PRACTICE

OF

AGRICULTURE.

ADAPTED TO THE

CULTIVATION AND ECONOMY OF THE ANIMAL AND VEGETA-

BLE PRODUCTIONS OF AGRICULTURE

IN CANADA;

BY

WILLIAM EVANS,

Secretary to the Montreal Agricultural Society.

MONTREAL:

PRINTED BY L. PERRAULT.

1836.



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DISTRICT OF } BE IT REMEMBERED, that on the 8th day of July, in the
MONTREAL. } year one thousand eight hundred and thirty-six, WILLIAM
EVANS, of the said District, Esquire, has deposited in this Office the title of
a Book, the title of which is in the words following, that is to say: "Sup-
plementary Volume to a Treatise on the Theory and Practice of Agri-
culture, adapted to the Cultivation and Economy of the Animal and
Vegetable productions of Agriculture in Canada, by WM. EVANS, Sec-
retary of the Montreal Agricultural Society," the right whereof he claims
as proprietor.



MONK & MORROGH, P. K. B.

Entered according to act of the Provincial Legislature, in the year one
thousand eight hundred and thirty six, by WILLIAM EVANS, in the Pro-
thonotary's office of the Court of King's Bench, for the District of Mon-
treal.

EMIGRATION.

*Number of Emigrants from the United Kingdom during 1832, 1833
and 1834.*

	1832	1833	1834	<i>Total in the three years.</i>
British North America,	66,339	28,808	40,080	134,207
United States,	32,980	29,225	33,074	95,279
Cape of Good Hope,	202	517	288	1,007
Australian Settlements,	3,792	4,134	2,800	10,726
Total,	103,313	62,684	76,222	241,209
Emigrants arrived at Quebec in 1836 to the 3d of July,				16,897

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INTRODUCTION.

The *Treatise on Agriculture* has been so kindly and flatteringly received, notwithstanding its many imperfections, that the author is induced once more to venture on the public indulgence, and publish the promised supplement to that work.

In order to make the Supplement more interesting and useful to strangers, the author has given an outline of the geography of the British American Provinces, and a concise description of their state as regards their agriculture, commerce, trade, wealth and population, and their capabilities for improvements in cultivation, in population and production.

He has next considered the prospect of settling in the forests; the pleasing anticipations generally entertained by the settler; the cause why these anticipations are not always subsequently realized; the best course to pursue to insure successful settlement; the clearing of land and the most suitable crops to be cultivated. In doing this the author has candidly stated all the labour and difficulties, and the probable results that may be expected. He has then submitted what he conceives should be the principle on which wild lands should be conceded or sold to the natives or emigrant settlers so as to insure their successful cultivation.

The author has, with great diffidence, submitted for consideration some remarks on those laws which he believes have a very great influence on Agriculture, and on the general prosperity of British America. It will be for the Government, Legislature and the People to determine whether their repeal or amendment is necessary, expedient or practicable, without compromising vested rights. The author has also attempted to discuss the principle on which the commercial intercourse of these Provinces can be advantageously carried on with other countries.

In all that he has hitherto published, his object was to advance the prosperity of agriculture, and augment the disposable means of comfort to the agricultural class. It is the same motive which actuates him in the present publication, and a desire to advocate the "the greatest happiness of the greatest number," without prejudice, however, to the lesser number, or any smaller portion of the community. He flatters himself that in discussing those matters which he conceives to have an influence on agricultural prosperity in these Provinces, the opinions he has felt it his duty to submit for consideration, will be received with indulgence, and in that friendly spirit in which he offers them to public notice. He has not by any wilful misrepresentation sought to induce others to adopt his views, but candidly endeavoured to show things as they are. It is the

people who are interested, and if they do not view things as he does, or think that the changes he has suggested will ameliorate their present condition or future prospects, his opinions will do no harm. The author has never thought of proposing any changes in the existing laws or usages, but what may be effected through the Provincial Legislatures. It is this legitimate authority alone, that is and ought to be competent, in this and every other country that has a Legislature, to examine the laws and institutions which the people are subject to, and promptly introduce any necessary amelioration by which the general prosperity and happiness may be most effectually promoted and secured.

The author has ever been of opinion that in all communities a desire to possess a reasonable portion of the comforts, conveniences, and even the elegances of life have a most powerful influence upon industry, and greatly stimulate exertions to provide the means of procuring such things. This BEAUTIFUL WORLD was created abundantly rich in materials to afford to the industry of man all that is desirable of temporal enjoyment; and superior faculties were given to him in order that he might be able to avail himself of those advantages. Man, therefore, will best fulfil the end of his creation, so far as his temporal happiness is concerned, when he applies all his faculties honestly to procure the largest possible portion of comforts and enjoyments for himself and all those which duty bind him to provide for. It is the author's sincere desire that this should be the governing principle of every inhabitant of the fine Provinces of British America, He will always endeavor to recommend this principle, and assist in removing every obstacle to its free exercise.

The author has extended this work much beyond the limits he first laid down, and perhaps would have added a few more pages if he had been able to obtain the statistical information from the several Provinces which he did apply for. To His Excellency, the Earl of Gosford, Governor-in-Chief of British America, and to His Excellency Sir F. B. Head, Lieut. Governor of Upper Canada, he feels much indebted for having kindly ordered him to be furnished with the statistical and other returns he applied for.

The diseases of live stock he did not think it necessary to go very largely into, but merely to give a few simple remedies for the most common diseases that stock are subject to here. He has ever found by his own experience, that it is much better and less difficult to prevent diseases by careful attention, than to cure them.

He has attempted to give some instructions to the farmer to make his own wine, cider and beer, if too far from a brewery. This can be done at trifling expense and without much loss of time.

The author has been more anxious to collect together useful information, than to be very particular as to arrangement of matter. His regular occupation also, requiring so much of his time and attention, he flatters himself it will be some excuse for the want of better arrangement in this work.

Cote St. Paul, July, 1836.

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The following is a copy of an Act passed in the last session of the Provincial Parliament of Lower Canada, granting an aid for translating and publishing in the French language the author's TREATISE ON AGRICULTURE published last year.

CAP. XLIV.

AN ACT to grant an Aid towards printing in the French language, the Treatise on Agriculture written by William Evans.

[21st March, 1836.]

MOST GRACIOUS SOVEREIGN.

“WHEREAS it is expedient for the advancement of Agriculture in this Province, to distribute elementary works upon that science among the agricultural population thereof:—May it therefore please your Majesty that it may be enacted, and be it enacted by the King's Most Excellent Majesty, by and with the consent of the Legislative Council and Assembly of Lower Canada, constituted and assembled by virtue of and under the authority of an Act passed in the Parliament of Great Britain, intituled, “An Act to repeal certain parts of an Act passed in the fourteenth year of His Majesty's Reign, intituled, “*An Act for making more effectual provision for the Government of the Province of Quebec, in North America,*” and to make further provision for the Government of the said “Province;” and it is hereby enacted by the authority of the same, that it shall be lawful for the person administering the Government of this Province, to advance out of the unappropriated monies in the hands of the Receiver General, a sum not exceeding two hundred and fifteen pounds currency as an aid to William Evans to enable him to cause to be translated into the French language and to be printed (with the plates) one thousand copies of a Treatise on Agriculture written by him, and of which the title is as follows: “A Treatise on the Theory and Practice of Agriculture, adapted to the cultivation and economy of the animal and vegetable productions of Agriculture in Canada, with a concise history of Agriculture and a view of its present state in some of the principal Countries of the earth and particularly in the British Isles and in Canada.” Provided always that the said William Evans shall deliver up the thousand copies aforesaid, as soon as they shall be printed, in order that they may be subsequently distributed throughout the whole of the Province by the School Visitors.

“II. And be it further enacted by the authority aforesaid, that every person to whom shall be entrusted the expenditure of any portion of the monies hereby appropriated, shall make up detailed accounts of such expenditure, shewing the sum advanced to the Accountant, the sum actually ex-

pended, the balance, (if any,) remaining in his hands, and the amount of the monies hereby appropriated to the purpose for which such advance shall have been made, remaining unexpended in the hands of the Receiver-General, and that every such account shall be supported by vouchers therein distinctly referred to by numbers corresponding to the numbering of items in such account, and shall be made up to and closed on the tenth day of April and tenth day of October in each year, during which such expenditure shall be made, and shall be attested before a Justice of the Court of King's Bench, or a Justice of the Peace, and shall be transmitted to the Officer whose duty it shall be to receive such account, within fifteen days next after the expiration of the said periods respectively.

"III. And be it further enacted by the authority aforesaid, that the due application of the monies appropriated by this Act, shall be accounted for to His Majesty, his heirs and successors, through the Lords Commissioners of His Majesty's Treasury, for the time being, in such manner and form as His Majesty, his heirs and successors shall direct; and that a detailed account of the expenditure of all such monies, shall be laid before the several branches of the Provincial Legislature, within the first fifteen days of the next session thereof."

The work above alluded to is now translating into the French language, and about half of it is printed. It will be published early in the fall, and ready for distribution in October. The author gives up his privilege to the Legislature to publish a thousand copies of the work in the French language for distribution throughout the Province of Lower Canada.

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A CONCISE DESCRIPTION

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CANADA.

CANADA, formerly called *New France*, or the *Province of Quebec*, is a most extensive tract of country in North America, and is the principal British possession in that quarter of the globe. The name Canada, in its most extended sense, has been applied to the whole of that immense district, which is comprehended between the 43rd and 55th degrees of North latitude, which reaches from the Atlantic to the Pacific Ocean, in an inclined direction from north-east to the south-west; but, in its more confined acceptation as a British colony, it is computed to extend about 1500 geographical miles between the 64th and 97th degrees of west longitude, while its breadth, at a medium, is rated at 200 miles, though its greatest width, from Lake Eric, on the south, or latitude 43 to latitude 50, is about 420 miles. It is bounded on the east by the Gulf of St. Lawrence; on the north-west, west, and south-west by the territories of different Indian nations; on the south and south-east, by the United States, New-Brunswick, and Nova-Scotia. It is divided into two provinces, called Upper and Lower-Canada. The former, which is the western division, is situated on the north side of the great lakes, or sea of Canada, and is inhabited chiefly by English settlers. The latter is situated on the river St. Lawrence, towards the east, and is peopled by a greater proportion of inhabitants of French descent.

LOWER-CANADA.

The boundary between the provinces of Upper and Lower-Canada commences at *Point au Baudet*, on Lake St. Francis, about 55 miles above Montreal, and running northerly to the Ottawa River; up that river to its source in Lake Temiscaming, and thence due north, to the Hudson's Bay boundary. Lower-Canada is comprised within the 45th and 52nd degrees north-latitude, and the parallels of 57,50 to 50,6 of west-longitude, embracing, it is supposed, an area of 205,863 square statute miles, including a superficies of 3,200 miles, covered by numerous lakes and rivers of the province, and excluding the surface of the St. Lawrence river and part of the gulf, which occupy 52,000 square miles, and hence giving an area in land of one hundred and thirty-five millions of acres, and over 150,000,000 arpents. This territory is divid-

ed into three chief districts, Quebec, Montreal, and Three-Rivers; and two inferior ones, Gaspé and St. Francis; these are further divided into 40 counties, with minor subdivisions of seigniories, fiefs, townships, &c.

The external appearance of Lower-Canada generally is of a most majestic character. Inanimate nature is there exhibited on the grandest scale; her rivers, her lakes, her forests, every thing is vast, and must appear to the native of the British Isles, particularly so. From the mouth of the river St. Lawrence to the neighbourhood of Quebec, on both sides, are very high mountains, and from the bottom of these to the edge of the river, on the south side, lies a level tract of land gradually advancing to cultivation; and from Kamouraska to Quebec, is thickly settled. The district of Gaspé, which is situated at the south side of the river St. Lawrence, near its mouth, is only thinly settled, having a population of about 15,000, and near 20,000 acres of cleared land. I believe a large proportion of that district is capable of profitable improvement, and its fisheries should be most valuable to an industrious population. From the western boundary of Gaspé, to the east of the Chaudière river, which discharges into the St. Lawrence, a few miles west of Quebec, is a territory of considerable extent, fronting on the St. Lawrence for 257 miles, and extending back to the boundaries of the province of New Brunswick, and of the United States. Though this section of the province is not so mountainous as the opposite bank of the St. Lawrence, it may properly be characterized as a hilly region, abounding with extensive valleys of excellent land, very capable of improvement, and suitable for settlement. It is divided into four counties, Rimouski, Kamouraska, L'Islet, and Bellechasse, which have a population of 60,000 only, 295,000 arpents of cultivated land, and near 10,000,000 arpents of uncultivated land. On the north bank of the St. Lawrence, there is scarcely any settlement east of the river Saguenay, and from that river to Quebec, a distance of about 100 miles, and extending many miles back, there are two counties, Saguenay and Montmorency, with a population of 15,500, and 70,000 arpents of cultivated land, and over 11,000,000 arpents of waste (which are included in my tables; but the wild land within the boundaries of these counties is three times that extent. This part of the province, partly on the Saguenay, and on the shores of Lake St. John, particularly, is very favourably reported of for settlement; and though the climate may be severe in winter (I do not allude to any land north of 48½ degrees) the country, I believe, possesses many advantages for new settlers. The Saguenay has a course of 180 miles from Lake St. John, and is navigable for the largest ships for nearly half that distance. There are some fine islands in the St. Lawrence from the mouth of the Saguenay to Quebec. The island of Orleans is close to Quebec, contains 28,500 arpents, and a population of about 5,000. It is a beautiful island, and is well cultivated generally.

The country on the south bank of the St. Lawrence for more than 200 miles below Quebec, assumes a most charming aspect. There is a continued succession of villages, handsome churches, telegraph stations, and farm houses, all whitewashed, and produce a very pleasing effect, in contrast with the dark forests which clothe the back rising hills to their summits. There cannot be a more interesting and beautiful land-

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scape than the south bank of the St. Lawrence presents. After passing the island of Orleans, on the north bank of the St. Lawrence, the falls of the river Montmorency appear in view. The breadth of the stream is about twenty yards, and the fall 250 feet. The water is precipitated over a bank of rock that is almost perpendicular, into the St. Lawrence, and causes a very considerable spray to rise from the bottom. In the neighbourhood of the falls, and west to Quebec, the country is well settled, and beautiful. The scenery, on approaching Quebec, is truly magnificent. Point Levi, on the left, with its village, churches, and white farm houses. On the right, the falls of Montmorency, and a rich cultivated country, extending back for several miles, terminating in a ridge or montains, not of extreme height, but rising gradually from the cultivated fields in broken hills, with wide valleys between, and mostly covered with forest. In front, the city and battlements of Quebec, majestically towering over the river and surrounding country, with its bright and dazzling tin covered houses, and church steeples, forms the most striking, grand, and beautiful scenery that can well be conceived, and I believe, unequalled on this continent, or perhaps on any other.

The city of Quebec is in lat. 46.48, lon. 70.72, and situated upon a rocky promontory called Cape Diamond, (330 feet above the water's edge) which runs seven or eight miles to the westward, connected with another Cape, called Cape Rouge, forming so far, the lofty, and left bank of the St. Lawrence. To the N. W. of the city, the ground slopes gradually, terminating in the valley of the river St. Charles. The river St. Lawrence flows to the southward of the city, at the base of the steep promontory of Cape Diamond, and unites its waters with the small river St. Charles, which flows along the N. side of the city, the junction being in front of the town, where they expand into a considerable sheet of water forming the harbour of Quebec.

Quebec may be correctly considered the Gibraltar of the New World, and is admirably well situated, as the key to the entrance of the navigation of the St. Lawrence, and the only direct outlet of the Canadian provinces to the sea. The citadel, if not already impregnable, can, I believe, be rendered so, at no very great expense; and if sufficiently garrisoned and provisioned, would stand a long siege against an enemy. Though an agricultural people may not feel greatly interested in fortifications, they are nevertheless often necessary to secure the liberties of a people against foreign aggression, and Canada may be proud to possess such a fortress as Quebec.

From Cape Diamond, and several other points in and near Quebec, the surrounding country, the river and harbour, present to view the most grand and beautiful landscape that can be imagined, and cannot be any where excelled. The noble river St. Lawrence, and its high banks, seen for several miles above and below the city; the harbour, ships, steamboats, and river craft; northwest of the city the river St. Charles and its bridge; the falls of Montmorency; several handsome villages, and their churches and spires; the white farm houses; the cultivated fields; the hills and valleys, ornamented at intervals with single trees and woodlands; and in the distance, the dark forest and lofty mountains, present altogether a beautiful picture that is worth a journey

across the Atlantic to behold, and is certainly one which an admirer of the grand and beautiful, could never tire of, during the season that the navigation is open, and nature is in all its bloom, and loveliness.

The city of Quebec contains now, in 1836, about 30,000 inhabitants, and near 3,500 houses. All the houses in the Upper and Lower Towns are of stone, and well built, but in the suburbs many of the houses are of wood. There are several churches; the Protestant and Catholic Cathedrals are good buildings, and very spacious. The new House of Assembly, of which the centre and one wing is finished, is a very fine building, and extremely well suited for the purpose for which it was erected. In the centre is the chamber in which the Assembly hold their sittings, and is of ample dimensions, admirably well calculated for the sittings of the representative branch of the legislature. The library is a large fine room, and is well furnished with the most valuable books, in English and French. The robing room is under the library, and of the same dimensions. There are a great many committee rooms, and several offices, occupied by the officers of the House of Assembly. The speaker's apartment opens into the library, and is handsomely fitted up and furnished. It is proposed to build another wing, which will give accommodations to the other branch of the legislature. The legislative council at present occupy part of the old House of Assembly.

The Castle of St. Lewis was situated on the ramparts, and had a most imposing appearance from the river and harbour. It was rather a handsome building, but was very capable of improvement. It is now in ruins, having been accidentally burned when occupied by Lord Aylmer, as governor. This ruined castle, occupying so conspicuous a situation, is at present by no means ornamental to the city or ramparts. The ground where it stands, or immediately near it, is one of the most eligible (as to its locality) and beautiful situations for the government house, that is to be found within the city. It would have a commanding prospect of the river, harbour, and much of the surrounding country, and would be convenient to the parliament house, and public offices. It would certainly be desirable that a suitable building for the accommodation of the governor-in-chief of this fine country, should be erected with all convenient dispatch in place of the unsightly blackened ruin of the Chateau, and such a building as would be an ornament to the city, and a commodious and respectable residence for the king of Great Britain's chief representative in North America.

The Jesuits' monastery consists of a very extensive range of buildings, and from its situation in the centre of the Upper Town, and fronting the market place, would be a most valuable property. It is now, and has been since the cession of Canada to England, occupied as a barrack, a circumstance that has been much complained of by the people of Canada. It is alleged that this property, as well as the whole of the property which originally belonged to the Order of the Jesuits, was by treaty given up by the British government to the people, for the support of general education. If this allegation be correct, and I should think there ought to be no difficulty in ascertaining the fact, there can be no doubt of the complaints of the people being perfectly just. That a college designed for the education of youth, should, in time of profound

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peace, be occupied as a barrack for soldiers, in a country where the want of education is so much felt, is a circumstance very much to be deplored, according to my humble judgment of the matter. If the college belong to the people for the support of education, its unconditional surrender, to be applied to this purpose, ought not to be delayed longer than convenient accommodation can be obtained for the troops elsewhere. The provincial legislature will, no doubt, see the expediency, if not sound, policy, of providing the necessary barracks for the troops. Were the connection between this country and Britain not to continue a year, the fortress of Quebec would surely not be dismantled or demolished. However disposed to peace a nation may be, she should always be prepared to resist foreign aggression; and the fortifications of Quebec should be maintained, whether Canada continues a British colony, or may be destined at any future time to be an independent nation. So long as England is disposed to garrison Quebec with her troops, and pay them with her money, there ought not to be much hesitation in providing these troops with comfortable lodging. The expenditure of the military establishment in this province must be very beneficial to it, and if barracks were erected at the expense of the province, were they at any future time not required for soldiers, they could be converted into some other useful purpose. While Britain maintains her troops in Canada, for the protection of her Empire, not to coerce the people of Canada, or abridge their rights or privileges, they will have cause to rejoice at their residing among them, as good citizens and fellow subjects, and for their protection as a part of the British family, and expending in the province a portion of that revenue to which, I am proud to say, they also contribute their share, as I hope to show hereafter.

In describing Quebec, I could not forego the opportunity of expressing my feelings with regard to the Jesuit barracks, the occupation of which by the British army for so many years is, I conceive, one of the most just matters of complaint alleged by Canadians in the number of their grievances. If, under proper management, the proceeds of this property had been applied to promote and support education throughout Canada, it would have had a most beneficial influence on the prosperity of the country. I must further observe, that when the property is given up, I hope it will be devoted to the general support of education, without any preference to sect or party. It was with this object the concession was made by the British government, and it is on this principle alone, that the public good will be best promoted.

There are three extensive convents in Quebec, the Hotel Dieu, with thirty-eight professes; the Hospital General with fifty-one professes; and the Ursuline Convent with forty-seven professes. These religious societies, both at Quebec and Montreal, possess extensive property in town and country, and make a very good use of their income, in administering to the wants of the sick and destitute, and in educating young females. They occasionally receive grants of money from the provincial legislature. The conduct of the nuns, or religious sisters, throughout the province is most exemplary, and irreproachable; and they are universally respected by all classes, and all denominations of christians.

The seminary, occupied by the Roman Catholic clergy, is large and

commodious. There are several well built churches, and chapels, belonging to Protestant congregations of the church of England, Scotland, Methodists, &c. and are numerous attended. The Exchange and Library, Court-house, Custom-house, Banks, Hospitals, &c. are all good stone buildings, well adapted to their several uses.

The obelisk, or monument of Wolfe and Montcalm, lately erected in the garden of the Chateau, or of the Castle of St. Lewis, is about 65 feet in height, with suitable inscriptions. The cost of its erection was collected by general subscription. The situation it occupies is not, I think, the most eligible. The Esplanade, between St. Lewis and St. John's Gate, is the usual place of parade for the troops. The surface is very level. It is in length about 300 yards, and in breadth about 100 yards.

The market place in the upper town is situated opposite the Jesuit barracks. It is not extensive or well arranged. There are two market places in the lower town, very confined, and without any convenient arrangement. A new market has been lately erected close to the river St. Charles, between it and St. Peter-street. It is very conveniently fitted up, and no doubt will be numerous attended in a short time.

The Dorchester bridge, erected by Messrs. Anderson & Smith, over the river St. Charles, is a toll-bridge, authorized by the legislature, and of very great advantage to the farmers residing north of the St. Charles river, and to the citizens of Quebec. I am not aware of the amount of toll charged. There is one bank chartered at Quebec, and the Montreal bank has a discount office there.

Quebec is very active during the summer months, visited as it now generally is, by 1100 or 1200 ships annually, together with a steam-boat from Montreal, daily. If the surrounding country was well settled, an extensive business would be done there in winter as well as summer; and it has the further advantage of being the seat of government, and place of meeting of the legislature. This attracts many strangers to the place in the winter, and must greatly increase the expenditure in every way, and be very beneficial to the citizens. The navigation of the river is generally open about the 1st of May, and on some occasions the 15th of April. During my residence in the country, it has very frequently been open about the middle of April. Ships from Europe begin to arrive immediately after the 1st of May; seldom before. The city of Quebec is chartered, and has a mayor and common-council annually elected. It is well lighted, and the streets kept in tolerably good order. There are several handsome country residences in the neighbourhood of Quebec, and I believe it would be difficult to find more delightful situations for summer residences than the country surrounding the city affords.

In 1662, Quebec is said to have contained only 50 inhabitants; in 1759, at its conquest by England, the population was from 8,000 to 9,000; in 1831, it was 26,000, and now in 1836, is supposed to be 30,000.

From the counties of Montmorency on the north, and that of Bellechasse on the south side of the St. Lawrence, which I have already described, there remains to be noticed of the district of Quebec, the counties of Quebec and Portneuf, on the north side of the St. Lawrence,

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and the counties of Dorchester, Beauce, Lotbiniere, and Megantic on the south side.

The quantity of land in each county, in seigniories, fiefs, townships, and waste, are given in tables, also the quantity conceded and in cultivation, with the estimated population in 1836. It is therefore unnecessary to repeat all that information here. I shall describe the situation and general character of the soil in each county, and the probable capabilities for produce and population.

The county of Quebec is bounded on the south-east by the river St. Lawrence, and fronts on that river about 15 miles. It is bounded on the north-east by the county of Montmorency, on the south-west by Portneuf county; and on the north-west by wild lands of the crown. The surface of the country is generally uneven, and of great picturesque beauty. Towards the northern parts it is mountainous. In the neighbourhood of the city of Quebec, the soil is of excellent quality, and well cultivated near the St. Lawrence, and it is reported a large proportion of the county may be considered good soil. A light warm soil is preferable in that part of the province, to a cold heavy soil. The lands are well sheltered from the north by mountains, and throughout the county, from the inequality of its surface, the numerous valleys must be much warmer in the cold seasons than if the surface was level and exposed. The county is watered by the St. Charles, Jacques Cartier, and St. Anne rivers, and many smaller streams. Much of the waste land in this county might be very profitably brought into cultivation, provided crops suitable to the soil and climate were invariably cultivated. The county contains 9,200,000 arpents, of which not more than 150,000 arpents is occupied, and only 45,000 arpents cultivated.

Portneuf county joins that of Quebec, fronts on the St. Lawrence about 35 miles, and is bounded on the south-west by Champlain county, and north-west by the wild lands of the crown. It is watered by the Jacques Cartier, St. Anne and Portneuf rivers, and many small streams. The face of the country is broken and uneven, and is rather mountainous towards the north. The settled parts possess a good soil, and, I believe, the greater portion of the unconceded lands, of which there is over 5,000,000 arpents, is capable of cultivation. There are only 330,000 acres occupied, and 75,000 arpents cultivated.

On the south side of the St. Lawrence, immediately opposite Quebec, is the county of Dorchester, bounded north by the St. Lawrence, by Bellechasse county on the east, southerly by the county of Beauce, and west by the county of Lotbiniere. The county comprises the seigniori of Lauzon only. It is of excellent soil generally, and fronting the St. Lawrence is well settled. A large proportion of the land, about three-fourths, is, however, yet uncultivated, and only 55,000 arpents cultivated, though most favourably situated. It is watered by the Chaudière and other rivers.

The county of Lotbiniere is next west of Dorchester, and fronting on the St. Lawrence about 30 miles, is bounded west by the county of Nicolet, south and south-west, by Drummond and Megantic counties. This county is not very populous, and I should imagine it is not from

the barrenness of the soil. The situation is favourable for settlement. It is sufficiently watered, about half the land is occupied, and only one-ninth of the whole, or 50,000 arpents cultivated.

The county of Beauce is bounded northerly by Dorchester county, east by the county of Bellechasse, south by the State of Maine, and west by Sherbrooke, Megantic, and Lotbiniere counties. This county is not well settled, and has a large quantity of uncultivated and waste unconceded land, about 1,000,000 arpents, in seigniories and townships. Much of the soil is of good quality, and though some parts are broken and stoney, they might be profitably occupied in raising stock; 245,000 arpents are occupied, and about 50,000 arpents cultivated. It is watered sufficiently; the river Chaudière has its course through this county.

The county of Megantic is bounded on the north by the county of Lotbiniere, east by the county of Beauce, south and west by Drummond and Sherbrooke counties. This county is very thinly settled; 850,000 acres are unconceded, 85,000 acres occupied, and not 10,000 acres cultivated, though much of the lands are of excellent quality. In its natural state there may be many parts of it apparently of little value, and lands of better quality will be taken up for settlement before those that are more troublesome to clear, drain, and cultivate; but when the country is more thickly settled, the lands that are now neglected and waste, will be found capable of producing abundant returns to the judicious husbandman. This county is watered by the river Chaudière, the Bécancour, and branches of the St. Francis.

THE DISTRICT OF THREE-RIVERS comprises six counties, Champlain, and St. Maurice on the north side, and Nicolet, Yamaska, Drummond, and Sherbrooke on the south side of the St. Lawrence.

The county of Nicolet is bounded on the north-west by the St. Lawrence and Lake St. Peter, west by the county of Yamaska, south-east by Drummond county, and west by the county of Lotbiniere. It extends between 30 and 40 miles along the St. Lawrence. The soil is of good quality generally, and the surface level. It is watered by the rivers Bécancour and Nicolet. The village Nicolet is beautifully situated on the bank of the Nicolet river, and has a handsome church with two spires. It is also the seat of a college. This county, though not large, has yet five-sixths, or 255,000 arpents of the land uncultivated and waste, and about 60,000 cultivated. I believe it to be favourably circumstanced for settlement.

The county of Yamaska is bounded on the north-west by Lake St. Peter, south-west by the county of Richelien, south-east by the county of Drummond, and north-east by the county of Nicolet. This county is not extensive, and the land is occupied except a small part. The soil is of good quality, though a large portion of it is light and sandy. The face of the country is level, and is watered by the fine rivers St. Francis, Yamaska, and a branch of the Nicolet; not one-fourth of the land, or only 45,000 arpents is in cultivation. It has three or four considerable villages.

The county of Drummond comprises nineteen of what are known as the eastern townships, and bounded on the north by the counties Nicolet and Yamaska, on the west by the St. Hyacinth county, on the south

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by the counties of Shefford and Sherbrooke, and on the east by the county of Megantic. This county contains more than 1,000,000 acres, is very little settled, only 16,000 acres cultivated; much of the soil is of excellent quality, and all, or the greater part, might be cultivated if properly drained. It is well watered by the rivers St. Francis, Nicolet, Bécancour, and their tributary streams. The north section of the county, and, indeed, the land generally, is level.

The county of Sherbrooke, is bounded north by the county of Drummond, west and south-west, by the counties of Shefford and Stanstead; south, by the State of New Hampshire, and east by the counties of Megantic and Beauce. It comprises twenty-eight of the eastern townships. In this county the British American Land Company have obtained, by purchase from the Crown, an extensive territory, containing about 600,000 acres, adjoining the counties of Megantic and Beauce, and comprising about fourteen townships. They have also several detached lots throughout this county, and the counties of Shefford and Stanstead, formerly the Crown reserves. In addition to the lands above described, they have made large purchases of lands sold by the government, at auction, and from private individuals. They are at present proprietors of more than one million of acres, purchased with a view to their settlement by emigrants from the British Isles. I am unable to state what progress has yet been made in regard to settling these lands. The Company have not been long in operation. The lands in the county of Sherbrooke are of good quality generally. The face of the country is much diversified; hill and dale prevail throughout; it would be most suitable for raising and feeding stock, both neat cattle and sheep, and would be the most profitable mode of occupying the soil. Excellent pasture might be obtained by clearing off the wood, sowing grass seeds, and draining such lands as might be unfit for the plough, from its stony, uneven and hilly surface. The county is very extensive, containing near 2,000,000 acres, and would give an immense annual produce if settled, and judiciously managed. It has only 60,000 acres cultivated.

The county of Champlain, on the north side of the St. Lawrence, fronts about 25 miles on the river, and is bounded on the north-east by the county of Portneuf, north by the waste lands of the Crown, and south-west by the county of St. Maurice. The soil is good in general, though the country is thinly settled. Of 600,000 acres, only 170,000 are occupied, and 35,000 cultivated. I have no doubt but most of the soil is very capable of profitable occupation by the husbandman; and there is only about a twelfth part yet in cultivation. This county is well watered by the rivers St. Maurice, Champlain, Batiscan, and St. Anne. The face of the country towards the east, is considerably diversified; and from the mouth of the Batiscan to St. Anne, the rising lands north of the St. Lawrence present a most beautiful landscape. In coming down the river St. Lawrence from Montreal, this part of the country is the first that strikes the traveller's eye, being the commencement of the gently elevated tract of land that bounds the river from that point to Quebec, and is particularly beautiful on the north side.

The county of St. Maurice, is bounded in front, south, and south-east

by the St. Lawrence and Lake St. Peter, for above 30 miles ; south-west by the county of Berthier ; north-west and north, by the waste lands of the crown ; and north-east by the county of Champlain. Though some parts of the soil in this county are light and sandy, the greater portion is of excellent quality. It requires careful draining in the low flat parts, but back from the St. Lawrence, the land is sufficiently high to admit of perfect draining. Most, if not all, the Seigniorial land, is conceded, but not half of it in cultivation, about 80,000 acres. A large tract of waste crown land, containing above 6,000,000 acres, together with three surveyed townships, containing 115,000 acres, are comprised within the boundaries of this county ; and, I believe, most of these lands are fit for settlement. The county is extremely well watered by several rivers, the St. Maurice, Maskinonge, Du Loup, and Machiche, with many smaller streams. The town of Three-Rivers is situated in this county, and the extensive iron mines and iron foundry at St. Maurice, are about 10 miles north of that town.

THE DISTRICT OF MONTREAL, contains 19 counties, Berthier, L'Assomption, Lachenaye, Terrebonne, Two-Mountains, and Ottawa, north of the St. Lawrence and river Ottawa ; Vaudreuil, between the rivers Ottawa and St. Lawrence ; the county of Montreal, in the island of Montreal ; and on the south side of the St. Lawrence, the counties of Beauharnois, Laprairie, Chambly, Acadie, Rouville, Verchères, St. Hyacinthe, Richelieu, Shefford, Stanstead and Missisquoi.

The county of Berthier is bounded on the north-east, by the county of St. Maurice ; north and north-west, by the waste lands of the crown ; south-west, by the county of L'Assomption, and south-east, by Lake St. Peter and the St. Lawrence, on whose shores it fronts for about 25 or 26 miles. The soil in this county has an excellent character. It is populous so far as the Seigniories extend, and is the second county in the Province for the quantity of cultivated land, 110,000 acres. There are two surveyed townships partially settled, and no less than 5,000,000 acres of waste crown land, comprised within the boundaries of the county. Most of this land is, I believe, capable of profitable settlement. The face of the country is level generally towards the St. Lawrence, but more to the north, it is less so. It is well watered by rivers and several small lakes. The L'Assomption and Berthier rivers are the principal. The small town of Berthier is on the banks of the St. Lawrence, about 45 miles from Montreal, and 135 miles from Quebec. The steamboats stop here two or three times in the week, on their way between Montreal and Quebec.

L'Assomption county is bounded north-east by the county of Berthier ; north and north-west, by the waste lands of the crown ; south-west, by the county of Lachenaye ; and south, or rather south-east, by the St. Lawrence. It fronts on the latter about 10 or 12 miles. It is well watered, the river L'Assomption having its course through the county, with many tributary streams or branches. The settled part of the county is excellent land, and the whole of the seigniorial, and two surveyed townships, are, I believe, occupied, and nearly half, or 72,000 acres of them cultivated. There are 3,000,000 acres of waste land of the crown, comprised within the north and north-west boundaries of the county, and pro-

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ably the greater part fit for settlement. There are two or three small towns in this county ; L'Assomption is the principal one, and is a place of considerable business.

The county of Lachenaye, is bounded on the north-east by the county of L'Assomption ; north and north-west, by the waste lands of the crown ; south-west, by the county of Terrebonne, and south-east, by the river St. Jean, on which it fronts about 12 miles. It is a small county, and, I believe, all occupied, and about one-third, or 63,000 acres cultivated. The soil is generally good, though part of the township lands is said to be poor. It is well watered by the rivers Lachenaye, Mascouche and Achigan, and many small streams.

The county of Terrebonne, is bounded on the north-east by the county of Lachenaye, north and north-west, by the waste lands of the crown ; south-west, by the county of Two-Mountains, and south-east by the River des-Prairies, on which it fronts about 12 miles, or more. This county comprehends the seigniori of Isle Jesus, which is about 21 miles long and 6 miles wide. The soil of this island is excellent, and the surface very level. The Isle Jesus is connected with the main land by a well built wooden bridge, at St. Therese ; and on the principal road between Montreal and the river Du Chene, another wooden bridge is being erected, over the Rivière-des-Prairies, between the island of Montreal and the Isles Jesus, and will probably be finished next summer. The latter is constructed in a very superior manner, and will be a great convenience to the people of the Isle Jesus, and north of it, and the Ottawa river. Some time back, a bridge was built from the Isle Jesus to the main land at the river Du Chene, on the line of road between Montreal and St. Andrews, but has been carried away. In that particular place, it is not difficult to construct a bridge, and it would complete the communication from Montreal to St. Andrews. The county of Terrebonne in general is good land, and the seigniorial part, and surveyed townships, of which there are three, are nearly occupied ; and one-half, or 105,000 acres in cultivation. Within the boundaries of the county is comprised near 2,000,000 acres of the wild lands of the crown, and are favourably reported of. The principal river is the Du Nord, and there are many smaller streams.

The county of Two-Mountains, is bounded north-east by the county of Terrebonne ; on the north and north-west, by the waste lands of the crown ; south, by the Lake of Two Mountains and the river Ottawa ; south-west, by the county of Ottawa. It fronts on the Lake of Two-Mountains and Ottawa river, near 70 miles. With the exception of Montreal, it has the largest population of any county in the province, and ranks third in extent of cultivated land, of which there is 100,000 acres. The soil is generally of excellent quality, though a proportion of it is very stony and light, particularly in the seigniori of Argenteuil. The small towns of St. Andrews, Indian Village and River Du Chene, are the only places worthy of notice. The county is watered by the rivers Du Nord, Rouge, and Du Chene. In this county there are near 300,000 acres of waste land of the crown, together with 300,000 acres of seigniorial and surveyed township lands uncultivated, 100,000 acres only of which are, I believe occupied.

The county of Ottawa, is bounded on the north only by the territory of the Hudson Bay Company; west, by a line running due north from Lake Temiscaming; south, by the river Ottawa, and east, by the county of Two-Mountains. This county comprises a vast extent of territory, of which the north portion is not much known. In one seigniority and eight surveyed townships, there are about 700,000 acres, of which not one-fourth appears to be occupied, and only one twenty-eighth part, or 25,000 acres, is in cultivation. The waste land of the crown is estimated at near 20,000,000, acres. I believe the greater portion of this waste land to be capable of rendering an adequate return for the labour necessary for its cultivation. The soil on the bank of the Ottawa, and most of what has been explored of the county, is of good quality. The county is abundantly watered by several rivers and lakes. The principal rivers are Petit Nation, rivers Blanche, Lievres, and Gatineau, with the river Ottawa, in front.

The county of Vaudreuil, occupies that portion of Lower-Canada that is situated between the Ottawa and St. Lawrence rivers, by which rivers it is bounded on three sides, and on the fourth, or west, by Upper-Canada. The soil is of good quality, and all the land is occupied, of which nearly half, 75,000 acres, is in cultivation. It is watered by several small rivers. There are some thriving villages. Those most deserving of notice are, Coteau du Lac, Cedars, and Vaudreuil.

The county of Montreal, comprises the beautiful island of Montreal, and lies at the confluence of the Ottawa and St. Lawrence rivers, separated from the Isle Jesus by the Rivière des Prairies. It is about 32 miles long by 10 miles broad, at the widest point. It is at present held as a seigniority by the Seminary of St. Sulpice at Montreal, and in justice to these Reverend Gentlemen, I believe there are not in Lower-Canada, Seigniors who are more indulgent to the censitaires.

The mountain immediately back of the city of Montreal, is the only high land on the island, and this is not more than 550 feet above the level of the river. With this exception, and the valley of the river St. Pierre, the surface of the island is very level, and the soil in general of superior excellence, and very productive in all species of grain, vegetables, and fruit, in greater perfection than any other part of the province.

From many points on the mountain, the prospect on every side is most grand and magnificent. The surrounding country, villages, farm houses, cultivated fields, rich meadows, the distant forests, the city, the noble river, the steamboats and shipping, form a landscape that can scarcely be surpassed in beauty and magnificence. The prospect to the north-west has particularly excited my admiration. I must, however, cut short my description of this delightful scenery, and recommend those who visit Montreal to view this landscape, and judge for themselves of its beauties, which no pen can do justice to.

The city of Montreal is situated on the south side of the island, lat. 45,31 long. 73,34 west, at the point which may be considered the termination of the uninterrupted navigation of the St. Lawrence, as the rapids, which first interrupt the navigation, commence immediately above the port of Montreal. It is the first city in British America in extent, population, and wealth. It is supposed to cover above 1000 acres of

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ground, including the suburbs. It has over 100 streets, 5,500 houses, and a population, by estimate, of near 35,000. There is not a city of the same extent on this continent that has better, and more substantially built houses, many of beautiful cut stone, and latterly almost all the new houses are built with cut stone, and are generally three and four stories high above the surface. This stone is procured at a short distance from the city, is soft, and easily dressed, and resists all the rigour of the climate. The improvement in Montreal within the last eighteen years, is very great indeed, and a greater number of fine houses have been erected last year, than any year previous during the period referred to. The most public streets are kept in excellent repair; and since the city has been incorporated, all the streets and roads have been greatly improved under the management of the mayor and common-council. The city is lighted, and is supplied with water, by water works, the property of a chartered company. The port has been greatly improved lately by the construction of extensive wharfs, from funds borrowed by the province, and it is contemplated to extend these improvements by the same means the ensuing summer. The Lachine canal, constructed at an expenditure of near £140,000 of the provincial revenue, connects the port with the navigable waters of the St. Lawrence at Lachine, but is only suitable for durham boats, that draw about four feet of water. At Lachine, steam navigation commences again on the line of the St. Lawrence and the river Ottawa.

It would occupy too large a space of this work to give a detailed description of the city of Montreal. The Catholic Parish Church is, however, a building which I must notice, as, I believe, it ranks with the first buildings in North America; and most certainly does great honor to the religious community who have erected it. It was estimated to cost near £100,000 currency. It stands about the centre of the city, and fronts the Place d'Armes, a handsome square. In length it is 255½ feet, in breadth 134½ feet. The height of the flanks is 61 feet from the flagging of the terrace to the eaves. I believe it is intended that there shall be six towers, so arranged that each flank shall present three; these, however, are not yet finished. Those on the principal west front are to be 220 feet high. The space between the front towers is 73 feet by 120 in height, crowned with an embattled parapet. These towers are at present not much higher than the parapet, and are covered with a temporary roof. The flank and east end towers, are to be 115 feet in height. The flanks are decorated with buttresses, and crowned on the top with hollow pinnacles which serve as chimneys. The exterior of the building is faced with hewn stone of excellent quality, and the workmanship is exceedingly well executed. The eastern window is 64 feet in height, and 34 in breadth. It is intended to surround the building with a terrace. In front, the ascent is by a flight of steps to the portal, which is formed by an arcade, consisting of three arches, each 19 feet by 48 in height. From this arcade there are five entrances into the church, two of which lead to the galleries. In front, over the arcade, there are several niches, intended for statues, but only one, the centre, is yet occupied. Between the front towers, it is intended to have a promenade 76 feet by 20, elevated 120 feet above the surface of the Place d'Armes, the access to which will be gained by

a geometrical stair, and must afford a most extensive view of the St. Lawrence, and surrounding country. The front towers are to be furnished with clocks and bells. The roof of the church is covered with tin. It is altogether a most noble building, a suitable temple for the worship of the Creator.

The interior is very well finished, and contains 1244 pews on the ground floor, and two galleries, one above the other. The eastern window is handsomely painted, representing several characters of scripture history.

The high altar, placed near the eastern window, appears to great advantage. There are several large historical paintings placed on each side which possess great merit. The grained coiling is 80 feet in height. The vaults of the ceiling and galleries are supported by a double range of grouped columns of wood, painted in imitation of clouded marble. The carpenter work is painted in imitation of oak. The colouring of the ceiling and the pillars is not, in my humble judgment, the most appropriate for so fine a building; that grave richness is wanted so necessary to the perfect finish and solemnity of a large church, and particularly a church of so magnificent an exterior. The interior is, however, most conveniently arranged as a church, and the Catholics of Montreal may well be proud of it. The corner stone was laid in September, 1824, and the first High Mass celebrated in July, 1829.

The English church, stands in Notre Dame-street, not far from the church above described, and is a very fine structure. It has a handsome spire, above 200 feet high, with one large bell, and time-keepers on four faces of the belfrey. It is furnished with a very superior organ, and the interior is conveniently and handsomely arranged with four ranges of pews on the ground floor, and a gallery on the east end, and two sides, supported by two ranges of pillars, the whole painted white.

There are three Presbyterian churches. One lately erected near the Recollet Catholic church, is a very neat building. A large Catholic church stands in the St. Lawrence suburbs, erected two or three years previous to the Cathedral, before described. An American Presbyterian church, two Methodist chapels, a Baptist and Congregational church, have all been built within a few years. There are two or three more places of public worship, one belonging to the Protestant Episcopalians, the others to dissenting congregations.

The Seminary of St. Sulpice, is a large and commodious building, and is close to the Cathedral. It is the residence of the Catholic clergy of Montreal, and also a college for the education of youth in the higher branches of philosophy and mathematics. A very considerable amount is annually distributed to the poor, by the truly charitable and reverend gentlemen of this seminary, and, I believe, without any distinction as to religion. As a member of the church of England, I give this testimony with pleasure; and it is further due to the character of these reverend gentlemen, to state, that when that dreadful pestilence, the cholera, ravaged Montreal in 1832, and 1834, they were indefatigable in their attendance on the sick and dying. The plague did not appear to have any terror for them; they were constantly going about the city night and day, offering spiritual consolation to the afflicted in the hour of need and

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of death ; and it is a remarkable circumstance that there was not a fatal case of cholera among the Catholic or Protestant clergy of the city. It is but justice to the Protestant clergy also, to bear testimony of their attention to their congregations during that most afflicting dispensation of Providence, which proved so fatal to the inhabitants of Montreal and Quebec, and in many country parishes. In one day, 150 persons have died of cholera in Montreal, and, I believe, an equal number in Quebec. Whole families were, in some instances, carried off. The country has been most providentially saved from a return of this plague last year, and may perhaps continue free from it in future. From the commencement and progress of this disease, showing itself both years on the arrival of emigrants that were known to have cholera on board their ships on the passage, and following them through the country here, it is difficult to suppose that it is not infectious, and the most convincing proof of its being so is that it did not break out in 1833 or 1835, when it was not known to be in the British Isles or brought in emigrant vessels. But to return to the description of Montreal.

There are three convents ; the Hotel Dieu, is an establishment for the sick of both sexes, who have medical attendance and most careful attention from the charitable Sisters of the convent. It contains 37 Religious Professes. The convent of Gray Sisters, or Hospital General, has an establishment for foundlings, who are provided for until they are capable of providing for themselves. It contains 29 Professes ; and the Congregation de Notre Dame, has 80 Professes.

The English Hospital is an extensive and fine building, exceedingly well arranged in every part for the sick. It was built by subscription and donations, and is principally supported in the same way. The provincial legislature has occasionally granted aids, but they have not been permanent or regular. It is an establishment greatly deserving of support, and every citizen in Montreal is interested in maintaining this hospital, as the most effectual means of preserving themselves and their families from fevers and other contagious diseases, which they are much exposed to from the great influx of strangers to their city in summer.

The College, or Petit Séminaire, was built at the expense of the Seminary of St. Sulpice, and is an extensive building, three stories high. The body of the building is 210 feet long, and 45 broad ; there is a wing at each end 186 feet long, and nearly 40 broad. It is capable of giving accommodation to a large number of students, and has apartments for a director, professors and masters.

The honorable James McGill, once a respectable merchant of Montreal, bequeathed an estate, and the sum of £10,000 for the endowment of a college to bear his name. This college has not yet gone into operation, owing to the bequest being disputed for several years. The suit has, however, terminated, and the property devised is in the possession of the corporation of the college.

There are three large public schools, the English National School, the British and Canadian School, and the Recollet School. They receive aid occasionally from the provincial legislature. There are many other private schools, and the charge for tuition is generally very moderate.

The Montreal Library and reading room occupy a building in St. Jo-

seph-street, conveniently situated, and contains many thousand volumes of valuable books. It is well supplied with newspapers, magazines, &c. domestic and foreign, and subscriptions for admission are moderate.

The new market place extends from St. Paul-street to Notre Dame-street. The centre of the building is occupied by butchers' stalls, and on each side are seats covered in and open in front, that are for the use of those who sell butter, eggs, vegetables, &c. of which there is at all seasons an abundant supply. At one end the market has an upper story, which is occupied for selling fowls, and other produce.

Near the river side, is the fish market, not very extensive, but sufficiently so for the sale of fresh fish. Two market places have been erected in the St. Lawrence suburbs; they are not much used. A most splendid market has been lately erected between St. Paul-street and the convent of the Gray Sisters. Though it is not yet numerously attended, there can be no doubt that it will soon be the most public in the city, as it is well situated for a market, and the accommodation is superior. The building is 350 feet long, and the plan is similar to that of the Hungerford market, London. It is three stories high, but the ground story is in part below the surface. The Hay and Wood markets occupy each end of McGill-street.

The Champ de Mars, is a place for military exercise, and is an excellent parade ground, though not very extensive. It might be rendered an agreeable promenade for the inhabitants, and something of the kind is much wanted in Montreal. There is not in the city or neighbourhood, a suitable promenade or public garden, with the exception of one botanical garden at Cote au Barron, which is rather far from the city. On the rising grounds close to the city, or on the river banks, are many suitable and beautiful situations for public gardens, that would, if properly conducted, amply repay the expenditure, and promote the health and enjoyment of the citizens. Quebec is equally destitute of a public promenade or garden, though affording many delightful situations for both in the neighbourhood of the city. Human beings confined in cities, require recreation occasionally; and public gardens, conducted on a proper plan, would afford in summer the most pleasing, healthful and rational amusement that could be desired, and need not be expensive.

The rising lands immediately near the city, and the river banks above and below the port, offer many eligible and beautiful sites for country residences. Latterly a few have been erected, but only a few. At some future period, the neighbourhood of Montreal will, no doubt, be thickly studded with handsome villas, cottages and gardens; and I do not think it possible to find more desirable or charming situations. The soil is suitable for gardens and fruit, and the market and stores of Montreal are always well and cheaply supplied with every necessary and luxury. Gentlemen of small fortunes could live cheaper and better in Montreal or its neighbourhood, than in any part of the British Isles, or of North America.

The rapid of St. Mary, about a mile below the port of Montreal, was, heretofore, a great disadvantage to the harbour; ships could not stem the current except with a strong easterly wind. Latterly, steam towboats, impelled by steam engines of 150 to 200 horse power, tow ships from Quebec, from one to half a dozen together, and will tow them up the ra-

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pids St. Mary two or three at a time. By this means most ships which bring out goods from England to Montreal come up to that port before they discharge their cargoes, as they were obliged to do formerly. The Lake St. Peter offers some obstruction to large vessels heavily laden, as it is in many places shallow. It is, however, proposed to deepen a channel through this lake, a measure that can be easily accomplished, by a suitable steam-dredging machine, as the bottom of the lake is composed of such materials as will not offer much obstruction to a dredging machine, judiciously constructed. The intercourse between Montreal and Quebec, is constantly continued from the moment the river is clear of ice in spring, until it again becomes closed with ice in winter: this is always seven months at least, and sometimes nearly eight. In spring, the ice often continues at Quebec several days after it is clear at Montreal. I have repeatedly known steamboats to leave Montreal for Quebec, from the 15th of April to the 21st, and the navigation to continue until the 15th December; but from the 25th of April to the first week of December is the usual term that the navigation is open. Every day during that time, Sundays excepted, a steamboat leaves Montreal for Quebec, and from Quebec for Montreal. The charge for cabin passengers is five dollars down, and six dollars up, board included, a charge that is generally considered considerably over what it might be, and fairly remunerate proprietors of steamers. Steerage passengers pay one dollar and a half up, and the same down, without board. The journey is performed down in about from 15 to 20 hours, and up in 24 hours, provided there is no accident, and no towing of ships. The boats stop at Sorel, 45 miles from Montreal, and take in firewood there, and land and receive passengers and goods occasionally. At Berthier also, the opposite side of the St. Lawrence, the same distance from Montreal, steamboats stop. At Port St. Francis, on the south shore of Lake St. Peter, about 9 miles from Three-Rivers, stores and a wharf have lately been erected by the British American Land Company, for the convenience of landing passengers and goods destined for their lands in the eastern townships. From this point there is a road to these townships, and to settlers going there, it is much the shortest and least expensive route. At Three-Rivers, on the north side of the St. Lawrence, 90 miles from Quebec and the same distance from Montreal, is another stopping place, and here the steamers generally take in wood sufficient for the boat's use to Quebec, and for the return to Three-Rivers, as the particular description of wood they use (*tamarack* or *épinette rouge*), is obtained at Three-Rivers, in abundance, and at a low price; there is no other stopping place to Quebec. At the Richelieu rapids, about 50 miles from Three-Rivers, or little more than half way from that town to Quebec, the St. Lawrence is greatly contracted in its bed by high lands on each shore, and large masses of rocks, and the river in consequence becomes very rapid, and in time of low water leaves but a narrow channel. Steamboats going towards Quebec, may pass the rapids at any state of the tide, but in coming up the river from Quebec, the steamboats generally leave that port at an hour that will give them the tide in their favour in passing the rapids. The tide rises about 8 or 10 feet at the Richelieu rapids, and extends its influence as high as Three-Rivers, where it rises about 2 feet; its influence is not

very perceptible higher than Three-Rivers. When the boats lose the tide they have to anchor below the rapids, and wait for the next tide ; this does not often occur.

Sixteen years back, there was no mode of communication with the opposite shore of the St. Lawrence at Montreal, except by batteaus or canoes ; very frequently accidents occurred, and the loss of many lives. Now there are two or three steamers plying between Montreal and Laprairie (a distance of 9 miles,) and other points on the south shore of the St. Lawrence. There is a horse-boat used on the traverse below the Current St. Mary to Longueuil, on the opposite shore. Regular stages ply between Laprairie and St. Johns, and form the line of communication from Montreal to New-York, the stages meeting the Lake Champlain steamers at St. Johns. A rail-road is now nearly completed between Laprairie and St. Johns, and will go into operation early next summer. This will be of incalculable advantage to Montreal, and greatly increase the communication between that city and the United States. The road from Laprairie to St. Johns has been hitherto most wretchedly bad, but in future this inconvenience will be at an end. I believe there is no country in the world more favourable for the construction of rail-roads than Lower-Canada generally, it has such a level surface. On the line of the Laprairie rail-road, it is almost perfectly level. Montreal is admirably well situated for commerce, and when Canada becomes better settled, and her immense territory producing abundantly, that city must become one of the first on the continent of America. The climate is agreeable and healthful, and the surrounding country has a most fertile soil.

The city of Montreal sends four members to the provincial parliament. It has four banks, the Montreal bank, City bank, the People's bank, and Commercial bank. The two latter are private banks, and the two former are chartered banks, managed by a president and directors, annually elected. The Montreal bank has a capital of £250,000, and the City bank a capital of £200,000, all paid up ; they discount at 6 per cent., and the notes of all the banks circulate freely, and extensively. The charters of the Montreal and City banks expire in 1837. See bank statement.

The county of Beauharnois, is situated on the south side of the St. Lawrence, and comes to a point westward, where the boundary line between the United States and Canada touches the St. Lawrence. It is bounded on the south side by the State of New-York, and east by the counties of L'Acadie and Laprairie. It is watered by the Chateauguay and its branches, and several small streams. The soil is generally of good quality, though some is light and sandy. The right hon. E. Ellice, of London, owns the only seigniory in this county, which comprises nearly half its extent. It is one of those seigniories in which the rent of wild land is raised to 6d. the arpent ; but more of this in another place. There is still, I believe, a considerable quantity of land unconceded in this county ; about a fifth part only is cultivated, 75,000 acres.

The county of L'Acadie, is bounded east by the county of Richelieu ; north by Chambly and Laprairie counties ; west by the county of Beauharnois, and south by the State of New-York. It is watered by the Montreal, Lacolle, and La Tortue rivers, and is watered on the east side

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by the Richelieu, which forms its boundary. Much of the soil requires draining, and a part is stony, but is naturally of good quality. The industrious husbandman might do much for its amelioration. I believe all the land is occupied, and about one-third, 42,000 acres, cultivated.

The county of Laprairie, is bounded north by the St. Lawrence; west, by the county of Beauharnois; south and east, by L'Acadie and Chambly counties. It is watered by the rivers Montreal, La Tortue, and St. Rigis, and near its west boundary, by the river Chateauguay. The surface is extremely level. Most of the soil is good, and Montreal is supplied with a large portion of the best hay from this county. All the lands are occupied, and nearly two-thirds, 92,000 acres, are cultivated. The village of Laprairie is pleasantly situated, but it has not made any great progress in improvement or extent, for several years. In a country such as Lower-Canada, where there are scarcely any manufactories established, except in the farmers' houses, the villages have no great chance of improvement immediately. The farmers have to go to the cities to dispose of their produce, and there they buy most of what they require, when they have cash to pay for what they want. The shop keepers in villages sell generally on credit, at greatly advanced prices, and this credit is often exceedingly injurious to the farmers. I shall advert to this subject again.

The county of Chambly, is bounded north-west by the St. Lawrence; south-west, by the county of Laprairie; south, by the county of L'Acadie; east, by the river Richelieu, and north-east by the county of Verchères. It is watered on two sides by the St. Lawrence and Richelieu rivers, and by the Montreal which discharges into the Chambly basin. A canal is being constructed and nearly completed, which connects the navigable waters of the Richelieu at the Chambly basin with the same river at St. Johns, where it becomes again navigable, and continues so to Lake Champlain, in the United States. This canal is 10 miles in length, and well constructed; the fall from St. Johns to the Chambly basin is ——— and the river is one continued rapid almost all that distance. The locks are built of stone, and are, I believe, eight or ten in number. The canal was constructed from the provincial revenue, at the cost of about £60,000 currency. It must have a considerable trade, particularly in wood, to Quebec. The rail road, however, will direct most of the trade to Montreal, and much to the advantage of all parties interested. The county of Chambly is, next to Montreal, the best settled, and most generally cultivated of any county in the province. The land is of good quality, and level surface; all the land is occupied, and very little in a waste state, not over 15,000 acres. A college has been established at Chambly.

The county of Verchères, is bounded on the south-west by the county of Chambly, and comprises all the land from the bounds of that county, between the St. Lawrence on the north-west, and the river Richelieu on the south-east. It is of a triangular shape, and extends about the same distances on the St. Lawrence and river Richelieu. It is sufficiently watered by these rivers, and several small streams. The soil is good, very level, and well settled; all the land is occupied, and three-fourths, or 95,000 acres cultivated. The village of Varennes is delightfully situated on the banks of the St. Lawrence, has a handsome church with

two spires, and an extensive hotel lately erected to accommodate visitors who come to drink the waters of a famous spa, near the village. The waters possess medicinal qualities of a high character. A steamboat plys constantly in summer between Montreal and the village, a distance of 15 miles. On Sundays great numbers resort to the spa.

The county of Richelieu, is bounded on the north by Lake St. Peter ; west, by the Richelieu or Sorel river and county of Verchères ; south, by the county of Rouville, and east, by the counties of St. Hyacinthe and Yamaska. It is watered abundantly by the Richelieu and Yamaska rivers, and several smaller streams. The soil in some parts is excellent, but much of it is light and sandy ; it is, however, capable generally of rewarding the industrious husbandman. I believe all the land is occupied, though not one-third, or 70,000 arpents, is cultivated. The borough of Sorel or William Henry, is beautifully situated on the point where the river Richelieu discharges into the St. Lawrence. The streets are regularly laid out, and cross at right angles. There is a square also marked out, but there has been scarcely any improvement or increase for the last 20 years. The Catholic church is built a short distance from the village. The English church stands in the square, and the parsonage house close to it. The number of houses in this town is perhaps 250, and a population of about 1200. It returns one member to the provincial parliament. There is a good house, much in the style of the best description of farm houses, which belongs to the government, and has been occupied occasionally in the summer season by the governors in chief. It is pleasantly situated on the banks of the river Richelieu, about half a mile from the village : some land is attached. The situation is healthful, and the scenery has considerable beauty, but I believe these are the only advantages it can boast of.

The county of Rouville, is bounded west by the river Richelieu, and and north by the county of Richelieu ; east, by the counties of St. Hyacinthe and Missiskoui. It is low, and of a level surface, requiring much draining. The soil is naturally of good quality, if judiciously managed. The greater part of the land is occupied, but only one-fifth, 64,000 arpents, in cultivation. Missiskoui bay comes in between this county and the county of Missiskoui. It is sufficiently watered by the river and bay on two sides, and by many small streams.

The county of St. Hyacinthe is bounded on the north by the county of Richelieu, and west by the same county, and that of Rouville ; southerly and easterly, by the counties of Shefford and Drummond. The river Yamaska has its course through this county, and with its branches, waters it abundantly. The soil is of good quality. In this county there are two mountains of considerable height, Yamaska and Rougemont. In this part of the country, there are several other high lands which considerably improve the scenery, where the country in general is so flat ; they are distinguished by the names Belcœil, Boucherville, Chambly, and Mount Johnston. Much of the land is yet unconceded, and not much over a sixth part, 60,000 arpents, is in cultivation. There is an extensive college established at the village of St. Hyacinthe.

The county of Missiskoui, is bounded on the north by the county of Shefford ; on the west, by the county of Rouville and Missiskoui bay ;

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on the south, by the state of Vermont, and on the east, by the county of Stanstead. It is well watered by the Missiskoui and Pike rivers, and several smaller streams. The soil is good, but much of it requires draining. The land is mostly occupied, but not one-fourth, 50,000 acres, is cultivated. I believe this county to be very favourable for stock farming.

In Lower-Canada, the towns and villages are not numerous or extensive. There are scarcely any manufactures except the tanning of leather, carried on in the villages. Most of the woollen and linen manufactures are confined to the farmers' houses. The town, or borough of Three-Rivers, is next in extent to Montreal and Quebec; it has about 600 houses, and 5,000 inhabitants. It returns two members to the provincial parliament. The town of Sorel, or William Henry, has about 250 houses, and perhaps 1200 inhabitants, and returns one member to parliament. The town of St. Johns, on the river Richelieu, has 300 houses, and near 2,000 inhabitants. This small town is very likely to increase and improve rapidly when the rail-road from that place to Laprairie goes into operation. It is the great thoroughfare between Canada and the United States. The small town of Aubigny, opposite to Quebec, does not contain over 100 houses. These are the only places that are considered to deserve the name of towns at present. There are about 130 villages, containing perhaps, 6,100 houses; of these villages, there are in the district of Montreal 76, Quebec 32, Three-Rivers 19, and Gaspé 3. In each of these villages there is sure to be a handsome church, and in some, more than one, where there are protestant congregations. The total number of houses supposed to be in cities, towns and villages, is about 16,600.

There are post offices established in almost every city, town, and village in Lower-Canada. On the 16th February, 1836, the number was 128, in the following places :

Abbotsford	Champlain	Hatley
Aylmer	Churchville	Henryville
Baie des Chaleurs	Cacona	Hemmingford
Babyville	Compton	Hereford
Beauharnois	Coteau du Lac	Huntingdon
Bedford	Clarenceville	Hull
Berthier	Chateau Richer	Isle aux Noix,
Berthier en Bas	Danville	Isle Verte
Bic	Drummondville	Industry
Bolton	Dundee	Kamouraska
Boucherville	Dunham	La Baie
Brome	Dewittville	La Beauce
Brompton	Eaton	Lachine
Buckingham	Frelighsburgh	Lacolle
Bécancour	Gaspé	Laprairie
Barnston	Gentilly	L'Assomption
Cap Santé	Georgeville	Lennoxville
Cascades	Granby	Lotbiniere
Chambly	Grenville	Les Eboulemens
Chateauguay	Grondines	Lochabar
Chatham		

Leeds	Rivière Ouelle	St. Remi
L'Islet	Russeltown	St. Roch des Aulnets
Lachute	St. André	St. Roch L'Achigan
Lacadie	St. Andrews	St. Thomas
Manningville	Ste. Anne de la Pérade	Shefford
Murray Bay	Ste Anne de laPocatière	Sherbrooke
Montreal	St. Antoine	Stanstead
Napierville	St. Cesaire	St. Paul's Bay
Nicolet	St. Charles	Stukeley
North George Town	St. Croix	St. Grégoire
Norton Creek	St. Donis	St. Giles
New Glasgow	St. Eustache	Ste. Martine
Petite Nation	St. Francis	St. Jacques
Phillipsburg	St. George	St. Anne Bout deL'Isle
Port-Neuf	St. Hilaire	Terrebonne
Potton	St. Hyacinthe	Trois Pistoles
Pointe Claire	St. Jean Port Joli	Three-Rivers
Quebec	St. Johns	Varenes
Rawdon	St. Mario de Monnoir	Verchères
Richmond	St. Mathias	Vaudreuil
Rigaud	St. Nicholas	William Henry
Rimouski	St. Ours	Yamaska
Rivière du Loup	St. Pierre les Becquets	Yamachiche
Rivière du Loup en Bas		

To the valuable topographical and statistical description of the surveyor general of Lower-Canada, Joseph Bouchette, Esq. I am indebted for much useful information. That gentleman's work is the most interesting, so far as regards these provinces, that is in print. In looking over the maps of Canada, published by Mr. Bouchette, and tracing its numerous lakes and rivers, it will be perceived that no country can be more conveniently watered; many of the rivers on each side the St. Lawrence may be rendered navigable at no great expense, and would afford steamboat communication between the most distant parts of the province and the St. Lawrence. By building steamers of a particular construction, and light draft of water, the expense of making many of the rivers navigable would not be great; but until the waste lands are more generally settled, this expenditure is not very necessary. It is, however, greatly in favour of the settlement of the country to know that such facility of intercourse is practicable, whenever the produce of the soil is so increased as to make it expedient to expend capital in opening the navigation of the rivers discharging into the St. Lawrence to transport this produce to the markets.

In Lower-Canada, not less than sixty considerable rivers have their course through the country, besides many of smaller size, that would be thought very valuable in European countries, for mills, and other purposes. The number of lakes amount to more than 70, and all are abundantly stocked with fish. I give the names of most of the rivers and lakes of Lower-Canada, that appear on Mr. Bouchette's map.

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In the district of Quebec, are the following rivers and lakes :—

<i>Rivers,</i>		<i>Lakes.</i>	
N. of the St. Lawrence.	S. of the St. Lawrence.	N. of the St. Lawrence.	S. of the St. Lawrence.
St. Anno	Chaudière	St. Johns	Timiscoonata
Jacques Cartier	Etechemin	Commissioners	Matapediac
Batiscan	Du Sud	Quaquagamac	Mitis
St. Charles	Green River	Wayagamack	Abawisquash
Montmorency	Rimouski	Bouchetto	Louglako
Gouffre	Trois Pistoles	Kajoulwaug	Pitt
Black River	Mitis	Ontaratri	Tront
Belsianito	Tartago	St. Charles	William
St. John	Matane	Chawgis	St. Francis
Portneuf	Madawaska	Assuamoussin	McTavish
Saguenay	St. Francis	Sheconbish	Macanamack
	St. Johns	Mal Bay	

MONTREAL DISTRICT.

Gateneau	Richelieu	White Fish	Memphramagog
Lievres	Sorel	Sabbis	Pomefobi
Petite Nation	Yamaska	Killarney	Missisquoi Bay
Rivière Blanche	Pike	Temiscaming	Scaswaninepus pt
Du Nord	Montreal L.	Lievres	Yamaska Bay
Mascoucho	Chateauguay	La Roque	St. Louis
L'Achigan	Lacolle	Rocheblanche	Two-Mountains
L'Assomption	Magog	Pothier	St. Francis
Lachenay	Coaticook	Nimicaclinigue	Chaudière
Berthier	Missisquoi	Papineau	Chats
Chaloupe		Maskinongé	Allumets
Du Chene			

THREE-RIVERS DISTRICT.

St. Maurice	St. Francis	O'Cananshing	Nicolet
Batiscan	Nicolet	Matawin	St. Francis
Champlain	Bécancour	Goldfinch	Megantic
Du Loup	Gentilly	Shasawataiata	St. Paul
Maskinongé	Yamazku	Montalagoose	Outardes
Machiche		Oskelanaic	Black Lake
		Crossways	Connecticut
		Perchaudes	Weedon
		Blackbeaver	Scaswaninepus
		Bewildered	St. Peter

The wild animals of Lower-Canada are, the moose-deer, cariboo, and common deer. I believe the buffalo is not now met with in Lower-Canada. Bears are numerous, but not very mischievous, though of a large size. The wolf is larger than that of Europe, and in new settlements very frequently destroys sheep. Wolvereens, foxes, raccoons, martins,

wild cats, squirrels and muskrats. Hares are abundant, but are not larger than rabbits; they turn white in winter; they are quite different from the English hare. The heavers and otters are still numerous in the unsettled parts, but are fast diminishing in number. It is unnecessary for me to describe these animals. Birds are numerous in summer, and some of beautiful plumage, but few of very melodious note or song. The greater part of the birds migrate to a warmer country at the approach of winter, and return in spring. The wild pigeon comes from the south in spring, in prodigious numbers, to breed in the Canadian forests. They are shot, and taken with nets in great quantities, and are excellent eating. The goose, duck, partridge, woodcock, snipe and plover, are equal to those of the British Isles. The crows, though numerous, are not very troublesome. Domestic fowls are abundant, and breed with little care.

Snakes, are common, but perfectly harmless. Frogs and toads are much more noisy than in England. In spring they keep up an incessant croaking and whistling during the evenings and nights.

Insects, are abundant and troublesome, particularly in the wood. Mosquitoes, are a great annoyance to those who have to work in woods, or near them in the sheltered situations, in summer. The fire-fly in the summer enlightens the night with its vivid flashing, and to a stranger, the sparkling of this insect, as it flies about at night, appears strange.

Caterpillars, and other vermin, are often extremely troublesome in the spring, and do great damage. Fortunately they are only occasional visitors.

Forests. The natural produce of Canada is forest trees of every size and variety of species; oak, elm, ash, birch, maple, walnut or butternut, chesnut, cherry, hiccory, iron-wood, hazel, pine, hemlock, spruce, tamarack, cedar, and many other varieties, not necessary to name. The maple is a beautiful tree, and produces the maple sugar from its sap, which it yields abundantly in spring from an incision made in the bark. This sap, by a process of boiling, is converted into a rich, and to the taste of most persons, a pleasant sugar. A large quantity of this sugar might be manufactured in Canada annually; but there is not much attention given to it as imported sugar is cheap. The elm is a beautiful tree, when one is left occasionally in clearing the forest; it is more likely to stand alone, take secure root, and flourish than most other trees. Trees standing close together in the forest, do not send out branches to so great an extent as trees that are regularly planted; but when scattered trees are left for shelter and ornament, they soon extend their branches, and possess all the beauty of ornamental trees in other countries, and even in a greater degree. It is necessary, however, to leave such trees as are not full grown, or too high, otherwise they will be sure to be blown down when they lose the shelter of the forest. The forest trees do not extend their roots downwards, or horizontally, to the same extent as trees do in Britain, and are very subject to be torn up by the roots, particularly every variety of pine, or evergreen. The forests of this continent afford an ample, indeed an inexhaustible supply of timber of every description required for use in the British Isles, and the distance is not so great when two voyages out, and two return voyages can be accomplished in six months with ease, and almost certainty. Three voyages out, and

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three return voyages have been more than once accomplished in a year. The improvement of the river navigation, the cutting of canals, and constructing of rail-roads, will make the most remote forests of Canada accessible, and the cost of these improvements will be amply reimbursed by the produce that may be brought to market by means of navigable rivers, canals, and rail-roads; and this produce must remain useless and unprofitable, until means of communication with the unsettled lands of the country is rendered practicable.

Climate. The following tables of temperature, I have copied from the Montreal Courier of June, 1835. They were furnished by a member of the Montreal Natural History Society, and, I believe, may be relied upon as substantially correct. The means of the months are said to have been deduced from the series of two daily observations, the one at 7 o'clock, a. m. and the other at 3 o'clock, p. m. The mean temperature of the seasons, and the hottest and coldest days in each year, with the date and temperature, are also given. The seasons are not of the same duration here as is allotted to them in England. The spring sowing time seldom commences before the 8th or 10th of April, and sowing and planting is generally over about the same date in June; so that the spring, or sowing season, is seldom more than from six weeks to two months; and in the neighbourhood of Quebec, not so long, as its commencement is usually from one to two weeks later than near Montreal, or west of it. The summer may be said to be about two months duration; autumn two months; fall, or ploughing time, two months; and winter four months. The winter, however, varies in its duration from four to five months, but seldom commences before the 21st of November, and generally ends from the 1st to the 15th of April. I have for the last three years, sown wheat from the 1st to the 8th of April, on the island of Montreal; but sowing seldom commences before the latter date, and more frequently several days later. The rapid progress of vegetation is surprising; spring wheat is generally from three to four months in coming to maturity from sowing time. Barley and oats about the same, and, I may add, potatoes. Hay is not much over two months in coming to maturity.

Mean Temperature for the Months of the Years,

Months.	1826	1827	1828	1829	1830	1831	1832	1833	1834	1835	Kingston, U. Canada, 1832.
January	17.5	12.4	17.8	13.5	12.10	13.8	16.0	18.7	11.3	17.1	19.6
Febr'y.	21.4	19.3	26.9	14.2	17.7	20.9	16.2	14.9	27.9	13.7	11.7
March	28.9	32.0	33.6	31.0	32.6	36.0	30.1	27.0	29.4	29.2	27.4
April	42.9	46.2	44.6	46.2	52.9	47.2	41.9	47.0	49.1	40.2	40.5
May	65.4	57.4	63.0	64.5	59.6	62.5	58.1	61.8	56.8	55.8	58.9
June	72.3	69.2	76.2	68.9	67.2	75.0	68.1	64.8	65.3	65.5	66.4
July	76.9	73.0	73.9	71.9	75.1	74.9	76.7	72.2	76.3	70.8	70.8
August	73.8	69.0	76.3	71.8	73.7	73.1	71.6	67.6	69.6	67.8	68.0
Sept.	63.0	63.0	62.9	57.0	60.8	61.2	63.1	61.1	62.7	56.7	60.6
October	49.6	47.4	46.3	50.3	53.7	50.5	49.2	45.3	45.3	49.0	49.9
Nov.	33.9	28.6	28.5	34.5	41.6	37.1	33.8	33.5	34.5	38.8	37.3
Dec.	20.0	19.2	18.6	28.8	27.1	9.6	18.6	24.8	13.8	10.8	26.8

Mean Temperature of the Seasons.

Spring, supposed to begin the 20th March, and to end the 20th June, each year.

Mean Temperature.	1826	1827	1828	1829	1830	1831	1832	1833	1834	1835
	55.2	54.1	55.8	56.3	56.2	58.3	51.5	54.0	52.2	49.8

Summer, supposed to begin the 21st June, and ending the 20th of September, each year.

Mean Temperature.	1826	1827	1828	1829	1830	1831	1832	1833	1834	1835
	78.5	68.6	73.4	67.9	70.8	70.7	69.6	68.0	77.4	66.8

Autumn, supposed to begin the 21st of September, and ending the 20th December, each year.

Mean Temperature.	1826	1827	1828	1829	1830	1831	1832	1833	1834	1835
	40.1	36.1	37.8	40.3	44.3	37.7	38.8	38.8	36.4	33.3

Winter, supposed to begin the 21st December, and ending the 20th March, each year.

Mean Temperature.	1826	1827	1828	1829	1830	1831	1832	1833	1834	1835
	17.3	23.0	15.7	22.1	21.9	17.6	17.0	22.2	17.1	17.5

Mean Temperature of the years,

1826 - 47.1	1830 - 47.8	1834 - 45.0
1827 - 44.7	1831 - 46.8	1835 - 42.9
1828 - 47.3	1832 - 44.7	
1829 - 46.0	1833 - 44.8	
Upper Canada in 1832	- - - -	44.6
Mean temperature for the city of Montreal,	- - - -	45.7

Maximum and minimum Temperature in each year.

1826, maximum, July 12th, 96x	1832	maximum	July 2d	89x
minimum, Feb. 1st, 28			July 5th	89x
1827, maximum, { July 8th, 86x	1833, maximum,	minimum,	July 8th	89x
{ July 11th, 86x			Aug 31st	89x
minimum, Feb 12th, 20	1834, maximum,	minimum,	Jan 29th	17
1828, maximum, June 27th, 98x			{ Feb 25th	17
minimum, Dec 29th, 20	1835, maximum,	minimum,	{ June 23d	90x
1829, maximum, { June 6th, 91x			{ Aug 21st	90x
{ July 11th, 94x	1834, maximum,	minimum,	Jan 19th	25
minimum, Jan 4th, 23			July 25th	96x
1830, maximum, July 17th, 93x	1835, maximum,	minimum,	Jan 25th	16
minimum, Jan 31st, 20			Aug 10th	98x
1831, maximum, June 1st, 97x	1833,	minimum,	Dec 17th	25
minimum, Dec. 22d 17				

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For the For the m June, Jul August Winter m

Table s fair in M kind

Month Janu Febr March April May Juno July Augu Sept. Octob Nove Decer Tot

Aver parts. erage c days in greates 1832, 1833,

The mean of the year 1835, was more than two degrees lower than any of the other ten years, and I believe it was lower than any for the last twenty years. It was also remarkable for its humidity, during the months of July, August, September and October. Though the rain did not fall in great quantities together, its frequent occurrence proved extremely injurious to the ripening and harvesting of the crops. The mean of the year 1830, on the contrary, was the highest of the ten years, and the crops were excellent. The range of temperature of the Canada climate in the year 1835 was 123 degrees, or from 98 above to 25 below zero; and I have seen it range in one year 130 degrees, or from 100 above to 30 below zero. The climate is, notwithstanding, extremely healthful.

It may be interesting to show the difference of mean temperature in Upper and Lower Canada during one year, and the number of fine and wet or snowy days.

For the year.	Lower-Canada.					Upper-Canada.				
	Max.	Min.	Mean.	Fine Days	Rain or Snow.	Max.	Min.	Mean.	Fine Days.	Rain or Snow.
	68 23	11 75	42 1	300	55	73 8	25 72	48 37	276	69
For the months June, July and August	99 83	58 83	77 57	75	17	99 66	57 33	77 37	76	16
Winter months	38 66	21 32	11 23		21 Snow	46 83	4 67	22 49		34 Snow.

Table shewing the number of days on which rain or snow fell, number of fair days, and quantity of rain, in each month of the following years, in Montreal, Lower-Canada. For this table I am indebted to the kindness of Doctor Robertson.

Months.	1831.			1832.			1833.			1834.			1835.									
	Inches DL.	Rain.	Snow.	Inches DL.	Rain.	Snow.	Inches DL.	Rain.	Snow.	Inches DL.	Rain.	Snow.	Inches DL.	Rain.	Snow.							
January	73	3	5	23	53	3	10	18	63	2	10	15	55	4	6	2	23	3	7	21		
Febry	45	1	9	15	14	15	10	18	10	18	5	4	22	50	2	7	50	2	7	19		
March	3 75	7	6	18	45	2	7	22	60	3	7	21	1 85	4	8	11	60	2	7	22		
April	3 84	11	3	16	1 35	6	4	20	1 85	6	4	21	1 60	5	2	2	3 30	8	6	10		
May	3	12	2	17	4 36	11	4	17	5 10	11	2	2	3 14	10	21	3	3 50	9	22	22		
June	4 16	10	20	1 30	6	4	4	4	4 80	12	18	3 23	13	16	4	23	14	16	16	16		
July	4 23	13	18	3 43	12	10	10	10	3 43	14	17	1 86	8	2	3 91	10	21	21	21	21		
August	2 98	7	21	1 47	6	23	8	82	13	18	1 81	9	22	6	21	15	16	16	16	16		
Sept.	2 86	15	15	1 88	11	19	2	71	10	20	1 75	11	19	1	79	11	1	19	19	19		
October	4 92	13	19	2 93	10	21	5	60	12	19	2 93	10	20	4	12	13	1	17	17	17		
Novem.	1 34	8	5	17	2 30	7	6	17	75	4	4	22	22	2	5	3	5	22	22	22		
Decem.			14	17		8	8	23		6	2		23	6	2	7	22	22	22	22		
Total.	32 18	100	44	221	20 02	77	49	210	34	20 57	37	21	11	00	75	30	230	29	55	02	40	213

Average of the five years, 86 1-5 days rain; quantity, 26 inches 98 parts. Days on which most rain fell, August 16th, 1833, 3 inches. Average of the five years on which snow fell, 40 days. Average of fair days in each year, 240 less by a fraction. The number of fine days was greatest in the harvest months, July, August and September, of the years 1832, and 1834. In the former it was 63, and in the latter 61 days. In 1833, and 1835 particularly, the harvests were very unfavorable. The

days that were fair, did not dry much until more rain fell, and the crops suffered more in 1835 than in any year previous for the last eighteen years.

In the district of Quebec and Three-Rivers, the snow is much deeper in winter than in the district of Montreal. In the former it lies from three to four feet deep on an average, and in the latter from two to three feet in depth. In the former district and that of Three-Rivers, the snow generally first covers the ground from the 21st of November to the 1st of December, and continues until the 1st of April, and perhaps to the 15th, and sometimes, though not frequently, disappears before the 1st of April. In the district of Montreal, though the snow may occasionally fall as early and continue as long on the ground as the periods I have stated, yet I have seen the ground frequently free of snow at the end of December, and the latter end of March. The St. Lawrence becomes frozen over near Montreal, and passable by horses and sleighs about the end of December, or early in January. The last year, 1835, it was passable at a more early period than has been remembered for many years, about the 10th or 12th of December, and the winter commenced unusually severe and early, and continued so throughout to the end of February, 1836. The cold is not often continued in the greatest intensity longer than two or three days at one time; the third day it becomes milder, and perhaps would be succeeded by several days of mild weather, or even a month together. A snow drift is more disagreeable than the most intense cold. This occurs after a fall of snow. A high wind from the north-east or north-west, drifts the dry snow so as to obscure almost every object like a cloud of dust, and fills up the roads, and renders them impassable; indeed it is impossible to leave the shelter of a house, in time of a drift, with any pleasure or convenience. There is not, however, more than one-third or one-fourth of the days of winter, that are disagreeable from excessive cold or drifting, and in some winters perhaps not twenty days altogether. The coldest days in the year do not prevent working in the woods, where the shelter makes it more moderate, and cutting down the large trees will be sure to keep the labouring man sufficiently warm.

GOVERNMENT. In the year 1791, a bill was passed by the British Parliament establishing a constitution in Canada. This bill divided what was formerly the province of Quebec, into two distinct governments, by the appellations of Upper and Lower Canada. Councils, nominated by the King, and Houses of Assembly, chosen by the people, were established in each. The *Habeas Corpus Act* was asserted as a fundamental law of their constitution, and by a very important clause, the British parliament were restrained from imposing any taxes whatever, but such as might be necessary for the regulation of trade or commerce; and the produce of such taxes was to be at the disposal of the respective provincial legislatures. Mr. Belsham, the English historian, in alluding to this act says: "This bill contained a noble charter of liberty, and did honor to the minister who proposed, and to the assembly which adopted it." This admission from Mr. Belsham in favour of this bill of Mr. Pitt, is a strong recommendation, as he was not accustomed to commend that minister, or his acts.

The provincial parliament of Lower-Canada at present consists of the

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Governor-in-Chief, appointed by the king ; between 80 and 40 legislative councillors, also appointed by the crown, forming the second estate ; and the representative assembly, or third estate, now composed of 88 members, and consisting of four citizens from each of the cities of Quebec and Montreal, three burgesses, two from Three-Rivers and one from Sorrel, or William Henry, and the remaining 77 knights of the shire returned to represent the 40 counties into which Lower-Canada is now divided. The members of the council are appointed for life, unless they forfeit their seats by an absence of four years from the province, or by paying allegiance to a foreign power. The representative assembly are elected for four years, and are chosen in the counties by proprietors of landed property of the clear yearly value of 40s. or upwards, and in cities and towns by electors who must possess a lot of ground and dwelling house of the yearly value of £5 sterling, or must have paid for one year at least, a rent of £10 per annum. Those who possess real property in towns, have a vote in the counties as well as in the towns, but the county freeholders have not the privilege of voting in towns. The parliament must be assembled at least once in each year, and the house of assembly may continue four years at most, but may be dissolved at any time before the termination of that period by the king's representative. There are near 60,000 electors possessing real property, and about 3,000 electors in the cities and boroughs. All except clergymen, I believe, are eligible as representatives, no qualification as to property being required. The governors give the royal sanction to most of the bills passed by the other branches of the legislature, and very rarely reject any bill so offered. Bills have, however, been very frequently reserved by the governors for the king's approval, and bills so referred to England have, in most cases, received the royal sanction. There is one privilege reserved to the king of rather extraordinary nature, that of disallowing within two years, bills that have been passed by both houses, and assented to by the governor. Though this right has not been acted upon only in one instance, I believe it is calculated to give the laws an unsettled character ; and, indeed, it is difficult to discover why it should be necessary to take so long a time as two years to understand perfectly the provisions of an act, and their probable effect on the prosperity of the provinces. I must refer the reader to the constitutional act of 1791, which will shew clearly what privileges were granted to the colonies, and in what particular instances the colonial legislatures were restricted in their powers of legislation. To whatever extent that act has granted them the power of legislation, to that full extent of power they are entitled, and cannot be deprived of it, but with their own consent, or by committing some act contrary to their allegiance to the British crown. This opinion I have always entertained. In the instructions to the new Governor of Upper-Canada from the colonial Secretary, Lord Glenelg, dated Downing-street, December 15th, 1835, his Lordship says : "*Parliamentary legislation on any subject of exclusively internal concern, in any British colony possessing a representative assembly, is, as a general rule, unconstitutional ; unless, indeed,*" as he observes in another place, "*both houses should concur in soliciting that interposition, in which event there would of course be an end to the constitutional objections already noticed.*" This admission ought to be very

satisfactory to the colonists. The best security that can be found for the allegiance of the people of British America to the British crown, is by allowing them to enjoy as much freedom in the management of their own internal affairs as will be consistent with their constituting a portion of the British empire ; that they should have nothing to envy in any other government ; that the advantages of continuing the connection with Britain, should be perfectly clear and unequivocal ; and the commercial intercourse between them established on the principle of *perfect reciprocity* ; that if you buy from me, what you may want of my produce, I shall, in return, buy from you what I require of the produce you have to dispose of, and the produce be received into each country, as nearly as possible at the same rate of duty, according to the value of the article.

Let no one suppose that I express myself in this manner from disaffection towards the British government. On the contrary, no man can be more anxious to maintain the connection between Britain and her American provinces, from a conviction that it would be advantageous to both countries. I feel, however, that from the peculiar situation and circumstances of these provinces, the connection will be better and more permanently maintained by that system of government, and freedom of commercial intercourse that would convince the people that it was their *interest* to continue the connection, and that they could not make a change for the better, or improve their condition, were it in their power to establish their own independence, or unite with any other state. I am persuaded that all that is necessary to secure the firm allegiance of the provinces may be granted without any sacrifice on the part of the British people or government. I shall return to this subject in another place.

I believe I am correct in stating that the statute laws now in force in the feudal section of Lower-Canada, are the following. The acts of the British parliament which extend to the colonies ; capitulations and treaties ; the laws and customs of Canada, founded principally on the jurisprudence of the parliament of Paris, as it stood in 1663 ; the edicts of the French kings, and their colonial authorities, and the Roman civil law ; the criminal law of England, as it stood in 1774, and as explained by subsequent statutes ; the ordinances of the governor and council established by the act of 1774, and the acts of the provincial legislature since 1792. The act of the British parliament of 1825, called the Canada Tenures Act, has established the English civil laws in all parts of Lower-Canada, except in the seigniories, where the above recited laws are still in force. The judiciary consists of a high court of appeals, presided over by the governor, two chief justices, and the executive council. Should the suit in appeal exceed in value £500, an appeal can be made from this court to the king in council ; if below that sum, the Canadian court of appeal's decision is final. A court of king's bench, presided over by the chief justice of the province, and three puisne justices for the district of Quebec, and another court of king's bench, chief justice, and three puisne justices for the district of Montreal. There are also three provincial courts, Three-Rivers, St. Francis and Gaspé, with one judge for each. There is a court of vice admiralty, quarter session, and other minor courts. The court of escheats consists of commissioners, who are appointed by the executive, to enquire into the liability of lands to be es-

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cheated, by reason of non-performance of the conditions on which they were granted. The decision is by a verdict of a jury composed of twelve men, summoned in the usual way, and the land that may be declared forfeited becomes invested in the crown.

The common law of England, with some provincial statutes not repugnant thereto, the English admiralty laws, and English commercial laws, are in force in Canada.

Registry offices have been established in the townships by an act of the provincial legislature and, I believe they are in full operation in all parts of the country, except in the seigniories. There is a registry kept by the prothonotaries of each district, wherein deeds of settlement, wills, &c. are registered; but mortgages on property are not, and consequently there can be no *sure* means for ascertaining, when purchasing property, whether it is mortgaged or not, unless when sold by the sheriff, as in that case all mortgages are cut off. A sale by the sheriff, does not, however, affect family claims, or the rights of widows and minors; these attach to the property *after* a sale by the sheriff, as well as before. I shall again have occasion to refer to this subject. It is one that has excited much attention and discussion. All these matters will, I hope, in due time, right themselves. If the people of any country discover that they are *injuriously affected* by any of their laws or customs, they must be a strange people indeed, if they will not introduce a change or remedy, if either or both are in their power. Let them be only convinced by clear demonstration that a change is necessary, and a remedy practicable, and it is impossible that they will refuse to adopt the change, or resist what they would know to be manifestly for their benefit, and calculated to promote general prosperity.

It may be interesting to many readers to shew what were the principal provisions of the Constitutional Act of Upper and Lower Canada, passed by the Imperial Parliament of Great Britain and Ireland, in the 31st year of the reign of his Majesty George the Third.

CHAPTER 31.

Title. An Act to repeal certain parts of an Act, passed in the 14th year of his Majesty's reign, intituled, an act for making more effectual provision for the government of the province of Quebec, in North America; and for making further provision for the government of said province.

Preamble recites the 14th George 3d. chap. 83, and so much of recited act as relates to the appointment of a council for Quebec or its powers, repealed. It then proceeds:

2nd, And whereas his Majesty has been pleased to signify by his message to both houses of parliament, his royal intention to divide his province of Quebec into two separate provinces, to be called the province of Upper-Canada, and the province of Lower-Canada; be it enacted by the authority aforesaid, that there shall be within each of the said provinces respectively, a legislative council, and an assembly, to be severally composed and constituted in the manner hereinafter described; and that in each of the said provinces respectively his Majesty, his heirs or successors, shall have power, during the continuance of this act, by and with

the advice and consent of the legislative council and assembly of such provinces respectively, to make laws for the peace and welfare thereof, such laws not being repugnant to this act; and that all such laws being passed by the legislative council and assembly of either of the said provinces respectively, and assented to by his Majesty, his heirs or successors, or assented to in his Majesty's name, by such person as his Majesty, his heirs or successors shall, from time to time appoint to be governor, or lieutenant-governor of such province, or by such person as his Majesty, his heirs or successors, shall from time to time appoint to administer the government within the same, shall be, and the same are hereby declared to be, by virtue of and under the authority of this act, valid and binding to all intents and purposes whatever, within the province in which the same shall have been so passed.

The act then goes on to point out how the councils and assemblies are to be appointed, and elected. I think it is only necessary to give the titles of each section, which are as follows.

His Majesty may authorize the governor, or lieutenant-governor, of each province, to summon members to the legislative council. No person under 21 years of age, &c. to be summoned. Members to hold their seats during life. His Majesty may annex to hereditary titles of honor the right of being summoned to the legislative council. Such descendible right forfeited, and seats in council vacated in certain cases. Hereditary rights and seats so forfeited or vacated, to remain fully ended during the lives of the parties; but on their deaths to go to the person next entitled thereto. Seats in the council forfeited, and hereditary rights extinguished for Treason. Questions respecting the right to be summoned to the council, &c. to be determined as herein mentioned. The governor of the province may remove the speaker of the legislative council. His Majesty may authorize the governor to call together the assembly, and for the purpose of electing the members, to issue a proclamation dividing the province into districts, &c. Power of the governor to appoint returning officers, to continue two years from the commencement of this act. No person obliged to serve as returning officer more than once, unless otherwise provided by an act of the province. Number of members in each province, regulations for issuing writs for the election of members to serve in the assemblies, returning officers to execute writs, by whom the members are to be chosen, certain persons not eligible to the assemblies. No person under 21 years of age, &c. capable of voting, or being elected; nor any person attainted for treason, or felony. Voters, if required, to take the following oath (see the constitutional act for this,) and to make oath to the particulars herein specified. His Majesty may authorize the governor to fix the time and place of holding elections, and of holding the sessions of the council and assembly, &c. The council and assembly to be called together once in 12 months, &c. and all questions therein to be decided by the majority of votes. No member to sit or vote till he has taken the following oath.

I, A. B. do sincerely promise and swear, that I will be faithful and bear true allegiance to his Majesty ———, as lawful sovereign of the kingdom of Great Britain, Ireland, and of these provinces, dependant on and belonging to the said kingdoms; and that I will defend Him to the utmost

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of my power against all traitorous conspiracies and attempts whatever which shall be made against his person, crown and dignity; and that I will do my utmost endeavor to disclose and make known to his majesty, his heirs or successors, all treasons and traitorous conspiracies and attempts which I shall know to be against him, or any of them; and all this I do swear without any equivocation, mental evasion, or secret reservation, and renouncing all pardons and dispensations from any person or persons whatever to the contrary. So help me God.

Governor may give or withhold his Majesty's assent to bills passed by the legislative council and assembly, or reserve them for his majesty's pleasure. Governor to transmit to the secretary of state copies of such bills as have been assented to, which his Majesty in council may declare his disallowance of within two years from the receipt. Bills reserved for his Majesty's pleasure not to have any force till his Majesty's assent be communicated to the council and assembly, &c. Laws in force at the commencement of this act, to continue so, except repealed or varied by it, &c. Establishment of a court of civil jurisdiction in each province.

The remainder of the act is that part which has particular reference to subjects now much discussed in these provinces, and I think it my duty in justice to all parties to give this part in full.

Sec. 35. And whereas, by the above mentioned acts, passed in the 14th year of the reign of his present Majesty, it was declared, that the clergy of the church of Rome, in the province of Quebec, might hold, receive and enjoy their accustomed dues and rights, with respect to such persons only as should profess the said religion; provided nevertheless, that it should be lawful for his Majesty, his heirs or successors, to make such provision out of the rest of the said accustomed dues and rights, for the encouragement of the Protestant religion, and for the maintenance and support of a Protestant clergy within the said province as he or they should from time to time think necessary and expedient; and whereas by his Majesty's royal instructions, given under his Majesty's royal sign manual, on the third day of January, in the reign of our Lord, one thousand seven hundred and seventy-five, to Guy Carleton, Esquire, now Lord Dorchester, at that time his Majesty's captain-general and governor-in-chief in and over his Majesty's province of Quebec.

His Majesty was pleased, among other things, to direct "That no incumbent professing the religion of the church of Rome, appointed to any parish, in the said province, should be entitled to receive any tithes for lands or possessions occupied by a Protestant, but that such tithes should be received by such persons as the said Guy Carleton, Esquire, his Majesty's captain-general and governor-in-chief in and over his Majesty's said province of Quebec, should appoint, and should be reserved in the hands of his Majesty's receiver-general of the said province, for the support of a Protestant clergy in his Majesty's said province, to be actually resident within the same, and not otherwise, according to such directions as the said Guy Carleton, Esquire, his Majesty's captain-general and governor-in-chief in and over his Majesty's said province, should receive from his Majesty in that behalf; and that in like manner all growing rents and profits of a vacant benefice should during such

vacancy, be reserved for and applied to the like uses." And whereas his Majesty's pleasure has likewise been signified to the same effect in his Majesty's royal instructions, given in the like manner to Sir Frederick Haldimand, knight of the most honorable order of the bath, late his Majesty's captain-general and governor-in-chief in and over his Majesty's said province of Quebec, and also in his Majesty's royal instructions, given in like manner to the said right honorable Guy Lord Dorchester, now his Majesty's captain-general and governor-in-chief in and over his Majesty's said province of Quebec; be it enacted by the authority aforesaid, that the said declaration and provision contained in the said above mentioned act, and also the said provision so made by his Majesty in consequence thereof, by his instructions above recited, shall remain and continue to be of full force and effect in each of the said two provinces of Upper-Canada and Lower-Canada, respectively, except in so far as the said declaration or provisions respectively, or any part thereof, shall be expressly varied or repealed by any act or acts which may be passed by the legislative council and assembly of the said provinces respectively, and assented to by his Majesty, his heirs or successors, under the restriction hereinafter provided.

Sec. 36. And whereas his Majesty has been graciously pleased by message to both houses of parliament, to express his royal desire to be enabled to make a permanent appropriation of lands in the said provinces, for the support and maintenance of a Protestant clergy within the same, in proportion to such lands as have been already granted within the same by his Majesty; And whereas his Majesty has been graciously pleased, by his said message, further to signify his royal desire that such provision may be made, with respect to all future grants of land within the said provinces respectively, as may best conduce to the due and sufficient support and maintenance of a Protestant clergy within the said provinces, in proportion to such increase as may happen in the population and cultivation thereof: therefore for the purpose of more effectually fulfilling his Majesty's gracious instructions as aforesaid, and of providing for the due execution of the same in all time to come, be it enacted by the authority aforesaid, that it shall and may be lawful for his Majesty, his heirs or successors, to authorize the governor or lieutenant-governor of each of the said provinces respectively, or the person administering the government therein, to make from and out of the lands of the crown within such provinces, such allotment and appropriation of lands, for the support and maintenance of a Protestant clergy within the same, as may bear a due proportion to the amount of such lands within the same, to have at any time been granted by or under the authority of his Majesty: and that whenever any grant of lands within either of the said provinces shall hereafter be made, by or under the authority of his Majesty, his heirs or successors, there shall at the same time be made, in respect of the same, a proportionate allotment and appropriation of lands for the above mentioned purpose, within the township or parish to which such lands so to be granted shall appertain or be annexed, or as nearly adjacent thereto as circumstances will admit; and that no such grant shall be valid or effectual unless the same shall contain a specification of the land so allotted and appropriated, in respect of the lands to be there-

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by granted; and that such lands so allotted and appropriated, shall be as nearly as the circumstances and nature of the case will admit, of the like quantity as the land in respect of which the same are so allotted and appropriated, and shall be, as nearly as the same can be estimated at the time of making such grant, equal in value to the seventh part of the land so granted.

Sec. 37. And be it further enacted by the authority aforesaid, That all and every the rents, profits or emoluments, which may at any time arise from such lands so allotted and appropriated as aforesaid, shall be applicable solely to the maintenance and support of the Protestant clergy within the province in which the same shall be situated, and to no other use or purpose whatever.

Sec. 38. And be it further enacted by the authority aforesaid, that all laws, statutes, and ordinances, which shall be in force on the day it shall and may be lawful for his Majesty, his heirs or successors, to authorize the governor or lieutenant-governor of each of the said provinces respectively, or the person administering the government therein, from time to time, with the advice of such executive council as shall have been appointed by his Majesty, his heirs or successors, within such province, for the affairs thereof, to constitute and erect, within every township or parish which now is, or hereafter may be, formed, constituted, or erected within such province, one or more parsonage or rectory, or parsonages or rectories, according to the establishments of the church of England; and from time to time, by an instrument under the great seal of such province, to endow every such parsonage or rectory with so much or such part of the lands so allotted and appropriated as aforesaid, in respect of any lands within such township or parish, which shall have been granted subsequent to the commencement of this act, or of such lands as may have been allotted and appropriated for the same purpose, by or in virtue of any instructions which may be given by his Majesty, in respect of any lands granted by his Majesty before the commencement of this act, as such governor, lieutenant-governor, or person administering the government, shall, with the advice of the said executive council, judge to be expedient under the then existing circumstances of such townships or parish.

Sec. 39. And be it further enacted by the authority aforesaid, that it shall and may be lawful for his Majesty, his heirs or successors, to authorize the governor, or person administering the government of each of the said provinces respectively, to present to every such parsonage or rectory an incumbent or minister of the church of England, who shall have been duly ordained according to the rites of the said church, and to supply from time to time such vacancies as may happen therein; and that every person so presented to any such parsonage or rectory, shall hold and enjoy the same, and all rights, profits and emoluments thereunto belonging or granted, as fully and amply, and in the same manner, and on the same terms and conditions, and liable to the performance of the same duties as the incumbent of a parsonage or rectory in England.

Sec. 40. Provided always, and be it further enacted by the authority aforesaid, that every such presentation of an incumbent or minister to any such parsonage or rectory, and also the enjoyment of any such parsonage or rectory, and of the rights, profits and emoluments thereof, by

any such incumbent or minister, shall be subject and liable to all rights, institutions and all other spiritual and ecclesiastical jurisdiction and authority, which have been lawfully granted by his Majesty's royal letters patent to the bishop of Nova Scotia, or which may hereafter, by his Majesty's royal authority, be lawfully granted or appointed to be administered and executed within the said provinces, or either of them respectively, by the said bishop of Nova Scotia, or by any other person, according to the laws and canons of the church of England, which are lawfully made and received in England.

Sec. 41. Provided always, and be it further enacted by the authority aforesaid, That the several provisions herein before contained, respecting the allotment and appropriation of lands for the support of the Protestant clergy within the said provinces, and also respecting the presentation of incumbents or ministers, who shall hold and enjoy the same, shall be subject to be varied or repealed by any express provisions for that purpose, contained in any act or acts which may be passed by the legislative council and assembly of the said province, respectively, and assented to by his Majesty, his heirs or successors, under the restriction hereinafter provided.

Sec. 42. Provided nevertheless, and be it further enacted by the authority aforesaid, That whenever any act or acts shall be passed by the legislative council and assembly of either of the said provinces, containing any provisions to vary or repeal the above recited declarations and provisions contained in the said act, passed in the 14th year of the reign of his present Majesty, or to vary or repeal the recited provision contained in his Majesty's royal instructions, given on the third day of January, in the year of our Lord one thousand seven hundred and seventy-five, to the said Guy Carleton, Esquire, now Lord Dorchester; or to vary or repeal the provisions herein before contained for continuing the force and effect of the said declaration and provisions; or to vary or repeal any of the several provisions herein before contained respecting the allotment and appropriation of lands for the support of the Protestant clergy within the said province; or respecting the constituting, erecting, or endowing parsonages and rectories within the said province; or respecting the presentations of incumbents or ministers to the same, or respecting the manner in which such incumbents or ministers shall hold and enjoy the same: and also that whenever any act or acts shall be so passed, containing any provisions which shall in any manner relate to or affect the enjoyment or exercise of any religious form or mode of worship, or shall impose or create any penalties, burthens, disabilities, or disqualifications in respect to the same, or shall in any manner relate to or affect the payment, recovery or enjoyment of any of the accustomed dues or rights herein before mentioned; or shall in any manner relate to the granting, imposing or recovering any other dues, or stipends or emoluments whatever to be paid to or for the use of any minister, priest, ecclesiastic or teacher, according to any religious form or mode of worship, in respect to his said office or function; or shall in any manner relate to or affect the establishment or discipline of the church of England, amongst the ministers thereof within the said provinces; or shall in any manner relate to or affect the King's prerogative touching the granting the waste lands of the crown within the said provinces; every such act or acts

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shall, previous to any declaration or signification of the King's assent thereto, be laid before both houses of parliament in Great Britain; and that it shall not be lawful for his Majesty, his heirs or successors, to signify his or their assent to any such act or acts, until thirty days after the same shall have been laid before the said houses, or to assent to any such act or acts, in case either house of parliament shall, within the said thirty days, address his Majesty, his heirs or successors, to withhold his or their assent from such act or acts, and that no such act shall be valid or effectual to any of the said purposes within either of the said provinces unless the legislative council and assembly of such province shall, in the session in which the same shall have been passed by them, have presented to the governor, lieutenant-governor, or person administering the government of such provinces, an address or addresses, specifying that such act contains provisions for some of the said purposes herein before specially described, and desiring that, in order to give effect to the same, such act should be transmitted to England without delay, for the purpose of being laid before parliament previous to the signification of his Majesty's assent thereto.

Sec. 43. And be it further enacted by the authority aforesaid, That all lands which shall be hereafter granted within the said province of Upper Canada, shall be granted in free and common soccage, in like manner as lands are now holden in free and common soccage in that part of Great Britain called England; and that in every case where lands shall be hereafter granted within the said province of Lower-Canada, and where the grantee thereof shall desire the same to be granted in free and common soccage, the same shall be so granted: but subject, nevertheless, to such alterations, with respect to the nature and consequences of such tenure of free and common soccage, as may be established by any law or laws which may be made by his Majesty, his heirs or successors, by and with the advice and consent of the legislative council and assembly of the province.

Sec. 44. And be it further enacted by the authority aforesaid, That if any person or persons holding any lands in the said province of Upper Canada, by virtue of any certificate of occupation derived under the authority of the governor and council of the province of Quebec, and having power and authority to alienate the same, shall, at any time, from and after the commencement of this act, surrender the same into the hands of his Majesty, his heirs or successors, by petition to the governor or lieutenant-governor, or person administering the government of the said province, setting forth that he, she, or they, is or are desirous of holding the same in free and common soccage, such governor or lieutenant-governor, or person administering the government, shall thereupon cause a fresh grant to be made to such person or persons of such lands, to be holden in free and common soccage.

Sec. 45. Provided nevertheless, and be it further enacted by the authority aforesaid, That such surrender or grant shall not avoid or bar any right or title to any such lands so surrendered, or any interest in the same, to which any person or persons, other than the person or persons surrendering the same, shall have been entitled, either in possession, remainder, reversion, or otherwise, at the time of such surrender; but

that every such surrender and grant shall be made subject to every such right, title, and interest, and that every such right, title, or interest, shall be as valid and effectual as if such surrender and grant had never been made.

Sec. 46. And whereas, by an act passed in the eighteenth year of the reign of his present Majesty, intituled, "An Act for removing all doubts and apprehensions concerning taxation by the parliament of Great Britain, in any of the colonies, provinces, and plantations in North America and the West Indies; and for repealing so much of an act, made in the seventh year of the reign of his present Majesty, as imposes a duty on tea imported from Great Britain into any colony or plantation in America, or relates thereto," it has been declared, "That the King and Parliament of Great Britain will not impose any duty, tax, or assessment whatever, payable in any of his Majesty's colonies, provinces or plantations in North America or the West Indies, except only such duties as it may be expedient to impose for the regulation of commerce, the net produce of such duties to be always paid and applied to and for the use of, the colony, province, or plantation in which the same shall be respectively levied, in such manner as other duties collected by the authority of the respective General Courts or General Assemblies of such colonies, provinces, or plantations, are ordinarily paid and applied;" And whereas it is necessary, for the general benefit of the British empire, that such power of regulation of commerce should continue to be exercised by his Majesty, his heirs or successors, and the parliament of Great Britain, subject nevertheless to the condition hereinbefore recited, with respect to the application of any duties which may be imposed for that purpose: Be it therefore enacted by the authority aforesaid, That nothing in this Act contained shall extend, or be construed to extend, to prevent or affect the execution of any law which hath been or shall at any time be made by his Majesty, his heirs or successors, and the parliament of Great Britain, for establishing regulations or prohibitions, or for imposing, levying, or collecting duties for the regulation of navigation, or for the regulation of the commerce to be carried on between the said two provinces, or between either of the said provinces and any other part of his Majesty's dominions, or between either of the said provinces and any foreign country or state, or for appointing and directing the payment of drawbacks of such duties so imposed, or to give to his Majesty, his heirs or successors, any power or authority, by and with the advice and consent of such Legislative Councils and Assemblies respectively, to vary or repeal any such law or laws, or any part thereof, or in any manner to prevent or obstruct the execution thereof.

Sec. 47. Provided always, and be it enacted by the authority aforesaid, That the net produce of all duties which shall be so imposed, shall at all times hereafter be applied to and for the use of each of the said provinces respectively, and in such manner only as shall be directed by any law or laws which may be made by his Majesty, his heirs or successors, by and with the advice and consent of the Legislative Council and Assembly of such provinces.

The remainder of the act only points out, that his Majesty in council was to fix and declare the commencement of the act. The time for is-

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suings the writs of summons and elections, which were not to be later than the 31st December, 1792, but that between the commencement of the act, and the first meeting of the legislative council and assembly, temporary laws might be made by the governor or lieutenant-governor and executive council, for the good government, peace and welfare of such province, such temporary laws to continue valid and binding, until six months after the legislative council and assembly of each province shall have first assembled, under the authority of this act, &c.

I have now given all that is necessary to understand perfectly the Constitutional Act, and as I shall again have occasion to refer to it, I will make no remarks on it in this place. I have introduced it principally for the information of the reader who may have been unacquainted with its provisions.

RELIGION.—The prevailing religion in Lower-Canada is the Roman Catholic. The clergy are educated in Canada. They possess considerable property in town and country, as seigniories. The island of Montreal, and Isle Jésus, by far the most valuable in Canada, are their seigniories. They are also paid for their support the twenty-sixth part of the grain raised on the lands of Roman Catholics. There is one bishop, two coadjutors, four vicars general, and perhaps near three hundred vicars and curés. The Catholic bishop receives the sum of £1000 per annum from Great Britain, in addition to the rent of some lands in Canada, which I believe are not of great value. The income of the vicars and curés, I have been told, may be about £300 per annum, on an average.

The church of England clergy consists of the Bishop of Quebec, the arch-deacon, and I believe forty clergymen. The number of churches they have in Lower-Canada may be about forty, or upwards. The British Parliament, in 1834, granted £6,690 towards the support of this church principally, and I have seen a statement of its distribution in the following manner: Bishop of Quebec, £3000; Arch Deacon, do. £500; Rector, do. £400, and house rent £90; Minister of Trinity Chapel, £200; Montreal Rector, £300; Three-Rivers, do. £200; William Henry, or Sorel, £150; Dunham, £100; Argenteuil, do. £100; Chatham, £100; Caldwell's Manor, £100; St. Armand, £100; Evening Lecturer at Quebec, £100; ———— of do. £150; Minister of the church of Scotland at Quebec, £50; of Montreal, do. £50; Roman Catholic Bishop of Quebec, £1000. In addition to the grant by the British parliament, the Society for the propagation of the Gospel gives annually some assistance for the payment of the ministers of the English church, but I am not aware how it is distributed.

The ministers of the church of Scotland in Lower-Canada are eleven or twelve in number, and they have as many churches. With the exception of £100 from the parliamentary grant, which I have mentioned above, they do not receive any government support, and are entirely dependant on their congregations. I am not aware of the number of other dissenting congregations. I believe the Methodists and Baptists have twenty ministers, and as many churches, or perhaps more. The American

Presbyterians have a church at Montreal, numerously attended, and I think they have one at Quebec.

The Protestant congregations have generally to support their own ministers and churches, by voluntary contributions. They receive no aid from tithes or grants, except the grant from the British parliament which I have alluded to above, which is principally to the ministers of the English church. Though a large quantity of wild land was reserved in the townships throughout the lower province, these lands have not yet produced any rents worthy of notice, in consequence, I believe, of mismanagement in every way. A large portion of these reserves has been lately disposed of by the British government to the Land Company. I cannot say how the proceeds are to be disposed of.

EDUCATION—The legislature have for several years past granted very considerable aid towards the support of schools. In 1832, the grant was £34,094; in 1833, £23,263; in 1834, the latter amount was paid; and in 1835, a large sum was contributed, but I am unable to say how much. The school visitors of each county were, in the year 1833, allowed to distribute at their discretion during their visits to the schools, 9s. for each school, for the encouragement of such children as they should find to excel in such schools. The number of schools that were entitled to this premium in 1833, were 1295. I have reason to suppose that the number was not less for the last two years. I am sorry that on this subject I am unable to give as full information as would be desirable. I had not the means of information at my disposal, but I expect to obtain it, and shall again refer to the subject.

There are many excellent schools in Montreal, Quebec, and other towns and villages, that receive no aid from the provincial revenue, nor from any other public funds. Some of them are under the superintendance of respectable clergymen of the English and Scotch churches. I have already stated that there are six Canadian colleges, at Montreal, Quebec, St. Anns, Nicolet, St. Hyacinthe, and Chambly. In these colleges, all the higher branches of learning are taught, and are, I believe, extremely well conducted. The greatest want that has been hitherto felt in the country parishes, was that of properly qualified schoolmasters, and suitable class books, calculated to give useful and general information, and instruction, to the Scholars.

Since writing the above I find that a bill has passed the legislature, granting £3000 for establishing two Normal schools, one at Quebec, and one at Montreal. These schools are intended to form schoolmasters, on the same plan as is adopted in France, Prussia, and other countries. That properly qualified schoolmasters are wanted in the country parts of Canada, there can be no doubt, and if this act of the legislature will supply the deficiency it will confer a great benefit on the province at large. Much will depend on the manner in which the provisions of the act will be carried into effect. Together with the above grant, £8600 has been voted for the support of education this year. I believe that no plan can be devised for the amelioration of Canada, that will be found more certain and effectual, than the establishment and support of a general system of useful education among the people.

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CHARITABLE INSTITUTIONS, in Lower-Canada were sufficiently numerous until lately. Within the last two or three years mendicity has greatly increased in Montreal and Quebec. At present, the number of persons in these cities applying for charity from door to door, is very considerable and perhaps appears more so from being heretofore unusual. There is no regular institution in either city for the relief of the unemployed poor. Hospitals for the sick are provided, and very well conducted. The following are the principal charitable institutions at Montreal.

Montreal General Hospital, erected by subscription, chiefly, and supported in the same way, and by grants from the legislature. For the last few years these grants were made from the tax paid by emigrants arriving at Quebec, which is, I believe, divided equally between this hospital, the emigrant hospital at Quebec, and the two emigrant societies at Quebec and Montreal. In one year the Montreal general hospital received 1759 in-door patients, and had 2188 out-door patients. Of the in-door patients, 1360 were emigrants; and of the out-door, 1439, and cost the institution £1418 10s. 8d. The total expense for the year was £1844 11s.

The **Hotel Dieu**, is an establishment for the reception of the sick and diseased of both sexes, and is conducted by a superior and 36 nuns. The funds for maintaining this charity, are principally derived from landed property, and grants by the legislature. I do not know what number of sick are admitted during the year. The **Convent of the Gray Sisters**, is an establishment for the reception of foundlings, and such as labour under mental derangement. This institution is supported by landed property, and grants by the legislature. There are not many insane patients, nor is the number of foundlings very considerable.

The **Emigrant Society** renders great assistance to destitute emigrants in forwarding them to their destination, and helping them in various ways. Their funds are supplied by subscription, and a share of the emigrant tax.

The **Widow and Orphan Asylum**, is supported principally by subscriptions, but has had occasional grants by the legislature.

At Quebec, the **Hotel Dieu**, and **General Hospital** are both establishments conducted by the Nuns, for the reception of sick poor, foundlings, and insane. They are also under the superintendance of commissioners, and are principally supported by landed property and grants from the revenue.

The **Emigrant Hospital**, is supported by subscription, and a proportion of the tax on emigrants.

The **Marine Hospital** is supported by funds furnished from the provincial revenue. The **Deaf and Dumb Institution** is supported from the same funds.

At **Three-Rivers**, the Nuns there have an establishment in their convent for the sick poor, and I believe for foundlings; conducted and supported in the same manner as those at Montreal and Quebec.

There are some other charitable societies supported by private contributions, but I do not think it necessary to describe them particularly here.

The amount of the emigrant tax in 1832, was £6,605 10s., in 1833, £4,776. A bill has been passed this session to renew the tax on emigrants arriving at Quebec.

Banks in Lower Canada, in 1836.

Montreal Bank has capital paid in, - -	£250,000
It had notes in circulation November 1835, -	£253,236
It had in its vaults at Montreal and Quebec, in gold, silver, and other coins, and in transitu -	£106,560
The dividends declared for the last two years was 8 per cent. annually, and the profits on hand at the above date was, - - - -	30,375

This bank is chartered by the provincial legislature, but the charter expires on the 1st June, 1837. It is managed by a president and twelve directors annually elected by the stock owners.

The City Bank has capital paid in, - - £200,000

Notes in circulation 7th November, 1835, - £ 90,437
Gold, silver and other coined metals in the bank, 25,657

The dividends declared for the last year was 8 per cent. and the profits on hands at the above date was £ 10,820
It is chartered as the Montreal bank, and managed in the same way.

There are two other banks in Montreal, the People's Bank, or "*en Commandite*," of Viger, De Witt & Co., and the Commercial Bank, which is a private bank

The Quebec Bank has capital paid in, - - £ 75,000

Notes in circulation 5th November, 1835, - £ 59,385
Gold, silver, and other coined metals in the bank, 12,850

The dividends declared for the last year was 8 per cent. and the profits in hands at the above date was, - £ 12,289

It is chartered and managed in the same way as the Montreal banks.

The total amount of notes in circulation of the three chartered banks at the date of their statements submitted to the provincial legislature, now in session, was £403,058

And the total amount of bills discounted, and accommodation to the public, was about 1,173,000*l.* Of this sum near 360,000*l.* was deposited in the banks by those who kept accounts with them at the date of the statement. The Montreal bank had of this, deposits 276,705*l.* and notes discounted 704,184*l.*

Montreal bank shares at the close of last year (1835) were at 35 to 36 per cent. premium. City bank at 9 per cent. premium; and Quebec bank at

The following is the rate of premium paid on bills of exchange the last year in Montreal :

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Rate of Private Bills at 60 days. 1835.			Rate of the Montreal Bank Bills at 60 1835.		
January to Feb.	6 a 6½ prem.		January to Feb.	8 a 8½ prem.	[days.
March to April	7½ a 8 do.		March, -	9½ a do.	
May, June, July,	8½ a 9 do.		April and May,	9 a 9½ do.	
August,	9½ a 10 do.		June and July,	9 a do.	
September,	9½ a 8½ do.		August,	11 a do.	
October,	8½ a 8½ do.		September,	9½ a 9 do.	
November,	10 a 10½ do.		October,	9 a do.	
			November,	none	

Exchange in Canada is not often lower than the above rates, I have frequently known it to be over 12 premium. I have seen 125l. currency paid in Montreal for an English bill for 100l. sterling, at short sight. 100l. sterling is generally equal to 120l. currency, or requires that amount currency, to pay 100l. sterling in England. It is well that emigrants should be aware of this circumstance.

English guineas pass for 24s. 6d. to 25s. 6d. currency each.

English sovereigns for 23s. 4d. to 25s. do. do.

Spanish dollars at 5s. and French crowns at 5s. 6d. each; smaller parts of dollars in proportion.

English half crowns for 2s. 9d. and shillings at 1s. 1d. each.

The copper coins in circulation in Lower-Canada are certainly of a mixed quality, and unequal value. Coins of every reign for the last 140 years, and of every country, pass currently; sheet copper cut into a round shape, without any impression, and other light coin manufactured, and put into circulation, in fact any thing near the shape of an old worn copper, though not the value of half a farthing, pass for a half-penny. I do not say that this is an evil, so long as they pass with the people for the value they are allowed to represent, but I confess I would prefer seeing a regular copper coin in circulation.

CANALS AND RAIL-ROADS.—The Lachine canal is near nine miles long, and was constructed at an expense of near 137,000l. currency. The following is a statement of the annual revenues from 1829 to 1835 inclusive.

Years	Amt. Tolls.	Expenses of management & repairs, &c.	What Amount Revenue.	No. boats upwards	No. boats downwards
1829	2925 18 8	1658 15 10	1259 2 10	1854	1156
1830	5313 1 2	2813 1 2	2500	1711	1815
1831	6632 18 4½	1941 4 8½	4691 13 8	2005	2111
1832	5826 15 11	1394 7 1	4432 8 10	1752	1821
1833	7154 4 ½	1916 19 9	5237 14 3½	2049	2160
1834	6531 2 10½	1331 10 9	4753 9 1½	1779	1735
1835	80 15 8½	526 18 11		1659	1600

About 1000l. of the above expenses was for deepening the bed of the river St. Pierre, to answer as the main drain for carrying away the

waste water and leakage from the canal. The permanent expenditure for salaries of secretary, toll-collectors, lock-keepers, and labourers is about 810*l.* annually. The canal act not being in force during the years 1828 or 1835, no tolls were collected, and about 10,000*l.* was lost in consequence to the provincial revenue.

Statement of revenues of the locks at the Cascades, Spit Rock, and Coiteau du Lac, on the river St. Lawrence, from the year 1827 to 1835.

Years.	Gross Revenue received.	Repairs and Expenses.	Nett Revenue.	No. Durham boats.	No. Batteaus
1827	2230 5 0	881 18 6	1348 6 6	497	254
1828	2089 17 6	579 11 6 $\frac{1}{4}$	1519 5 11 $\frac{1}{2}$	358	403
1829	1273 12 6	253 15 3	1010 17 3		
1830	2627 17 6	777 19 8	1849 17 10	530	712
1831	2447 10 0	341 6 5	2106 3 7	371	837
1832	2345 5 0	932 3 11 $\frac{1}{4}$	1636 1 0 $\frac{1}{4}$	451	817
1833	3093 15 6	875 15 1	2218 0 5	612	864
1834					
1835					

The rail-road from St. Johns to Laprairie, distance 15 miles, now nearly complete, cost 34,000*l.* including what is necessary to finish the rail-road, provide engines and cars, and erect station houses and wharves, being at the rate of 567*l.* for graduation, masonry and bridges, per mile, and 2,335*l.* per mile for the road complete, with one locomotive engine, four passenger cars, and twenty freight ditto. Of this amount, the wharves at Laprairie and St. Johns cost about 2,800*l.* The road is expected to be open in July next. The work is reported to be executed in the very best manner throughout the whole line. The cost per mile is less than *one-seventh* of the cost of the Lachine canal per mile, and the annual cost of maintaining the canal will, I suppose, be more than that of the rail road, without taking into consideration the damage caused to the lands that are intersected by the canal, which in all cases where canals are constructed, must be considerable, and in the instance of the Lachine canal has been particularly so, in proportion to its extent.

The Chambly canal is not yet finished. I find that an additional grant has been voted this year by the house of assembly of 28,500*l.* to complete the canal, and 9,400*l.* to remove obstructions in the river Richelieu, and build a lock at St. Ours. This grant did not pass in the legislative council. Hence the Chambly canal, and the improvement of the river Richelieu, connected with that canal, will make the cost of opening the navigation from St. Johns to the river St. Lawrence not much short of 100,000*l.* currency. It must prove a great convenience to the inhabitants of that section of the country. It is probable that a large business will be done on the canal in the lumber trade.

The Grenville canal, is a work that has been constructed at the expense of the British government to open the navigation of the Grand or Ottawa river from Lachine, nine miles from Montreal, to the point where the Rideau canal is connected with the Ottawa at Hull or Bytown, about 123

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miles from Montreal. The Grenville canal is well executed, and has cost the British government a large sum. In connection with the Rideau canal it completes the navigation to Lake Ontario, and were the Welland canal in an efficient state, the navigation would be open from Montreal to Lake Erie.

PROPOSED INTERNAL IMPROVEMENTS.—The legislature of Upper-Canada have voted a large sum of money for the improvement of the navigation of the river St. Lawrence, where it is interrupted by rapids, from Cornwall to Prescott. The work is now far advanced towards completion: The river will then be navigable from the province line to Lake Ontario for steamboats, and other vessels drawing nine feet water. The expense of improvement within the upper province is estimated to cost over 300,000*l.* From Lachine to the province line, there are considerable obstructions in two or three places, which prevent steamboats from plying through from Lachine to Cornwall. A survey has been made in 1831, and a report of the result laid before the provincial legislature by a Mr. Wright, civil engineer, who makes two or three estimates. The first is for the improvement of the river, which he considers the best plan, and amounts to 235,782*l.* The second estimate was for 325,000*l.*, and would be more inland by cutting a canal, and not be confined to the river. The canal would require to be near 15 miles long. The third estimate is by a different route, and would amount to a sum over 400,000*l.* This would truly be an improvement well worthy of these fine provinces, to make the St. Lawrence navigable to Lake Ontario for steamers and other large vessels. The navigation might be carried on through the Welland canal into Lake Erie, and so on to Lake Huron. The Welland canal is not I believe, in good repair, or in an efficient state at present, but may be rendered so, and if not, the sum of 500,000*l.* already expended upon it must be considered a "bad job" for the stock owners.

The improvement of Lake St. Peter by a steam-dredging machine, has been provided for by the legislature. This lake is very shallow in most places, and requires to have a channel deepened for large vessels. I understand it is a plan easy to accomplish, as the bottom is not rocky.

There are plans before the legislature for the improvement of the Yamaska, St. Francis, and other rivers, that would, if carried into effect, greatly facilitate intercourse to the remotest parts of the province, which is now almost impracticable. There is one mode proposed of improving the navigation of the Yamaska river, by constructing dams, and raising the water over the rapids, on the same plan as the Rideau canal, which I think would be very likely to cause much damage to the lands in the neighbourhood of such dams, unless they are very peculiarly situated, and the banks of the river considerably elevated. Lands that may not now be considered of much value, in a few years hence will be very valuable, and obstructing the course of rivers in a flat country as Lower-Canada is, will impede the discharge of waters, that are already too slow in most places. A river that has now a considerable fall, and many rapids, if the stream is dammed so as to raise the water over these rapids sufficiently deep for steam navigation, must surely have a great effect on the river, and all streams which discharge into it, if the lands in the neighbourhood be level, and not much higher than the river. Though

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the water in the river should not be raised so much as to overflow its banks, it may notwithstanding be so impeded that the velocity of the stream may be diminished one half or more, and perhaps equally impede all the streams that discharge into it. These objections will not apply of course to any river that is sufficiently *below* the level of the adjoining lands, that the construction of dams will not, or cannot obstruct the water courses discharging from the lands.

Several plans of rail-roads have been submitted to the legislature this session. One from Quebec to the province line, there to meet a rail-road proposed to be constructed by the citizens of the United States from that line to the city of Boston. This was highly approved of, and the road will probably be commenced very soon. A second rail-road was proposed from Quebec to St. Andrews, a sea port in New-Brunswick, situated on the bay of Fundy, which is open, I believe, for navigation at all seasons of the year. This road would be of great advantage to the British provinces, would facilitate intercourse, and would render what is now a tedious and expensive journey from Canada to New-Brunswick, and Nova Scotia, easy, expeditious and cheap, and would give the people of Canada access to an open seaport at all seasons of the year. The provincial legislature have received these propositions very favourably, and it is probable this line of rail-road will be constructed in a short time. Petitions to the legislature from individuals to grant them the privilege of constructing rail-roads from funds to be subscribed by joint stock companies for that purpose, have, from some informality I believe, not been granted this session, but most likely will the next session.

The estimated expense of erecting a bridge from the lower end of the island of Montreal to the main land, was laid before the legislature in 1834. The estimate was 37,568*l.* which I think was sufficient. A bridge in the situation proposed, would be a very great benefit to the population on the north side of the St. Lawrence, and to a large portion of the community, as the line of road is one much travelled on.

For several years past, the greatest part of the revenue raised in Lower-Canada, has been applied to public improvement, and the support of education. In 1832, out of a revenue of 164,000*l.* about 118,000*l.* was voted for education, canals, roads, new gaol at Montreal (which cost 20,000*l.*) and other improvements. The present session, almost all the money granted has been for public improvements. I shall endeavor to give a statement of the appropriations made if I can obtain the necessary documents in time.

EXPORTS AND IMPORTS AT QUEBEC.—I shall now endeavor to show the progress of the trade of Canada for the last few years, and what the annual amount of tonnage arriving in Quebec was at various periods, from 1800 to the year 1835. I am sorry the *value* of the exports will not show so great an increase as might be expected, or proportioned to the vast increase of shipping.

Articles

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Principal exports from Canada from the year 1830 to 1835.

Articles.	1830.	1831.	1832.	1833.	1834.	1835.	
Wheat,	690101	1329270	657240	175900	413000	67400	Minots.
Flour,	71749	81062	51058	98393	79651	87000	Barrels.
Ashes, Pearl	60917	19747	13934	13480	10423	6095	Ditto.
Pot	134596	30512	86344	32499	16520	23045	Ditto.
Beef	4393	5415	5123	6298	3300	3431	Ditto.
Do. rounds } & tongues }	68675	42339	24520	16810	18887	12700	No.
Pork	11900	6461	8187	11103	10418	7250	Barrels.
Butter	152280	85033	16700	13822	28936	64607	Lbs.
Coal Fish	77441	45867	24404	6760	5601	69902	Cwts.
Salmon	360	688	591	750	400	750	Barrels.
Furs and } Pelletries, } No. Skins }	77334	67272	165831	75012	85653	85656	No. of } skins }
Staves, } standard } hhds. and } bls. }	6376548	4111786	7680442	4560942	5651907	5977606	No.
Oak	18213	19654	23904	20084	21125	19825	Tons.
Pine	160919	194408	194276	178679	238778	306623	Do.
Elm, ash, } Maple &c. }	14145	13920	20993	16390	22104	21566	Do.
Masts and } spars }	2306	2420	2595	3761	3890	3400	No.
Deals, } boards, & } planks }	1816714	1862238	1963486	2048968	2247623	2370158	Do.
Estimated } value of } Exports }	L1,655,403	L1,195,612	L1,027,303	L1,095,873	L1,186,860	L1,037,278	

The above estimate includes the principal exports at Gaspé and New Carlisle, for the last two years. There are several articles of lumber and other produce that are not enumerated in the above, but are included in the *value* of exports. Some other kinds of grain was exported, but did not exceed for the six years more than 200,000 minots. The three last years the wheat crop was considerably injured in Lower-Canada, last year particularly, and partially in the Upper Province. In Upper-Canada they found a better market in the United States last year for their wheat, than sending it to Montreal or Quebec for sale or export.

It is right to observe that the amount of imports and exports at Quebec, includes the portion which belongs to the Upper Province, and is estimated at one third of the whole, and the revenue collected on the imports at Quebec is divided with the Upper Province in that proportion.

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The following highly interesting statement is by the Collector of Quebec, submitted to the Legislature of Lower-Canada.

A Comparative Statement for the last seven years of the Tonnage and Seamen employed in the Export Trade of the Province, distinguishing the proportion thereof cleared in each year, for the United Kingdom, from those for other Ports; the Tonnage cleared for the United Kingdom, with Wood and other goods, separately, together with the value of Exports under each head.

Years.	Cleared for the United Kingdom				For other Ports.				Total Cleared.				Cargoes laden for U. Kingdom.				For other Ports.		Total Exports.	
	Laden with Wood.	With other Goods.	Flour, Prov. &c.	For other Wood, Prov. &c.	Tons of Wood.	Value Sterling.	Tons other Goods.	Value Sterling.	Tons Wood and other Goods.	Value Sterling.	Tons.	Value Sterling.	Tons.	Value Sterling.	Tons.	Value Sterling.	Tons.	Value Sterling.		
No. of Ships.	Men.	No. of Ships.	Men.	No. of Ships.	Men.	No. of Ships.	Men.	No. of Ships.	Men.	No. of Ships.	Men.	No. of Ships.	Men.	No. of Ships.	Men.	No. of Ships.	Men.	No. of Ships.	Men.	
1829	745	320066	9611	54	13302	678	206	20624	1220	1005	233992	11449	3398439	548365	21058	£2 44463	32650	£188378	402147	£976706
1830	718	210924	9135	99	24257	1236	222	24690	1296	1051	257201	11677	332857	448523	38455	521873	35027	193600	407239	1164296
1831	713	213325	9255	168	41765	2070	168	21489	1246	1103	276582	12571	332764	465074	66135	786114	34026	160308	483925	1411438
1832	805	235505	10261	109	25610	1321	163	19465	1155	1077	280578	12737	372980	465966	40548	415668	30819	145669	444247	1027303
1833	812	240540	11259	101	24323	1219	244	22575	1290	1157	287418	12510	380821	486455	38512	427241	35742	181977	455075	1095673
1834	971	288613	12327	69	17942	909	250	22976	1357	1289	320441	14503	456970	676586	28407	295325	36381	194940	521758	1166860
1835	967	305571	12973	56	13015	748	243	20630	1145	1296	341216	14866	483819	611164	23772	232302	32663	193902	540254	1037278

Custom House,
Quebec, January 19, 1836. }

H. J. Jessop, Collector.

NOTE.—The returns from Gaspe have only been received to the 5th July last, and from New Carlisle to the 10th October, 1835. H. J.

Principal Imports at Quebec, Montreal, Gaspé, and New Carlisle for the last seven years.

	1829	1830	1831	1832	1833	1834	1835	
Wine, Madeira	15353	16160	32699	22327	35200	23777	17217	gal
Port	39394	44809	55619	79592	78800	62157	93257	do.
Teneriffi	24590	65781	29049	94227	40750	46175	23672	do.
Fayal	1971	2090	532	106	4252		83	do.
Sicilian and } Spanish }	17991	152049	165172	131726	430,00	218731	81242	do.
Other Kinds	55122	58368	66011	62376	91000	50177	51771	do.
Brandy	86607	81629	64215	18361	296000	140300	273350	do.
Gin	13872	67124	73414	60520	160000	71530	92406	do.
Run, Whiskey } &c. }	1133150	1149758	1428283	1099578	1082000	915988	994191	do.
Molasses	90159	86957	101166	127183	100000	92016	96656	do.
Refined Sugar	629313	561969	1084889	1653348	1999860	1252015	1411999	lbs
Moscovado do.	4739004	404190	5936196	5777961	5759167	1694218	2729636	do.
Coffee	70467	211122	119164	174901	79110	52830	7713	do.
Leaf Tobacco	85545	55187	119622	125774	19000	101588	76880	do.
Manufactur'd do.	16819			147109	248000	246743	116487	do.
Tea	12314	73952	587174	983256	1406716	923671	591347	do.
Salt	453607	245866	254040	287436	296000	338907	228687	mt.
Merchandize paying 2½ per cent. and free Goods	£ 841403	1183935	1317950	1327360	1429357	957000	1457784	
Emigrants arriv- ed at Quebec	15945	28075	49250	51422	22962	30219	11780	
Of the above merchandize and other goods, was imported at Montreal the two last years, including the estimated value of the goods that were not the produce or manufacture of the British Isles,						£ 661704	£ 1166294	

I have included in the above table the imports at Gaspé and New-Carlisle, for the last two years, also, the value of the free goods for the same period is included with the merchandize paying 2½ per cent. my object being to shew the total value of imports into Canada.

The following table will shew the amount of Tonnage arriving at Quebec, in several years from 1800 to 1835 :

Years.	1800	1806	1807	1808	1810	1820	1830	1835
Tonnage, Inwards	14293	33996	42293	70275	143893	149661	252005	342744

The amount of tonnage increased from 1800 to 1835, *twenty-four fold*. I believe I am correct in supposing that no port in the world has had so great an increase in her shipping in the same period as Quebec. It cannot be expected that it will go on increasing in the same proportion, yet, if the country improves as it is capable of improving, the tonnage may still be augmented to a great extent. When it is considered that there

is only one seaport to a country of such vast extent, it is scarcely possible to conjecture what the commerce and shipping may amount to at the port of Quebec, some years hence.

In the above table I did not include the imports at St. Johns from the United States. In 1832, the imports were 146,807*l.* and exports 8197*l.* In 1833, imports 104,500*l.*, exports 20,500*l.* Of the imports in 1832, more than 100,000*l.* was agricultural produce, and in 1833, more than 80,000*l.*; and, however extraordinary it may appear, all I believe was required for consumption in Canada. I do not know the amount of imports and exports at St. Johns the last two years. I am not aware of the exact value of the goods enumerated in the above table that are not the produce of the British Isles, but including the imports at St. Johns, I should imagine that in 1835, the imports into Canada were about 2,000,000*l.* sterling, and the exports not much over half that amount, or 1,000,000*l.* sterling, according to their estimated value at Quebec.

This exported produce from Canada constituted the freight of 1266 ships, which carried 540,254 tons; and the charge for the freight of this produce to its destined ports, in Britain and other places, added to the Quebec value, would, I believe, increase that value to double what it was estimated at Quebec. Were the shipping so employed, the property of Canadian merchants, this freight would make the value of the exported produce to the people of Canada, nearly equal to the imports of the produce and manufactures of other countries into Canada; but as the fact is otherwise, and that the merchants of Canada are not ship owners to any great extent, the balance by which the imports exceed the exports, must be paid from other sources; and I cannot see from what funds the balance can be paid, except from capital constantly brought into Canada by emigrants, the expenditure of the British government for the payment of the troops, &c. in Canada, and the income of those who derive them from the British Isles, by military half-pay, or property there. It can be only from such funds the balance is paid. Canada has not mines of the precious metals, and she certainly does not sell much to foreign customers, except what she exports at Quebec.

I would wish particularly to direct the attention of the reader to the foregoing table, from which it appears that almost all the ships which depart from Quebec are freighted with wood or lumber, the *natural* produce of the country, not the direct produce of agriculture. It is true that part of the produce of agriculture is consumed in preparing the wood and lumber, and transporting it to Quebec for shipment, and that another part of the produce is sold to those who bring capital to the country, and become settlers in the forest, and for the supply of the military, &c. &c. Hence the agricultural produce may still be considered to furnish indirectly the chief means of paying for the imports. But I would observe that by not having more produce to dispose of, Canada loses in a great measure the advantage of the capital brought into the country, and it is scarcely ever employed after it is once paid away by those who bring it here, until it is again returned to the British Isles. If the cultivated lands were all producing as abundantly as they might, and ought to be, the farmers would be able to supply all the home demands, and have a surplus for export fully sufficient to pay the balance of the imports, without

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sending back the money brought into the country directly, before it was a second time employed advantageously in Canada. I have no hesitation in saying that were the lands now occupied in Upper and Lower Canada managed properly, and judiciously, they would yield (except in very adverse seasons) a surplus produce to sell to foreign customers, more than sufficient to pay the balance of the imports, after abundantly supplying all the demands of the present population for food. It is possible that a greatly increased influx of strangers to Canada, might at a future time, prevent the possibility of exporting constantly as much of the produce of agriculture as would fully pay the balance of the imports that might be required for the use of a greatly increased population, as emigrants could not, for the first few years, produce much for themselves; but the increase has never yet been so great that the exports might not have been equal to the imports, if the agricultural produce had been any thing near what it was possible to make it.

It may be useful to examine this question further. It is the general opinion of political economists that a thriving country is capable of supporting in its towns a population equal to that of the country employed in husbandry, though the soil should be of inferior quality. The present state of England is a proof that this opinion is perfectly correct. The quantity of cultivatable land in England and Ireland is not greatly over two acres for each soul; and in Canada, there is at least four acres in cultivation, or that has been cultivated, for each of the present population, besides the advantageous use made of the wooded and waste land; and I am convinced that by including the whole of the cultivated lands of Canada, they are not less fertile than the cultivated and pastured lands of the British Isles, on an average. The inhabitants in the towns and villages of Canada, do not amount to a seventh of the whole population, yet under all these circumstances, the country has not furnished for the last eighteen years that I have been in Canada, more agricultural produce than was required for the food of its inhabitants, taking into consideration the large quantities of cattle, butchers' meat, butter, cheese, and flour that have been constantly imported from the United States, both into Upper and Lower Canada, during all that time.

I will admit that Canada may, and is, prospering, notwithstanding her imports so much exceed her exports, and that she may go on increasing in population and wealth, her commerce continuing to show the same results as at present, while she receives an accession of population, and capital annually from abroad, that is employed in the cultivation and improvement of her waste lands. But let this accession of capital coming into the country be discontinued, and she must then sell produce to customers *out* of Canada, to the same amount of her imports, or the imports will soon be reduced to the amount of her exports, because if there was a balance over it could not be paid. It is not the merchants who are to blame for bringing more produce and manufactures into the country than is exported of produce from the country, nor is it for the accommodation of the merchant, that those goods, when imported, will be purchased, but because the people want them. The merchant would find it much more profitable to export produce, in payment to other countries from which he receives his imports, than gold or bills of exchange, that

are always at a high premium. If he had produce to export, he would have a profit on that produce, perhaps equal to that on his imports. On remitting gold or bills, he cannot have profit. It must, therefore, manifestly be the interest of all parties, that the produce of Canada should be exported or sold to customers *out* of Canada, to nearly the full amount of the imports from other countries. The exports of England exceed her imports by more than a third, besides the profit of carrying almost exclusively to their destination, upwards of 70,000,000*l.* sterling worth of her produce and manufactures, which must add immensely to their value.

I may be too sanguine in my opinions of the natural capabilities of Canada for production. I acknowledge that I cannot see any thing in the circumstances of the country, geographical or physical, that should prevent it from becoming populous and productive, as any part of North America, or as most countries of Europe. Though the winter may continue four or five months in the year, and so severe, as to cover the whole surface of the land with snow, and the mighty rivers and waters of Canada with ice, so far am I from thinking this circumstance prejudicial, that I look upon it as being ordered so by a bountiful Providence for the good of the country, and the convenience of those who inhabit it, and who could not otherwise make so profitable a use of it. If it is cold in winter, there is abundance of fuel on the spot, to keep the people warm and comfortable. What use would the majestic forests of fine timber be, that are so much wanted in other countries, and which now constitute almost the only exports, if there was not snow and ice in winter, that allows this timber to be prepared, and brought to situations where the waters will be navigable in summer, to be exported to those countries, which will give in exchange the goods that are required by the population of Canada? Were the winters soft and open as in England, the forests would be useless; indeed it would be scarcely possible to get firewood from them. Good roads, in a country of such vast extent, to accommodate all, are impracticable to a thin population, and until the country is more thickly settled, it is fortunate that the climate is sufficiently cold in winter, to make roads nearly equal to rail-roads, without any expense. The summer seasons on an average of years, are more favourable for agricultural production and for harvesting the produce, than in most countries of Europe, or the United States; and it is a well established fact, that the winters, however severe, are not injurious to the health of plants or animals.

By a reference to the price of provender for cattle, for the last ten years in the principal markets of Canada, it will be found that in seven years out of ten, the best hay has been selling from 1*l.* to 2*l.* per ton, a convincing proof to me that the productiveness of the land in summer is sufficiently great, amply to supply the wants of a long and severe winter, with any farmer who understands his business, and will practice what he knows, and those who may not understand or will not practice a proper system of husbandry, cannot justly attribute unprofitable farming to the climate, so far as I am capable of judging of it.

With the human species, colds and consumptions are much more prevalent in the British Isles than in British America, and I believe the latter country is more healthy at all seasons than the United States. The foreign commerce of Canada, though confined in a great measure to the

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summer season, is sufficient for every purpose, and most suitable to the circumstances of the country, as time and winter roads are required to collect the produce to navigable waters and seaports. It is not the severity of the winters that would prevent the country from producing sufficiently to afford a surplus produce for export, that would equal the imports. It may prevent Canada from possessing large fleets of merchant ships, but perhaps that has no unfavourable influence, connected as she is with England, who has numerous fleets and open ports at all seasons. The limited capital in Canada may be better and more profitably employed in rendering productive what is now unproductive, than invested in ships, that should lie idle several months in the year, either in her own ports or in others.

My views of this subject may be unsatisfactory to some. I would not presume to meddle with commercial affairs, if I did not feel convinced that they are intimately connected at present, with the prosperity of the agricultural class in British America. And a principal object of this work, is, to endeavor to persuade that class how much it will be for their interest to augment as much as possible the produce of agriculture, to afford them a sufficient surplus to export from British America, an equal amount in value, as the people of British America may require to import for their use of the produce of other countries. I shall have occasion to discuss this subject more at large, when treating of the intercourse of British America with other countries. I could not forego the opportunity that presented itself to offer some remarks here.

Population of Lower-Canada at different periods from 1676 to 1836, inclusive.

Years.	1676	1688	1700	1706	1714	1759	1784	1825	1831	1836
Population.	8415	11249	15000	20000	26904	65000	113000	450000	512000	600000

The above table shows an increase in the population from 1784 to 1836, a period of 51 years, of nearly six fold. This much exceeds the proportion of increase in the United States. It is doubling in 20 years, and probably at the expiration of this 20 years, or in 1844, it will be much more than doubled. Within the last seven years 210,000 emigrants arrived at Quebec.

I intended to give insertion here to a table showing the births, marriages, and burials in Lower-Canada for the last seven years; as it was chiefly from these returns I estimated the present population. I have not yet been able to prepare them as perfectly as would be desirable, but shall give them in another place. In the three years previous to 1832, the births were about double the number of burials. In 1832, the first year of the cholera, the births were 24781, and the burials 22034; but of the latter, many were emigrants. The year 1833, the number of births were 25400, and the burials only 10840, making a difference of five to two. For 1834 and 1835, I have not returns from all parts of the province; I am convinced, however, that the following estimate is rather under than over the present population of Lower-Canada. I expect I shall also have it in my power to give the statistics of crime, for the last few years.

The province of Lower-Canada, divided into Districts, Counties, Seigniories, Fiefs, and Townships. Quantity of land in each, cultivated, uncultivated and waste. Population in 1831, and supposed population in 1836. Number of males over 14 and under 18 years, and over 18 and under 60 years of age. Members sent to the Provincial Parliament from each county, and value of moveable and immoveable property.

Counties	Seigniories.		Townships.		Quantity of lands in each.		Waste lands of the crown not yet Surveyed	Lands supposed to be occupied in 1836		Population according to the Census of 1831.	Supposed Population in 1836.	Males in 1836.		Members sent to Prov. Parliament.	Property not including waste unsurveyed land		Total
					Seigniories and Fiefs.	Townships		Cultivated.	Uncultivated.			Over 14 & under 18 years	Over 18 years & under 60 years		Movable.	Immovable		£	10900000	£139000000
L'Acadie	2	1	1	1	118400	41600	40000	100000	11419	14000	500	2960	2	240000	400000		
Beauharnois	1	8	3	3	206000	250880	75000	240000	16857	20000	760	4420	2	300000	500000		
Berthier	5	3	2	2	285640	76800	100000	200000	26225	23500	980	4950	2	400000	800000		
Chambly	2	1	2	2	185000	53120	120000	15000	15483	19000	820	4000	3	350000	700000		
Lachenaye	4		2	2	135240		60000	100000	9461	11000	560	2230	3	200000	400000		
Laprairie	1		2	2	152320		92000	62000	18497	22000	1780	4760	2	400000	800000		
L'Assomption	1		3	3	69120	64000	72000	116000	12767	11600	600	3160	2	300000	400000		
L'Assomption	1		1	1	46080	184026	50000	14000	8901	11600	450	2220	2	200000	400000		
Montreal	1		8	8	126080	555520	90000	36000	43773	50000	1650	11000	6	5600000	420000		
Ottawa	8		1	1	140900		25000	166000	4784	6600	290	1380	2	150000	350000		
Richelieu	8		7	7	238720		70000	168000	16149	18800	750	3990	2	300000	600000		
Rouville	7		3	3	274560		64000	190000	18115	21000	860	4660	2	300000	550000		
St. Hyacinthe	3		8	8	305286		60500	180000	15366	18000	760	3890	2	280000	500000		
Shefford	6		6	6	480000		30000	106000	5067	7500	260	1600	2	160000	280000		
Stanstead	4		3	3	414500		70000	200000	10306	13500	500	3000	2	300000	600000		
Terrebonne	3		6	6	73000		195000	160000	16623	19000	860	4000	2	300000	350000		
Two Mountains	4		1	1	193300		100000	200000	20905	24500	950	5050	2	450000	950000		
Vaudreuil	4		8	8	184320		75000	126000	13111	15000	650	3200	2	350000	350000		
Vercheres	2		14	14	126720		95000	32000	12318	14200	520	3300	2	320000	400000		
Projected Townships					840000												
Total Montreal	70	6	59	59	2875786	3266686	1496000	2510000	290050	3440000	14300	74570	43	£10900000	£139000000		

District of Montreal.

Beauce	7		9	9	325760	263050	50000	195000	11909	13650	500	2900	2	250000	450000	
Bellechasse	7	2	4	4	177920	186800	95000	165000	13529	15750	650	3260	2	300000	500000	
Dorchester	1		3	3	222720		55000	156000	11946	13900	480	2900	2	300000	450000	
Zamouche	7	1	3	3	155080	116490	75000	185000	13518	15750	650	3260	2	300000	450000	

Vercheres Projected Town ships	8	2	14	126720	840000	95000	32000	12318	14200	520	3500	2	320000	400000	
Total Montreal	70	6	59	2575786	3269686	29758320	1496000	2510000	290050	3440000	14300	74570	43	£10900000	£139000000

Beauce	7	9	325760	263050	668680	50000	195000	11909	13850	500	2900	2	950000	450000
Bellechasse	7	2	177920	198600	769280	95000	165000	13529	15750	650	3260	2	300000	500000
Dorchester	7	4	222720	55000	75000	155000	15000	11946	13900	480	2900	2	300000	450000
Kamouraska	1	3	158080	116450	2490340	75000	185000	13518	15750	650	3260	2	300000	450000
L'Islet	9	3	152960	126080	1069120	75000	155000	14555	16600	700	3400	2	300000	450000
Lebinière	8	1	469400	211920	727680	50000	165000	9151	10880	400	2200	2	200000	300000
Mégantic	1	16	368640	456480	9000	9000	75000	2283	4600	180	860	1	80000	150000
Montmorency	1	1	47000	19000	80000	80000	80000	3743	4600	180	860	1	150000	200000
Orleans	1	1	396060	22000	25000	25000	25000	4349	5000	220	1060	2	200000	250000
Portneuf	13	3	187440	515320	75000	250000	12350	14900	520	3000	2	300000	500000	
Quebec	4	2	686720	136960	8919200	45000	100000	36173	39000	1450	8000	6	3000000	3500000
Rimouski	15	1	2	136320	4834560	50000	180000	10061	11800	400	2500	2	200000	300000
Saguenay	6	1	342400	26980	6000000	50000	250000	8385	11600	400	2400	2	200000	300000
Total Quebec	79	12	36	3444120	12063990	35592180	679000	1980000	151985	178000	6730	28	5750000	82000000

District of Quebec.

Champlain	5	1	405120	90000	44900	36000	135000	6991	8300	200	1780	2	150000	250000
Drummond	4	19	1026560	180000	60000	160000	95000	3566	6000	150	1270	1	100000	350000
Nicolet	4	2	180000	135680	6027040	60000	165000	12504	14600	450	3250	2	300000	450000
St. Maurice	8	3	156160	115200	6027040	80000	85600	16909	19500	550	4200	4	500000	900000
Sherbrooke	5	28	1331200	451840	60000	130000	7104	10000	300	2100	2	200000	400000	
Yamaska	8	1	181120	45000	115000	45000	115000	9496	10000	350	2400	2	250000	350000
Total Three Rivers	25	9	53	922400	2704640	6523680	297000	725000	56570	2000	15300	13	1500000	2700000

District Three-Rivers

Bonaventure	1	6	7	lam unable to state	2629126	15000	120000	3309	9500	250	2100	2	200000	400000
Gaspé	1	6	3	how much is in Seigniories, Fields & surveys	2040320	9000	50000	5003	6000	200	1400	2	200000	400000
Total Gaspé	1	6	10	veyed Townships.	4728960	23000	219000	13312	15500	450	3500	4	400000	800000
Grand Total	175	23	160	7242206	7727336	76603060	2486000	5435000	511917	603500	22480	88	1888000	25500000

Estimated value of timber and waste lands of the crown in Lower-Canada.
Total value of immoveable property. £14000000

In Mr. Bouchette's tables he includes the whole superficial extent in square miles of the Isle au Coudre, Anticosti and Saguenay, in the area of Lower-Canada. I have left out of my tables Anticosti, and most part of Saguenay, or 64,000 square miles, equal to about 41,000,000 acres, and have only included 10,000 square miles of the county of Saguenay, fronting on the St. Lawrence, the river Saguenay, Lake St. John, and such portions of land within the county as may one time or other, be profitably occupied. It is quite unnecessary for my purpose to include lands that are not certainly, under present circumstances, suitable for settlement, and that will not be settled until many millions of acres are cultivated, that are now waste. There is probably abundance of land north of the boundary of the territory included in my tables, that at a future period may be found capable of being profitably occupied. This boundary does not extend north of 48½ degrees, and surely west of Quebec, that is not too far north for agriculture.

I do not know the extent of seigniories and fiefs in the district of Gaspé, and Magdalen Islands, but should suppose that added to the quantity of land which appears in the tables to be comprised in the seigniories and fiefs, it would make the whole about 7,500,000 acres, or about 9,000,000 arpents, exclusive of the Island of Anticosti, which I have left cut altogether. The surveyed and projected townships, 160 in number, contains 7,720,736 acres, or 9,000,000 arpents, making a total of 15,221,000 acres, or 18,300,000 arpents, of which not over one-half appears to be conceded, and not one-seventh cultivated. The waste lands of the crown included in my tables are 76,600,000 acres, or near 92,000,000 arpents. Hence the unconceded land is about 85,000,000 acres, and added to the occupied land that is yet uncultivated, it will make over 90,000,000 acres, or about 110,000,000 arpents of wild land yet in Lower-Canada, and about 113,000,000 arpents altogether within the bounds that has a climate which will admit of the land being profitably occupied by the skilful husbandman.

I am confident that in this vast territory there is not any thing near the quantity of barren or uncultivable land that is to be found in the British Isles, in proportion to their extent. Perfect draining is the chief requisite to insure their profitable occupation for stock and *suitable* crops. There is scarcely any land in Lower-Canada naturally so barren as Bagshot heath, in England, yet there has been much of this heath cultivated, and now produces good crops. There is doubtless much of Lower-Canada that is unfit to produce good wheat, but other crops will be sufficiently profitable to pay the farmer for their cultivation, and are certainly more suitable to much of the climate of Lower-Canada than wheat. I cannot believe that any lands producing naturally large forest trees, can be unfit for cultivation, and some parts of the country where the trees are not large, it may be in consequence of superabundant water, and not the inferior quality of the soil. If the soil be so very stony as to prevent cultivation, it will not produce large trees. I have cultivated some of the lightest and most sandy soil I have seen, and which, in its natural state after the wood was cut off, produced scarcely any thing but wild strawberries (a sure indication of light soil) and I raised good crops of every grain but wheat, and excellent crops of hay on this land.

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In the foregoing table I have estimated the increase of the population at 166 to 1000 on the returns by the census of 1831. This would be only doubling the population in 30 years, though I have been able to show, in another place, that the increase since 1784, has been fully equal to doubling in 20 years, and I think at the expiration of the third period of 20 years from 1784, it will be again doubled, if no extraordinary check to population should occur. I have not allowed the same rate of increase for the counties of Montreal and Quebec, as for the other counties, as the ravages of the cholera in 1832 and 1834 did not allow much increase, in those counties, in either year. I believe, however, that my estimate will not be found overrated, when the next census is made. For the counties of Drummond, Stanstead, Shefford, Sherbrooke, Missisquoi, Beauharnois, Ottawa, Two-Mountains and Megantic, I have estimated a larger increase, as it was in these counties chiefly that emigrants who remained in the province have settled. The males over 14 and under 18, and over 18 and under 60 years of age, I have estimated in the same proportion to the whole population, as they appeared to bear by the last census. The males over 18 and under 60, being subject to serve in the militia, would, without any exemptions, be about 130,000; and the males over 14 and under 18, would be 22,000, which gives 152,000 males capable of labour, and of being productive consumers.

I have included in my tables the immoveable property at Quebec, Montreal, Isle aux Noix, the Grenville canal, and the locks at the Cedars and Split Rock, which belong to the British government, and which includes the fortifications at these places. I could not pretend to estimate the value correctly, but when I state what that estimate amounted to, if my valuation be inaccurate, it will not be of material consequence. The value I put upon this property was two millions five hundred thousand pounds. This valuation may be much lower than it ought to be. I am sure it is not overrated.

In proportion to the cultivated land, I find that the amount of human power applicable to agriculture is equal, if not greater, in Canada, than in England; and I believe the animal power is also greater. A greater power is certainly necessary in the working season in Canada than in England, because there is generally five months that the plough and spade cannot be employed. This would appear to an English farmer to have a very injurious effect on agriculture, but such is not the fact. The agricultural class have employment in the winter season, and the produce of their labour in that season, in domestic manufactures, fire-wood, wood for exportation, &c. makes no inconsiderable portion of the annual produce created. The clearing of new land, providing fence wood, &c. may also be done in the winter. The feeding of stock might be greatly increased, and would give profitable employment in that season. Taking out manure from the farm yards to the fields where it will be required in spring, would greatly facilitate the spring work, and it will be much more easy to carry out manure on the winter roads of snow or ice, than wade through mud in doing so in the spring. Hence industry can make even the winter profitable.

The following tables I have taken some trouble to make as accurate as possible. I believe they are as nearly so as it is necessary for them to be.

Nature and value of Property supposed to be annually created in Lower-Canada.

Produce, a fair average for the last five years.				Increase of Farming Stock of all kinds.	Hay, straw and hops, sold in the market, &c.	Fruit and garden vegetables of all kinds.	Butter, milk, fowls and eggs.	Animal produce of the various kinds.	Fish, the produce of the various kinds.	Fire wood for various uses in Canada.	Timber and Ashes in export-supply.	Canadian manufactures for home consumption.	Income from commerce, professions & trade, &c.	Value of commerce, professions & trade, &c. foreign.
Wheat	Barley	Peas	Oats											
Minots	Minots	Minots	Minots	6L.	230,000L.	Including apples ex. 120,000 to 150,000 from the weight of the kinds cut to estimate, 50,000,000.	From 120,000 to 150,000 cows are believed to be 600,000, is much more than required and has been supplied from the U. States.	Estimate 20,000,000.	20,000,000.	300,000L.	400,000L.	Woolen cloth, making, leather, caps, shoes, &c.	Includes profits of commerce, government offices, Ad-vo-cates, Notary, &c. &c.	Including the coasting and maritime trade may be about 300,000L.
312,000,000 at 5s.	500,000 at 3s 4d	300,000 at 3s 4d	235,000 at 4s	on each of 60,000 farms at 3s each 300,000L. And on new lands annually expended, 400,000L.	also for hay and straw kept by farmers for purposes of pleasure 300,000L. Total 500,000L.	including 400,000L. raised in this way in Canada.	More of the butter is consumed the produce of foreign states.	much more than required and has been supplied from the U. States.	the produce of the various kinds.	for 100. I would suppose this to be the principal article supplied for the agricultural purposes of the Province.	I would suppose this to be the principal article supplied for the agricultural purposes of the Province.	Woolen cloth, making, leather, caps, shoes, &c.	Includes profits of commerce, government offices, Ad-vo-cates, Notary, &c. &c.	Including the coasting and maritime trade may be about 300,000L.
L. 951,500	L. 83,334	L. 150,000	L. 47,000	Total in-crease of stock, 460,000L.	Total 500,000L.	much more than required and has been supplied from the U. States.	the produce of the various kinds.	much more than required and has been supplied from the U. States.	the produce of the various kinds.	for 100. I would suppose this to be the principal article supplied for the agricultural purposes of the Province.	I would suppose this to be the principal article supplied for the agricultural purposes of the Province.	Woolen cloth, making, leather, caps, shoes, &c.	Includes profits of commerce, government offices, Ad-vo-cates, Notary, &c. &c.	Including the coasting and maritime trade may be about 300,000L.

The above produce is, I believe, a fair average for the last five years, as are the prices. I have made no return from flax; the produce from that article, and the wool of the sheep, are included in Canadian manufactures. The value of raw hides are also included in the same column, and forms part of the amount. I am not quite sure that the value of the timber and ashes exported from Lower-Canada, is correctly estimated in the above table.

Nature and present value of property moveable and immoveable in Lower-Canada in 1836.

Moveable Property.						Immoveable Property.											
Value of Live Stock of Lower-Canada.			Houses	Clothing & equipage.	Machinery & implements.	Bullion, gold & silver, money, plate.	Ships, boats and Merchandise.	Total value of Movable Property.	Houses.	Barns and other out-buildings.	Land in cultivation.	Land occupied but not cultivated.	Land not granted & Arpens as waste.	Churches, Public Buildings, Fortifications, &c.	Streets, roads, canals, bridges, &c.	Manufactory, Stores, Mines, & Quarries.	Total value of immoveable property.
Horses.	Neat cattle	Sheep.	Swine.	Poultry.	No.	No.	No.	19560000.	90,000	100,000	5:000000	10:3000000	2:5000000.	5000000.	600000.	37500000.	
No. 120,000 of which at 10L each, 1,200,000L. 10L each and 21,000 at 5L each, 1100000L.	No. 560,000 at 10s. each, 3300000L.	No. 490,000 at 1L each, 490000L.	No. 17,108 at 20L each, 342160L.	May be valued at 90,0000L for each farm.	30,0000 persons at 10L each, 3000000L.	Money & Plate includ. all descriptions that in 1600,000L churches 13000000L.	As near as I can estimate may be 4,000,000L.	or which is produced by duty on for man. chandise, which will leave a balance 17,900000L.	I have 200,000 at 200L each, 40,000,000L.	I have 200,000 at 500L each, 100,000,000L.	Arpens 4000000.	Arpens 23190000.	Arpens 23190000.	I suppose this amount to be more or less.	The high value, but I am sure that more has been expended on these works	This probably is much too low, but it will depend on the future use of mines and quarries	To which I add for moveable property 170000000, and estimate for the value of timber for exportation, 32000000L. whole will be 352000000L.

I may have put too great a value on the waste land when I include so great an extent, but if worth any price it must be worth my estimate, and I believe most of it is capable of producing food for man or cattle, under proper management. The firewood that grows upon the worst of it, must be worth more than the value set upon it in these tables. I have only set a small value upon the exportable timber of Canada, compared to the quantity which might be annually exported. If the timber shipped at Quebec annually is not worth the interest of the value set upon the timber by me, over the expense and labour of bringing it to the shipping port, the value of the timber cannot be much to Canada for exportation. I think, however, it is equal to my estimate. I may have valued houses rather low, but I know that back in the country, and in new settlements, the houses are of wood, and not of great value.

From the foregoing tables it would appear that the total amount of produce annually and directly created by agriculture, and the labour of those chiefly employed in husbandry, and including half the value of fish, which is a fair proportion of their share, is - - £6,030,000
 Allow for seed annually sown and planted, - - 130,000
 -----5,900,000

A large proportion of Canadian manufacturers belong to the agricultural class, who generally manufacture their own woollen and linen cloth, and make their own clothes, sugar, soap, candles, part of their leather, agricultural implements, much of their harness, furniture, &c. They in fact manufacture all the wool of their sheep, and the flax they grow, and therefore the value of these articles of raw produce, must be included in the proportion to be put to their credit of the domestic manufactures of Canada. I think I may set down their share very fairly at - - -

£2,300,000

Total amount annually created by agriculture and the labour of those chiefly employed in husbandry, - -

£8,200,000

Amount annually created by commerce, professions, and the employment of all those not employed in agriculture, I include in this £700,000, of the produce of Canadian manufactures, and £100,000 as half the value of fish, - - - - -

£2,800,000

Total amount annually created in Lower-Canada, from every source enumerated in the foregoing table, - - - £11,000,000

I estimate the present population at 600,000 souls, and including food, drink, luxuries, clothes, firewood, and all other *necessary* personal expenses, I suppose the average annual amount expended for each person would be about 15*l.* or 60 dollars. This will make 9,000,000*l.*, which deducted from the amount annually created, as above stated, will leave a balance of 2,000,000*l.* to accumulate as capital, or be expended in improvements. Of this balance I have estimated that 760,000*l.* is annually expended by agriculturists in the increase of stock, or improvement of land. The greater part of the remainder belongs to the class not agricultural, to be employed for extending commerce, and in improvements in cities and towns.

It will be manifest to the reader acquainted with Lower-Canada, that 15*l.* would not be the full amount of the annual expenditure of each individual of the class not agricultural; but for the agricultural class, this sum is at present more than the expenditure of each person, on an average, and for the entire population I believe it to be as correct an estimate as can well be made. In no other country that I know, or have read of, can the same comforts and enjoyments, that the people generally possess here, be had for the same amount annually that I have estimated. The poorest person resident in this country for any time, is scarcely ever seen to go the shortest journey, on business or pleasure, on foot. They use

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bread made of the flour of wheat, almost exclusively; they use animal food constantly, and are generally comfortably lodged and clothed. According to the statistics of Paris, the expenditure of each person is 40*l.* 8*s.* annually, but of this sum 9*l.* is paid in taxes and house rent, and there are many other items of expense, which make a large total from which our population are exempt. Each person in Paris is supposed to consume 80 pounds of flesh meat in the year. A city population will always expend more than a country one, of which ours is chiefly composed. I have no means at this moment to ascertain the annual expenditure of the English population, nor do I think it necessary for this work. In 1830, the quantity of butcher's meat consumed in London by each person on an average was about 180 pounds, which at 6*d.* the pound (about double what it is in Canada) would be 4*l.* 10*s.* In Brussels, 89 pounds of meat is supposed to be the average consumption of each person. I do not think that the quantity of flesh meat consumed in Lower-Canada by each mouth, is equal to that in London, but I believe it to be much over what is allotted to each individual in Paris or Brussels.

I have taken some trouble to discover what is the probable expenditure of the population of Lower-Canada in rum, gin, whiskey, brandy, wine, and beer, and I believe it to be, as nearly as I can estimate, from 400,000*l.* to 500,000*l.* annually, and from a great part of these articles being consumed in taverns, where the price is considerably enhanced to those who buy it in these places, I have little doubt but the latter amount is the most correct, and if so, it will be equal to 13*s.* 4*d.* to 15*s.* of the annual expenditure of each person. By the statistical tables of 1831, and allowing for the probable increase, there are in the district of Montreal about 680 places licensed to sell spirituous liquors; district of Quebec, about 400; Three-Rivers, about 90; Gaspé, about 20, making in all 1190.

I would observe that the profits of commerce are not to be estimated by what would appear a reasonable percentage on the amount of imports, because much of these goods pass through several hands before they come to the consumer, each of whom expect, and are entitled to their profits. Hence the total amount of profits must be very considerably increased over what they would be were they imported to sell directly to the consumer. Imported goods landed in Quebec, will, I believe, cost the merchant, including all charges and duty, the premium on bills of exchange, &c. from 30 to 40 per cent. over the prime cost in England. The value of our exports is so much short of the value of our imports, that a very considerable amount has to be remitted in bills of exchange or in gold, each of which are at a high premium. The profit of the merchant on goods exported is also to be included in the profits of commerce. I am not sure that I have estimated the profits of the mercantile class so high as I should have done, and I would sincerely rejoice to be convinced of an error in my calculation that would be in favour of that class. In my estimate of expenditure, I have supposed that the agricultural class spend about 14*l.* each, and the class not agricultural a fraction over 20*l.* each annually. This would leave a balance of annual profits on the employment of the latter class of 1,000,000*l.*; but of course this balance will be reduced in proportion as the expenditure is increased above what I have stated. All those who are not employed in

husbandry are included in the class not agricultural, and must therefore include a very considerable number of daily labourers and working trades people, whose expenditure must be less than that of the mercantile or professional class. In my estimate I have included the income of doctors, advocates, and notaries, but I did not include in the annual expenditure of each person, what they may pay to these professional men. This makes some difference in the expenditure, but none in the whole amount annually created, because what constitutes the income of one must be furnished from the produce of the other. But if in reality the income of the agricultural and other classes exceeds annually the sum I have estimated by the amount of the estimated income of these professional men, it will by so much increase the total amount annually created, and I hope it is so. I have no means to ascertain correctly the number of persons belonging to the above professions, but by the statistical returns of 1827, and allowing for the increased number in the same proportion as the increase of population, I believe they are near 1000. By the same statistical tables, allowing for the probable increase, there may be about 1200 merchants, store, and shop-keepers, and from 7000 to 8000 artisans; about 200 office-holders; 1000 in receipt of an annual income from land, houses, or pensions; 3000 clerks, and the remainder of the class not agricultural, must be labourers, working about towns and villages.

It may be proper to account for the apparent difference that exists between the above tables and the estimate I have given of the produce of agriculture in Lower-Canada, in my Treatise on Agriculture, pages 42 and 43. In that work I did not think it necessary to estimate any produce but that raised on the farm way, after the plough and harrow, produce of stock, hay, hops, and garden produce sold in towns, amounting in all to 3,500,000*l.* annually. In the tables now given, I have included the produce of *all* gardens in fruit and vegetables; fowls and eggs; pasture and hay consumed by horses used by farmers for pleasure; firewood, ashes, and timber exported, and the improvements made annually on old and new farms. These items amount to 2,000,000*l.* which added to the former estimate will make it agree with the above table. I have, in addition to the produce of land and stock, introduced the amount of domestic manufactures of *every description*, which could be considered to belong to the agricultural class, and estimated all in the table of produce annually created in Lower-Canada.

In making out the foregoing tables, I did not estimate separately every produce of agriculture. The pasturage, hay and straw, consumed in feeding the stock that produce the milk, butter, cheese and animal food, is estimated in these articles; so is that portion consumed by stock kept for labour and manure, when the produce from that labour and manure is valued. I therefore only estimated what was sold in towns of this produce, and what I conceived was a reasonable charge for the supply of horses kept for pleasure by farmers, or rather all horses that were not actually necessary for agricultural labour.

A part of the produce of agriculture, applied to feed pork, and occasionally to feed beef, should properly be deducted from the amount of grain and vegetables produced annually, because the value of the pork and beef is given. I have not made this deduction from an impression that the estimate of grain and vegetable produce is not overrated, but on

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the contrary, less than what it usually is. I wish to state for the satisfaction of farmers, how I have calculated the quantity of animal food produced annually. I suppose that each farm of 60,000 should annually produce one ox, cow or heifer, to be slaughtered for family use, or sold to the butcher. This is the *least* that can be expected from a stock of about 400,000 neat cattle. Also, one fat calf from each farm, for family use, or sold to the butcher. Two or three fat hogs from each, and from a stock of sheep of 600,000, there should be given for slaughter annually 110,000, for family use, or sold in towns. The average dead weight of bullocks slaughtered in London in 1830, was stated to be about 656 pounds; that of the calf 144 pounds; of the pig 96 pounds; and of sheep and lambs 90 pounds, including offal. This was nearly double the weight of these animals in 1730. From the present state of the stock in Lower-Canada, I think the following estimate of the weight is not far from being correct:

60,000 fat oxen, cows or heifers, weighing each 400 lbs.	24,000,000lbs:
60,000 calves, I will say, at 60 lbs. only, each,	- 3,600,000
110,000 sheep and lambs at 40 lbs. each,	- - 4,400,000
60,000 farms to produce 400 lbs. of pork each,	- 24,000,000

Total produced and consumed by the farmers' family or sold 56,000,000lbs

I have no doubt but this amount of animal food is produced annually in Canada, and considerably more consumed. This would give about 93 pounds of animal food for each person, together with fowls, and perhaps this would be sufficient for a large proportion of the population; but for those residing in towns and villages, and the more wealthy class of farmers, this would not be sufficient. In few countries is more animal food made use of by the wealthy, and working men, than in Canada; and I know that a large quantity of animal food is consumed here that is the produce of the United States, not that there is any actual necessity for foreign importation of animal food, for the country is able to supply its inhabitants, and export instead of import.

In estimating the annual produce created in Lower-Canada, I am not correct perhaps in fixing upon the portion of capital in moveable and immoveable property which should be subject to interest, at 35,000,000*l.* which at 6 per cent. amounts to 2,100,000*l.* annually. I have deducted from the 58,000,000*l.* which is the total amount of moveable and immoveable property, the value of unconceded wild land, and the greater part of that occupied, but uncultivated, which yields no return; the value put on growing timber, on mines and quarries, churches and fortifications, making in all about 23,000,000*l.* I have computed that of the 35,000,000*l.* the agricultural class should be chargeable with the interest of 25,000,000*l.* which is 1,500,000*l.*, and the non-agricultural class with the interest of 10,000,000*l.* making 600,000*l.* annually. There can be no doubt that interest is chargeable on the capital employed by the latter class out of the general annual produce created. It may be proper to deduct it also from the annual produce of the agricultural class, being only the interest on the expenditure of labour and money on the farms they occupy, in first clearing the land, and in houses, barns, furniture, equipage, implements,

and stock. The whole property belongs to the farmer, and of course he has the whole produce at his disposal for expenditure; but if it be desirable to ascertain the clear annual produce of husbandry, it is only fair to show what it is, charging the interest on the capital in land, stock, &c. &c. which the farmers have to work upon, and which they may generally inherit from their fathers. There may be some distinction between those who obtain an inheritance of land, stock, &c. from their forefathers, and those who begin life without either land or capital. The latter may justly claim the whole produce without any deduction for interest. As I cannot, however, make the distinction, I submit the interest account for those interested, who will be best judges, where the whole, any, or what proportion should be charged, in each particular case.

The class not agricultural may possibly imagine that I have underrated their annual income. I would observe that a greater amount may be annually created and expended, than the tables would show, but if the surplus annually produced is equal in amount to that indicated by the tables, they may rest satisfied that they are making great advances in wealth. The surplus produce of agriculture is chiefly expended in increase of stock, and improvement of land, and this is the most profitable application for it. The rent of houses in towns, is generally paid from the produce of the industry of those who occupy them. Few persons in Canada have incomes from other countries, and those who have incomes derived from property in land or houses here, must be paid from the produce created here, and is all, therefore, included in the tables. The city of Montreal would certainly indicate a prosperous condition of its citizens, if we may form a judgment from the numerous superior buildings erected there the past summer, and now in progress of being finished, and the new buildings commencing this spring.

Of the present population of Lower-Canada, estimated at 600,000 souls, I believe that 510,000 belong exclusively to the agricultural class. The remaining 90,000, I suppose to belong to the class *not* agricultural. The produce annually created by agriculture, I have shown to be 8,200,000*l.* This would give about 16*l.* 10*s.* for each person belonging to the agricultural class. For the class not agricultural, I have estimated the annual produce created in every way at 2,800,000*l.*, and for 90,000 persons of this class, it will give 31*l.* for each. It may be interesting to follow up this calculation; I estimate the population to be composed of 100,000 families of six persons each; 85,000 belong to the agricultural class, and 15,000 not agricultural. For the latter the annual income for each family would be 186*l.* and for the former or agricultural, 96*l.* 10*s.* for each family. Again, I estimate the males over 14 and under 60 years of age at 150,000; and as the females of the agricultural class contribute very considerably in the production of domestic manufactures, assist at harvest work, attend to the dairy, and other matters, I estimate their work as fully equal to that of 50,000 males (and I believe this is much too low) which will show the working or productive class of the community to be 200,000, or about one-third of our whole population, and hence the amount annually produced by each working person, all those employed in productive industry, and in professions, will be 55*l.* I will suppose again, that of the 200,000, 175,000 belong to the agricultural

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class, as it is chiefly the females of that class that are employed in productive labour, the annual produce from the labour of each will be 47*l.*; and for the class not agricultural, which I estimate at 25,000, productively employed, the annual produce for each will be 110*l.*

The charge for interest of capital, which I have before alluded to, is for agriculture, 1,500,000*l.* annually. This would make a reduction of 9*l.* 10*s.* from the annual produce of each working person, and leave it only 37*l.* 10*s.*; and the interest of capital of the class not agricultural, is 600,000*l.*, and would cause a reduction of 24*l.* from the annual produce of each person productively employed, and leave it only 86*l.* Agriculturalists will do well to observe that the interest is only a fair proportion of the annual produce for the land and capital, and that 37*l.* 10*s.* is nearly the full amount of the annual produce from the labour of each full-grown working person, and that this labour is applied in agriculture, under more favourable circumstances than it could be in any other country, to good soil, free, in a great measure, from all rent and taxes. The interest of capital charged is on an average about ten shillings the acre of cleared land, and including stock, buildings, furniture, implements, &c. &c. upon these lands. I am sorry that I cannot show by my tables, a more flattering picture of the results obtained from agriculture in Lower-Canada. No doubt many will differ from me in the estimate I have made, and the conclusions I have brought them to. I can only say that they have disappointed myself. I have, however, endeavoured to make them as accurate as possible from the means of information at my disposal, which certainly were considerable, and from a long experience. It is extremely difficult to make these sorts of estimates perfectly accurate, indeed an approximation to accuracy is all that is practicable; and I hope the general results will be found entitled to that character. Farmers will perceive by these calculations that the annual produce for each working person taken at 37*l.* 10*s.* is not more than what is very frequently paid to hired labourers, including their board; they are often paid more; and it may be right to state that board, or any other item of personal expense, is not included in the 37*l.* 10*s.*, but that all has to be provided for from this amount, and also for the idle and helpless portion of the community, which nearly amount to two persons for one productively employed, and hence the 37*l.* 10*s.* would not be sufficient for the support of near three persons, without including the sum set apart for the interest of land and capital, which should be allowed to accumulate, or be expended on land for the settlement of growing families. There is one cheering circumstance, that a vastly increased produce may be obtained from agriculture, by introducing a more perfect system of husbandry and good management every way, and by the care and attention of our legislature to all such matters as directly or indirectly influence the prosperity of agriculture, which, I regret to say, has not hitherto been much attended to, and in proof of this, I would only refer the reader to the imports and exports of Canada. If her agriculture were in a healthful or prosperous state, the imports would not be double the amount of her exports, when she is in possession of a fertile soil of almost boundless extent, and a climate that is not unfavourable.

Assuming the population of Upper and Lower Canada to be 1,000,000, the imports for last year would amount to 2*l.*, and the exports to 1*l.* for each.

Births, marriages and burials in Lower-Canada, for five years, from 1831 to 1835, inclusive.

		Births.	Marriages.	Burials.
Quebec,	1831,	8,133	1,629	5,023
	1832,	8,591	1,677	6,946
	1833,	8,642	1,601	5,282
	1834,	8,597	1,407	5,252
	1835	8,671	1,636	3,118
		<u>2,544</u>	<u>8,027</u>	<u>24,202</u>
Montreal,	1831,	14,217	2,592	6,514
	1832,	13,195	2,506	13,718
	1833,	13,721	2,643	5,936
	1834,	14,181	2,487	9,059
	1835,	13,124	2,397	4,977
		<u>68,438</u>	<u>12,625</u>	<u>40,204</u>
Three-Rivers,	1831,	2,738	519	1,195
	1832,	2,954	548	1,319
	1833,	2,914	547	1,054
	1834,	2,988	514	1,303
	1835,	3,014	485	929
		<u>15,408</u>	<u>2,613</u>	<u>5,770</u>
St. Francis,	1831,	37	63	25
	1832,	52	67	28
	1833,	81	67	33
	1834,	157	66	29
	1835,	No Return		
		<u>327</u>	<u>263</u>	<u>115</u>
Gaspé,	1831,	330	58	48
	1832,	280	51	23
	1833,	181	67	33
	1834,	281	44	41
	1835,	No Return		
		<u>1172</u>	<u>220</u>	<u>145</u>
Total in five years,		<u>127,889</u>	<u>23,274</u>	<u>70,436</u>

There are some returns wanted for the last year for Gaspé and St. Francis, and some parishes in the district of Montreal.

I believe that the cholera caused the death of full 15,000 persons in the years 1832 and 1834. If it were not for this, it is probable there would be considerably more than two births for one burial. The last year, in the districts of Montreal and Three-Rivers, the births are very nearly three for one burial, and the burials as one to sixty-six, of the whole population; and taking an average of the years which includes the two years of cholera, the proportion of burials to the entire population

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is only one to thirty-eight. Hence no country in the world has so great a disproportion between the births and burials as Lower-Canada, in ordinary years, or in any years except those of cholera. The following will show the births and burials in England, France, and Russia in 1830.

England		London.		France.		Paris.		Russia.	
Birhs.	Burials	Birhs.	Burials.	Birhs.	Burials.	Birhs.	Burials.	Birhs.	Burials.
343,860	236,349	23,545	21,709	973,986	793,012	23,970	23,341	1,642,028	1,194,637

Lower-Canada, in five years, including the two years of cholera, would, if the returns were all furnished for the last year, show an increase of births over burials of near 60,000, and this added to the emigrants who have settled in the Lower Province, will make the increase amount to 90,000, which will bring the whole population to my estimate of it, 600,000.

Such is a concise description of Lower-Canada; generally correct I trust it will be found. The tables may not show as favourable results in all branches of industry and the progress of improvements, as might be desirable. However, though Lower-Canada has not progressed so rapidly in improvement as the neighbouring states may have done, yet within the last twenty years, the province has greatly advanced in wealth and population; and this advance has not been the consequence of a very extensive circulation of bank paper money, nor are the people much involved in debt to each other, or to strangers, in effecting these improvements, and therefore they may be said to be their own and paid for.

It will be manifest to the reader that the capabilities of the province of Lower-Canada, which I have described, must, for future production and population, be very great, when it is considered that out of 113,000,000 arpents of land, the greatest part of which is capable of cultivation, or of being rendered productive, about 110,000,000 is yet in a wilderness state, and that of the whole of this immense territory, not much over one-twentieth part has yet been even occupied, and about one-fiftieth part cultivated. I would further observe, that it is not by any means *all* the best part of the land that has been conceded. The seigniories are situated on each side of the St. Lawrence, and do not extend far back, and they were not so chosen from the superior excellence of the soil, but from their being more convenient for settlement. I have not included any land in the tables that lies too far north. West of Quebec, no part of the boundary of those lands extends to $48\frac{1}{2}$ degs. north latitude, and I am convinced that lands south of that line are capable of being profitably occupied by the husbandman who perfectly understands his business, cultivating such crops and stock as are suitable to the soil and climate of his location.

The present population of Lower-Canada (600,000 souls) occupy very little more than one-twentieth part of the land, and cultivate about one-fiftieth part, as I have before stated. The uncultivated part of that which is occupied, gives a produce in firewood, lumber and ashes, which constitute part of the amount annually created, as shown by the tables. The whole of this population are employed in agriculture, commerce, professions, domestic manufactures, &c. I have endeavoured to show that the produce annually created from every source is 11,000,000*l.* I will then say, that if 600,000 souls occupying a twentieth, and cultivating a fiftieth part of Lower-Canada, produce annually 11,000,000*l.*, that if the

whole were occupied and cultivated even in the same proportion as at present, it would give 220,000,000l. produce annually created and a population of 12,000,000 souls, and be only at the rate of one to 9 arpents of land. This estimate may appear chimerical, but I am confident, nevertheless, that the capabilities of the country for population and production, are not overrated, but on the contrary. Were an improved system of husbandry now generally introduced, the present produce from every branch of industry would be vastly augmented, and might be increased in proportion from a full population, and exceed my estimate.

Admitting that only the *one-third* of the land which I have included in the tables, may be fit for cultivation, it will be amply sufficient to provide for a population of 12,000,000 souls. In England and Ireland, the population is more than three-fold to the square mile, what my estimate for Canada would be, and there is in those countries one-eighth of the land unprofitable and uncultivable. The quality of the soil cannot be bad in Canada, where it is naturally covered with forests of large trees of every species and variety, and in some situations that do not produce large trees, the land may yet be excellent, but injured from excessive moisture or some other cause easy to remedy.

The wants of an increased population for firewood, in a country such as Canada, where good fires are actually necessary in winter to the safety and comfort of the people, might to many suggest an objection. The estimate I have made of 12,000,000 souls, would be only about 70 to the square mile, or one to nine arpents of land. If the one-fourth, or one-fifth of every farm were reserved for fire and fencewood, it would be abundantly sufficient. By preserving a wood from cattle, it will very soon after it is cut down, grow up again to a good size, and by constantly observing this rule in future on every farm, a sure supply might be preserved. On most farms there will be found some parts perhaps not profitable to cultivate, and in many sections of the country there may be rocky or hilly land, only fit for growing wood; such lands might be reserved for firewood. There is, however, no occasion to apprehend scarcity of firewood for centuries to come, and it will be always in the power of the legislature to adopt such measures as may be necessary to secure a supply of firewood, or a substitute, so essential to the comfort of the population of Canada, whether many or few.

I do not speculate on the chances of a more moderate climate resulting from the country becoming cleared of the forest, and settled, though I think it possible when it is settled to the extent I believe it capable of, that the climate will be ameliorated. Those who would expect much change of climate from the comparatively limited extent to which the forests of Canada are yet cleared, must not have given due consideration to the causes which produce excessive cold in winter in Canada, in the same latitude as France, where the winters are very moderate. When I think of the vast extent of continent situated north and north-west of Canada, that never can be cleared or cultivated, the millions of square miles of snow and ice that never thaw, I can scarcely hope that the clearing and settling of Canada to the full extent it is capable of, can have much effect in moderating the climate. In consequence of entertaining this opinion, I make my calculations that the same necessity for fuel, and artificial heat in winter will be felt in Canada, whether the population be one or twelve millions.

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If Lower-Canada were populous to the extent I have estimated, the increased produce of the country would soon enable the people to open communications to the most remote parts of the province, by navigation and railroads, that would enable them to draw their supply of wood from distant sections of the country never yet visited by civilized man; and at a price that would not be exorbitantly high. There is every reason to suppose that abundance of coal is to be had in the province, and there is a certainty that it is to be found in Nova Scotia and Cape Breton, of the best quality. What grounds should there be then to apprehend any want of firing? I believe that coal brought from England is now in use with many families in Montreal and Quebec, and when burned in suitable stoves, is found as cheap and as well adapted to warm houses as wood. As to the want of fence-wood, I hope that at no distant period, live and stone fences will be substituted for wooden fences, in all the old settled parts of the country. I would further observe, that I have left out of my estimate 40,000,000 arpents of land in the lower section of the province, which has been included in Mr. Bouchette's tables. This land is, I believe, all wooded and might be accessible by water communication. I therefore do not see that any objection can be well supported against my estimate of population, on the grounds of there being a scarcity or want of necessary fuel.

A numerous, well-informed, and industrious population, will more readily find the means of supplying their wants under many disadvantages of climate and soil, than a thin population, uninstructed, scattered over a wide extent of country would be able to do with a more fertile soil and favourable climate. For the truth of this proposition, I appeal to the experience of those who have had opportunities of seeing practical proof of it in Canada, and elsewhere.

The climate, as appears by the tables of temperature, and from my own experience, is not unfavourable for agriculture. The situation and circumstances of the country every way are advantageous, and, therefore, to all who will give due consideration to these advantages, I hope they will find sufficient reason to justify the estimate which I submit to public consideration. A considerable period will of course elapse, before my calculations can be realized; but from what I personally know of the province, and the reports I have from good authority of those parts of the country which I have not had an opportunity of seeing, I am persuaded that Lower-Canada might produce abundant means of comfort and happiness for the amount of population I have stated. I am far from thinking it desirable that a country should be so populous that the people would not be able to supply themselves, by moderate exertion, with a reasonable portion of the necessaries and comforts of life. No, I consider that state of population the best, which will afford to every individual an opportunity, by applying their talents industriously to some useful and suitable occupation, to provide what is necessary of the conveniences of life, for rational enjoyment, according to the station they occupy in society. If all who are disposed to be useful to themselves, and to society, are offered a fair and equal chance to advance their circumstances, which I hope they always will have in British America, those who will possess most talents, industry and prudence, will be able to acquire proportionate advantages. For ages yet to come, Canada will afford the materials to produce the ne-

cessaries and conveniences of life to those who will seek for them and be disposed to make them available. There is an objection that possibly may be urged to the capabilities of the country, from the failure of crops in adverse seasons, in the lower parts of the province. Adverse seasons are not more frequent there, than in many populous countries of Europe, and there may be much of the disappointment in crops to be attributed to bad ploughing, insufficient draining, injudicious cropping, and the total neglect of a proper system being observed in the management of the land. I have no doubt these causes have produced more loss than the climate.

Nineteen-twentieths of the forests of Lower-Canada is now unproductive and waste. Would it be for the interest and advantage of every individual of the present community in this province, that those lands should be settled, and cultivated as speedily as circumstances would permit? Would their settlement to the full extent which I have above stated be consistent with the general comfort and prosperity of so greatly increased a population? These questions I candidly answer in the affirmative, from the clearest conviction of my own mind. What has hitherto confined the settlement of the lands so much to the front, or the banks of the principal rivers? The difficulty of going back, and making roads at the labour and expense of a thin population. Were the back country occupied by active settlers, this difficulty would be obviated. The same road that would be necessary for the convenience of five settlers, ten or twenty miles back in the forest, would answer for a hundred, or perhaps for five hundred; and the making of a road which five could not undertake, would be easy to five hundred. There are many other circumstances which prevent almost the possibility of a few persons going back into the forest to commence a settlement which would be rendered perfectly practicable to a more numerous body settling together, who would assist each other and would leave no interval of woods unoccupied to injure the small portions of cleared land that can never be productive without a free circulation of air. I have heard much complaint in these provinces of the injurious effect produced from the crown and clergy reserves being left waste. If these waste reserves are injurious to the adjoining cultivated lands, which no doubt they must be, how much more injurious must it be to the poor settler who ventures to commence a settlement in the wild forest, without neighbours on any side to assist him to open the forest, or drain the land. Enclosed by high, impenetrable woods, that prevent the sun a good part of the day from shining on his clearance, what chance has he to be successful, or to be happy? debarred himself and his family from all communication with their species, their state will be little better than that of the savage; and they are unable to derive from their lands and labour, half the produce they would do, were they surrounded with neighbours, cultivated fields, and had easy access to markets. Means of free and constant intercourse has, in all countries, a powerful influence on civilization, improvement, and rational enjoyment, principally because it greatly augments the produce from every branch of industry; and it is only where industry is abundantly productive, that civilization and improvements will go on, and rational enjoyment can be practicable to the people. Where a population are barely able to subsist, civilization will not be greatly advanced, improvements are out of the question, and what ought to be considered as rational enjoyment in civilized society, cannot be known or understood.

In Lower Canada, annually produced, and again, and produce, and most rapidly, good land, government, United States, clearing, towns and prosperity of her land, towns and is necessary, rying on of the cities, tures as

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In Lower-Canada, the greater the population the more there will be annually produced, and the greater will be the savings that can be made, to be again expended in useful improvements, productive labour, in cultivation and in the comfortable settlement of the rising generation. This produce might be constantly going on, augmenting, population increasing, and the power, wealth, and prosperity of British America advance most rapidly and certainly. In all new countries that have abundance of good land, waste and unprofitable, it ought to be the first object of government and people, to settle and cultivate it. The prosperity of the United States is estimated by the rapid increase of her population, the clearing and cultivation of her forest lands, and the growth of her cities, towns and villages. This must be the true mode of estimating the prosperity of British America. Nothing but the settlement and cultivation of her land, can give her a numerous population, and flourishing cities, towns and villages. It is the produce of the soil that must supply what is necessary for the support of a numerous population, and means of carrying on commerce, the profits of which will give funds for the extension of the cities, towns and villages, and the establishment of such manufactures as would be likely to be profitable.

To a country that has a thin population, and a territory of almost boundless extent, that can only be rendered productive by the labour and industry of man, an accession of population able and willing to work, not of the idle and worthless, *must be profitable*. Whatever is produced from the labour of a man, applied to what would have continued unproductive, if he was not employed upon it, must add so much to the produce annually created, and increase the wealth of the country, by the amount produced over what he consumes. A full grown man then coming into a country capable of producing more than he consumes, under the circumstances I have above stated, is equal to a capital of the same amount that was required to support him from infancy to manhood, or a working state, because in every country what it takes to support the rising generation to be capable of working, or of being productively employed, must be so much unproductive consumption, and more particularly to the country that loses their services when they are at maturity, and capable of rendering service.

I make a distinction in the value of emigrants to Canada. The industrious labourer, though poor, is in himself a certain amount of capital. The skilful agriculturist with limited funds, is still a more useful emigrant. The farmer who has both skill and capital, is of more value to the province than either. Emigrants of the class not agricultural, who come with sufficient funds or industry are also valuable. It is only those who come with trifling funds, and without any disposition to increase them by industry, that cannot be of any benefit to a country where industry is the basis of prosperity; they add nothing to production, but on the contrary lessen the funds that should be employed in productive labour, and must therefore be injurious to a community such as that of British America.

The class of emigrants who come to Canada with funds must be beneficial to the farmers settled in the country, as these funds are expended generally in purchasing the produce of the province, and extending the market for it. In coming to these colonies they do not lessen the funds of

those here before them. If they should improve their circumstances, it is not by taking any part of what belongs to the inhabitants of this country, but by expending labour and capital on what was previously waste and unproductive, and rendering it productive. Every well informed man, acquainted with the local circumstances of British America, and its connection with Britain, the West Indies, &c. must be convinced that the more the produce which is annually created in every way, the more ample will be the means at the disposal of the inhabitants for securing their comfort and enjoyment. The English market may not always be found equally profitable, but as the population increases there, and the situation of the Irish poor becomes improved, the markets of Britain must extend and improve for the sale of the produce of these provinces. Should the foreign market not be sufficient for a greatly increased surplus produce from agriculture, means will be found to provide a home market, by encouraging manufactures, and increasing our cities and towns. It is manifest that we cannot purchase manufactures from abroad, if we do not sell our own produce to customers out of Canada; but there is not much danger that we shall produce more than we can dispose of, particularly while we may be engaged in clearing the forest, which will give employment for ages to come.

The British government have given great encouragement to emigration to the Swan River, or Western Australia. A settler is allowed a free grant on producing satisfactory proof that he has the means or capital to invest in land or its improvement, at the rate of 3*l.* capital for 40 acres; and stock, implements or half pay, is considered as capital: 15*l.* capital is allowed for each labouring person; and women, and children over ten years old, are reckoned as such. For the children of labouring persons, for each child over three years old, 40 acres are allowed, or a child of that age is counted equal to a capital of 3*l.* Over six years and under nine, 80 acres; and over nine and under ten, 120 acres. The deeds are not granted until satisfactory proof is given that 1*s.* 6*d.* per acre is expended in some investment or in cultivation of the land, or in some improvements in buildings, roads, or other works of that kind. One-fourth of the land to be cultivated or improved in four years, and if not, to be subject to 1*s.* 6*d.* per acre for all the land not so cultivated or improved, and the whole to be cultivated or improved in eleven years, or what may not, to revert to the crown.

I think I might bring forward arguments without end in support of what I feel anxious to recommend, but as I shall have occasion to refer to this subject again, I shall reserve further remarks until then. I confess that I ardently wish to induce others to view this matter in the same light that I do, from a persuasion that it is by a greatly increased population and production that the present and future interests of the provinces of British America will be most certainly promoted; that it is from the surplus produce obtained from the land, over what maintains those who are engaged in its cultivation and management, that must create and constitute the profits and revenue of all other classes of the community; and that the greater the total amount of this surplus may be, so much more will be the profits of the merchant and mechanic, the revenue of the professional man, and the man who receives rent from fixed property.

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UPPER-CANADA.

Upper-Canada is bounded north-east by Lower-Canada, north by the territories of the Hudson Bay, south by the St. Lawrence, Great Lakes, and by the United States, and west in its most extensive sense, by the Pacific Ocean, but more limited by the Lake of the Woods, situated about 95 degrees W. longitude, and by the territories of several Indian Nations. Within these limits are comprised about 100,000 square miles, or 64,000,000 acres. Mr. Bouchette, the surveyor-general of Lower-Canada, fixing the boundary of Upper-Canada about the Grand Portage, or 117 degrees W. longitude, computes the area to be 141,000 square miles, but I do not think it necessary for my purpose to include in my estimate of the country any part west of 95 degrees. West of the Rocky Mountains to the Pacific Ocean is a territory extensive as Upper-Canada, and as regards soil and climate, I believe as favourable, for agriculture, as any part of British America. At some future time, that country also may become settled by the sons of the British Isles, who have already found their way, and established themselves in every quarter of the world. For ages to come, however, there is abundance of land within the more limited boundaries of both provinces, and I shall confine my description to those limits. Of the 64,000,000 acres comprised within the boundaries I have named, I believe not much over one-sixth part has yet been surveyed, and laid out in townships, of which about 9,000,000 acres only has been conceded.

As the river St. Lawrence, and Great Lakes, are of vast importance to Upper-Canada, I shall first give a concise description of them.

THE RIVER ST. LAWRENCE, may well be considered the second, if not the first, in magnitude on the globe. It is computed that from Lake Superior, the grand fountain of the St. Lawrence, its course to the sea, is about 2500 miles. It is, however, the greatness of its breadth, and the extent of its navigable waters, that form its distinguishing character. It is navigable for ships of the line to Quebec, 400 miles from its mouth, and for large merchant vessels to Montreal, 180 miles further. In the lakes through which it flows, one of which is 2000 miles from its mouth, the largest ships of the Line may be navigated, and these lakes, or rather seas, have a surface of many millions of acres in extent. The River St. Lawrence and lakes, receive the waters of many considerable rivers, I suppose not less than one hundred altogether. Between Montreal and Prescott, the navigation is interrupted by falls and rapids, in three or four places. The Upper-Canada legislature voted money in 1834, for improving the navigation, and the work was commenced last year, and will, I believe, be finished this summer; about 400,000*l.* is the estimated expense for making the river navigable within the province line of Upper-Canada to Prescott, for steamboats, and vessels drawing nine

feet water. About the same amount would make the necessary improvements from Lachine, in Lower-Canada, to this province line, and this would give an uninterrupted navigation to Lake Ontario. There is little doubt but this improvement will soon be effected.

The lakes of Canada are more numerous and extensive than in any other country in the world, which is by some considered a proof that it was more recently deserted by the ocean, than the rest of the American continent. The first of these lakes, within the boundary of Upper-Canada, is Ontario, or Cataraguy, and is the smallest of the five great lakes; it is of an oval figure, 160 miles in length, and about 450 miles in circumference. The depth is so great in many places, that sounded with a line of 350 fathoms, no bottom has been found. It contains many islands, and is much agitated by stormy winds. From the volcanic productions found on its banks, and the circumstance of its immeasurable depth, it has been conjectured that its basin may have been once the crater of a volcano. Its surface is 231 feet above the surface of the tide water at Three-Rivers.

LAKE ERIE, or Oswego, is 300 miles in length, 40 at its greatest breadth, 700 miles in circumference, and is not at its greatest depth more than 50 fathoms. This lake, like Ontario, is on the north side much exposed to violent gales of wind. It has several beautiful islands towards the west, which are reported to be infested with rattlesnakes. The waters of this lake are 334 feet higher than the waters of Lake Ontario, and 565 feet above the tide water at Three-Rivers.

LAKE HURON, the second in point of magnitude, is of a triangular form, about 250 miles in length, and 1100 miles in circumference. It contains many islands; one called Manitoulin, signifying a place of spirits, and held sacred by the Indians, is near 100 miles long, but not of much breadth. This lake has numerous fine bays; Saganaum, 15 miles long and 18 wide; and Thunder Bay, 9 miles broad. The storms on this lake are dangerous, its waves are higher, and break quicker than those of the ocean. It contains great quantities of fine fish, particularly a rich and delicate trout, which frequently weigh 70 pounds.

The Canada Land Company's territory extends about 60 miles on the eastern and south-eastern shores of Lake Huron. The town of Goderich is situated at the mouth of the river Maitland, where it discharges into the lake. The waters of this lake are 25 feet higher than the waters of Lake Erie, and 590 feet higher than the waters of the Atlantic. The average depth is about 860 feet.

LAKE SUPERIOR, is the largest body of fresh water on the face of the earth, being about 400 miles long, 100 at its greatest breadth, and about 1500 miles in circumference. It receives the waters of between 30 and 40 rivers, many of them of considerable magnitude, and contains a great number of islands, one of which, Isle Royale, is about 100 miles long and 40 broad. It has in many places a great depth of water, beyond the reach of soundings. Its northern banks are high and rugged, and are said to abound in virgin copper. Its eastern shores are low, and produce great abundance of currants, strawberries, whortleberries, and raspberries, of large size and excellent flavour. The soil immediately near the lake, is light, but I believe capable of cultivation. The lake abounds in sturgeon, large trout, and other fish, and owing to the extraordinary transparency

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of its waters, these fish are seen to an astonishing depth from the surface. It is, like the other lakes, subject to great storms, and the swell upon its shores resembles the flow of the tide. Its waters are observed to vary in their height from 5 to 6 feet at particular periods, supposed to be occasioned by the greater or lesser quantity of snow water supplied by its tributary streams. This lake may be considered as the grand reservoir of the river St. Lawrence, as no other great river flows from it. It is supposed that not a tenth part of the waters conveyed into it by 40 rivers, are carried off by the only one visible discharge, at the straits of St. Mary, where it communicates with Lake Huron, and the water, in passing through the straits or fall, is so rapid, that it is not navigable for boats of burden. The waters of this lake are 52½ feet higher than the waters of Lake Huron, and 617 feet higher than the waters of the Atlantic Ocean. The average depth is 1000 feet. Lake St. Claire, I do not think it necessary to describe particularly. It is situated between Lake Huron and Lake Erie. Its waters are shallow, only about 20 feet deep.

The most extraordinary increase of trade upon the Upper-Canada lakes since 1815, may in some degree be estimated by the following statement of the progress of population and trade, at the town of Prescott, from 1815 to 1835. In 1815, there were only eight houses at Prescott; in 1835, about 470. In 1815, population 50; in 1835, about 1400. In 1815, I believe there was only one schooner of 40 tons burden for transporting merchandise from Prescott to Kingston; and in 1835, there were 14 steamboats of 500 tons burden each, and about 40 schooners of from 40 to 150 tons each. In 1810, I have been told that not more than four or five small vessels navigated Lake Erie. In 1835, there were 30 steamers, and 160 other vessels; and what may it be a few years hence, when the country becomes settled, and the navigation between the great lakes is uninterrupted?

Upper-Canada may be said to be a level country, no part of it attaining to a greater elevation over the lakes than from 300 to 500 feet. It is admirably well calculated for agriculture. The soil is generally of good quality, of every variety, and in many places of extraordinary fertility. A brown rich loam, is a soil that predominates, and in many districts, the soil rests upon a bed of lime-stone. From all the information I have been able to collect, I do not think that there can be found in any country so large a proportion of good soil, compared to that of inferior quality; indeed there is only a very small part that cannot be profitably cultivated. The light soils have their own advantages, as they take much less labour and expense to cultivate than the strong heavy lands, and they produce crops of all kinds except wheat, in greater perfection. Though there are large tracts of valuable land lying waste from the waters being confined upon them, by natural causes, yet Upper-Canada is more readily drained than the Lower Province, not being so perfectly level. Sufficient drainage is, however, very much wanted, in almost every part of the country.

At the period of the termination of the American Revolution in 1784, the whole of Upper-Canada was one continued forest, and with few exceptions, was heavily encumbered with large trees. Since that period,

much of the forest in the neighbourhood of the lakes and rivers has been cut down, and the land cultivated; but what is all that has yet been done, compared to the vast extent that remains still in a state of nature? An extent that nearly equals that of the British Isles. The great facilities offered by her rivers and lakes for communication to almost every part of her territory, is of the greatest consequence and advantage to the settlement of a new country. Many of these rivers, it is true, require some expenditure to make them navigable for steamboats, but certainly nature has done as much good for Upper-Canada, as for any country; and if man will only do his part well, I do not know, nor have I read of a country better calculated to produce all that is necessary for the support and reasonable enjoyment of a numerous population.

The province is divided into eleven districts, twenty-six counties, and six ridings, and I believe about 300 townships, besides the Huron tract granted to the Land Company, and the lands occupied by Indians. The eastern district has three counties, Glengarry, Stormont, and Dundas; Ottawa district two, Prescott and Russel; Johnstown district two, Grenville, and Leeds; Bathurst district two, Carleton and Lanark; Midland district five, Frontenac, Lennox, Addington, Hastings, Prince Edwards; Newcastle district two, Northumberland and Durham; Gore district two, Halton and Wentworth; Niagara two, and four ridings, Lincoln, with 1st, 2nd, 3rd and 4th ridings, and Haldimand; London district three, Norfolk, Oxford and Middlesex; Western district two, Kent and Essex; and Home district two, York, with two ridings, east and west, and Simcoc. The average territory of each township may be estimated at about 62,000 acres. The statistical tables will show the state of each county in population, stock, land cultivated, and uncultivated, &c. &c. It would occupy too much space here to describe particularly each county; it is sufficient to state that in all the districts abundance of fine land is to be had in a wilderness state. All that is required is hardy and industrious settlers, with sufficient capital to bring these lands into cultivation.

The stranger may rest assured, that in coming to Canada he will not experience any difficulty in finding land that will produce him abundant crops, after it has been properly prepared and cultivated to receive the seed. The land is naturally exceedingly fertile, and when once cleared, requires less labour in its cultivation than any land in the British Isles.

NATURAL PRODUCTIONS.

The forest trees are nearly the same as those of Lower-Canada, but soft wood does not prevail so much, and there is abundance of white oak, very little of which grows in the Lower Province. On good land, the trees are large, and do not stand so close together as in Lower-Canada, and there is not so much underbrush or small wood. It is in general less difficult to clear and prepare for crops, and from the trees standing further apart, the roots do not offer so much interruption to cultivation. The sugar maple, butternut and red cedar, are also more plentiful in Upper-Canada. The nut of the butternut tree, when gathered young and tender about the first of July, is esteemed an excellent

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pickle. The bark of that tree dyes a durable brown colour. The juniper tree produces berries which are used in Canada, as in Holland, in the manufacture of gin. Many kinds of fruit, peaches in particular, grow wild in Upper-Canada.

Sarsaparilla, spiknard, goldthread, elecampane, lobelia, bloodroot, ginseng, snake-root, said to be a cure for the bite of the rattlesnake, spearmint, hyssop, wormwood, winter-green, water-cresses, penny-royal, catnip, plantain, burdock, horehound, mother-worth, mallows, and many other aromatic and medicinal plants, are indigenous to Canada.

Sumach, the leaves and berries of which are used as a black dye, both here and in England, grows plentifully in all parts of Canada; alder, thorns, well calculated for hedges, and of a rapid growth; wild cherries, plums, currants, gooseberries, blackberries, raspberries, grapes, strawberries, whortleberries and cranberries, all grow wild in both provinces, and in great abundance. Wild rice grows in marshes, and on the margin of lakes, on Rice Lake particularly, situated in the Newcastle district. It is used as foreign rice, but is inferior in quality to Carolina rice.

THE WILD ANIMALS, are the same as in Lower-Canada, but much more numerous, particularly the bison, buffalo, elk, moose, and common deer.

It may be interesting to give a short description of the *bison*, so common in the western regions of Canada. He is of the ox kind, cloven-hoofed, ruminating, gregarious animal, of large size, in some instances found to weigh 2,000 pounds. He is shy and fearful of man, unless wounded, when he turns upon his hunters, and becomes dangerous. His colour is brown; he has two short black horns; his shoulders are very much elevated, and there is a great depth from the withers to the brisket. He tapers away from the shoulders, and his hind quarters are comparatively of a diminutive size. His tail is short, with a tuft at the end; his legs short and thick; his neck, forehead, skin and dewlap, covered with long woolly hair; and in winter the hair of his body is long and shaggy. Altogether he is a most fierce looking animal as can be imagined.

The *Buffalo*, is an animal of the same genus, but of a different species, and more resembles the ox. His colour is a darker brown than that of the bison. His skin forms very strong, durable, soft leather, and when dressed with the hair on, it is more valuable, as a bed and coverlid, and as a wrapper for persons riding in sleighs; it is in common use throughout Canada. Thousands of these animals are annually shot by the Indian hunters of the north-west, who manufacture their skins, and preserve their flesh, which, when properly cooked, is very good food. These animals are scarcely ever seen in or near the settled parts of the province, but range the immense prairies in the north-west country, in countless numbers.

The *Elk* and *Moose*, are not often met with. The common *Deer*, of a large size, are plentiful in both provinces, but are not easily taken, unless when the snow is very deep in winter.

The *Birds* are nearly the same as in Lower-Canada. The *Reptiles* and *insects*, are also the same, with the exception of the rattlesnake, and water snake, that are not met with in the Lower Province. Though the bite of the rattlesnake is extremely dangerous, and fatal if remedies are

not applied in time, yet few accidents occur. The *musketeers* are much more troublesome and annoying to the settler, than all the wild animals and reptiles united.

In the waters of Upper-Canada there are abundance of fipe fish, which may be of great help to the settler; sturgeon, masquenonge, lake salmon, salmon trout, white fish, pike, mackerel, bass, perch, cat-fish, eel, trout, dace, chub, mullet, carp, lucker, dogfish, bill fish, lamprey, silver eel, herring, and sun fish, are all found in the lakes and rivers.

THE CLIMATE OF UPPER-CANADA, is considered by most persons who have resided in both provinces, as more moderate than that of Lower-Canada. It is said that the prevailing winds in summer blow from the south-west, and passing over the vast lakes, the air collects a very considerable moisture, which in the spring and fall is said to be unpleasant. In winter the north-west wind is most frequent, and is dry and cold. When it blows from the south-east, it is generally soft, and the deepest falls of snow, and the longest continued rains, are accompanied by easterly winds, as in Lower-Canada. In summer it frequently occurs that when the wind is from the south-west, it rises about nine o'clock, and continues to increase in strength until towards evening, when it lulls away gradually. The south-west wind, coming from a warm region, imparts warmth to the climate of Canada; and it is found that the cold is less severe in the latter country than in corresponding degrees of latitude in some of the eastern states of the Union. I have been told that emigrants from New Jersey, who have settled in Upper-Canada, have found the climate more mild than in the country they had left, though the difference of latitude was two degrees. The inhabitants of Upper-Canada complain much of want of sufficient snow in some seasons to make good winter roads, and to shelter the young growing wheat. A full covering of snow from the 1st of December to the 21st of March, will be ever found advantageous for both Canadas. Though there should not be a particle of snow on the ground, the climate is such that cattle must be under shelter or enclosed in yards with sheds, and hand-fed in winter. The grass that might be on the fields could possess very little nutriment indeed, after a few nights of frost, so severe as to cover the vast rivers of Canada with ice. The difference between the climate of Upper and Lower Canada, so far as regards the winter feeding of cattle, is very trifling. Perhaps cattle might contrive to exist on what they could procure in the fields, at a later period of the fall, and some days earlier in the spring, in Upper than in Lower Canada; but, doing justice to stock, they will require to be hand-fed in both provinces, from some time in the month of November until the 1st of May. This may appear to the emigrant from the British Isles, as greatly unfavourable to the keeping of cattle to profit, but it is not so in reality. I believe that in ordinary seasons, that are moderately moist in summer, one hundred acres of land in due proportion of meadow and pasture, will support as much stock in Canada for the year, as the same quantity of land of equal fertility, in pasture and meadow would do in Britain. The land may yield as much produce of nutriment in six months in Canada as it will in a year elsewhere, provided it is not checked by extraordinary drought, which seldom happens until the hay crop is secured. The greatest drawback to

the farm happens except in prejudice and the

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the farmer is, that in the months of August and September, it frequently happens that the pastures suffer for want of rain; but I am confident that except in such unfavourable seasons, the long-winters will not be found prejudicial to the keeping of stock in due proportion to the size of farms, and the capital of the farmer.

I have already given tables of the temperature of Upper-Canada, compared with that of Lower-Canada, which will be sufficient for every useful purpose. The difference in the spring, summer and harvest months, is very inconsiderable, but in the winter the cold is not so great or so long continued in the Upper as in the Lower Province, and perhaps this combined with some difference in the soil, is the chief cause that fall wheat is more successfully cultivated in the Upper Province; but I will not admit that even with this advantage, and what it may possess in regard to climate, that the Upper Province is much to be preferred to the Lower, as an agricultural country.

CITIES, TOWNS, AND VILLAGES, in Upper-Canada, cannot yet be very numerous or extensive; there are, however, some that have made astonishing progress within a few years. The city of Toronto, in lat. 43.35. north, and long. 79. 20. west, is the seat of government, and has now about 1500 houses, and over 10,000 inhabitants. It is beautifully situated on a fine bay or harbour of Lake Ontario, which is protected at the entrance by a strong battery. There are several public buildings, the House of Assembly, where the provincial legislature hold their sittings; the Government House, King's College, Court-house, Gaol, Episcopalian Church, Catholic Church, Scotch Kirk, Baptist and Methodist chapels, Barracks, &c. A considerable number of the houses are wood, but some are of brick and stone. The city is incorporated, and is governed by a mayor, aldermen and common-council, annually elected. It returns two members to the provincial assembly. Toronto is so favourably circumstanced in many respects that it is likely to advance rapidly in extent and population.

Kingston is in lat 44.12. north, and long. 75.41. west, at the north-east point of Lake Ontario, and the head of the St. Lawrence, about 200 miles from Montreal, and 190 from Toronto. It has about 600 houses, and from 5,000 to 6,000 inhabitants. More than half the houses are of brick and stone, and well built. There are several public buildings, churches, barracks, &c. The Provincial Penitentiary, lately erected, is a fine and extensive building, and cost over 12,000*l.* It is estimated that it will be necessary to expend 8,000*l.* more to complete the plan. I believe there will be 370 cells or more, when the building is finished as proposed, with all other necessary appendages, work-shops, yards, apartments for keepers, watchmen, &c. I have not seen a plan of the penitentiary, but believe it the same as that of the penitentiary at Auburn or Sing Sing, in the United States. The estimated expense of keeping 50 prisoners in food, clothes, light and firewood, is about 850*l.* annually, exclusive of keepers, watchmen, &c. This would be 17*l.* for each prisoner, of which 7½*d.* per day is the estimated expense of rations, or 11*l.* 8s. 3*d.* annually for food; 3*l.* 12s. for clothes, and the remainder for firewood and candles. There is no estimate made of what the work of the prisoners is likely to produce, but I should hope that under judicious su-

perintendance, it will nearly clear the whole expense. I think there is no mode of restraint that can be devised so proper, as that of obliging those who commit a breach of the law of their country, to contribute to their own support, while they are subjected to confinement for their crimes. It is unreasonable that the criminal, idle and dissolute, should be supported in idleness, at the expense of the industrious and well conducted part of the community, and it is only strict justice to oblige those who will voluntarily and wantonly act against the peace and welfare of society, to work for their maintenance, while under lawful restraint. I have ever looked upon it as an encouragement to vice and crime, to keep young and healthy men for several months or years confined in idleness. It is scarcely possible that such persons when discharged, will ever again become industrious and well conducted; and in such a country as British America, idle habits ought to be strictly guarded against, where the industry of all is required to be usefully applied. The amendment of the criminal ought to be as much, and more the object of good laws, as his punishment; and indeed I dispute the perfection of any laws that are not calculated to produce amendment rather than inflict punishment.

There was a government dock yard at Kingston, and several ships of war were laid up there since the last American war. One ship of the Line, the St. Lawrence, of 130 guns, was sold at auction some time ago for a few pounds. I believe the establishment is now broken up. The expense incurred in constructing ships of war at Kingston during the last American war, was immense. Kingston is strongly fortified by batteries at all points. Fort Henry is a strong fortress, and commands the city and harbour.

Brockville is, next to Kingston, the most extensive and improving town in Upper-Canada, and has been built since the last war. It is 143 miles from Montreal, 12 from Prescott, and 56 from Kingston. This town has a considerable trade; the steamboats arrive and depart almost every day while the navigation is open. I believe it has from 1500 to 2000 inhabitants, and is likely to increase rapidly. The town of Prescott is situated immediately above the most westwardly rapid on the St. Lawrence. The steamboats ply between Prescott and every part of Lake Ontario. The improvement of the St. Lawrence now in progress, will, when complete, allow of uninterrupted steam navigation from Prescott to the province line between Upper and Lower Canada.

The town of Niagara is charmingly situated on the south shore of Lake Ontario, at the mouth of the Niagara river. It has about 500 houses, and a population of 2000. There is a very considerable and constant intercourse in the summer season by steamboat, between Niagara and every part of Lake Ontario, and as low down as Prescott. The town of Niagara is about 10 miles below the great falls, a circumstance that attracts many strangers to the place, on their way to visit the falls. There are many other rising towns of considerable trade which I think it unnecessary to describe particularly. The names of almost all the cities, towns and villages, are given in the following list of places where post offices are established in Upper-Canada, on the 6th of February, 1836.

Albion
Adolph
Alexandra
Amherst
Ancaster
Adelphi
Albion
Asphodel
Bath
Bayham
Belleville
Beverly
Brantford
Brighton
Brockville
Burford
Bytown
Beamsville
Barrie
Beaverton
Carleton
Castleton
Cavan
Chippawa
Cobourg
Colborne
Colebrook
Cornwall
Credit
Camden
Chingona
Clarke
Conseco
Darlington
Delaware
Demores
Drummond
Dundas
Dunnville
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Aldborough	Guelph	Pickering
Adolphustown	Goderich	Port Burwell
Alexandria	Hallowell	Port Dalhousie
Amherstburgh	Hamilton	Port Dover
Ancaster	Hawkesbury	Port Hope
Adelaide	Hillier	Port Stanley
Albion	Holland Landing	Port Talbot
Asphadel	Howard	Prescott
Bath	Haldimand	Pakerham
Bayham	Hope	Porland
Belleville	Kemptville	Perrey
Beverley	Kilmarnock	Queenston
Brantford	Kingston	Raleigh
Brighton	Kitley	Richmond
Brockville	Keswich	River Trent
Burford	Lanark	Romney
Bytown	Lancaster	Rawdon
Beamsville	Loyd Town	Richmond Hill
Barrie	Lochiel	St. Andrews
Beaverton	London	St. Catherines
Carleton Place	L'Oriihe!	St. Johns
Castleford	March	St. Raphaels
Cayan	Markham	St. Thomas
Chippawa	Marmora	Landwich
Cobourg	Martintown	Simcoe
Colborne	Matilda	Smith Falls
Colchester	Merrickville	Smithville
Cornwall	Middleton	Stoney Creek
Credit	Mosa	Streetsville
Camden East	Murray	Stouffville
Chingnaconsey	Milford	Searboro
Clarke	Montinette	Stanley's Mills
Consecon	Mersea	Shannonville
Darlington	Manogham	St. George
Delaware	Napopee	Stratford
Demorestville	Nelson	Seymour West
Drummondville	Newmarket	Thornhill
Dundas	Niagara	Thorold
Dunville	Norwich	Toronto
Eriens	Orford	Trafalgar
Elobicoke	Oxford	Toronto City
Esquesing	Osnabruck	Vankleek Hill
Fitzroy Harbour	Otanabec	Vittoria
Fort Erie	Orillia	Wainfleet
Fredericksburgh	Oakville	Walsingham
Galt	Ora	Waterford
Garanoque	Pasis	Waterloo
Georgina	Penetanguishene	Wellington
Gosfield	Perth	Wellington Square
Grimsby	Peterboro	West Williamsburg

Whitly	Whitton	Yarmouth
Williamsburg East	Woodstock	Yonge
Ways Mills	Williams Town	York Mills

My object in publishing this work is to give an idea of the capabilities of the country for future population and production, not to describe minutely, every town and village in Canada. It may reasonably be supposed that there cannot be many large towns, in such an extensive country, and thin population. There must first be a numerous rural population before there will be encouragement to build extensive cities and towns, because a numerous town population could not be otherwise supported unless manufactures were extensively established. The stranger may however rest assured that in every part of Canada he will find he can settle himself sufficiently convenient to a rising town or village, where he can procure all actual necessaries, and those who may require luxuries, and have the means of paying for them, will find no difficulty in getting them to purchase, if they do not go too far into the forest, beyond the bounds of civilization.

EDUCATION, is very well provided for in Upper-Canada. The legislature have made annual grants for the support of schools and schoolmasters; there are also appropriations of land made to a considerable extent, which may be increased, I suppose, to any extent that would be prudent and desirable. In a new country, unless education receives some support from government funds, the rising generation will be neglected. The parents in general will think they can badly spare the services of their children when able to render any assistance in the way of labour, and can less spare money to pay for their education. Hence, it will be found, that in every new country, where education is not partly provided for from public funds, it will be very much neglected. I do not say that a gratuitous education should be offered to the children of parents who might very well afford to contribute something towards paying for their education. There might be some rule adopted that would guard against an abuse of this kind.

In case that public property is set apart for general education, it would be just that the public at large should participate in the benefit, and it is on this principle that I would think it desirable to grant public lands for the endowment of public schools, which might be sold on a permanent annuity for their support. One public school in each township ought to be sufficient, if placed in a central situation; and were 4000 acres set apart in each township, it would on an average afford a permanent annuity of 100*l.* or more. This, with whatever assistance might be rendered voluntarily by the people, would if once properly organized, be sufficient without much aid from the public revenue, except for the erection of schoolhouses, and residences for masters. The less revenue that is collected off the people by the government, over what is actually necessary for its respectable support, and for works of general utility, the better for the community at large. To insure the success of public schools, the principal matter to be attended to would be the choice of qualified schoolmasters, and placing the superintendance of schools, under the controul of a board of commissioners in each province, whose duty it should be among

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others, to visit personally, every public school in the province annually, and to see that proper books of instruction were made use of in the schools. The duty of these commissioners, as well as a general plan of education, might be pointed out by an act of the legislature. The expense of a board of education, need not be very great. Four commissioners and a secretary would be sufficient, and as they would not be constantly employed, except the secretary, about 200*l.* a year for each might perhaps remunerate them for their services, with an additional allowance for travelling expenses, in visiting the schools, which they could do separately. A local board might be elected in every township to superintend each school, under the chief board of education, from whom they would receive their instructions. Competent men might be found to form a board of education at a salary of 200*l.* a year. A useful education is what would be required to be taught at the township schools, and in my humble judgment, the dead languages need not form a part of it. Let those who would find it necessary that their children should be taught Hebrew, Greek and Latin, send them to the colleges or private schools. A plain English education is amply sufficient for any agriculturist in Canada, and may serve for a large proportion of those who are not agriculturists, and who propose to employ themselves in trade, commerce or manufactures.

King's College in Upper-Canada is endowed with 245,000 acres of land. This land, if even sold at 10*s.* the acre, the interest of the purchase money at 5 per cent, per annum; would amount to near 6000*l.* a year for ever; and I suppose the land may realize double that amount. I do not know what returns the lands yield at present. The college has an annual grant from the money received for the land sold to the Land Company of 1000*l.* sterling.

The "rates of tuition:" 2*l.* currency per quarter, and 5*s.* for contingencies, that is, pens, ink, fuel, &c. for each scholar in the college forms.

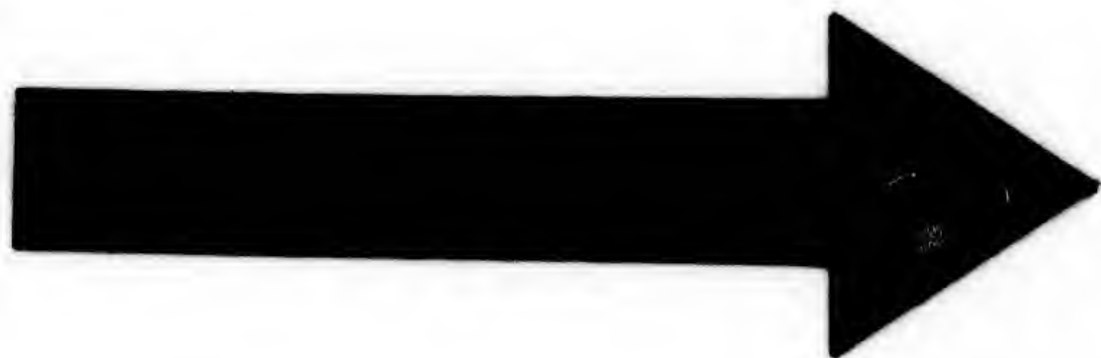
In the department of the college which is called the preparatory school, 1*l.* 5*s.* per quarter for tuition, and 5*s.* for contingencies, is paid for each scholar.

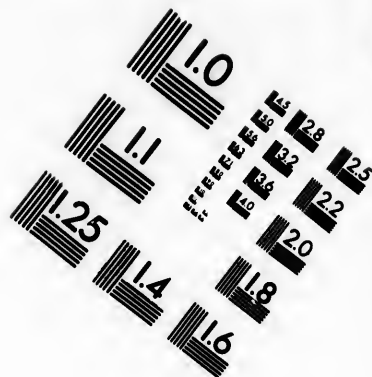
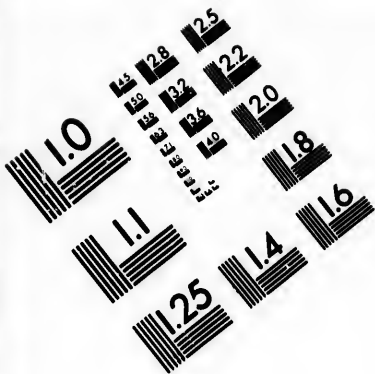
The terms at the college boarding house, are 30*l.* currency per annum, for board and tuition.

Books and materials furnished to the pupils on the lowest terms by the college, who order them from England every year. The average number of scholars was for the first year, 1830, 104; in 1831, 121; in 1832, 105; in 1833, 118; in 1834, 115; and for the quarter ending March, 1835, 124.

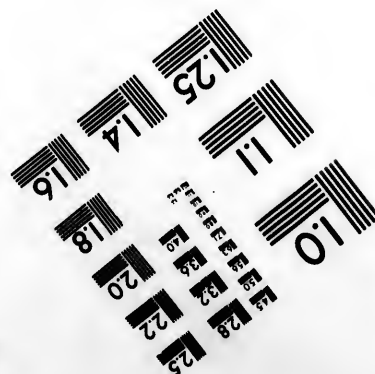
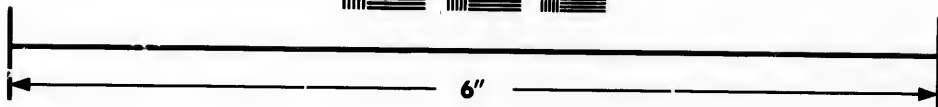
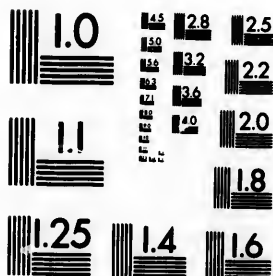
I believe the college is very well conducted under a president, principal, vice-principal, and several masters, &c. No scholar is required to conform to, or be instructed in, the peculiar creeds, or religious exercises of any christian denomination. This is as it should be, and I hope that every college in British America may be conducted on the same principle, that scholars of every religious creed may be educated together, without any interference as to the religion they profess. It is the encouragement of miserable and unchristian distinctions, that has caused so much division and ill feeling to prevail between different religious sects all over the world, who all nevertheless *profess* to be christians.

The number of schools in Upper-Canada may be from 500 to 600. I





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have not an exact return of them. The legislative aid granted in 1833, 1834, and 1835, was about 8,000*l.* annually. This session the House of Assembly have voted 20,000*l.* for education annually, for some years to come, but it has not yet passed the Council:

RELIGION, in Upper-Canada, is perfectly free. Every man may profess what particular creed he thinks proper; and there are several different religious denominations. No tithes are raised in Upper-Canada. The clergy reserves, or one-seventh of the lands, were set apart for the support of a Protestant clergy by the constitutional act. Until very lately these reserves did not produce much. The following statement will show what the clergy reserves have produced for the last 15 years. It is taken from documents placed before the legislature.

Statement of the sums received on account of rents of Clergy Reserves from 1820, to 1834, with expenditure for superintending, and balance paid into the hands of the Receiver-General.

		£	s.	d.			£	s.	d.
1820	Received,	34	18	7 $\frac{1}{2}$	1820	Expenditure	35	0	0
1821	ditto	231	17	8 $\frac{1}{2}$	1821	ditto	149	10	0
1822	ditto	261	5	1 $\frac{1}{2}$	1822	ditto	150	8	7 $\frac{1}{2}$
1823	ditto	251	8	1	1823	ditto	153	8	1
1824	ditto	174	0	2	1824	ditto	123	16	8
1825	ditto	432	7	10	1825	ditto	142	2	10 $\frac{1}{2}$
1826	ditto								
1827	ditto								
1828	ditto								
1829	ditto	209	6	8	1829	ditto	149	6	8
1830	ditto	726	1	6	1830	ditto	216	2	6
1831	ditto	725	12	8	1831	ditto	175	12	8
1832	ditto	1168	12	2	1832	ditto	248	12	2
1833	ditto	1877	0	0	1833	ditto	228	13	7
1833	ditto in 1833	1483	19	1 $\frac{1}{2}$	Total Expenditure	1772	13	10	
1834	ditto	3357	15	10	Balance paid from time to time into Receiver-General's hands,	9261	12	0	
Total Received,		11034	5	10	Total,	11034	5	10	

Statement of Receipts and Payments arising from the sales of Clergy Reserves, made by the Commissioners of Crown Lands, from 1st January, 1829, and quantity of land sold, with the price per acre.

Years	Quantity of Land Sold.	Price per Acre.	Total Amount.			Amount Received.			Amt. paid to Commissary General.	Amt. paid to Receiver-General.	Expenditure for superintendance.	Total paid				
			£	s.	d.	£	s.	d.								
1829	Acres.	s. d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.		
1829	13014	14 8 1-2	18229	0	0	2466	1	8			2159	0	8	2160	0	8
1830	34705 1-2	18 6	23452	4	0	6215	1	11			689	12	8	620	12	8
1831	25668 1-2	12 1 3-4	17362	12	1	6239	17	8	11,000		1207	12	0	14207	12	0
1832	48484 3-4	13 3 3-4	32287	19	0	10713	6	9	8,000		769	15	3	9819	10	3
1833	62332 1-4	14 4 1-2	44747	19	9	14936	16	8	9,500		703	7	3	1286	10	10
1834	58526	13 10 3-4	41356	18	9	18930	8	1	10,000		1062	10	7	1886	13	8
total	219878	13 8	172136	13	7	58251	12	5	38500		2368	13	1	6900	11	10
Balance in the hands of the Commissioner of Crown Land														49460	6	11
														5790	5	8
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Out of the above funds there appears to have been paid the clergy of Upper-Canada in the year 1833, 11,870*l.*; and in 1834, 16,927*l.*, making a total of 28,797*l.* Of this amount the clergy of the church of England received in the two years 14,821*l.*; of the church of Scotland, and of the united Presbyterian Synod of Upper-Canada, 6,127*l.*; Roman Catholic church, 4,910*l.*; and Methodists 2,667*l.* A part of these grants were for the erection and repair of churches.

List of Missionaries of the Church of England.

PAROCHIAL CLERGY OF THE CHURCH OF ENGLAND IN UPPER-CANADA, 1ST APRIL, 1836.

HOME DISTRICT.—Toronto, &c, the honorable and venerable J. Strachan, D. D. (Archdeacon of York.)

Rev. H. Grasett, A. B. assistant minister, Toronto, (chaplain to the lord bishop.)

↔ The clergy of the Upper-Canada college officiate on Sundays in parts adjacent to Toronto.

Markham, and Vaughan, Rev. V. P. Mayerhoffer, and Rev. G. Mortimer, A. M.

Toronto, &c. Rev. J. Magrath.

Etobicoke, &c. Rev T. Phillips, D. D.

Travelling Missionary in the Home District, Rev. A. Elliot.

GORE DISTRICT.—Hamilton and Barton, Rev. J. G. Geddes.

Binbrook, Glandford, &c. Rev. J. C. Usher.

Ancaster and Dundas, Rev. J. Miller, A. M.

Guelph, Woolwich, &c. Rev. A. Palmer, A. B.

Missionaries to the Six Nations (Indians) on the Grand River, Rev. R. Luggar, from the New-England Company, London; Rev. A. Nelles, assistant minister.

DISTRICT OF NIAGARA.—Niagara, Rev. T. Creen.

Grimsby, &c. Rev. G. Grout.

Chippawa, Stamford, Queenston, Rev. W. Leeming.

Waterloo, Fort Erie, &c. Rev. J. Anderson.

St. Catharines, &c. Rev. J. Clarke, A. M.

LONDON DISTRICT.—St. Thomas, &c. Rev. M. Burnham, A. B.

Woodhouse, &c. Rev. F. Evans.

London, &c. Rev. B. Cronyn, A. M.

Adelaide, Rev. D. Blake, A. B.

Carrodoc, &c. Rev. R. R. Flood, A. M.

Blandford, &c. Rev. W. Bertridge.

WESTERN DISTRICT.—Amherstburg and Colchester, Rev. R. Rolph.

Sandwich, Rev. W. Johnson.

Chatham, &c. Rev. T. B. Fuller.

Warwick, Rev. J. Radcliff, A. M.

Travelling missionary in the London district, Rev. T. Greene, A. B.

NEWCASTLE DISTRICT.—Cobourg, &c. Rev. A. N. Bethune, (Chaplain to the lord bishop.)

Port Hope, &c. Rev. J. Coghlan, A. B.

Reserves
l balance

s.	d.
0	0
10	0
8	7½
8	1
16	8
2	10½
6	8
2	6
12	8
12	2
13	7

13	10
12	0
5	10

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Total paid

L	s.	d.
2150	9	8
829	12	8
14207	12	0
9619	10	3
11405	18	1
12949	4	3
49460	6	11
3790	5	6
59231	12	5

- Cavan, &c. Rev. J. Thomson and Rev. S. Armour.
 Peterborough, &c. Rev. R. H. D'Olier, M. A.
MIDLAND DISTRICT.—Kingston, the Ven. G. O. Stuart, L. L. D
 (Archdeacon of Kingston.)
 Rev. R. D. Cartwright, A. M. assistant minister, and acting chaplain
 to the Garrison, (chaplain to the lord bishop.)
 Bath, Ernestown, &c. Rev. A. F. Atkinson, A. B.
 Adolphustown, &c. Rev. J. Deacon.
 Belleville, &c. Rev. John Cochran, A. B.
 Carrying Place, (Township of Murray) &c. Rev. J. Grier.
 Mohawk Tract, in the Bay of Quinté, &c. Rev. S. Givins.
 Travelling missionary in the Midland District, Rev. W. S. F. Harper.
PRINCE EDWARD'S DISTRICT.—Hallowell, &c. Rev. W. Macaulay.
BATHURST DISTRICT.—Perth, &c. Rev. M. Harris, A. M.
 Beckwith, &c. Rev. J. Shortt.
 Richmond, &c. K. Rolph.
 March and Huntley, Rev. J. Padfield.
 Carleton Place, &c. Rev. E. J. Boswell.
JOHNSTOWN DISTRICT.—Brockville, &c. Rev. E. Denroche, A. B.
 Yonge, &c. Rev. W. Gunning, A. M.
 Prescott, Maitland, &c. Rev. Robert Blakey.
 Oxford and Marlborough, Rev. H. Patton.
EASTERN DISTRICT.—Matilda, Williamsburg, &c. Rev. J. G. B.
 Lindsay.
 Osnaburgh,
 Cornwall, &c. Rev. G. Archbold.
 Missionary to the Indians at Sault Ste. Marie, Rev. W. McMurray,
 from the Society at Toronto, (U.C.) for the conversion of the Indians, &c.
 Red River Settlement, and Hudson's Bay Territory, Rev. D. J.
 Jones, chaplain; Rev. — Cochrane, assistant chaplain to the Hudson's
 Bay Company, missionaries from the Church Missionary Society, Lon-
 don.
 Rev. J. S. Strong, destination not known. Rev. J. Mackenzie, do.

CATECHISTS OF THE CHURCH OF ENGLAND IN THE CANADAS.

- LOWER-CANADA.**—District of Quebec, G. C. Allsopp, Frampton and
 parts adjacent.
 Edward Turner, Bourg Louis.
 District of Montreal—Charles Forest, Chateauguay, and parts adja-
 cent. W. Harvey, Huntingdon, and parts adjacent.
 District of Three-Rivers—Edward Lane, Rivière du Loup, and parts
 adjacent. Patrick Benson, Lake Miskinongé.
 District of Gaspé—John Eden, Gaspé Basin. Geo. Heath, Mal Bay.
 J. Tuzo, L'Anse au beau-fils.
UPPER-CANADA—Home District—Thomas Moore, Markham.
 Newcastle District—R. Taylor, Douro.
 Maitland District—Mr. Shirley, Bath.
 Johnstown District—Mr. Latimer, Wolford.
 Ditto ditto, John O'Neill, New Boyne.
 Eastern District—P. Mulhern, Cornwall.

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CORPORATION FOR MANAGING THE CLERGY RESERVES IN LOWER-CANADA.

Members—The Lord Bishop of Quebec, and all the beneficed clergy within the province.

Principal, The Lord Bishop.

Directors: The Rev. G. J. Mountain, Rev. J. Bethune, Rev. J. Jackson, Rev. S. S. Wood, Rev. R. R. Burrage, Rev. E. W. Sewell, Rev. J. L. Alexander.

Secretary : T. H. Thomson, Esquire.

The following are the payments that are proposed to be made to the missionaries employed by the English Society for the Propagation of the Gospel in British America, from the funds of that Society, from Colonial funds, and parliamentary votes, commencing 1st April, 1834.

Countries.	Paid by the Society from their own funds.	So-Paid by the Local Government.	Paid by vote of the British Parliament.	Total paid annually.
Upper-Canada,	£	£6506	£	£6506
Lower-Canada,	3415		550	3965
Nova Scotia,			4000	4000
New-Brunswick,	3800	552		6352
Prince Ed's. Island	300			300
Cape Breton,	400			400
Newfoundland,	2170			2170
Total annually,	£10085	7058	4550	21693

I have taken the above from official documents submitted to the Legislature of Upper-Canada.

List of Ministers in connection with the Church of Scotland.

Rev. Mr. Rintoul, City of Toronto.	Rev. James Ketchan, Belleville.
Alex. Ross, Aldborough,	Geo. Cheyne, Amherstburg
Alex. Gale, Hamilton.	D. McNaughton, Vaughan.
John Machar, Kingston.	M. Y. Stark, Dundas.
W. McAllister, Lanark.	James Smith, Guelph.
Thomas Wilson, Perth.	H. Gordon, { White Church
A. McNaughton, Lancaster	{ and King.
Archd. Connell, Martintown	John M. Roger, Peterborough
John McKenzie, Williamstown	P. Ferguson, Esquensing.
H. Urquhart, Cornwall.	Geo. Romanes, Smiths Falls.
Wm. Stuart, Galt.	John Fairbairn, Ramsey.
J. Cruikshank, Bytown.	Mat. Millar { Colborne, New-
Robert McGill, Niagara.	{ castle District.

I have it not in my power to show what the annual allowance to each minister is for the year 1834. The total amount charged as paid to them, was 2219l. 11s. 10½d. for payment of one year's allowance or salaries.

*List of Clergy of the United Presbyterian Synod of Upper-Canada,
1st January, 1835.*

Rev. G. Buchanan, Beckwith.	Rev. P. Ferguson, Esquesing.
Andw. Bell, Toronto township	D. McMillan, Caledon.
John Gemmill, Lanark.	William King, Nelson.
John Bryning, Mount Pleasant	R. McDowall, Fredericksburg
Robert Lyle, Osnaburg	James George, Scarboro.
Robert Boyd, Prescott.	G. McClitchey, Clinton.
Wm. Smartt, Brockville.	

The amount paid by the Receiver-General Dunn to the clergy of the United Presbyterian Synod of Upper-Canada, as their allowance for the year ending the 31st December, 1834, was 813 $\frac{1}{2}$ currency.

Roman Catholic Clergy of Upper-Canada in 1834.

Right Rev. Bishop McDonald, Right Rev. Bishop Gaulin.	
Rev. James Moore	Rev. Michael Brenan
John McDonald	John Butler
Wm. Fraser	W. P. McDonell
James Bennett	Patk. McDonogh
James Campion	John Keegan
Timothy O'Meara	John Cassidy
John Cannan	Angus McDonell
John McDonogh	Rev. John Lostree
	John McDonell
	Edward Gordon
	Daniel Downey
	George Hay
	— Morin
	Murth. Lalor

The Roman Catholic churches for which government aid has been granted in 1833 and 1834, are the following, and the amount granted for each.

Glengarry, -	£300	Malden, -	£90
Peterboro, -	150	London, -	50
Niagara, -	191	St. Thomas, -	50
Guelph, -	90	Port Hope, -	20
Longeuil, -	40	Kingston, -	150
Gore of Toronto, -	40	Camden, -	20
Adjala, -	40	Trent, -	20
Loughboro, -	70	Cornwall, -	20
Petit Nation, -	30	St. Catherine, -	85
Penetanguishine, -	30	Toronto, -	25

Up to the year 1800, about 20,000 acres of land were set apart as Glebes in Upper-Canada for the use of the church of England. From that time to 1828, about 600 acres; and from 1828 to 1834, 600 acres, making in all over 21,200 acres. From 1828 to the present period, most of the land set apart for glebes was for the church of Scotland and Roman Catholics. For the former up to 1834, 1160 acres, and for the latter 400 acres. I cannot say what state of improvement these glebe lands are in, or what proportion has been cleared and cultivated. I should think that there ought not to be any objection to grant free, a sufficient glebe, for every church, and resident minister in Upper-Canada, of whatever religious profession. There is land in abundance, and a glebe would be of great assistance to the support of a clergyman, who would reside upon it, amongst his flock, or parishioners. Unquestionably land has often been granted free to persons in Canada, less deserving of

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it than the clergy; and where there are no tithes, and I hope never will be, a glebe for the resident minister, who might have a family that could be usefully employed upon it, and who, perhaps, otherwise might be idle, would be greatly desirable. It cannot be injurious to any portion of the community, that glebes should be appropriated for the support of ministers of religion; and in a country such as British America, it might be well for the clergyman to have a farm, where some of his children might be instructed in agriculture, if they had no better means of getting their living.

THE GOVERNMENT is the same as that of Lower-Canada. The Constitutional Act granted the same power of legislation to Upper as to Lower Canada, under a lieutenant-governor, appointed by the king. The English civil and criminal laws are in force, with some modifications by provincial statutes. Registry offices are established in every county, so that there can be no difficulty of ascertaining the true circumstances of any property offered for sale, and of knowing what security a man may give who would require a money accommodation. This must have a very favourable influence on the prosperity of Upper-Canada.

Lands granted in Upper-Canada, from the original returns to England, to the year 1834.

941 grants of 100 acres, and under,	- - -	67,372 acres
431 grants of 100 to 500 acres,	- - -	92,815 do.
28 grants over 500 acres,	- - -	24,036 do.
1400 grants or deeds, for	- - -	182,228 do.
Other 5 grants or deeds, to the Canada Land Company, have passed the great seal,	- - -	52,311 do.
Also 96 Clergy Reserve leases have passed the great seal,	- - -	18,364 do.
Grants have passed the great seal, commencing from the year 1792, for	- - -	8,121,665½ do.
Deeds have been granted to the Canada Company for other	- - -	735,828½ do.
Total granted,	- - -	9,295,620 acres
The total quantity of surveyed lands remaining ungranted in 1834, according to the blue book,	- - -	1,527,164 acres
Also given over to Col. Talbot for settlement, no return of which has been made to the Surveyor-General,	- - -	302,420 do.
Total granted and ungranted, which is surveyed	- - -	11,125,204 acres

It does not appear that one-half of the above granted lands have ever yet been settled upon or occupied, and only one-eleventh part cultivated.

THE CANADA LAND COMPANY purchased from the government by their first agreement, the crown and clergy reserves set apart in Upper-Canada, that were not previously disposed of. By a subsequent arrangement, the clergy reserves, comprising 829,430 acres, were given up by the Company, and the government gave in exchange for them the Huron

Tract, containing 1,100,000 acres. The clergy reserves were valued to the company at 3s. 6d. the acre, and amounted to 145,150l. 5s. They got the Huron Tract for the same gross amount, with a privilege of one-third of the purchase money to be laid out by them on canals, bridges, roads, churches, wharves and schoolhouses. Hence the price actually paid by the Land Company for this tract to the government, is a fraction over one shilling and nine pence currency, the acre. I do not know what the crown reserves were valued at. The following is a statement of what the company have and are to pay for what they have purchased.

July 1827,	-	£20,000	July 1832,	-	£17,000
1828,	-	15,000	1833,	-	18,000
1829,	-	15,000	1834,	-	19,000
1830,	-	15,000	1835,	-	20,000
1831,	-	16,000	1836,	-	20,000

And each succeeding year for six years the like sum of 20,000l., making altogether 295,000l. currency. This amount does not include the sums which the Land Company are to invest in public works, and improvements in the blocks of land in the London and western districts. The company have, I believe, paid up all their instalments to July last. Of the receipts, a large sum has been paid towards the support of the civil government of Upper-Canada. For the expenses of the commissioners employed to value the lands, &c. about 7,000l. was paid; and for the compensation in lieu of fees to the officers of the Land-granting Department, I find the sum of 19,900l. currency charged; an allowance to the honorable Colonel Talbot, of 400l. sterling, per annum, and some other pensions and charges, of which one of the latter is 1000l. sterling to the King's College, a most excellent application of so much.

Statement of Receipts of all Monies arising from the Sale of Crown Lands and Town Lots, made by the Commissioners of Crown Lands, also by Rents received on Crown Reserves, from 1st January, 1831.

Years	Lands Sold. Acres.	Price per Acre.		Total Amount.		Amount paid		Town lots sold.	Price sold for.		Received for Town Lots.		Rent received from Crown Reserves.						
		s.	d.	£	s.	d.	£		s.	d.	£	s.	d.	£	s.	d.			
1831	4857	11	3	2458	1	8	1723	16	0	3	23	2	8	95	12	8	304	1	1
1832	10323	9	1	4711	2	9	2535	1	6	30	327	15	0	81	19	6	419	17	5
1833	21373	8	9	11578	19	3	6352	6	7	114	1674	9	0	634	18	6	320	15	11
1834	8891	9	0	4023	11	11	3917	13	1	57	1166	19	0	7	16	6	121	1	0
Total	49044	9	7	22776	15	7	14881	16	3	234	3193	19	8	820	6	3	1166	16	6

I regret that I cannot give so satisfactory a statement of the funds arising from the rent and sale of government property as I would wish. I give it as I could make it out, from the journals of the legislature. There is no statement of the amount of annual rent or instalments, payable for lands or town lots, leased or sold, which might readily be made to show all this, at one view.

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Revenue and Expenditure of Upper-Canada for the year 1834.

REVENUE.

Amount received from the Receiver-General of Lower-Canada, as the proportion for Upper-Canada of the import duties collected at the port of Quebec, in 1834,	£54,393	13	8
Amount of 22d and 23d bank stock dividend,	2,000	0	0
Amount received on account of licenses issued to shop-keepers, inn-keepers, distillers, &c. &c.	6,911	13	7½
Amount received for bills of exchange on London, on account of government debentures transmitted there,	208,466	4	11½
Amount of duties on imports from the United States,	10,725	1	1½
Amount of license to hawkers and pedlars,	892	14	9
Amount of licenses to auctioneers, and on auction sales,	497	11	10½
Amount of tolls on roads, canals, harbours, and interest on loans,	1,871	0	0
Total amount of resources in 1834,	£285,757	19	10
Of the above was nett revenue of the province for one year,	£77,291	15	0

EXPENDITURE.

Administration of justice and support of civil government,	£ 16,186	16	0
Receiver-General's salary,	777	15	5½
Inspector-General's salary,	405	11	1
Adjutant-General of militia, militia pensions, &c.	1,540	0	0
Contingencies of the Legislature and officers of do.	8,839	4	0
Pensions,	120	0	0
Schools and schoolmasters,	8,873	0	0
Hospital, Female Benevolent Society, and Penitentiary, Kingston,	9,482	0	0
Agricultural Societies,	500	0	0
Improvements of roads, bridges, river navigation, &c.	53,647	3	3
Maintenance of Light houses,	700	0	0
Remuneration to Arbitrator on behalf of the province,	600	0	0
Surveys and district returns,	556	19	6
Redemption of debentures,	128,710	5	8
Interest on debentures outstanding,	11,838	5	0
On account of the appropriation for the improvement of the river St. Lawrence,	35,000	0	0
Total expenditure in 1834,	£277,728	14	3

I did not deem it necessary to state the balance in the Receiver-General's hands at the commencement or termination of the year, as I only

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Rent received
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	L	s.	d.
	8	304	1 1
	6	419	17 5
	6	220	16 11
	0	121	1 0
	8	1185	16 6

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wished to show what the revenue and expenditure was within the year. The debt due by Upper-Canada in 1834, raised on debentures, for which the provincial revenue is accountable, was 360,000*l.* currency, subject to an interest of 5 per cent. The improvement of the river St. Lawrence will cost from 300,000*l.* to 400,000*l.* more, and is raised in the same way. I believe the debt this year will not be much short of 800,000*l.* with what may be added to it the present session of the provincial parliament. It must be manifest how necessary it is to encourage agriculture, and every branch of industry, to augment as much as possible the production of the country, to meet those large demands. Let population increase, the wilderness be cleared and rendered productive in corn and cattle, and the money invested in useful public improvements will soon be refunded.

THE WELLAND CANAL, which connects the lakes Ontario and Erie, is 42 miles long, has 37 locks, and a fall between the two lakes, of 330 feet. It is 56 feet wide at the surface, 28 at bottom, 8½ feet deep, and cost altogether about 500,000*l.* currency. The British government has lent 55,555*l.* at 4 per cent. interest; and the province of Upper-Canada 100,000*l.* at 5 per cent. interest. The remainder is in stock held by both provinces and by individuals. I believe that since the canal was constructed, there has not been one shilling dividend to stock-owners. The interest for the money borrowed, is 7,222*l.* annually, which has been paid. In the year 1834, the tolls collected amounted to only 4,300*l.* In the balance sheet of the Welland Canal Company for the year ending December, 1834, I find the following items of expense for that year :

Contingencies, 1087*l.* 11*s.* 6*d.*; salaries, 675*l.*; ditto engineers, 256*l.* 15*s.* 3*d.*; steam-dredging machine, 780*l.* 5*s.* 10*d.*; award for land damage 796*l.* 0*s.* 10½*d.*, making a total of expenses 3597*l.* 13*s.* 6*d.* To meet all this, and the interest, there are only the tolls, and 982*l.* 10*s.* received for water privileges; and 1097*l.* 9*s.* 2*d.* for lands sold.

That there has been mismanagement in some way, there cannot be the shadow of doubt, either in the construction of the canal, or the expenditure in its construction. From the locality of the canal, connecting the two great lakes, Ontario and Erie, by a navigable means of communication, I should imagine there could not be a situation in North America, where a work of that description would be more useful or profitable; and, notwithstanding these favourable circumstances, that the year's tolls should only amount to 4,300*l.* is difficult to account for, if the country has any produce to transport, or the canal in an efficient state for navigation. From report, I have reason to suppose that the canal has, for a great part of the time since it was constructed, been in bad repair, from the falling in of the banks, and other causes.

It is most essentially necessary that in constructing great public works, engineers of high character for practical experience, should be employed. To expend hundreds of thousands of pounds under the direction of an engineer who may know very little more than the theory of engineering, is, to say the least of it, not very good policy. Where large sums are to be expended on public works, it is the bounden duty of those who have the management of this expenditure, to obtain the very best advice of practical men of known experience, wherever they are found. I do not

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wish to insinuate that competent engineers have not been employed in Canada for these works, but from what cause does it proceed that the Welland canal has been so much and so often out of repair? The falling in of the banks of canals is a casualty which they will be much subject to in Canada in many situations, and ought to be provided for; and if they cannot be preserved from the ill effects of such casualties, canals ought not to be constructed. I shall refer to this subject again.

THE RIDEAU CANAL, is a work which has been executed by the British government, at an expense to Britain of more than one million sterling. It is a canal, or chain of waters which can be navigated by steamboats, from the river Ottawa at Hull or Bytown to Lake Ontario, near Kingston. I believe its whole course is about 135 miles. The Rideau lake forms what is called the summit level, and is 24 miles long, situated some miles nearer to Lake Ontario than to Bytown. The surface of this lake is 283 feet higher than the waters of the Ottawa, and 154 feet higher than those of Lake Ontario. The canal has in all, on each side of the lake which forms the summit level, 47 locks and 20 dams, the latter constructed to flood the waters of the different lakes, and river Rideau, over the shallows and rapids, to make them navigable. By means of these dams, a great extent of lands has been destroyed by flooding. Contrary to all precedent in England, the engineers under whose management the Rideau canal was constructed, were perfectly indifferent to the injury done to the lands in the neighbourhood of the canal. Their skill was chiefly directed to the most effectual mode of flooding, without any regard to draining or preserving lands from injury, and I am sorry to say that the same disregard has been manifested in constructing other canals as well as the Rideau, and in situations where the injury, though not so extensive, is more severely felt. In England, where canals are constructed through the properties of great landed proprietors, they are able to take care of their own interests, and not suffer their lands to be damaged, without compensation, or a remedy being provided; but in Canada, the proprietors of land being farmers without influence, in case of canals being constructed through their small properties, their interests or the preservation of their lands from damage is not much thought of, and they have to submit to the injury. In proof of this, the Lachine Canal has crossed the bed of the small river St. Pierre, about two miles from Montreal, and a small tunnel was constructed under the canal for the waters of this river to pass through. In time of heavy rains, this tunnel is so insufficient that the waters are raised from four to six feet on one side of the tunnel higher than on the other; and the valley of the river St. Pierre, which contains about 1000 acres of as fine land as any in Canada, in the immediate vicinity of Montreal, is from this cause, flooded occasionally to such an extent as to destroy the crops that may be upon it, and render the lands worse than useless to their owners. It is true that the legislature passed an act to remedy this evil, by authorising the construction of a second or third tunnel, if it should be necessary; but this law has been evaded by those whose duty it was to carry it into effect. There is a further injury occasioned by this canal to the lands it intersects by waste waters, and leakage through the embankment, no part of which has been puddled, nor intersecting drains cut to prevent the leakage and waste waters from spreading over the adjoining lands, and all this without any compensation being given.

BANKS. There are three chartered banks, two in Toronto, and one in Kingston, and a private bank in Toronto. It is probable many more banks will shortly be established. At the last session of the provincial parliament, application was made to charter one or more banks, and was favourably received by the House of Assembly.

In such a country as British America, where capital is wanted, the judicious operations of banking would be of incalculable advantage, and would greatly assist the population to cultivate and improve the country, and convert what is now a wilderness, yielding no return, into pastures, meadows, and corn fields, and thereby immensely increase the annual produce from land and labour. But though the judicious operations of banking are calculated to produce much good, it is nevertheless possible that banks might be exceedingly mischievous to a country. The business of banking is one in the proper understanding and right conducting of which the public generally is, beyond all other business, interested. If errors are committed by those who may be engaged in any other business, the injury is chiefly confined to the parties immediately concerned, and those whom they have transactions with. But errors with regard to the principles or practice which should govern the trade of banking, extend their evil consequences far and wide, and must be felt in some degree, by almost every member of the community. It is, therefore, the bounden duty of the legislature, in every country that has one, not to neglect this most important subject; but to provide on fair and equitable principles for the prudent management of banks, by adopting such rules for the protection of the public, as they shall consider most likely to be effectual, and by rendering the directors of each bank personally responsible for the consequences of breaking through such rules. It will be as much in favour of banking companies, as of the whole community, that some general principles should be established by which banking would be governed and regulated in future, giving no undue advantage to any party.

The following table will give a good idea of the present state of Upper-Canada, and the capabilities of that fine country for future production and population. The land that is occupied is not over a twelfth part of the whole, and even of this there is only a fifth part cultivated. The occupied land alone, if cultivated, is capable of supporting an additional population of more than one million and a half, at the same proportion that the cultivated land bears to the population at present. I have not been able to ascertain exactly the number of houses in Upper-Canada; the following table only gives the ratable houses that are subject to pay a tax from which the inferior description of dwelling houses are exempt.

In 1811, the population of Upper-Canada was estimated at 77,000; in 1821, 122,587; in 1830, 251,467; in 1832, 276,953; in 1834, 323,738; in 1835, it was 346,185 souls; and allowing the same rate of increase to 1836, it would be now near 372,000 souls in Upper-Canada, which will show the most rapid increase of population of any part of the globe, being augmented five fold in 25 years, or doubling in about 11 years, and latterly it exceeds that rate of increase. I have no doubt but the population of Upper and Lower Canada this year is very little, if any, short of one million, of whom there are about 220,000 males over 18 and under 60 years of age.

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Aggregate amount of ratable Property in the several districts of Upper-Canada in the year 1834, and supposed value of Moveable and Immoveable Property in 1836, exclusive of the value of unoccupied waste land.

Districts.	Lands Grantable		Cultiva- ted ar- able mea- sow and pasture.	Lands of square timber, brick & stone.	Houses of square timber, brick & stone.	Grist Mills	Saw Mills.	Store Houses.	Merchants' Shops.	Horses 3 years old and upwards	Oxen, 2 years old & upwards.	Milch Cows.	Net cattle from 2 to 4 years old.	Popu- lation in 1835	For support of Schools.	Amount of value- tion of one penny assessed per pound curren- cy.	Amount of rates of one penny per pound curren- cy.	Ray for members to the Assembly.	Stills, number gallons.	Number of Inn- keepers.	Total move- able proper- ty by esti- mate in 1836.	Total im- moveable property by estimate in 1836.
	Uncul- tivated.	Cultiva- ted																				
Eastern,	360999	69401	1552	19	36	57	2	1	1	635	1204	9020	3283	29119	606	286382	1193	2	83	510000	865000	
Ottawa,	111017	14355	284	6	16	6	2	1	1	706	1812	1812	570	7044	354	67984	283	120	14	140000	285000	
Bathurst,	346406	55789	494	26	30	6	6	6	6	1354	3194	5997	2315	28593	804	210175	877	261	14	310000	800000	
Johnstown,	828583	77972	1641	30	46	12	7	7	7	3679	3441	8835	3023	28593	854	318220	1326	922	89	850000	900000	
Midland,	317187	111368	2331	28	73	17	14	14	14	5238	3433	10845	3211	34365	1100	458494	1916	406	57	1500000	1450000	
Prince Edward,	125038	61499	875	19	33	8	30	30	30	2840	1401	4992	1628	12320	200	186784	778	133	136	400000	560000	
Newcastle,	422017	51591	1041	26	75	10	91	91	91	3011	4040	7497	3062	30245	886	328668	1370	189	150	520000	590000	
Toronto City,	657061	1261	1362	51	150	10	13	13	13	395	10	349	21	9756	237	186946	2337	110	82	1000000	1100000	
Home,	522560	136284	1716	30	113	11	11	11	11	5237	6616	11280	5411	47543	1001	526163	2191	307	168	1160000	1800000	
Niagara,	250949	105552	2461	30	93	10	4354	4354	4354	4958	19280	4866	40156	862	494370	2018	862	110	824	1050000	1400000	
London,	253921	128996	1771	45	108	6	108	108	108	4261	6758	11972	5136	41130	954	477496	1990	410	116	1000000	1350000	
Western,	230081	40600	654	13	12	4	39	39	39	2178	1971	4078	1510	14496	660	158750	661	144	53	1050000	1300000	
Total,	3428291	1010758	18224	328	789	138	1063	43216	12455	98923	36796	346185	8973	405569	119671	2578	6466	10071	2578	9900000	13500000	

To which may be added the supposed value of the unoccupied and waste land in Upper-Canada, 60,000,000 acres, at 2s. 6d. per acre,
 Value of timber estimated at
 Value of canals, the Rideau, Welland, St. Lawrence, and Burlington Bay canals, and other public works not included above.

Total Immoveable Property
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 Grand total Moveable and Immoveable Property,

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Nature and present value of property, moveable and immoveable, in the province of Upper-Canada, in 1836.

Moveable Property.					Immoveable Property.									
Total of farming stock.	House fur- and equip- ments.	Clothing and equip- ments.	Mar- hiner- and farr- ing imp- ments.	Build- ing and sil- lery money and plate.	Ships, boats, and value of merchan- dize.	Total value of moveable property.	Houses of square feet, barns, and other buildings.	Land in cultivation.	Land occupied by uncultivated.	Land granted & ungranted.	Churches, public build- ings, fortif- ications, &c.	Streets, roads, canals, &c.	Manufac- tures, stores, and quarries.	Total value of immove- able prop- erty.
1,790,000.	22,000	372,000	Includ- ing 1,117 mil- lers and saw mills 1,350,000	500,000.	2,000,000.	9,200,000.	23,000	1,100,000	4,000,000	30,000,000	700,000.	2,910,000.	640,000.	25,100,000.
Includ- ing horses, neat cattle, sheep, swine and poultry.	habiti- tants at 100 each.	3,720,000/	This est- imate is ve- ry uncer- tain.	2,000,000.	9,200,000.	Of which many de- cide for merchan- dize 700,000.	houses, 30,000; barns, 20,000; and other buildings, 1,000.	acres at 40, 150 per acre.	150 per acre.	acres at 25, 60, and 100 per acre.	This contin- uance may not be very ac- curate.	including all canals present, but it will not be long so.	This value is high at present, but it will not be long so.	25,100,000.
22,000	3,720,000/	3,720,000/	1,350,000	500,000.	2,000,000.	9,200,000.	houses at 23,000; barns, 20,000; and other buildings, 1,000.	acres at 40, 150 per acre.	150 per acre.	acres at 25, 60, and 100 per acre.	This contin- uance may not be very ac- curate.	including all canals present, but it will not be long so.	This value is high at present, but it will not be long so.	25,100,000.
22,000	3,720,000/	3,720,000/	1,350,000	500,000.	2,000,000.	9,200,000.	houses at 23,000; barns, 20,000; and other buildings, 1,000.	acres at 40, 150 per acre.	150 per acre.	acres at 25, 60, and 100 per acre.	This contin- uance may not be very ac- curate.	including all canals present, but it will not be long so.	This value is high at present, but it will not be long so.	25,100,000.

I am sorry I could not show the probable amount of property annually created in Upper-Canada, as I attempted to do for the Lower Pro- vince. I have not information sufficiently accurate to enable me to do so. I offer the following calculation of the probable produce from agriculture for one year in Upper-Canada; I believe it will be found approximating to what the annual produce is in reality.

I will suppose that 300,000 acres are in wheat, and to produce 15 bushels per acre and the seed, on an average, which will give 4,550,000 bushels, at 4s. per bushel,	£900,000
200,000 acres for other grain, barley, peas, oats, Indian-corn, and buckwheat, to produce on an average 20 bushels per acre, 4,000,000, at 2s. 6d. per bushel,	400,000
50,000 acres of potatoes, carrots, turnips, &c. at 160 bushels the acre, 8,000,000 bushels of all kinds at 1s. per	400,000
Hay, straw, and garden produce sold in towns,	300,000
The produce from 100,000 milch cows in milk butter and cheese,	500,000
The produce in butchers' meat annually, from the whole stock in beef, pork, mutton and veal, I estimate at 26,000-000 pounds at 3d. per pound,	325,000
Fowls, eggs, and the fish taken in the Upper-Canada waters,	200,000
Firewood for 60,000 houses, and for all other uses,	250,000
Timber and ashes exported, furnished by the agricultural class	200,000
Domestic manufactures of linen, woollen, leather, soap, candles, clothes-making, spirits, cider, beer, sugar, furniture, implements, &c.	1,000,000
Produce of gardens for farmers' family use, 50,000 families at 2l. each,	100,000
Horses kept by farmers which may not be fully employed in agriculture, but partly for pleasure,	100,000
Improvement on old and new farms, and increase of stock annually,	750,000
Total amount of produce of the agricultural class annually, from land, labour, &c.	£5,425,000

To the above estimate it may be objected, that a part of the produce of grain and vegetables, are consumed in producing the butchers' meat, some of the domestic manufactures, in providing wood for fuel, and timber for export, all of which are included in the estimate of the annual produce of the agricultural class. In making this estimate, I have not calculated on so large a produce of crops, as is generally reported of them in Upper-Canada, in order that some allowance might be made for what would be consumed of the crop in the production of other items which are valued. The butchers' meat I have also estimated low, so that I think altogether the total amount is not far from being correct.

In order to ascertain what this produce will give for each person of the agricultural class, it is necessary to determine the proportion of the whole population that belong to that class. From the most careful calculation I could make, I believe that one-eighth part of the population is the most that can be supposed at present to reside in the cities, towns and villages of Upper-Canada. Admitting that the whole population is now 372,000, this will give 44,000 residing in the towns, and 328,000 in the country, engaged in agriculture. Hence the whole annual produce of the land and labour of the agricultural class, 5,425,000l. will give 16l. 10s. 6d. for each of 328,000 persons which I have computed to belong to this class. It is a remarkable coincidence that this amount is within a frac-

tion of what I have assigned to the same class in Lower-Canada, though the estimates were made up in a different manner, and without any reference to each other. There is certainly one cause that the produce should be less in Upper than in Lower-Canada, from there being more cleared land in proportion to the agricultural population in the latter than the former. In Upper-Canada, the proportion is about three acres for each person, and in Lower-Canada four acres; and as there is more new land bringing into cultivation from the forest in the Upper than the Lower Province, there must be a greater expenditure of labour. Allowing that of the 328,000 belonging to the agricultural class, 90,000 males are fit for labour, and that the work of the females is equal to 20,000, it will give 110,000 capable of labour. Hence each working person will produce 49*l.* 7*s.* annually, and for each family of six persons 99*l.* 5*s.* 6*d.* will be the annual income.

I find it difficult to estimate the probable annual amount created in every way by the class not agricultural. From the most exact calculations of the trade and commerce, and the produce from every source, not belonging directly to the agricultural class, I believe that 1,600,000*l.* approximates to the amount annually created by all classes not agricultural, and computing their number at 44,000 souls, it gives near 36*l.* 10*s.* for each, which is 5*l.* 10*s.* more than for the same class in Lower-Canada. I will suppose again, that between one-third and one-fourth of the 44,000 persons are productive consumers, say 13,000, it will give for each year 123*l.*, and for each family of six persons, 220*l.* annually. This estimate may be incorrect, but perhaps it approximates to the truth as nearly as most estimates of the kind. In the class not agricultural, are included office-holders, professional men, and all those not engaged in agriculture.

The total produce annually created in Upper-Canada, according to my estimate, is 7,025,000*l.* I admit that this may be less than the actual amount; but from all that I can learn of the state of the province, it is not much too low an estimate, though I believe it is much below what it might be. It gives a fraction less than 19*l.* annually for each of 372,000 inhabitants; and assuming the proportion of productive consumers to be 123,000, it gives for each of them about 57*l.* 2*s.* annually.

It is not difficult to prove that the annual expenditure cannot exceed the production. The question is whether the production of the agricultural class in particular, be sufficient (after deducting what I have assigned to the increase of stock and improvements of farms, 750,000*l.*) to supply a reasonable portion of the comforts and conveniences of life to each person. If my estimate be correct, the amount which will remain for the agricultural class for the supply of food, raiment, and all other personal expenses, will be only 14*l.* 5*s.* for each soul. This amount will certainly appear small. Yet as food is cheap, and as the domestic manufactures which constitute a large proportion of the consumption, are valued low in the estimate of production, I think it is probable the expenditure does not exceed this amount. The proportion of children is nearly equal to one-third, and their expenditure is less than that of full grown persons, which will leave more for the expenditure of the latter. If, however, my estimate be low for the annual expenditure, it must also be low for the

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There can be no objection that the more abundant the production in British America, and the more liberal the expenditure for the comforts and convenience of life, the greater will be the amount of what constitutes human enjoyment and happiness, that will fall to the lot of the people, though perhaps greater exertion and industry may be requisite to obtain this large production than would be required to gain a scanty produce, and proportionate expenditure.

I shall not attempt to estimate the expenditure of the class not agricultural because I cannot be very accurate, but by a rough calculation I suppose it to be 22*l.* for each person, making for 44,000 individuals, 960,000*l.* annual expenditure ; and this amount taken from what is annually created by that class 1,600,000*l.* will leave a balance of 640,000*l.* for paying the interest of capital employed in trade, and for accumulation to be again employed in the extension of trade and commerce, and of the cities, towns and villages.

The capabilities of Upper-Canada for future population and production, I shall estimate by the same rule as I have done for Lower-Canada. I will suppose that the present population is 372,000, and that they have not now in cultivation much over one-sixtieth part of the land that might be profitably occupied and rendered productive. I will, however, allow for the present population 3,000,000 acres cultivated and uncultivated land for their use and benefit, which is equal to one-twentieth part of Upper Canada. If then, 372,000 inhabitants occupying a twentieth, and cultivating a sixtieth part of the province, produce in every way, 7,000,000*l.* annually, if the whole of the province were occupied in the same proportion, it would maintain a population of 7,500,000, and yield an annual produce of 140,000,000*l.*

I know that many will question my estimate of the capabilities of the Canadas for future production and population ; nevertheless, I am persuaded that the country is capable to maintain amply the full population I have stated, and better than it now supports the thin population scattered over it. It might be possible that the country never will have so great a population. I should not attempt to offer such an estimate, but to endeavor to show how much the produce of Canada might be augmented, and how vastly her population might be increased, without incurring any risk whatever of being over populous, and unable to provide for them. There is in Canada more than double the quantity of cultivated land that is in the British Isles, and the population there, is now full, 25,000,000 ; and why should not Canada be able to support 20,000,000, my estimate for her ? I know the climate of Ireland well, and I would most certainly prefer that of Canada, with all its snow and frost. The British Isles contain about 80,000,000 acres ; and though much of that land is of very superior quality, yet I am convinced that by taking the whole, including mountains, bogs, and moor lands, the same quantity or 80,000,000 acres of the land of Canada will give as large a produce, if equally well managed, and there is in Canada more than double that quantity of land, no part of which but is of superior quality to the bogs and most of the mountains of the British Isles.

NOVASCOTIA.

This province is situated between the 43rd and 46th degrees of north latitude, and the 61st and 67th of west longitude. It is bounded on the north by the strait of Northumberland, which separates it from Prince Edwards Island; on the north-east, by the Gut of Canseau, which divides it from Cape Breton; on the south and south-east, by the Atlantic Ocean; on the west, by the Bay of Fundy; and on the north-west, by New-Brunswick. Its length is about 280 miles, stretching from south-west to north-east, but it is of unequal breadth, varying from 50 miles at Black Rock pier to 104 miles at Bristol. Its superficies is estimated at 15,617 square miles, or about 10,000,000 acres, and including Cape Breton, the whole will contain over 12,000,000 acres, of which 2,000,000 may be uncultivable.

The province is divided into ten counties, including the island of Cape Breton, and contains now a population of about 190,000 or 200,000 souls, though in 1760 they were not 6,000 in number. This is doubling the population in every period of 15 years.

In a country of such extent as Nova Scotia, the soil must necessarily be various. Dividing the country in the centre, from east to west, the north-western half is said to contain by far the greatest portion of good land. Towards the Bay of Fundy, the soil is very rich, and free from stone, and contains many thousand acres of dyked marsh land, or alluvial land, formed by the deposit of the tides, a sediment composed of the finer particles of soil, brought away by the rivers and torrents in their course to the Bay of Fundy, of putrescent matter, salt, &c. This land, after it has attained a suitable height, is dyked, and the water of the rivers excluded. No land in the world can then exceed it in fertility.

I have been assured, when in Nova Scotia, that in many places this land yields three tons of hay per acre, and has continued to do so without any manure, since first dyked and enclosed. There is a difference in the quality of these lands. Where the tide, which overflows it, is not much enriched by a long course through the country, it is observed to be of inferior quality; on the other hand, that which is partly marsh and partly intervale, composed as well of the sediment of salt water, as that of fresh water, is exceedingly fertile. The quantity of this marsh land is considerable. At the head of the Bay of Fundy, there is 70,000 acres in one connected tract. Another in the county of Cumberland, as large as Romney Marsh, in England, and of vastly superior quality of soil. The grass growing upon these marshes, is very agreeable to cattle, and has a wonderful tendency to fatten them. These marshes abound most in Cumberland, Macan, Napau, Windsor, Horton, Cornwallis, Granville,

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Nova Scotia is not a very level country, and abounds in what is called in America, "intervale land," an alluvial soil made by the overflowing of large fresh water brooks and rivers in spring and autumn. This kind of land is to be met with in every part of the province, and is frequently found covered with a long, coarse, natural grass, several feet in length. Such lands are called "wild meadow," and the grass that grows upon them, if cut in time, and properly cured, will make very good provender for cattle. The quality of these intervalles varies very much, but they are generally very rich and fertile. The upland varies so much that it is difficult to describe it accurately. There is one ridge of upland which is more than 100 miles in length, and from 3 to 7 miles in breadth. It commences at Cape Blomidon, and runs in the direction of Digby, not very far from the shores of the Bay of Fundy. This ridge is reported to be an excellent strong soil, and produces all kinds of grain in abundance. In Horton and Cornwallis, the land is of a light, sandy loam, easily worked, early fit to work, and produces as good crops as the strongest lands in the country.

In almost every township a great variety of soil is found, from the heavy clay to the lightest gravelly loam, and from the richest to the most indifferent. In the neighbourhood of Halifax, and particularly in the southwest part of the county, the soil is very stoney; but the eastern part, about the three rivers that empty into Pictou basin, the gulf shore, and the district of Colchester, contains a large portion of excellent land, consisting of dyke, intervalle and upland. Sydney county contains much of upland and intervalle, and is generally good soil. Cumberland is said to contain more good land than any county of its size in British America. It is an immense prairie, extending in places as far as the eye can reach, supporting numerous herds of cattle, and producing large quantities of hay. Hants and Kings counties rank high in value in point of soil, containing a larger portion of intervalles and marshes, than any of the remaining four counties. The upland of these two counties is also more invariably good land. Annapolis county is very extensive, and exhibits every variety of soil. The upper half, or the part between Kings county and Digby, is considered the best land. The valley of the Annapolis river is one of the most picturesque and fertile parts of the province, and retains this character for a distance of near forty miles. The land on both sides is, at some distance from the river, high, and gradually slopes with various undulations, until it descends to the meadows which, on either side, border the rivers. Shelburne, Queens, and Lunenburg, contain a large portion of stoney land; but as the population of these counties are chiefly commercial, less attention is paid to the improvement of the lands than in the other counties. The quantity of inferior land is said to preponderate in these three last named counties.

Wheat is not so generally cultivated in Nova Scotia as in Upper-Canada, nor is the climate or soil found so suitable for it, but there might, nevertheless, be a sufficient quantity of wheat raised for a greatly increased population, if the country was cleared, and properly cultivated for wheat. It will produce oats, barley, rye, Indian corn and vegetables of

all kinds in as great, if not greater, perfection, than any province of British America. The settlers on new land generally adopt a very good plan of sowing down with grass seeds the new land with the first crop of grain, and go on clearing the forest every year, and take up new land for crops of grain and vegetables. This is the most effectual and speediest way to get a farm cleared from the forest.

The climate of Nova Scotia is much milder in winter than either provinces of Canada; and in summer the heat is not so great. The climate, both in summer and winter, is preferable to that of Ireland or Scotland, so far as I can judge, and it is much more healthy. In Nova Scotia, the weather is more changeable and inclined to fog than in Canada. I have not in my power to give very exact tables of temperature. The following meteorological register is for the town of Halifax.

Months.	Thermometer.				
	Max.	Med.	Min.		
January,	42	20	2	Some clear days.	Some rain & snow
February,	40	18	10	ditto	Some rain, cloudy.
March,	52	25	6	ditto	Cloudy, rain.
April,	54	30	8	ditto	Rain, cloudy.
May,	60	40	20	ditto	Little rain.
June,	68	50	30	ditto	
July,	80	63	40	ditto	Little rain and fog.
August,	90	70	55	ditto	ditto and hazy.
Septemb'r	79	51	48	Clear.	
October,	68	51	30	ditto	
Novemb'r	59	38	18	ditto	Rain and fog.
Decemb'r	46	25	7	ditto	And snow.

By the above table it will be perceived that frost must have occurred occasionally in May and June, which certainly is not very favourable to growing crops, but it may have been so slight, and so early in June, as not to cause much damage, and perhaps it is not usual. I know that the climate of Nova Scotia is not unfavourable for agriculture if the farmers will do their part well, particularly in ploughing and draining. A slight frost will not have so injurious an effect on crops growing on a soil that is perfectly well drained, as if growing on a damp soil.

Like all other parts of British America, Nova Scotia is abundantly and conveniently watered with lakes, rivers, brooks and streams. Some of the lakes are beautiful, having small islands covered with wood to the water's edge. The lakes are the more beautiful from the lands in the neighbourhood of them undulating in the most romantic manner. These lakes will, at a future period, afford great scope for inland navigation. A chain of lakes and rivers have already been connected by art from Halifax across the country, and made navigable to Truro, and thence into Minas basin in the Bay of Fundy. This water communication is called

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the Shubenacadie Canal. Perhaps no country of the same extent has more numerous seaports, and is better situated for commerce, and for carrying on extensive fisheries. It has a sea coast of about 600 miles. The natural vegetable productions of Nova Scotia are much the same as those of Lower-Canada. Immense forests of large trees of every species and variety cover the most of the land in its natural state, and when these forests are cleared and cultivated, every vegetable and fruit that is grown in Lower-Canada, may be cultivated in this province with equal success.

The mineral products are most valuable. Coal is found of the best quality in Sydney, Cape Breton, and some other places; also gypsum, slate and iron ore, limestone and freestone. In mineral products, this province is superior to any other in British America. Indeed in many respects she possesses great advantages; her rivers abound with the finest fish, and her sea shores with every variety of white and shell fish. I have never seen a cheaper fish market than that of Halifax. I have known lobsters to be sold there from one to three coppers each, and other fish in proportion.

The wild animals are not numerous, and are perfectly harmless. The most troublesome insects, as in all the other British provinces, are the mosquitoes, and black flies, which certainly are tormenting for some months in the year, particularly in the neighbourhood of woods and swamps.

Halifax is situated in 44.44 lat. and 63.34 long., and is the chief town in Nova Scotia; it is the seat of government, the principal commercial mart in the province, and a free warehousing port. From the water or port, Halifax has a very handsome appearance. It is built on ground which rises gradually from the water's edge to the height of 260 feet. The streets are wide, and generally cross each other at right angles. Most of the buildings are of wood, but large, some three stories high, well constructed, and painted white. There are many houses of brick and stone, built within the last few years. The government house, parliament house, English church, and some other public buildings, are of stone, and are handsome structures, very creditable to the province. The streets are generally dry and clean from the situation of the town built on the side of a hill. I suppose the number of houses is now about 2000, and the population not far from 20,000. I have not seen a town in British America that I was more pleased with than Halifax. The harbour may truly be called a noble one, equal I believe to any in the world, surrounded on all sides with high lands, and the entrance protected by strong batteries, which a hostile fleet could not readily pass. It was the principal naval station in British America for ships of war. There was a most extensive government dock-yard, but the establishment is now partly broken up. In time of war, Halifax is exceedingly well situated for a naval depot, and will be sure to become one, should war unfortunately occur.

Halifax has a very considerable maritime trade, and will be likely to go on increasing every year. The port is open generally at all seasons of the year, and the entrance to it is easy, and perfectly safe.

Dalhousie College, at Halifax, is of the same constitution as that of Edinburgh University. There are several excellent schools in the town; indeed there are good schools in every town and village in the province.

The town of Windsor, situated in the county of Hants, on the banks of the Avon, is said to be one of the prettiest in America. The land in the neighbourhood is excellent, and the scenery beautiful. Kings College, is an establishment at Windsor, which is highly creditable to the province, and is said to be extremely well conducted for the education of young men.

The town of Pictou, is a free warehousing port, and has a very considerable trade in lumber, coal, and the fishery. More than 100 vessels have been loaded here with timber for Great Britain in a year, and the exports to the West Indies were not less extensive and important. This town also, has a college for the education of youth.

The town of Sydney, in Cape Breton, is the seat of government for that island, and is a place of very considerable trade. The exports are timber, coals, fish, oil and cattle.

There are several other rising towns in Nova Scotia, many of which have safe harbours for shipping, and considerable trade.

It may be interesting to the reader to state the extraordinary rise of the tide in the Bay of Fundy. In Mines basin, the tide rises 75 feet, while in Pictou harbour, on the gulf of the St. Lawrence shore, it does not rise more than six feet. It is said that in some places, particularly in Chignecto bay and Mines basin, the tide flows so rapidly, that animals on the shore are sometimes unable to escape from it. It flows in at once several feet in height, and with a force that is almost irresistible.

The Nova Scotia and Cape Breton Mining Company with a capital of 400,000*l.* commenced operations in 1827, at Albion, Sydney and Bridgeport. The first is near Pictou, Nova Scotia, the two latter in the island of Cape Breton. The Albion mines produce a most superior quality of coal, particularly for the purposes of steam. The quantity shipped in the year 1834 from the Albion mines, was 11,207 chaldrons. The Sydney mines produce coal similar to the English; Newcastle and Bridgeport, coal of the same description.

Statistical table of Nova Scotia for the year 1828.

Popu- lation	Land uncul- tivated.	Land cultiva- ted.	Produce.		Pota- toes.	Horses.	Neat cattle. 120000	Sheep	Swine	Births	Marri- ages.	Births
			Wheat	Other grain.								
123848	970000	233086	20000	50000	400000	1400	120000	200000	100000	4583	945	1608

By the above the annual births are 1 to 27 of the population, and the burials 1 to 65, or nearly five born for two that die. Hence the period of doubling the population, independent of emigration, would be about 17 years. By this rule, the present population of Nova Scotia in 1836, computing moderately, the increase by emigrants for the last eight years, should be full 200,000 souls. I expected to get the last statistical returns, but have not yet obtained them. If I should receive them before the work is published, I shall give them in another place.

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The following table will show the value of the imports and exports of Nova Scotia proper, in sterling money, with the shipping and tonnage.

Imports.			Exports.			
	Ships.	Tonnage.	Value.	Ships.	Tonnage.	Value.
1826	1018	89423	£ 738181	1161	96853	£454262
1830	1865	149343	1405163	1850	153776	714865
1833	1950	163388	1035660	2330	179955	887367
1834	3068	253921		3116	250239	
1835	2872	227820	876310	2914	227570	861000

The exports come much nearer to the amount of imports in Nova Scotia latterly than they do in Canada. The chief cause for this is, that some of the imports are again exported from Nova Scotia, which is not the case in Canada. Perhaps nearly half of the imports are exported again to other countries. Supposing this to be correct, it would bring the amount of imports to bear about the same proportion to the population: that it does in the Canadas, 2*l.* for each inhabitant; but the exports would be the same, or nearly so, and be double the amount they are in Canada for each person. This may be some help to determine the annual expenditure of the population, when we know the greatest amount of commodities we receive from abroad.

The total Revenue was in 1821, 31,430*l.* and the expenditure 30,684*l.* In 1831, the revenue was 85,018*l.*, and including a grant by the British parliament of 13,125*l.* the expenditure was 94,376*l.* I have not yet been able to obtain a correct return of the amount of revenue and expenditure for the last few years. The province some years ago issued treasury notes which, on the 1st of January 1834, amounted to 70,299*l.* in notes of 10*l.* and over, then in circulation. I do not know what the amount is now.

EDUCATION is provided for on a very good principle. Any settlement consisting of thirty families, who raise by their subscription, or by assessment, 50*l.* for the support of a school, are entitled to receive 25*l.* from the provincial revenue annually. There are 3 colleges, 24 grammar schools, and in 1833, there were 420 other schools, and 13,250 scholars. The common schools received from the provincial revenue that year 1,331*l.*, and from the people in six months, 7,851*l.* The colleges and grammar schools receive, I believe, some aid from the provincial revenue, and from grants of land.

RELIGION is chiefly Protestant, but there is perfect freedom in respect to religion and no tithes paid. The church of England had in 1831, a bishop, archdeacon, and thirty clergymen stationed at the following places:

The honorable and right reverend John Inglis, D. D. Lord Bishop of Nova Scotia and New Brunswick, Halifax.

Rev. John Burnycat, Visiting Mis-Rev. Mather Byles Disbrisay, Dart-

sionary.
James C. Cochran, Lunenburg
John S. Clark, Horton,
John M. Campbell, Cornwallis

mouth.
Charles Elliot, Pictou.
Thomas A. Grantham, Yar-

Rev. Edwin Gilpin, Annapolis.
 Alford Gilpin, Weymouth.
 Archibald Gray, Sackville.
 Wm. C. King, Windsor.
 Wm. B. King, Visiting Missionary.
 George E. W. Morris, Rawdon.
 John T. T. Moody, Liverpool.
 Henry Lambrith Owen, Aylesford.
 Charles Porter, Newport.
 James Robertson, Bridgetown.
 Thomas B. Rowland, Shelburn.
 James Shreve, Chester.
 John Stevenson, Visiting Missionary.

Rev. Robert Fitzgerald Uniacke, Halifax.
 Roger Viels, Digby.
 Thomas Howland White, Antigonish.
 Charles William Wicks, Guysborough.
 Robert Willis, Halifax.
 Francis Whalley, Granville.
 Joshua Wingate Weeks, New Dublin.
 Richard B. Wiggins, Amherst.
 Cape Breton.
 Charles Inglis, Sydney.
 James N. Shaw, Arichat.

Annual grant from England for the support of this clergy, 4333*l*.

The Roman Catholics have a bishop and 14 clergymen. The church of Scotland, 12 clergymen; Methodists, 19 ministers; Baptists, 36 ministers; and there are some other Protestant dissenting congregations, but I do not know how many. The ministers of the church of Scotland receive 75*l*. each from the British government. I am not aware that the ministers of any other denomination receive any salary from government. They are chiefly supported by the contributions of their respective congregations.

The government consists of a governor, legislative council, and house of assembly. The council are named by the crown; the house of assembly consists of 40 members, two from each county, except the county of Halifax, which returns four, and the town of Halifax two, and seventeen other towns one member each. The laws in force are the common and statute laws of England, and the statute law of Nova Scotia. There is not one of the British provinces where the several branches of the legislature have hitherto maintained a better understanding than in Nova Scotia. Offices of registry are established in the province.

There is one bank in Halifax. I am not aware that there are any more.

I have not sufficient statistical information to enable me to estimate with any pretensions to accuracy the present probable produce annually created in Nova Scotia. I have, however, every reason to suppose that it is fully equal, if not over, what is produced in the Canadas, in proportion to the population. The people of Nova Scotia are ship-owners to a considerable extent. They take large quantities of fish over what is necessary for their own consumption which they export. From the most particular calculation I could make from the means of information I possess, I think that the produce annually created from every source, might be safely estimated to amount to between three and four millions, say 3,800,000*l*., two-thirds of which I would assign to the agricultural class, and one-third to the class not agricultural. This would give about 17*l*. 10*s*. annually produced for each person, taking the population to be now 220,000, including

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the island of Cape Breton, and supposing that about one-third are productive consumers, it will give 73,000 as the number capable of being employed in agriculture, commerce, domestic manufactures, professions, &c. &c. and for each person so employed, the annual production will give 52l. I cannot make the distinction between the agricultural class and the others as I did for Canada, not having late statistical returns.

The moveable property I estimate at 7,600,000l., and the immoveable at 14,000,000, making a total of 21,600,000l., and that there may be due for imported merchandize 600,000l. it will leave the amount of moveable and immoveable property 21,000,000l. In making these estimates I have calculated the houses as 30,000 in number; the cultivated land at 500,000 acres, the occupied but uncultivated, at 4,000,000, and the uncultivated at 6,000,000 acres, including Cape Breton, which I believe contains over 2,000,000 acres; but I have left 2,000,000 acres as waste out of the whole, and have not put any value upon it. I have valued the land at the same rate I did that of Canada. I have set a value on the seaports, mines and fisheries, in the estimate of immoveable property; I have not however, put them down at what I believe them to be worth to an industrious population. There is not a country in America richer as regards her natural advantages of mines, seaports and fisheries, than Nova Scotia, and her soil and climate are not unfavourable for the production of corn and cattle, under the management of the skilful husbandman. The south of England is near five degrees north of the latitude of any part of Nova Scotia, and the north of Scotland is about eleven degrees farther north than the most northern point of Nova Scotia.

The capabilities of Nova Scotia for future population and production. I estimate as follows: If a population of 220,000, with 500,000 acres of land in cultivation, and occupying 600,000 acres of wild land, for various uses, furnishing timber for export, and firewood for the use of the inhabitants, produce now in every way, 3,800,000l. annually; this being only a tenth part of Nova Scotia, if the whole were occupied and cultivated even in the same proportion as now, the population might be 2,000,000, and the annual produce created 36,000,000l. Were the country populous to the full extent of my estimate, it would still be capable of supporting a population of double that number. Nova Scotia is beyond all comparison superior to Scotland, in its capabilities for supporting a numerous population, and the population of Scotland is now considerably over two millions.

The island of Cape Breton I have not described separately, as it has been incorporated with Nova Scotia since 1820. It has several good harbours, and is well situated for carrying on the fishery. The island is rich in mines of coal, and in gypsum of the best quality for agricultural purposes. The coal lies near the surface, and is easily worked. The gypsum constitutes a cliff of several miles in extent, and in some places many feet high. Ships may approach close to the cliff to load from the mines. I have seen them do so. There is some excellent land in the island, but the fishery, the coal trade, &c. occupy the attention of the inhabitants more than the cultivation of the land. The population may be about 30,000, or over. I have included the population, produce, &c. with that of Nova Scotia.

NEW BRUNSWICK.

This province is bounded west by the United States, from which it is separated by the river St. Croix, and by Lower-Canada, also on the north by the latter province until it touches the western extremity of Chaleur Bay; on the east by the Gulf of the St. Lawrence and the straits of Northumberland; on the south-east, by Nova Scotia; and south, by the Bay of Fundy. It is situated between 45 and 47 degrees north latitude, and between 65 and 68 degrees west longitude. It is estimated to contain 27,704 square miles, or 17,730,560 acres, of which there is not over 500,000 acres in cultivation. It is divided into ten counties, which are the following: York, Charlotte, Sunbury, Queens, Kings, St. Johns, Kent, Westmoreland, Gloucester, and Northumberland. It is again divided into 64 parishes.

New Brunswick has many noble rivers that may be rendered navigable from the Gulf of the St. Lawrence and Bay of Fundy into the heart of the country. The river St. John, considered the principal, has a course from its source near the Chaudière, in Lower-Canada, of near 600 miles to where it discharges into the Bay of Fundy. The tide flows 80 or 90 miles up the river, and is navigable for sloops and steamboats for that distance to Frederickton, where it is about half a mile wide; buttaux and towboats ascend more than 100 miles farther up the river. Near the city of St. Johns, is the entrance from the sea to this river; it is not a quarter of a mile wide, and the passage is called the falls. It has a ledge of rocks running across the bottom of the channel, on which there is not at low water above 16 or 17 feet of water. The common tide rises here about 20 feet. At low water, the water of the river is about 12 feet higher than the waters of the sea, and at high water the sea is about five feet higher than the waters of the river; and at every tide there are two falls, one outwards, and one inwards. The only time for vessels to pass with safety, is at the time that the waters of the river are level with the waters of the sea, which is twice in a tide, and continues not more than twenty minutes at a time. At any other time it is impassable, or extremely dangerous. This passage is said to resemble Hell Gate, near New York. The banks of this river are in many places excellent land, enriched by the annual overflowing of the waters of the river. About 30 miles from St. Johns commences a fine level country, rich in intervals and meadow lands, covered in great part with fine timber, much of it fit for exportation. The river St. John has many tributary streams which empty into it on each side. Tobique, 200 miles long; Restook, 100 long; Nashwack, Madawaska, Oromecto, Washedemoake, and several other rivers of considerable magnitude. On all these rivers there is much excellent land fit for every purpose. The river Kennebecasis,

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which is a branch of the St. John, and terminates a few miles above the falls, has a long course, through a fine country. The vale of Sussex is particularly so, and well inhabited. "The Incorporated Company for the Propagation of the Gospel in New England, and parts adjacent in America," have transferred from New England in 1783, an academy for the instruction of the Indians. At this academy 40 Indian children are fed, clothed and instructed, under the direction of a board of commissioners, of which the governor of the province is president.

There are three large rivers which fall into the Passamaquoddy bay, and on their banks, throughout their course, there is much rich intervale and meadow land, which was formerly covered with timber of large growth, that was destroyed by the woods taking fire, about 50 or 60 years ago.

The Miramichi river, on the north-east coast of New Brunswick, falls into a bay of the same name, which communicates with the gulf of the St. Lawrence. This river can be navigated by the largest merchant vessels for 30 miles from the sea. The town of Chatham, on one side of the river, and those of Newcastle and Douglass on the other bank, are visited annually by about 200 vessels or more from Britain for lumber. These towns are from twenty to thirty miles from the gulf of the St. Lawrence up the river. Seven miles above Chatham, the Miramichi divides into two branches, one running N. W. the other to S. W. The tide extends up the latter branch about fifteen miles, and the country is settled along the banks for 45 miles above the tide way, up to which point merchant vessels go to take in lumber; and for 90 miles further, lighters and barges from Chatham and Newcastle, are enabled to go to the New Brunswick Land Company's territory. The south-west branch of the Miramichi is about 190 miles long before it forms a junction with the N. W. branch. The N. W. branch is much obstructed in its course by rocks and rapids, and is not navigable for large craft. The Miramichi and its branches receive several considerable streams on every side of their course.

The river Ristigouche runs from west to east, between the province of Lower-Canada and New Brunswick into Chaleur bay, which communicates with the gulf of St. Lawrence. The tide goes up this river near 200 miles, and is navigable for small craft nearly to its source. The town of Dalhousie is situated near the mouth of the river, where there is a spacious and safe harbour. The Richibucto is a fine river, and has a course of about 70 miles, and the tide comes up near 30 miles from its mouth, which affords water sufficient for the largest vessels. The town of Liverpool is built on its banks, not far from the gulf of St. Lawrence. The Chibuctouche river is not far from the Richibucto, and is remarkable for its large and fine oysters. The Petitcodiac river falls into the Bay of Fundy, and has a course of about 100 miles.

There are many more rivers in the province, but those which I have named will suffice to give the reader some idea how amply the country is watered in every direction. There are also many beautiful lakes, and all these waters are abundantly stocked with salmon, and a variety of other fish.

The largest pines in British America are to be found in New Brunswick, and furnish masts for the British navy from twenty to thirty inch-

es in diameter. These noble trees are generally accessible by water communication, by which they can be conveyed to navigable waters for export.

The coast of this province is indented with numerous bays and commodious harbours. The principal are Chaleur, Miramichi, Vert (which is separated from the bay of Fundy which extends along the south shore of New Brunswick, near 160 miles); Chignecto bay, at the head of Fundy bay; and Passamaquoddy bay, bordering on the United States. The province is bounded on nearly three sides, north, south and east, by navigable waters.

The natural vegetable productions of New Brunswick are nearly the same as those of the other British American provinces. The wild animals are also the same.

The climate is not very different from that of Nova Scotia. The following table for one year may give a fair view of the average of seasons.

Months.	Thermometer.				Days of weather.			
	High-est.	Low-est.	Ave-rage.	Greatest variation	Fair.	Rain	Fog.	Snow.
January,	22	-21	17	34	24	2	1	4
February,	19	-19	24	44	23	1	—	4
March,	36	20	33	16	22	2	2	5
April,	44	34	40	8	22	7	—	1
May,	50	44	37	6	18	8	5	—
June,	51	46	49	6	15	6	9	—
July,	73	58	66	15	18	3	10	—
August,	75	65	70	10	23	3	5	—
September,	67	57	62	10	17	5	8	—
October,	53	42	48	11	22	7	2	—
November,	34	28	31	6	15	8	3	4
December,	16	-11	14	27	26	0	2	3
Mean and total,	46	38	42	22	245	52	47	21

The above will show how many more fair days there are in the year in New Brunswick, than in the British isles; and there is, notwithstanding, sufficient moisture for a luxuriant vegetation. The climate will be found by emigrants very favourable for agriculture.

New Brunswick is composed of hills, interales and lowlands covered generally with immense forests. There is not over 3,000,000 acres granted, of which not a sixth part has been cultivated. It is supposed that there are yet more than 10,000,000 acres to be granted that is fit for cultivation. The interales, glens, and vallies, which abound in this province, are of the richest soil. On the shores of the gulf of St. Lawrence, and the Bay Chaleur, and Miramichi, the soil is sandy, and not of the best quality; but a few miles inland, the soil is much more fertile, and assumes an easy and gradual elevation. The county of Westmoreland is reported to be a rich and valuable district. The county of

St. bury fertile few much gran parat the n drew ranks umbel and a ed by lieve is abun settler The is built trade, part of building erved h at their city. rises at obstruc Fred 66.45 V Andrew and the situated ters of a of 50 to Frede ly laid o where th justice a are all g situation progress 6,000 to the supp charter, f St. An Bay, whic from St. J It is extre well built town go i place, and

St. Johns has a considerable extent of good land. The county of Sunbury, situated on each side of the river St. John, is said to be the most fertile and productive in the province, though the population are still very few in number. The Queens county, adjoining the last, is said to have much good land. In this county coal is abundant, on the shores of the grand lake and the banks of the Salmon River. A company is incorporated to work them with 30,000*l.* capital. Charlotte county is one of the most populous, and is generally good land. The town of St. Andrews is in this county. Kings county has much excellent land, and ranks about the fifth in population. The counties of Gloucester, Northumberland and Kent, front on the shores of the gulf of the St. Lawrence, and are of great extent, but thinly settled. The county of York is bounded by the United States on the west, and is also of great extent. I believe it ranks second in population. In every part of the province there is abundance of good land that may be obtained on very easy terms by settlers who have sufficient means to undertake its cultivation.

The city of St. Johns is in latitude 45.20 N. longitude, 66.3 West. It is built upon the fine river St. Johns, and is so favourably situated for trade, with a capacious safe harbour, that it is the emporium of a great part of the province. It is a handsome city, and has several good public buildings of stone and brick. It was incorporated in 1785, and is governed by a mayor, recorder, six aldermen and six assistants, who have at their disposal a revenue of 2,000*l.* a year, for the improvement of the city. In 1832, the population of the city was about 10,000. The tide rises at St. Johns over 20 feet, and in consequence, the harbour is never obstructed by ice.

Fredericton, the capital of the province, is in 45.57 N. latitude, and 66.45 W. longitude. It is 80 miles from St. Johns, 90 miles from St. Andrews, 140 miles from Fort Cumberland, in Westmoreland county, and the same distance from the upper settlement in Madawaska. It is situated on the right bank of the river St. Johns, which is near three quarters of a mile wide, and is navigable from the sea to this place for vessels of 50 tons burden, and for steamboats.

Fredericton was founded in 1785 by Sir Guy Carleton. It is regularly laid out in streets, and has several public edifices. The Province Hall, where the Provincial Legislature have their sittings, and the courts of justice are held, the government house, barrack, churches, and library, are all good buildings. The city is fast increasing, and from its central situation, and its being the seat of government, it is likely to make rapid progress in extent and population. The population may now be from 6,000 to 7,000. Near the city are several tracts of land appropriated for the support of a college, and are invested in a corporation erected by charter, for the government of the institution.

St. Andrews is situated on the N. E. extremity of Passamaquoddy Bay, which communicates with the Bay of Fundy. It is about 60 miles from St. Johns, and only three miles from the shores of the United States. It is extremely well situated for trade, and is a handsome, regular and well built town. Should the contemplated rail-road from Quebec to this town go into operation soon, it will vastly increase the importance of this place, and would greatly advantage Canada, as the port of St. Andrews

is open at all seasons. The tide rises here about twenty feet. The population is now from 6000 to 7000.

There are several other rising towns in the province, but I do not see that it is necessary to describe them all. It may be reasonably supposed that where the population does not exceed 140,000 or 150,000 at most, scattered over 17,000,000 acres of territory, the towns are not likely to be very numerous or extensive.

The natural productions of New Brunswick are very similar to those of Nova Scotia and Lower-Canada; and I believe the soil is also much of the same quality. It may not be generally so suitable for the production of wheat in perfection, but for all other descriptions of grain and vegetables, the soil is as well adapted as any part of British America.

Religion is chiefly Protestant, though there is a considerable proportion of Roman Catholics. There are no tithes paid to any church, and all, except the Episcopal church ministers, are chiefly supported by their own congregations. An annual grant is made for the church of England ministers from the English "Society for the propagation of the Gospel," of about 4,000*l.*, and the ministers receive about 200*l.* annually each. I am not aware whether there is any government provision for any other church ministers.

The following will show the stations of the church of England ministers in 1834. I am sorry I have not in my power to give the same information of the ministers of the other several churches, but I expect the information before this work is published.

Stations of church of England ministers in New Brunswick, in 1834.

Rev. Jerome Alley, St. Andrews.	Rev. William W. Walker, Hampton.
Oliver Arnold, Sussex-Vale.	Horatio Nelson Arnold, Sussex Vale.
John Black, Shediac, Samuel R. Clark, Gagetown.	Samuel Bacon, Miramichi.
John Dunn, Grand Mannan.	Frederick Coster, Carleton.
J. W. D. Gray, St. Johns.	George Coster, Fredericton.
Geo. Seymour Jervis, Hampstead.	Benjamin G. Gray, St. Johns.
Raher Milner, Mangerville.	Edwin Jacobs, St. Mary's.
Addington D. Parker, Prince William.	George McCanley, Visiting Missionary.
Elias Scovel, Kingston.	Christopher Milner, Sackville.
Alex. C. Somerville, Bathurst.	Samuel D. Lee Street, Woodstock.
Samuel Thompson, St. George.	Abraham Wood, Grand Lake.
James Somerville, Douglas.	Gilbert L. Wiggins, Westfield.
Skeffington Thompson, St. Stephens.	

There is complete religious freedom in this province as in every other of British America, and there is no revenue raised by authority for the support of any particular church ministers, except in Lower-Canada, where Roman Catholics have to pay a tithe, or twenty-fifth part of their grain, for the support of their ministers.

Education is provided for partly by grants of land, legislative aid, and by the voluntary contributions of parents. There is no want of schools,

Years.	Imports severely	Ships.
1832		90
1833		181
1834		396
1835		291
		381
		299
		290
		1845
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if the children are only sent regularly to them. In every part of British America, English schoolmasters, perfectly competent, may be had without difficulty. Emigrants of a certain class, coming to the country, that may not be possessed of means sufficient to commence business in any other way, is one cause that schoolmasters of considerable qualifications, may be employed at a moderate salary. Many of this class will never set themselves down to hard labour in the forest, if they can get a school, and certainly they would be more profitably employed in keeping a school than in cutting down large trees, considering the progress they would be likely to make in that work.

The government of New Brunswick is the same as that of Nova Scotia: a lieutenant governor, legislative council, and house of assembly, (which consists of 28 members) constitute the provincial parliament. The laws are nearly the same as those of Nova Scotia. The courts of justice, registry offices, &c. &c. are similar to those established in the latter province. There are not many, or perhaps any, countries on the globe which enjoy more perfectly civil and religious liberty, and a greater degree of exemption from every species of taxation than Nova Scotia and New Brunswick.

The following table will show the amount of shipping at the ports of St. Johns and St. Andrews for three years.

Years.	St. Johns.				St. Andrews.			
	Inwards.		Outwards.		Inwards.		Outwards.	
	Ships.	Tons.	Ships.	Tons.	Ships.	Tons.	Ships.	Tons.
1832	1738	203907	1710	212734	1111	75883	1013	76446
1833	1818	234510	1758	239732	876	67853	863	71028
1834	2026	237039	1943	245272				
1835								

Imports and exports, revenue and expenditure of New Brunswick for several years.

Years.	Inwards.				Outwards.				
	Ships.	Tonnage.	Value imported.	Ships.	Tonnage.	Value exported.	Revenue.	Expenditure.	
1822	907	222306	£266528	1102	226863	£272177	£31100	250361.	
1825	1810	256376	694815	1902	279656	501941	43055	39537	
1830	3968	351174	693561	3073	348546	570307	49284	44193	
1831	2914	257616	603870	2367	266634	447318			
1832	3817	340446	664783	2969	310857	536744	68769	66500	
1833	2999	313217	590488	2772	314178	411572	69700	71000	
1834	2902	304927		2605	316214				
1845									

There are a great many of the shipping employed in the fishery and coasting trade, and are of small tonnage. The total value of the trade

is, however, very considerable, and particularly so to the province, as her people own a large proportion of the shipping.

There is a large amount of capital invested in this province in saw mills for preparing lumber, &c. for exportation. The attention of the population is directed more to the lumber and fishing trade, than to agriculture; and in all countries so circumstanced, agriculture is not very likely to flourish much. As the country becomes settled, however, all its natural resources will be made the most of by an industrious population, and one business will not be neglected for another.

There are three chartered banks in New Brunswick, one at St. Johns; the New Brunswick bank, with a capital of 50,000*l.*, which had in 1834 notes in circulation for 45,000*l.*; St. Andrews' bank, capital 15,000*l.*; and Fredericton bank with the same amount of capital. I do not know the amount of notes in circulation with the two latter banks. There is perfect confidence in all the banks.

The New Brunswick Land Company have been chartered by Act of Parliament, and have purchased a large tract of the waste land from the British government at a very low price, with the object of settling and improving it. The land is reported to be of excellent quality, and well situated, as to means of water communication to the gulf of St. Lawrence. I do not know what progress the Company have made.

The statistical information I have of New Brunswick is not of so late a date as would be desirable. In 1824, the population was 74,185, and allowing the same proportionate increase as for Nova Scotia, and also for emigration, the population is now, I should suppose fully 120,000. The quantity of land in cultivation is reported to be 500,000 acres, from 3,000,000 to 4,000,000 acres granted, and about 10,000,000 acres, or perhaps more, of wood land yet to grant, and from 3,000,000 to 4,000,000 acres considered unprofitable. Number of horses about 15,000, of neat cattle 120,000, sheep and swine of each 100,000.

The population of New Brunswick are not so generally employed in agriculture as they are in the other provinces. The lumber trade and fisheries, occupy a very considerable portion of the working class, I suppose fully one-third; therefore the agricultural population would not be over 80,000, and the class not agricultural 40,000. The produce annually created by the labour and industry of the agricultural class in every way, I estimate at about 1,400,000*l.*, which would give 17*l.* 10*s.* for each individual. For the class not agricultural, the produce annually created may be 1,600,000*l.*, and will give 40*l.* for each individual of that class. Again, supposing that 30,000 of the agricultural class are productive consumers, it will give 46*l.* 13*s.* 4*d.* for each working person annually, and if there are 13,000 of the class not agricultural, productive consumers, it will give 123*l.* for each annually. Taking the whole amount annually created at 3,000,000*l.* it gives for each of the population of 120,000, 25*l.* annually which is the largest amount that my estimates show for any of the British American provinces. I confess that I have less statistical information of the province of New Brunswick than of any other. The annual consumption is of greater amount for each person, than in the other provinces, from many causes. The imports to New Brunswick is equal to 5*l.* for each inhabitant, while in the Canadas it is only 2*l.* I think I may

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estimate the expenditure for each individual of the whole population to be on an average from 19*l.* to 20*l.* annually. This would leave from 600,000*l.* to 700,000*l.* for accumulation annually, for the improvement of land, extending commerce and trade, and the enlargement of cities, towns and villages.

The value of moveable and immoveable property I have endeavoured to estimate as accurately as my means would allow. The first I have made out to be about 6,000,000*l.*, and the immoveable property 10,000,000*l.*

PRINCE EDWARDS, OR ST. JOHNS ISLAND.

Is situated in the gulf of St. Lawrence, between Cape Breton on the east and New Brunswick on the west, and is separated from Nova Scotia on the south by the straits of Northumberland. It is about 140 miles in length, from 30 to 40 miles at its greatest breadth. It lies between 46 and 47 degrees of N. latitude and 61 and 63½ west longitude.

The island is divided into three counties, Kings, Queens and Prince, and subdivided into parishes and into townships, of which there are 67. The following are the number of acres in each county :

Kings county 416,000 acres. Chief town, Georgetown.

Queens county 494,000 acres. Capital of the island, Charlottetown.

Prince county 471,000 acres. Chief town, Princetown.

Total, 1,381,000

The island is much intersected by water, and has many fine bays and harbours, which will admit ships of the line, where they will be completely land-locked and sheltered from all winds. Few countries are so favourably circumstanced as regards her means of communication by water, with every part of the island, and with other countries. The face of the country is level, and there is nothing like a mountain on the island. There is a gentle diversity of hill and dale, which is not so high in any part as to prevent the land from being cultivated. The country is much intersected with arms of the sea, creeks and rivulets ; and the heads of the rivers and creeks are all more or less bordered by salt marshes, producing annually large crops of strong nutritive grass, without cultivation, which makes excellent hay for young cattle. These lands, when dyked in from the salt water, make the most valuable lands on the island, as lands of the same description do in Nova Scotia. There are not many extensive swamps on the island, and the land is very little encumbered with rocks or stone ; indeed the want of stone is said to be the greatest natural want in the island. The soil is naturally and generally of so good a quality, that almost every acre may be rendered productive, consequently it will be able to maintain a much greater population than most other countries of the same extent. Roads may be easily made, from the nature of the soil and climate, and all males from 16 to 60 years of age,

are obliged to give from four to six days labour annually, on the high roads and bridges. The trees are said to stand farther apart in the forest, and to have less underwood, than is generally found in countries covered with forest. Hence the clearing of the wilderness is less difficult, and travelling through the forest is not impossible. There is no part of British America that is more favourably reported of than Prince Edwards Island.

Charlottetown is most conveniently situated for the seat of government, on the north bank of Hillsburgh river. It has a fine harbour, and a safe internal water communication with a considerable part of the island by means of the Hillsburgh, York, and Elliot rivers, which meet in its harbour. The ground on which the town is built rises gradually from the water's edge to a moderate height of easy ascent. The number of houses is now perhaps near 500, and the inhabitants 4000. The entrance of the harbour is defended by strong batteries. There are excellent barracks for soldiers, as any in North America. The other public buildings are very suitable for their respective uses. George and Princetowns are not yet very extensive. The harbour of Georgetown is one of the best in British America, with sufficient depth of water for the largest ships, completely sheltered from all points. Princetown has also a good harbour.

The climate of the island partakes of that of Nova Scotia and New Brunswick, but in some respects is superior, being entirely free from fogs to which these provinces are subject. The cold in winter is not by many degrees so great on this island as in the neighbouring continent; and so great is the difference in this respect, that the inhabitants seldom have occasion to use stoves in their houses, so necessary in Canada, Nova Scotia and New Brunswick. The winters, however, continue as long in the island as in any of the provinces. As regards the salubrity of the island, it is agreed by all who have lived in it for any time, that there are few places where health is enjoyed with less interruption.

The excellence of the soil, and the climate not being unfavourable, adapt this island, in a peculiar manner, to agriculture. All kinds of English grain can be raised there in very great perfection; and if they have not been raised there heretofore in great abundance, it was not from any defect in the soil or climate. In proof of this, I shall offer the statistical tables for 1827 and 1834, a period of only seven years between each, and the increase produce of agriculture during these seven years, is greater than in any other province of North America in proportion to the population.

Population of Prince Edwards Island, in 1827, 1833 and 1834.

Population in 1827.			Population in 1833.						Grand total.	Supposed Population in 1836.
Males	Females.	Total	Males.			Females.				
			Under 14.	Over 14.	Total Males	Under 16.	Over 16.	Total Females.		
11976	11230	23266	8297	8543	16840	7910	7542	15452	32297	40000

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Statistical returns of Prince Edwards Island taken in 1827 and 1836.

	Acres of land occupied.	Acres of land in cultivation.	Milch cows.	Oxen.	Young cattle.	Horses.	Sheep.	Swine.	Produce from tillage.			
									Bushels of wheat.	Bushels of barley.	Bush. of oats.	Bushels potatoes.
1827	396981	69909	9378	2173	11074	3979	39899	21531	13418	3908	23712	776123
1834	387617	94682	13869	3377	13182	6239	50510	20702	128351	38851	261064	1310063

By the above returns it appears that stock has increased from 1827 to 1834, about one-third, grain near ten fold, potatoes eighteen fold, and cultivated land more than one-third. There is not one of the British American provinces that can show so great an advance in improvement, in proportion to the population, in so short a period, as this island. The number of ships inwards and outwards may be about 400 annually, and the value of the imports is perhaps 80,000*l.*, and the exports 40,000*l.* a year. There is a certainty that the exports and imports might be vastly increased if the country became settled and cultivated. There is not over a fourteenth part of the land yet cultivated, and less than a fourth part occupied. The present annual production created in every way, is not less than from 600,000*l.* to 700,000*l.* Hence the income of each individual of 40,000 may be from 16*l.* to 17*l.* 10*s.* annually

The amount of moveable property I estimate at 1,500,000*l.*, and of immoveable property at about 3,000,000*l.*, making a total of 4,500,000*l.* in moveable and immoveable property.

This island is very capable of supporting 600,000 souls, and of producing annually from twelve to fifteen fold the amount which it does at present, or about 10,000,000*l.* I have not a doubt that if the island was inhabited to the extent it is capable of supporting amply, producing corn and cattle in the abundance it might do, and all its natural resources made the most of, it would be as fine a province, for the extent of it, as any in the British colonies.

In order that the natural resources of the island might be made the most of, some arrangement will have to be made with regard to those absentee land owners, to oblige them to settle the lands according to the conditions of the grants made to them by the government many years ago, or to surrender up those lands. It is exceedingly unfair that persons should be allowed to retain lands in this island, in a wilderness state, to the prejudice of every settler in it, and contrary to the express conditions of the grants by which they can have any title to these waste lands. I do not wish to suggest interference with private property, but I cannot see what just right of property these absent claimants of waste land can have, where they do not comply with the terms on which they received grants, and would not have got grants except for the purpose of settling the country, and clearing and cultivating it, an obligation they have never redeemed, and probably will not redeem for a long time to come, if they are allowed to let them lie waste, increasing in value at the expense of others. I hope I shall be able to show clearly, in the proper place, how injurious it is to a new country to allow large blocks of waste land to remain in the midst of land that is settled. Those persons who wish to retain lands in a wilderness state, let them take lands that are far back in the Cana-

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Grand total.	Supposed Population in 1826.
22297	40000

dian forest, and hold them there in an unproductive state as long as they please, or, at least, until an increased population will make it expedient to push them still farther back into the wilderness.

I have now given a very concise description of the British American provinces. I trust it will be found sufficiently accurate for every useful purpose. I have been very particular in my calculations in making up the estimates of produce annually created, and the value of moveable and immoveable property. Those who may question their accuracy, will do well to calculate very closely the quantity and value of every species of production, of expenditure, and of property, before they decide that mine are incorrect. If I have erred, it was not with any design to mislead the public. I am persuaded that I have not drawn a more flattering picture of any of the provinces than I was justified in doing, as regards their present state, or their capabilities for future population and production. I know that these provinces possess all the natural advantages that are requisite to furnish abundant means for the support of a population fully as great as my estimate for them would indicate. I believe it will be admitted by all who are perfectly acquainted with the present state of agriculture throughout the provinces generally that it is very capable of great improvement, and of yielding an increased produce. If, then, the present population are able to produce ample or sufficient means of comfortable subsistence, cultivating imperfectly not much over a *fiftieth* part of the cultivatable land in the provinces, it cannot be from the natural circumstances of the provinces, geographical or physical, that my estimate for future population and production could be made out incorrect. The climate, if it be considered by some to be unfavourable, must be as much so for the present thin population as it would be for a population twenty-fold as numerous. The climate of a great part of the Russian empire in Europe, is very similar to that of British America, and it is well known to be abundantly productive in corn and cattle, and the means of human subsistence.

Population and capital are the greatest wants in British America. As to good laws, if the population throughout the provinces were educated as a respectable yeomanry ought to be, they would be sure to have such laws as would be best suited for promoting the general prosperity, and they would not suffer any to continue in force, that could be clearly demonstrated to be prejudicial to the interests of the community. Every true friend of British America must be anxious to see her population increase. It is impossible that the rights and liberties of the people could be endangered in any way by an increase of population, but on the contrary. The people of these provinces now, and for the time to come, will generally enjoy a greater degree of equality as to property and influence, than in any other country out of America; and it must, therefore, be decidedly their own fault, if they ever suffer their just rights and privileges to be withheld from them. A population of ten millions would not be less capable of knowing and of defending their rights and privileges than one of a million and a half, particularly where the community is constituted as it is, and is likely to continue to be in British America.

... of the whole population, or at 401,000, it will give 551. 16s., and for each family of six persons 1117. 12s. annually.

The following table will show at one view the present state of the British provinces in North America in 1836.

Provinces.	Area in square miles.	Population.	Land.			Live Stock.			Value of Property.		Number of Shipping.		Commerce.		Colonial Finances.		
			Occupied acres.	Cultivated acres.	Waste, fit for cultivation, acres.	Horses.	Neat cattle.	Sheep.	Swine.	Annually created.	Movable and immoveable.	Number inwards.	No. outwards.	Value of Imports.	Value of Exports.	Revenue.	Expenditure.
Canada, Lower	330000	600000	800000	2300000	11000000	120000	400000	60000	2000000	11000000	3500000	1290	1319	2000000	10572762.	1500000	1350000
Canada, Upper	120000	572000	400000	1000000	6000000	60000	200000	25000	2500000	7023000	3000000	1290	2552	800000	500000	20000	50000
New Brunswick	27704	120000	300000	500000	1300000	15000	120000	150000	1000000	3000000	1800000	2552	2552	600000	500000	7000	7000
Nova Scotia	15617	220000	300000	600000	1000000	20000	200000	250000	150000	3500000	2100000	3162	3452	62500	861000	100000	100000
Cape Breton and Prince Edwards Island	3126	20000	400000	100000	1000000	8000	80000	60000	40000	700000	400000	400	400	30000	40000	10000	100000
Total,	318578	1352000	1800000	4600000	19300000	232000	1000000	1310000	940000	25525000	15500000	7852	7823	5505000	21883000	4250000	4250000
Hudson Bay Territory.	3700000		100000	6000	50000000	300	5000	2000	2000								

I have stated the area in square miles of British America, but I have not included any land as waste that is not capable of being profitably occupied, except what I have set down of the Hudson's Bay Territory, which I know only by report. The waste land I state to be capable of cultivation in the provinces, does not extend beyond 48½ degrees of north latitude. In stating the revenue and expenditure, I give the whole, and put down all as expended, which it generally is, though not for the support of the civil government in any of the provinces. In Lower-Canada particularly, more than two-thirds of the revenue is expended on local improvements, education, &c.; and in the other provinces there is also a large proportion expended annually for similar purposes. The annual amount of the civil expenditure of Lower-Canada is about 63,000/.

The amount of revenue may not be exactly stated, but it will be found sufficiently accurate for every necessary purpose. I have included the revenue and expenditure of the island of Cape Breton with that of Nova Scotia proper. There is a larger revenue raised in Nova Scotia and New Brunswick, in proportion to the population, than in the Canadas, from the imports being so much greater in proportion. The produce annually created gives for each individual in the provinces about 16l. 12s. For each productive consumer, estimating them at one-third of the whole population, or at 451,000, it will give 56l. 16s., and for each family of six persons 111l. 12s. annually.

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The last table will show the capabilities of British America for future population and production. With a territory of 218,000,000 of acres (excluding that of the Hudson's Bay) that can be profitably occupied, an extent of land three times as great as the British isles; the population is not now over 1,352,000, a number that does not amount to an eighteenth of the population of Great Britain and Ireland. This thin population, under many disadvantages, and an imperfect system of agriculture, nevertheless produce annually 25,500,000*l.*, and possess an amount of moveable and immoveable property, exclusive of the value set upon the waste unoccupied land fit for cultivation, and of the property which belongs to the British government, of about 100,000,000*l.* currency. Giving due weight to all these circumstances, I trust I shall appear justified in the estimates I have made, and which I now submit to the public.

I would further observe, that the extent of land now in cultivation, is not much more than two acres in one hundred of what is fit for cultivation. It may be conceived what a disadvantage this must be to the present population in many respects, and how trifling must be the influence it would have in ameliorating the climate, if it is expected that clearing and cultivating the country will produce that effect ultimately. I am fully convinced that perfect draining will have a very powerful influence on improving the soil for agriculture, and of lessening the injurious effects of climate, so far as regards slight frosts that might occur occasionally late in the spring, or early in the fall. Crops growing upon soil perfectly drained, will not be so injuriously affected by these frosts, as those growing upon a damp or imperfectly drained soil; and perfect draining can never be accomplished by a thin population scattered over an extensive territory. Much of the lands of British America that are now set down as totally unfit for occupation or agriculture, might be rendered by draining the best and most profitable land in the country; but where there is abundance of dry soil, a lot of land requiring draining is at once rejected by the settler, and there it remains for years, to the great injury of the lands occupied and cultivated. I shall, in the proper place, again advert to this subject.

I shall now go on to discuss the best means which will appear to my humble judgment necessary to adopt for realizing the flattering picture which a true description of British America cannot fail to present of what it may become at a future period. I profess now, as I always have done, that I wish to advocate the greatest happiness of the greatest number, without however, designing any injustice to the lesser number. In following up my subject, I shall steadily adhere to this rule. I do not write as a passing stranger, but as an inhabitant of the country, I trust permanently settled in it, and sincerely interested in its prosperity. I feel that if that prosperity can be generally promoted, my own family will have a fair chance of participating in it. I disclaim any desire to advocate the interests of one part of the community to the prejudice of another, but that all should have a fair opportunity to apply their capital, their talents and industry, and receive a proportionate return, that would not be subject to any unjust drawback. The power and prosperity of British America, of which I am proud to be an inhabitant, is the only object I have in view, and if I happen to recommend means that are not the best calculated to advance both, it will be from an error of judgment, and not intentional on my part or with any design to mislead.

Under persons by stratagem feel it to forest their settlements. To those who, from plation of This is n rent-payered sever now with improved (and corrected for less n Britain, a rect, and they should that the I naan. T of each, w the Israe upon Can with abund in every n they feel t tiful and h friends, a which they what their so far are find them From th and above stances, it that will o

SETTLEMENT

IN THE

FOREST OF BRITISH AMERICA.

Under this head it is scarcely necessary to write for the information of persons born in America, but as this work may be more likely to be read by strangers who come to settle in these provinces, than by natives, I feel it to be my duty to offer them a true picture of what settlement in the forest really is, and the best advice I am capable of giving, in order that their settlement may be successful for themselves, and useful to the provinces.

To the generality of persons on the other side of the Atlantic, who, from whatever cause, would be disposed to emigrate, the contemplation of a settlement in America affords very pleasing anticipations. This is more particularly the case with those who belong to the class of rent-paying farmers, who have for several years past, very generally suffered severely in their circumstances, and who can scarcely look forward now with any confident hope that their condition is likely to become much improved in the British isles. This class of persons, when they are told (and correctly) that in America they may be *proprietors* of good land, for less money per acre than they had to pay annually as local taxes in Britain, and that in British America they will be altogether free from direct, and nearly so, from indirect taxation, it is not matter of surprise that they should look forward to America, almost with the same anticipations that the Israelites did of old when in Egypt, to the promised land of Canaan. There is, however, an essential difference in the circumstances of each, which is not in favour of the emigrants from the British isles; the Israelites considered themselves strangers in Egypt, and looked upon Canaan as the land of their fathers, to which they were to return with abundant riches, and take possession of a country already abounding in every necessary of life. Not so with the farmers of the British isles, they feel that they are abandoning forever their father-land, and a beautiful and highly favoured one, the country of their birth, their kindred and friends, and the place of sepulture of their ancestors, for a distant land to which they are strangers, and where they cannot expect any favour but what their own means and industry will give or purchase for them; and so far are many of them from having riches to take with them, that they find themselves deprived of almost all they did once possess.

From the natural love of country which is felt by every human being, and above all by agriculturists, however they may be reduced in circumstances, it must be very sanguine expectations indeed, of better fortune, that will overcome their attachment to the home of their youth, and in-

duce them to desert it forever. I would be the last to attempt to damp the pleasing anticipations that may be entertained by the class to which I did belong. I, too, had experience of similar feelings, and the circumstances which led to them, and I am now glad to hold out encouragement to all who come to British America, rightly disposed to industry, and determined to persevere in unremitting attention to business, that it is possible for them to acquire independence. The emigrant who comes to settle in the forest, must reasonably expect to find great industry and exertion necessary to overcome the difficulties of clearing and cultivating wild land, and that he will have to submit to many privations, if his means are not very ample, before he can convert the howling wilderness into cultivated fields, producing corn, fruit, vegetables, grass and cattle, for his comfortable support. The man who will expect to meet these difficulties and who will be resolved to submit patiently to privations, which his utmost attention and industry cannot always prevent, is fit to become a settler in the forest, and with a very reasonable probability of being successful. If a man is perfectly aware of the advantages and disadvantages that belong to the situation he assumes, he will be better prepared to avail himself of every advantage it may offer, as well as provide, if it is possible, against any difficulties or disappointments that he may be exposed to. But the man who settles in the forest that does not understand rightly what it is, will not expect to encounter difficulties or disappointments, and hence will be more likely to meet with them, because he will not adopt the best means to prevent them, or be prepared to remedy them when they do occur. Persons of this character settling in the woods, particularly if they belong to the middle classes of society, and have only small capitals, are subject to undergo many years of disappointment and suffering, unless they make their escape from the woods, which they often do, with loss of time and greatly diminished capital. I offer these remarks, in order that strangers coming to British America, may take warning to place themselves, if possible, in situations which will be most suitable to their former experiences, habits, and present dispositions and circumstances. I have known much evil to result in consequence of persons placing themselves in situations unsuitable to their means, their dispositions, and former mode of life, particularly in British America. To the emigrants who come with large or sufficient capital in gold, or good bills of exchange, to insure their independence, advice will not be very necessary, though it is possible they too might not lay out their capital to the greatest advantage. To forward the interests of those who may not be so fortunate as to possess much capital, my humble efforts will be principally directed. It may be encouraging to state that an *experienced* agriculturist coming to British America, determined to be industrious, and live prudently, willing to adopt any alteration in his former mode of husbandry that will be required by the change of country and climate, will have a better chance of succeeding with a few hundred pounds, than a man who is not an experienced agriculturist, and will not join in the labour of agriculture, would have with five fold as much capital. Experience and industry, with a small capital to employ it, is a more useful importation to these provinces than inexperience and want of industry with a large capital; it will do more good for the individuals

who possess it, the country, and in the hands of applied judiciously and unproductively who want experience by being misapp

Farming is, however, a mode of life. Farming pretenders to unsuccess, or rather expected, to other these remarks, if it to judge for themselves constitute a good industry and prudent success, that I am convinced possess them, that ultimately attain a their children more hope ever to do in their attention to business.

I am decidedly of opinion that it was not himself determined by those who were able to dispose of their improvements. Such before them in cleared for themselves labour as it will cost work. I know that point, who say that difference in quality further, that when labour will produce will pay.

Both these assertions are true. For those who are not much funds, the wild to all the labouring crop. till they raise a crop. for making potash, thus obtain consideration upon as a certainty may occur to prevent industrious. When labour from the ashes remain themselves, and in the by great perseverance

who possess it, and will go farther towards the general improvement of the country, and the increase of her annual production, because capital in the hands of the experienced, industrious, and prudent, will always be applied judiciously, and will augment rapidly, when no part of it will be unproductively consumed. On the contrary, capital in the hands of those who want experience, and perhaps industry, is very likely to be wasted by being misapplied, and much of it unproductively consumed.

Farming is, by most people, looked upon as quite a simple occupation, which can be successfully taken up by any one, whatever his former mode of life. From this general impression it is that there are so many pretenders to understand the art, and who often attribute their want of success, or rather their want of being successful to the extent they expected, to other causes besides the true one. Those who may read these remarks, if they are already, or about to become, farmers, will have to judge for themselves, whether they possess the qualifications which constitute a good farmer, which must in these provinces always include industry and prudence ; and if they do not, they cannot expect the success, that I am convinced I may confidently promise to those who do possess them, that they will assuredly, with the blessing of Providence, ultimately attain a degree of independence, and establish themselves and their children more respectably and more permanently than they could hope ever to do in the British isles, by their industry, however great, and their attention to business however unremitting.

I am decidedly of opinion that no man should settle in the woods, who was not himself determined to join in the work of clearing, or had a family who were able and disposed to do so, whatever were the funds at his disposal, and however ample they might be to pay for clearing and improvements. Such men will invariably find it better to let others work before them in clearing the forest, and purchase from those who have cleared for themselves, and who never do set so high a value on their labour as it will cost a stranger, who will have to hire labourers to do the work. I know that a contrary opinion is entertained by many on this point, who say that the new land is so much better than the old, that the difference in quality is more than equal to the expense of clearing ; and further, that when land is covered with forest of hard wood, the ashes it will produce will pay for clearing.

Both these assertions may be correct, but cannot be generally applied. For those who are able and determined to work hard, and who have not much funds, the wild lands may be the most suitable. This will also apply to all the labouring class who possess means sufficient for their support until they raise a crop. If they should get lands that have timber on them fit for making potash, they may occasionally succeed in saving the ashes, and thus obtain considerable assistance by its sale. But this cannot be relied upon as a certainty in all cases. There are many circumstances which may occur to prevent the settler from saving the ashes, were he ever so industrious. When he is so prevented, the land will receive great benefit from the ashes remaining upon it. I know that in many instances settlers who have had the means to put up a potash manufactory, and had land themselves, and in their neighbourhood bearing wood fit for potash, have by great perseverance and attention, made as much of ashes as paid for

clearing off the wood ; but I must say that this does not frequently happen. After burning the wood, rain or high wind may prevent the ashes from being secured in time before they become spoiled for potash. The settler may in other cases be so far away from a manufactory, with a bad road to it, that he is prevented from making any use of the ashes without a sacrifice of time and labour, which the price he sells the ashes for will never fully compensate ; and I am sorry to say that settlers often make this sacrifice to get a few pounds, which is very injurious to them.

It may be proper, when the settler finds opportunity of saving the ashes, and can manufacture them himself, or dispose of them conveniently, that he should do so. It would appear to me, however, that manufacturing potash should be a business distinct from farming, and that the manufacturer should collect the ashes from the settlers, at a price that would remunerate him for that trouble. By this means the farmer would not lose his valuable time in taking ashes to a manufactory when he ought perhaps to be putting in his crop. The days that would be most suitable for carting ashes on a bad road, would certainly be most suitable for sowing, or securing a crop, and the loss of such days to a settler would be great indeed. There is another circumstance that deserves consideration, namely, whether stripping the land at once of the whole produce of many years, by carrying off the ashes which the timber upon it produces, is a good practice for a *proprietor* of land to adopt who intends to cultivate that land afterwards for his own profit. The strength and fertility of the land must be great, that will not be impoverished more than it ought by such treatment. I confess I have heard it asserted, that land will bear all this, and the soil nevertheless be sufficiently fertile ; but I must remind the reader that land *has to bear* more in America than it would be expedient to oblige it to do in England, without constant manuring. I know that wood ashes is excellent manure, and the settler will be best able to judge whether or not he should take it off the land.

There is another mode of getting land cleared by persons who will engage, if the wood upon it is fit for potash, to make it ready for cropping, for the ashes of the timber that grows upon it. This is certainly an easy mode of clearing land without expense to the settler, and ought by all means to be adopted when opportunity would serve ; but it is only on particular spots that have suitable wood upon them that will be cleared on these terms, otherwise clearing the forest would be a matter easily accomplished, which I am bound to say will not be found so in practice. I would therefore recommend to every settler in going upon wood land, not to set much value upon the chances I have enumerated, but to estimate the full amount of labour or money that must be expended in clearing land fit for a crop, and in Lower-Canada this may be fairly taken on an average at from ten to twelve dollars (2*l.* 10*s.* to 3*l.* currency) the arpent ; perhaps in some situations it may be a trifle over this. In Upper-Canada it generally exceeds this by a third. In Nova Scotia and New Brunswick, the cost of clearing is rather higher than in Upper-Canada. The settler who will work, can, by taking the value of a days labour at 2*s.* 6*d.* without diet, in Lower-Canada, and in the other provinces at a third or a fourth more, be able to find what amount of his own labour

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will be required to clear and make ready for crop, one acre of wood land, leaving in all the stumps or large roots of trees. At a subsequent time the taking out of these roots is no inconsiderable item of the expense of clearing land perfectly, if they are not allowed to remain in the ground until quite rotten. The roots of soft wood trees will remain sound for many years; but those of hard wood will rot in eight or ten years. An expert chopper, accustomed to clear land, who would undertake to do so by task work, would expect to earn considerably more wages per day, than the prices I have named, but a new comer would find it difficult for the first year to earn the wages I have stated, at clearing land, though he should get as much per acre as the man who was accustomed to the work.

Working persons, or trades people, not accustomed to agricultural labour, who emigrate with an intention of settling in the woods, will find the clearing of forest land to be an undertaking of some difficulty. I know that many such have succeeded, but from my own experience I have ever found, in employing labourers in Canada, that those accustomed to agriculture were capable of rendering much more valuable service in every way, than those who were partly brought up to trades in the Old Country. Their inexperience must be equally felt in the forest; and though they may in a considerable degree get the better of it, by constant and long continued practice, yet their successful settlement will be generally more difficult and protracted than that of experienced agricultural labourers. I do not make these observations with a view to discourage any man, whatever may have been his former occupation, from making the experiment of settling in the forest, if he is so disposed, and has sufficient confidence in *himself* and his industry, to expect success; but I think it my duty, when I pretend to write on this subject, to give my opinion candidly. It would be well for those not acquainted with agricultural labour to work with others until they would be instructed in some part of the business of agriculture, before they would undertake the clearing and cultivating of a lot of wild land from which they were to derive their only means of subsistence. Their labour, applied under the superintendence of a qualified farmer, would be much more productive, until they were acquainted with the work and the country, than if left to themselves in the woods without any previous knowledge of the nature of the employment they were to commence upon; under such circumstances, there is not one in ten, that will be likely to succeed, without having to suffer long under difficulties and privations which might be avoided.

I shall now state why I should recommend to all emigrants who come to the country with ample or sufficient funds for establishing themselves on farms, without being obliged or disposed to labour, to purchase cleared farms, or partially so, with buildings, &c. in preference to wild land.

Though lands long in cultivation may, if improperly managed, be greatly exhausted, when compared to the same natural quality of fresh wood lands immediately after being cleared, yet to any one possessed with the means of purchasing stock, it must be much less expensive to restore to cleared land its original fertility, than for a man not accustomed or disposed to hard labour, to enter upon clearing and cultivating the forest. To a farmer not of the labouring class, who has means and a thorough knowledge of his business, getting upon a cleared farm, though it may

be exhausted, he will know how to restore its fertility very soon, and will be "quite at home" in managing a farm of this description, who, if in the woods looking over the slow progress of clearing the forest, in which he could take no part, would be exhausted in patience long before he could see a field of ten acres fit for the plough. To families who have been accustomed to live respectably in the Old Country, the wild forest cannot immediately afford either comfortable lodging or abundance of the necessaries and conveniences of life, whatever their funds may be to provide them. The consequence very frequently is, that such families brought into the woods, get so utterly disgusted with their situation, and the country, that their comfort and happiness is gone, perhaps never to return. What subsequent advantages will compensate for this? If the circumstances of a settler are such that he must go to the woods and labour for his living, and that of his family, whatever their former habits may have been, it is a matter of imperious necessity, and they must only endeavor to be reconciled to the privations that are inseparable from such a situation; but the case is quite different with the respectable farmers who have means to purchase a farm and stock, and may at once establish themselves comfortably in proportion to the funds at their disposal. I shall give a table showing the probable returns that may, under ordinary circumstances, but with good management, be expected from a given quantity of land. The results may not be always obtained, but I will take leave to say, that if they do not, it will oftener proceed from mismanagement, than from their being overstated by me.

There is in most parts of British America at all times to be had farms cleared, and built upon, or partially cleared, with buildings, to purchase at a fair value, in general at a less price than was expended upon them. The hardy settler, accustomed to clearing lands, is no way discouraged to undertake a new wood farm, if he can sell the old one for a fair price. He may sometimes require the money to settle his children on farms, which he could not do without selling the old one, where he has expended all his labour and the proceeds of it, in improving, and now requires to convert it into a money capital for other purposes. This is one cause that cleared farms are always for sale. There are many other causes, particularly in Lower-Canada, from the state of the laws, farms are frequently sold by the children after the death of the parents, in order to make an equal division of the property among the heirs, if they are not able to arrange it otherwise. This latter is one cause of the sale of property which I sincerely wish might be remedied in some way.

From what I have stated above, I am convinced that a capital brought into the country by the respectable class of settlers, particularly if agriculturists, will be much more usefully applied, both for themselves and for the general interest, in purchasing the labour and improvements of others already expended, than by expending the same amount in paying wages, or by contract for clearing new lands. The man who offers to sell his improved farm, does so because he thinks the price of it will be more valuable to him in some other investment; the man who wants to get land, will purchase under these circumstances from him who is desirous to sell, or from those who are obliged to sell, improvements already made for less money than he can get the same improvements executed by contract, or daily labour. Property circulates freely and advantageously;

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capital is likely to be more productive in the channel it gets into; the woodsman is once more employed in the labour he was accustomed to; the experienced farmer is on such land as he was in the habit of managing, in the Old Country, and has free scope to profit by his previously acquired knowledge of agriculture, which in the woods would be comparatively of little value to him, and all parties will be in the situation most suitable for them; and hence their own, and the general prosperity will be more likely to be promoted. The practical farmer who knows his business (it is only such I allude to here) will introduce an improved system of husbandry in place of a defective one perhaps, and this will not be the least advantage that will arise from the change, as it will encourage others to adopt the same system.

I would regret that any one who has had the labour and difficulty of clearing a farm, should ever be *obliged* to sell it. I hope I have sufficiently proved to the farmers of Canada, my ardent desire to promote the improvement of agriculture and the prosperity of agriculturists. I would most sincerely rejoice that every farmer was not only able to keep his farm, but to buy another. But if circumstances force him to sell, or the laws, as they are, allow heirs to sell, or if a man supposes he can make a better use of the price he will get for his farm and improvements in some other investment, or having a large family of sons able to work, he expects for the price of the improved farm of 100 acres, to get seven farms of the same extent, and some capital to assist him in making a new settlement on each, under any of these circumstances, it is well that purchasers with ready money capital should be in the market disposed to buy, and if they were not there, and the lands to sell, nevertheless, matters would be much worse. The necessity or disposition to sell is not always the *consequence* of the buyer being in the market, and when the *necessity* exists, the seller of property will have cause to rejoice at meeting him there; and indeed it will be a benefit to the whole community.

The old French laws of Canada prohibited settlers from erecting farm houses or buildings on less than 45 to 60 arpents of land as a farm. The penalty incurred by a breach of this law was a fine of 100 livres and the demolishing of the building so erected. Though I am not an advocate for prohibitory enactments that would be a check to the free use of property, yet I look upon it as an evil of considerable magnitude, that farms should be greatly reduced in size by subdivision, among several heirs. The circumstances of British America are such at present, and are likely to continue so for a long period, that a respectable, or even comfortable living is not to be obtained from a small farm. Cities, towns and villages, inhabited by manufacturers, must vastly increase before small farms will support a family in any thing like a respectable or comfortable way. It is greatly to be lamented that in a country where abundance of fine land is in a state of nature, and uncultivated, and ought to be obtainable on the most favourable possible terms by any industrious man who would be disposed to occupy it, that there should be any disposition to subdivide farms, already not sufficiently extensive. I fear that in many instances it is want of capital to divide among their children to enable them to undertake the cultivation of new land, that is the cause of subdividing the old farms. The necessary capital for a young man brought up in the

country, perfectly acquainted with clearing, to begin in the woods, would not require to be of great amount. How desirable then would it be, when this capital is not generally forthcoming, and when it is, is of small amount, not to lessen it much by obliging him who is disposed to encounter the labour and difficulty of converting the howling wilderness into beautiful meadows and corn fields, to pay out of this little for the privilege of being allowed to make that productive, which was before unproductive, and might continue so if he had not the resolution and industry to bind himself down to labour and privations for several years, before he can have any hopes of receiving an adequate reward. I have already endeavoured to show what the result would be of bringing the wild lands even partially into cultivation. If the twentieth part of the wild lands of British America was now in cultivation, it would indirectly contribute more to the national revenue in one year, than the price these lands will be sold for, will amount to in twenty years, at the rate they produced for the same period now past. The price of wild lands is *insignificant* in a national point of view, when compared to the general benefits to be derived from their cultivation; and if making a charge for them, where they are in such abundance, retards their settlement, or *injuriously* lessens the means of the industrious settler, for their successful cultivation, it is at variance with every idea I could form of sound policy, to make the charge. The practice of the United States may be brought forward against my argument. That government does charge for the wild land, and the country flourishes notwithstanding. It however remains to be proved, that it is because the wild lands are sold and paid for, that the country is prosperous; also, it would require the clearest demonstration to convince me that the amount paid to the government for the wild lands would not produce more national prosperity, if it were left in the hands of those who become actual settlers in the forest. To lessen the capital of those employed in agriculture, from the produce of which trade, commerce, manufactures, and revenue, every thing must be paid, is to lessen the annual produce of the whole country in every branch of her industry, and retard the general prosperity in a much greater degree than most persons will allow themselves to believe possible, partly because they will not take the trouble to examine the question. I would not propose that every man who chose to speculate in wild land should have it to get gratis, but to *actual settlers* with limited capital, barely sufficient to set them fairly to work, with the necessary stock, implements, seed, and means to procure food until they are able to raise it for themselves, I think, to use the most gentle term, that it is *impolicy* to deprive this settler of his little capital, or any part of it. It is indeed similar, if not worse, in its effects, than collecting tithes in spring out of the seed, instead of waiting to collect it in the harvest from the produce. If a price must be paid, let payment be deferred to the harvest, or to that period that will give the settler a fair chance of being able to pay it without inconvenience, say ten years free of interest, and if not then paid, subject to interest until paid; and to any one who found his means sufficient to pay at once, to allow a fair proportionate discount, so that each party would be on an equality. It would be un-

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just to tax a man with capital in this particular case, more than a man without it. It will be time enough some hundred years hence to be shutting up the wild forest against settlers, and to be demanding high prices and cash payments for wild land.

I am aware that objections are made to free grants, and long credit on the purchase money, on the principle that persons claim such grants who are not possessed of any capital, and in consequence make no improvement, and after contriving to exist a few years, sell the land, and are very little better in circumstances than when they commenced, owing to the want of adequate means; and that these persons, if they had been labouring for others, would have been much better off. I acknowledge this may be correct in many instances, but though it should, I do not think it a sufficient objection to the plan I submit. I know that in numerous instances persons of industrious and laborious habits have succeeded admirably well as settlers in the woods, with very little means to begin; and though some may have failed, perhaps they would not have succeeded were their capital equal to what would be deemed fully sufficient for an industrious settler. The deeds might be withheld, and no sale allowed until a reasonable improvement were made. If improvement has not been made where free grants were given to men without capital, how many tens of thousands of acres have been granted to persons who have never yet seen the land, or taken any steps towards its settlement or cultivation, and others in the provinces who for a long time have held grants to a large extent which remain in a wilderness state to this hour. A poor man who has cleared and cultivated five or ten acres, in as many years, has done more towards the improvement of the country, than the absent or resident proprietor of ten or fifty thousand acres, who has never expended one shilling in their cultivation, nor perhaps ever will.

A former empress of Russia gave every encouragement, even to foreigners, to become settlers in the forests of the Russian empire, and not only gave them free grants, but furnished them with capital and funds for sustenance for a certain number of years, free of interest; and these well-directed efforts are said to have succeeded to admiration. How rejoiced I would be to see the government not only encouraging new colonists, but assisting the children of the old inhabitants with capital to enable them to occupy and bring into cultivation successfully the land fit for it in these provinces.

I hope I have sufficiently explained the necessary personal qualification of the settler to insure successful settlement in the woods. It will be perhaps proper also, to give some idea of the means or capital required by a settler. I feel that this is difficult to determine accurately. I know that twenty-five pounds will to one settler be found a more adequate capital than one hundred pounds would be to another, though each might be of the labouring class. The grand requisite for a settler is agricultural skill, industry, and prudence; a man so qualified will sooner become independent in the forest with twenty-five pounds to begin, than another man, with the same family, but wanting in these qualifications, will be with five times that amount. This estimate of capital refers only to the labouring class, and is supposed to be clear of all demands for the purchase of the wood land. I refer the reader to the following table of pri-

ces of food, &c. which is nearly an average for the last five years in Lower Canada. From this table the settler, in whatever class he may rank himself, will be able to judge how much capital he would require in going to the woods. If he be able to put a reasonable extent of land in crop the spring subsequent to his settling on his land, he may hope to be able to raise sufficient food that harvest for his support from that time, but it is not likely he will have any to sell; he must therefore be prepared to purchase with other funds what he may require of luxuries that he cannot raise on his own farm. It will be well that he should be so prepared for more than one year. Unless he has considerable help of labour in his own family, or can pay for it, he will not be able to sell much for three or four years perhaps. Many disappointments may occur; the cut-down timber may not burn in time to get in a crop of grain in spring, and if grain is late sown, it may be injured in the harvest by early frosts before it becomes ripe. These are occurrences which may not often take place; but the settler will do well to remember that they are possible, because I assure him they have taken place. I shall give him the best advice in my power to guard against these casualties. For the first three or four years, until a sufficient space is properly cleared and cultivated immediately about where a dwelling house should be erected, it would be prudent for the settler not to expend much money in building an expensive house, as there is very great danger of its being burned, when burning off the wood. I have had my own house burned in this way, though I thought I had taken sufficient precaution to guard against such an accident by clearing and burning off the wood of a full acre about the house. A plain log house, of the most simple construction that can be made habitable, and I know such a house cannot only be made habitable but comfortable, will be the most proper to erect for three or four years; and a family who do not think they could submit to live in such a house of about 24 feet long by 18 or 20 wide, will do well not to become settlers in the forest. The expenditure required for the erection of a good house, will be much more usefully applied to the clearing and cultivation of the farm, the produce of which will build a house at the proper time. The settler will also have an opportunity to collect materials for the house when he has any spare time, and will thus save much expense. The settler's attention should be most carefully directed to husbanding his capital, and to expend as little as possible, except where it will be productive, until his annual produce becomes equal to the supply of his reasonable wants, and this will be the case much sooner by adopting this rule of prudent expenditure and submitting to some privations for a short time. A log house of the above description and dimensions may be erected at a very trifling expense, as all the timber required may be found on the spot, and boards can generally be had for from four to six dollars the hundred pieces of twelve feet long, a foot broad, and one inch in thickness. It is easy to estimate how many of them will be required for flooring and covering. The settler will find his neighbours ready to assist him in this work by assisting them in return. It will not require that a man should be a very superior carpenter to erect a log hut, or house. It is only necessary to make it proof against much cold air or water. For the first two or three years, the settler's time will be much better applied

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in clearing and cultivating the land in order to its producing abundantly to supply the inmates of the house, who will fare much better in a plain log house, dry and warm, with a sufficiency of the necessaries of life than they would in a palace without them. If the land is only put into a state to produce abundantly, the erection of a good house need not be long delayed.

Table showing the average prices of the articles enumerated, in Montreal, Lower-Canada, May, 1836.

Lower-Canada.		Average prices.					
<i>Agricultural produce.</i>		£	s.	d.	£	s.	d.
Wheat per minot,	-	5	3	a	6	3	
Barley do. - - -	-	3	0	a	3	6	
Peas do. - - -	-	4	0	a	5	0	
Oats do. - - -	-	1	6	a	2	6	
Rye do. - - -	-	3	4	a	4	0	
Indian corn do. - - -	-	3	9	a	4	6	
Flaxseed do. - - -	-	6	3	a	7	6	
Buckwheat do. - - -	-	3	9	a	4	0	
Potatoes do. - - -	-	1	0	a	2	6	
Turnips do. - - -	-	1	6	a	2	6	
Superfine Flour, per barrel, of 196 lbs.	-	30	0	a	32	0	
Fine do. - - -	-	25	0	a	30	0	
Market flour, per 112 lbs.	-	10	0	a	16	6	
Oatmeal do. do. - - -	-	10	0	a	12	6	
Beef, per pound, - - -	-	0	2	a	0	5	
Mutton do. - - -	-	0	2	a	0	5	
Pork do. - - -	-	0	3½	a	0	7	
Veal do. - - -	-	0	2	a	0	5	
Beef, per barrel of 240 lbs.	-	45	0	a	65	0	
Pork, per do. of do. - - -	-	60	0	a	115	0	
Tallow, rendered, per pound, - - -	-		6	a	0	7	
Lard, rough, per pound, - - -	-	0	4	a	0	6	
Do. rendered in kegs per pound, - - -	-	0	0	a	0	7	
Butter, fresh, per pound, - - -	-	0	8	a	1	3	
Do. salt, in kegs, do. - - -	-	0	6	a	1	0	
Cheese, English, per pound, - - -	-	1	0	a	0	0	
Do. Canadian, do. - - -	-	0	3	a	0	6	
Geese per couple, - - -	-	4	0	a	5	0	
Turkeys, do. - - -	-	4	0	a	6	0	
Fowls, do. - - -	-	1	8	a	2	6	
Hay, per 100 bundles of 1600 lbs weight	-	20	0	a	40	0	
Straw per do. of 1200 lbs.	-	15	0	a	20	0	
Ashes, Pot, 1st sort, per cwt. - - -	-	25	0	a	35	0	
Pearls do. per do. - - -	-	30	0	a	45	0	
Fish—Cod, large dry, per cwt. - - -	-	16	0	a	21	0	
Pickled, do. per do. - - -	-	—	0	a	0	0	
Herrings, per barrel, - - -	-	17	0	a	22	0	
Mackerel, per do. - - -	-	20	0	a	22	46	
Salmon, per do. - - -	-	—	0	a	0	0	

Lower-Canada.		Average prices.	
Groceries, Wine, Beer, Spirits, &c.		£ s. d.	£ s. d.
East India Company.			
Teas, Bohea per pound, - -		1 8½ a	0 0
Gunpowder, do. - - -		5 6 a	0 0
Old hyson, do. - - -		4 4 a	0 0
Ycung hyson, do. - - -		4 4 a	0 0
Do. skin, do. - - -		2 6 a	0 0
Souchong, do. - - -		3 2 a	0 0
Twankay, do. - - -		3 1 a	0 0
Coffee, green, do. - - -		0 10 a	1 0
Sugar—Muscovado, per cwt. - -		48 0 a	55 0
Bengal, white, do. - - -		50 0 a	51 0
Refined loaf sugar per lb. - -		8 a	0 9
Cloves per lb. - - -		1 6 a	1 8
Ginger, Jamaica, per lb. - - -		1 9 a	2 0
Nutmegs, do. - - -		8 0 a	9 0
Pepper, black, do. - - -		0 6 a	0 7
White, do. - - -		0 9 a	0 10
Almonds, shelled, do. - - -		1 2 a	1 6
Do. soft shell, do. - - -		0 10 a	0 10½
Currants, do. - - -		0 6 a	0 10
Lemons, per box, - - -		20 0 a	25 0
Oranges, per do. - - -		22 0 a	25 0
Nuts, Barcelona, per lb. - - -		0 5 a	0 6
Raisins—Muscatel (bunch) per box, -		14 0 a	16 0
Muscatel, do. - - -		12 0 a	13 0
Bloom, do. - - -		12 0 a	13 0
Lexia, per lb. - - -		0 4 a	0 4½
Figs, do. - - -		0 2½ a	0 0
Wine—Champagne, per doz. - - -		65 0 a	72 0
Claret, do. - - -		50 0 a	60 0
Madeira, per 110 gallons, - - -	50 0 0 a	80 0 0	0 0
Port, per 138 gallons, - - -	40 0 0 a	70 0 0	0 0
Figuiera, per do. - - -	25 0 0 a	0 0 0	0 0
Sicilian, Red, per 120 gallons, - - -	8 0 0 a	10 0 0	0 0
Sherry, 1st quality, per 130 do - - -	25 0 0 a	60 0 0	0 0
Common, per gallon, - - -	0 2 6 a	0 3 6	0 0
Spanish red, 1st quality, 120 gals - - -	8 0 0 a	9 0 0	0 0
Do. Common, do. - - -	6 0 0 a	7 10 0	0 0
Teneriffe, L. P. do. - - -	35 0 0 a	36 0 0	0 0
Cargo, - - do. - - -	12 10 0 a	15 0 0	0 0
Canadian strong beer per gallon, - - -	1 0 a	1 3	0 0
Table beer do. - - -	0 6 a	0 0	0 0
Brandy—Cognac, per gallon, - - -	5 3 a	6 6	0 0
Bordeaux, do. - - -	4 6 a	4 9	0 0
Spanish, do. - - -	3 9 a	4 3	0 0
Canadian, do. - - -	3 6 a	3 9	0 0

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Average prices.

Lower-Canada.		Average prices.	
Groceries, Wines, Beer, Spirits, &c.		£ s. d.	£ s. d.
	Hollands—Pale, in casks do. -	4 6 a	4 6
	Montreal gin, - - do. -	3 6 a	0 0
	Do. Whiskey, - - do. -	2 6 a	2 9
	Do. made in imitation of Scotch,	5 0 a	6 3
	Rum—Leewards Island (1 a 5) do.	3 3 a	3 4
	Demerara, (1 a 4) do.	3 4 a	3 6
	Jamaica, (1 a 2½) do.	4 0 a	4 1
	Lime Juice, - - - do.	1 8 a	2 0
	Miscellaneous Articles.		
	Mustard, per lb. - - -	1 0 a	0 0
	Mustard in bottles, - - -	4 0 a	4 6
	Salt per minot, - - -	1 6 a	1 8
	Saltpetre per cwt. - - -	47 6 a	0 0
	Soap,—English, per lb. - - -	0 3½ a	0 0
	Canadian, do. - - -	0 4 a	0 0
	Castile, do. - - -	0 6 a	0 9
	Starch, - - do. - - -	0 6 a	0 0
	Blue fig, - - do. - - -	0 7½ a	0 8
	Indigo, East India, do. - - -	7 0 a	8 6
	Candles, English moulds, wax wicks per lb	0 10 a	0 10½
	Do. Spermaceti, - - do.	2 6 a	3 0
	Do. Wax, - - - do.	3 0 a	3 4
	Do. Canada mould, do.	0 8 a	0 0
	Glass—Bottles per gross, - - -	22 0 a	30 0
	Do. Window cut in various sizes, per		
	100 feet, - - -	22 0 a	32 0
	Gunpowder, per dozen canisters, -	18 0 a	22 0
	Do. F. to F. F, F. per 100 lbs.	65 0 a	87 0
	Shot per cwt. - - -	35 0 a	0 0
	Leather, sole, per lb. - - -	1 2 a	1 3
	Upper per side, - - -	10 0 a	15 0
	Cordage, white and tarred, per cwt.	35 0 a	45 0
	Paints—Black, per keg of 28 lbs.	5 0 a	0 0
	Brown, per do. - - -	5 0 a	6 3
	White lead, ground, do. - - -	8 0 a	12 6
	Green per lb. - - -	0 8 a	1 0
	Blue do. - - -	0 6 a	0 9
	Yellow, do. - - -	0 3 a	0 0
	Lead, dry, white per cwt.	37 0 a	40 0
	Do. do. red do. - - -	20 0 a	0 0
	Tar, boat, per barrel, - - -	12 6 a	15 0
	Tobacco, leaf, U. C. per lb. - - -	0 5½ a	0 6
	Do. U. States, do. - - -	0 7 a	0 7½
	Do. Plug, do. - - -	0 11 a	0 0
	Pipes, per 10 gross, - - -	22 0 a	25 0
	Vinegar, per gallon - - -	1 3 a	1 6

Lower-Canada.		Average prices.						
Metals, Hardware, &c.		£	s.	d.	£	s.	d.	
Iron—English bar, per ton,	-	16	0	0	a	0	0	0
Do. hoop, do.	-	20	0	0	a	0	0	0
Do. Sheet, do.	-	21	10	0	a	0	0	0
Swedish and Russian, do.	-	24	0	0	a	27	0	0
Copper sheets, per lb.	-	1	5	a		1	7	
Tin, of various quality, per box,	-	65	0	a		85	0	
Steel, per lb.	-	0	4½	a		0	11	
Chains, ox and timber, per cwt.	-	42	0	a		45	0	
Do. Trace for one pair of horses.	-	3	4	a		4	0	
Spades and shovels from No. 1 to No. 3 of each per dozen,	-	28	0	a		40	0	
Nails, Canada, wrought, 14 lb.	-	4	7	a		0	0	
Do. cut, 2d to 20d per cwt.	-	20	0	a		24	0	
Do. best sort, 6d to 20d, per lb.	-	24	0	a		28	0	
Stoves—Scotch, single, each from 20 to 36 inches long,	-	22	6	a		55	0	
Do. Double from 30 to 34 inches	-	75	0	a		100	0	
Oils—Linseed, boiled, per gallon,	-	5	0	a		6	0	
Do. Raw, - - do.	-	5	0	a		5	6	
Do Olive, - - do.	-	5	9	a		6	0	
Do Palm, per ton,	-	50	0	0	a	55	0	0
Do. Whale, per gallon,	-	2	0	a		2	1	
Do. Seal, pale, do.	-	2	6	a		2	8	
Coals—Newcastle, per chaldron,	-	29	0	a		33	9	
Canadian made iron ploughs,	-	4	0	0	a	5	10	0
Scotch, imported, do.	-	4	0	0	a	7	10	0
Scotch cart, good,	-	5	0	0	a	6	10	0
Fanning machines,	-	5	0	0	a	10	0	0
Canadian hay cart,	-	5	0	0	a	0	0	0
Shoeing horses a set,	-	3	6	a		5	0	

As some guide to strangers to ascertain the proportion which Upper-Canada agricultural produce bears to that of Lower-Canada, I give the last prices current at Toronto market. The proportion is not always the same, but very generally there is fully the difference the above and following prices current would indicate.

Prices Current in the City of Toronto. May 21, 1836.

Wheat, per bushel,	-	0	0	a		4	0	
Grown do.	-	0	0	a		2	6	
Barley do.	-	0	0	a		2	6	
Oats do.	-	0	0	a		1	3	
Rye do.	-	0	0	a		2	6	
Peas do.	-	0	0	a		2	6	
Beef per 100 lbs. (hind quarter)	-	0	0	a		30	0	
Do. do. (fore quarter)	-	0	0	a		27	0	
Pork, do.	-	0	0	a		20	0	
Hay per ton,	-	0	0	a		50	0	
Straw, per load of 100 bundles,	-	0	0	a		15	0	
Flour, per barrel,	-	0	0	a		20	0	
Do. warranted good,	-	0	0	a		22	0	

It is to be observed that we give the prices of the best articles.

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In Nova Scotia, New Brunswick, and Prince Edwards Island, the prices of all the articles I have named in the foregoing list are as low, or rather lower, than in Lower-Canada. Woollen and cotton goods are sold by retail in Montreal at perhaps 50 per cent. *currency* over the price *sterling* which they are sold for in the British isles. The best description of wearing apparel may bear about the same proportion to the price in England, but the coarser kinds are not much higher than in Britain.

Blacksmiths charge higher than in England for farmers' work. The price for a new sock, or share for a plough, is generally 5s. to 7s. 6d. and repairing a share 2s. to 2s. 6d. ; for harrow teeth 5d. to 6d. the pound. For trifling job work or repairs, the charges are high. Many of the working tools (spades in particular) that are imported, are of a very inferior description. The spades are not fit to work on a farm. A properly made spade of wrought iron, such as is generally used on farms in England, would, for a farmer's use, be worth half a dozen of those that can be purchased in stores in Canada. The cost of making the wood work of agricultural implements may be readily estimated, when the wages of carpenters are known. The wood costs scarcely any thing, and for many articles that can be made in the country, the cost will be less than in England. The price of imported agricultural implements, allowing for the difference between *currency* and *sterling* money, and for the cost of freight, will not be greater in British America than in England. Harness for a cart may be had for 2l. to 3l. 10s. a set, made in English fashion.

The leather made in British America or the United States, is very much inferior to English leather for every purpose. I attribute this entirely to the mode of tanning. The materials used in tanning, and the whole process, is hurried and defective. The leather is consequently not sufficiently or properly tanned, will not give wear, and is not impervious to water as the English leather.

The price of the articles enumerated is higher in Upper-Canada than in Montreal, particularly these that are heavy and bulky. The average increase of price at Toronto may be from 5 to 25 per cent. When these goods are brought further into the country, the price is increased in proportion. The value of wheat and barley is less in Upper-Canada by the cost of transport to Montreal, if it is sent to that market. It is possible, however, that a more convenient market may be found, should the United States remove the restrictions and heavy duties which are now in force and charged on Canadian produce imported into the United States. A greatly increased emigration would give a market for much of the spare produce for some years to come.

Carpenters may be had to work from 4s. to 5s. 6d. the day without board ; the latter is the wages of good workmen. Stone masons the same. By contract, is the cheapest mode of getting a house erected. The settler could provide all the rough materials on the spot, and contract for its erection. A good plain house of 40 feet long, 24 feet broad, and 10 feet high, over the cellar, built of square timber, boarded on the outside and plastered within, covered with shingles, with two stone chimnies, and finished in a plain manner, might cost by contract 100l. or 150l., provided the settler brought upon the spot all the large timbers, stone,

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lime and sand required, but not the boards or plank or any other material. The stone may frequently be found convenient, and encumbering the ground, but when this is not the case, industrious settlers might join in making brick, which they could do at a trifling expense, where there is abundance of fuel, and suitable clay in most places. I have given the prices of all the materials necessary in the erection of a good house, and the wages of labour. It is easy for the settler to ascertain what the kind of house he wishes to erect will cost, if not built by contract. He may perhaps be capable of doing much of the work himself, and could finish it gradually as he found means and opportunity. The cost of building barns and stables may also be estimated by the price of materials and labour. A barn and stables may be built by contract, the contractor finding all materials, and the building 30 feet wide, 12 feet high, and what length may be determined upon, suppose 60 feet, and covered with shingles, a threshing floor, and stables fitted up in a plain manner, for 15s. to 20s. the running foot in *length*. In some situations perhaps it might cost a trifle more. If covered with straw, which answers exceedingly well, this cost may be considerably reduced, and if the settler finds all the wood, which he may at very little cost, the expense of putting up a barn and stables would be trifling in amount. House furniture, and every description of house utensils are not much higher priced in British America than in the British isles. Horses, carriages, harness, &c. suitable for the country, are also to be had for moderate prices.

The settler may very well estimate the funds he would require to establish himself in the forest, when he knows the prices current of almost every article necessary for his use. I thought it better to give the prices in this way, than attempt to estimate for others what they were to expend for subsistence, houses, furniture, &c. &c. &c. They will know best what they will require, and I have put it in their power to calculate the cost as accurately as is necessary, of all they may require.

PRICE OF WILD LAND, AND THE TERMS ON WHICH IT IS GRANTED
IN BRITISH AMERICA.

Latterly the government have adopted the mode of disposing of wild land by auction in Canada. In Upper-Canada the average price for the last seven years has been 13s. 8d. per acre for clergy reserves; and for other land about 9s. 7d. per acre, payable by equal instalments in four years. All the lands sold by the government in any of the provinces are in free and common soeage.

The prices of wild land in Nova Scotia and New Brunswick are much lower than in Upper-Canada. I have not in my power at this moment to state the present prices, but I believe they are nearly the same as in Lower-Canada. I expect I shall be able to state the latest prices before this work is published. The last advertised sale of wild land by the government was dated at Quebec, the 9th September, 1835, and the sale was to take place at the Court-house of Three-Rivers, the 3d of October following. The crown lands and clergy reserves to be sold, were situ-

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ated in the townships of Warwick, Horton, Middington, Blandford, and Somerset, in which the upset price was to be 4s. the acre. In the township of Hunterstown, 3s. the acre; and in Coxton, two 2s. 6d. the acre. The number of lots to be sold was about 870, from 100 acres to more than 200 acres each. At a rough estimate, the total quantity might be 150,000 acres. The conditions of sale were as follows, which have been the usual conditions at sales at auction by the government:

1st. The lands will be put up for sale, in lots or parcels of from 100 (or half a surveyed lot) to 1200 acres (or six surveyed lots) as may suit the convenience of parties disposed to bid for the same.

2nd. The lots will be offered at the upset price per acre as stated above.

3rd. The lots are to be taken at the contents of acres marked in the public documents, without guarantee as to the actual quantity contained in them.

4th. The biddings to be made in currency, upon the upset price per acre.

5th. The lots will be sold to the highest bidder.

6th. The purchase money to be paid by four annual instalments, without interest; the first instalment or deposit money of 25 per cent. at the time of the sale; and the second, third and fourth instalments, at intervals of a year.

7th. The instalments are to be paid into the office of Crown Lands, at Quebec, or to the Treasurer or Receiver of Rents, on his half yearly tour for the collection of rents.

8th. If the instalments are not regularly paid, the deposit money will be forfeited, and the land again referred to sale.

To the above mode of sale my principal objections are, that there is no obligation of settlement incurred by those who purchase, and that there is too large a quantity (870 lots) of land offered for sale at one time, and in one part of the province, considering the demand by actual settlers. I shall reserve my remarks on the sale of wild land for another place.

Seigniorial Lands that are long settled, are generally at low rents, seldom exceeding what is equivalent to three dollars annually, for 90 or 100 arpents, and often not half that amount. Latterly, almost all the seigniorial lands are raised to ten dollars rent annually for 100 arpents, or six pence the arpent, together with *corvée* days, &c. These lands are in all cases subject also to *lods et ventes*, or a twelfth part of the purchase money at every sale, must be paid to the seignior. There is another privilege which the latter has, the *droit de retrait*, which entitles him to take the property sold at the price sold for, within 40 days after the sale. The Seignior receives part of the fish caught, has the privilege to fall timber for erecting mills, repairing roads, or other works of general utility. He has the exclusive right of erecting mills, and the tenants are bound to grind their grain at his mills, and some other privileges which will be found in the copy of a deed from the seignior to the tenant or *censitaire*.

From the present high-rents charged by seigniors, for lands that are subject besides to *lods et ventes*, and other feudal rights, these lands are now much higher priced than any other wild lands in the Lower Pro-

vince. Six pence annual rent per arpent, is equal to the interest at five per cent. of ten shillings the arpent purchase money; and there is scarcely any wild land now selling at that price, except in very favourable situations.

The following is a copy of a seigniorial deed of concession, so far as is necessary to show the obligation incurred by the *cessitaires*. These deeds of concession are not alike with all seigniors, but this may be taken as a fair sample of them. There are not many deeds granted at present that will give more privileges than this does to the *cessitaires*.

SEIGNIORIAL DEED OF CONCESSION.

The deed names the seignior, and tenant or *cessitaire*, describes the lot, situation and extent, and then goes on to fix the conditions, &c. as follows.

"To have, hold, use, enjoy and dispose of the said piece or parcel of land by the said grantee, his heirs and assigns, for ever, subject to the following charges, clauses, conditions and reserves, that is to say, 1st, that the said grantee, his heirs and assigns, shall pay yearly to the said seignior, his heirs and assigns, at the manor house of said seignior, or to his agent, for the time being at the place of receipt therein, the sum of current money of the said province of

Lower-Canada, and bushels of good, clean, dry and merchantable wheat, of quit or seigniorial rent (*de cens et rentes*) for the said lot of land for each and every superficial arpents therein, and days *corvée*, that is to say, the labour of one man and a yoke of oxen, or span of horses yearly, for the said lot, or five shillings said current money in lieu thereof, if demanded at the seignior's option, the first year's payment of which said seigniorial rent and dues, shall become due and payable on the eleventh day of November, now next ensuing, and from thenceforth continue to be made yearly and on that day, the said quit and unredeemable rent producing the rights of *lods et ventes, défauts saisines et amendes*, and all other seigniorial rights as the case may occur; 2ndly, that the said grantee, his tenant or holder of said lot of land, heirs and assigns shall be held and bound to carry his and their grain to be ground at the mill of the said seignior, and to no other mill, under penalty of paying double toll and confiscation of all such grain as shall be ground elsewhere; and that he or they shall build, or cause to be built and erected, a dwelling house on the said piece or parcel of land within a year and a day from the date hereof, and in default of his or their so doing it shall and may be lawful to and for the said seignior, his heirs and assigns to enter into and take possession of the said piece or parcel of land, and the same shall, in case of such default, become immediately reunited to the domain thereof.

"3rdly. That the said grantee, his heirs and assigns shall be held and bound when required, to cause the said lot of land to be surveyed by a sworn land surveyor, to place boundary marks thereon, and to furnish unto the said seignior, at his the said grantee's own proper costs and charges, a copy of these presents together with a copy of the surveyor's report, on pain of all damages and interests.

"4thly. That the said grantee do suffer and allow to be made, all such

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roads as the seignior may judge proper and expedient for the public use, furnish and make his part of joint fencing with his neighbour's when thereto requested, and give his proportion of labour for all public works, but without any obligation on the part of the seignior, to make fences or ditches to separate his domain, or the unconceded lands.

"5thly. That the said grantee shall not sell, cede, give, grant, or otherwise convey or transfer the said parcel of land or any part or portion thereof to any mortmain or religious community, and on no account whatsoever erect or build mills of any description thereon, without the approbation and consent, in writing, of the seignior first had, and obtained to that effect; the said seignior hereby reserving unto himself, his heirs and assigns, in all cases of sale, of the whole or any part of the said parcel of land, of the right of *retrait*, that is, of acquiring the same in preference to all purchasers, even the *parents lignagers*, on refunding to the purchaser the price paid for the same, and all other legal costs and expenses, as also the right of taking on the said parcel of land all wood and timber fit for building, and all stone, lime and sand necessary for the erection of a church, parsonage house and mills, principal manor house, and other public works, even for the use of his farms; and likewise all mines and minerals, if any on the said lot, to the use of his Majesty. And should the said seignior, his heirs or assigns wish to erect mills, whether wind, grist, saw, or other mills, he and they shall be at liberty and have (for the building thereof) to take, occupy, or cut the land of the tenant or holder to cause the water to pass at such place and spot as to the seignior may seem fit; and to pass and repass on the said land with his horses, carriages, servants, &c. &c. on by him, the seignior, paying nevertheless, for the clearings in proportion to the damage caused to the tenant or holder, upon the award of skilful persons, and lessening the quit rents in proportion to the land cut and taken in the execution thereof.

"To all which said charges, clauses, conditions, servitudes and reserves the said grantee doth voluntarily bind and oblige himself, his heirs and assigns, hereby promising to do, execute and perform the same, and to well and truly pay unto the said seignior, his heirs and assigns as aforesaid, the quit and unredeemable rents at the time and place herein before expressed, for security whereof, the parcel of land hereby granted shall be and remain from this day specially charged, affected and mortgaged, and in case the said grantee, his heirs and assigns, do fail or contravene in any of the covenants, clauses and conditions herein mentioned, the present granted parcel of land shall thereupon immediately revert and become legally reunited to the domain of the said seignior with full power and authority unto him, the said seignior, heirs and assigns to dispose of, and reconcede the same in favour of whomsoever he or they may think proper, nor shall any of the said charges, clauses and conditions aforesaid be considered as comminatory (*comminatoire*) but of rigour, as without which parcel of land the said lot had never been granted, and for the execution of these presents the said grantee hath elected domicile on the hereby granted parcel of land." (Here follows the signatures.)

I confess that I feel very great objections to any mode of sale or concession of wild land in British America, by which the exact price is not determined and specified at the time of sale or concession, so that it could

not subsequently be increased or diminished, whether the land was resold or not. I more particularly object to the seigniorial system, because the after claims are to depend in amount on the improvements of the purchaser, and the frequency of the property changing owners. A man may take a lot of seigniorial land in town or country, and improve it at the expenditure of 100*l.* to 20,000*l.*, and from having expended perhaps more than he could conveniently spare, he may get into difficulties which would force him to sell the property so improved, and the consequence is, that the seignior claims the *lods et ventes*, and takes so much out of this man's capital, upon which he *ought* to have no claim. This is not an imaginary case, but one I have known to have occurred very frequently, and the sales were brought on in consequence of more being expended in improvements than the owner's circumstances would warrant. Hence forced sales were brought on, and improved properties sold for less than was expended upon them and the owners had to submit to the further loss of *lods et ventes* paid out of their already diminished capital. I shall submit my further objections under another head.

The following are the titles of the Canada Tenures Act passed by the imperial parliament in 1825.

6th. Geo. 4th, chap. 59. An act to provide for the extinction of feudal and seigniorial rights and burdens on lands held *à titre de fief* and *à titre de cens*, in the province of Lower-Canada, and for the gradual conversion of those tenures into the tenure of free and common soccage, and for other purposes relating to the said province.

1st. 3rd. Geo. 4th, chap. 119. Recited persons holding fiefs or seignories may, on application to his Majesty, and on surrender of the ungranted parts thereof, obtain a commutation and release of feudal burthens due to his Majesty thereon, such fief or seignior may be regranted to the proprietor in free and common soccage.

2nd. Feudal and seigniorial rights on the granted parts of such seignior not to be affected, until a commutation thereof shall be obtained as hereinafter provided.

3rd. Persons holding lands in fief, and obtaining a commutation as aforesaid, shall be bound to grant the like commutation to those holding under them, if required, for such price or indemnity as shall be fixed by experts.

4th. Seigniors or others refusing to grant such commutations may be impleaded in a court of law, and such commutation may be awarded by such court to the party requiring the same, on payment of the price of indemnity.

5th. Such commutation having been voluntarily agreed upon, or awarded by a court of law, all feudal rights and burthens shall cease upon the lands for which the same shall be granted, and the tenure be converted into free and common soccage.

6th. Nothing herein contained to extend to discharge arrears.

7th. Persons applying for such commutation to give public notice to mortgagees and others having claims on such lands.

8th. Lands holden in free and common soccage in Lower-Canada to be subject to the laws of England.

9th. Certain parts of the coast of Labrador and adjacent islands re-annexed to Lower-Canada, 49. Geo. 3rd, c. 27. 5. Geo. 4th, c. 67.

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10th. Court of escheats may be constituted in the said province, to try forfeitures of uncultivated lands, liable to eschat to the crown, court how to proceed. Inquests to be returned, no new grant of escheated lands to be made for one year.

11th. Notice to be given. Parties interested may traverse inquests.

12th. Certain parts of the clergy reserves in the said province may be surrendered, exchanged, and regranted for certain public uses and other purposes.

CLEARING OF WILD LAND.

The mode of clearing wild land is unnecessary to be described very minutely in this work. By practical experience is the only way that a man can be perfectly instructed. In British America wild land of good quality is in general thickly encumbered with large trees, and before any produce can be obtained from this land, those trees have to be cut down, and got rid of by burning, or otherwise. The usual mode of proceeding is, first to cut down close to the ground before the snow falls, any small trees or brushwood, and to pile them in heaps. The large trees are next cut down, and in falling them it is best to cause them all to fall with the tops in the same direction; they are then cut up into logs ten or twelve feet long, the tops and small branches made into separate piles. This work is usually done in the fall and winter. In the following spring the brushwood is set on fire, and if sufficiently dry, the whole will burn off. The large logs must then be made into piles by men, if oxen are not to be had to haul them together; all the small wood that remains is collected on the piles of large logs, and fire is then applied to it. If the spring is dry, and the logs principally hard wood, it burns readily, but otherwise it will not burn well the first spring. While the piles are burning they require attention to keep the logs together with handspikes. Those who propose to make use of the ashes to convert into potash, must now collect it and put it under cover before it gets wet, or it will be useless for that purpose. If there be an early and dry spring, the settler will have a fair chance of getting what is termed in the woods, "a good burn," and will be able to get in his crop in good time; but in this he may be frequently disappointed, and so long delayed before he can get the wood burned off, that it becomes too late to sow wheat, or perhaps any grain. If there is much soft wood on the land, it will not burn off well until it is very dry; but though much of the large logs should remain on the soil after the fire has gone over it, the land may be cropped between the roots and logs, with barley, oats and peas (if in time, and the settler thinks it eligible) with vegetables of all kinds, and with Indian corn.

It is most essential to a good burn in spring, that the small and brushwood should be cut early in the fall, with the leaves firmly on, as they will, when dry, greatly contribute to consuming the whole. After the piles of large wood that are first set fire to, cease burning, all the logs that remain unconsumed are collected into new piles, if there is time to do so, and set fire to again, or left to the fall.

Settlers often leave many of the large trees standing and cut the bark round near the root so as to kill the tree and prevent its again putting

forth leaves. This practice is, in Lower-Canada, not a good one ; trees so left are very apt to fall with the first high wind, and may hence often cause injury to crop or cattle.

It is useless to say more on the mode of clearing land. The settler would receive more instruction from personal inspection of the work as it proceeds, in one hour, than he could by reading one hundred pages on the subject.

CROPPING NEW LAND.

The cropping of new land when prepared, is a matter that it may be useful to the settler to offer some remarks upon. It is in this respect he will be most subject to err. In Lower-Canada, settlers are greatly inclined to sow wheat, whether the land is suitable and prepared in time or not ; the consequence is, a total failure frequently, and if not, a very short produce, when, if the same land were sown with barley or oats, it would have produced abundantly. If land is suitable for wheat, and can be sown any time in April, by all means the settler should try it ; but much later in the spring it will not be profitable, nine times in ten to sow wheat on new lands. Very favourable seasons, fine harvests, and no early frosts, a late crop might succeed, but the risk is considerable, and one that need not be incurred, when crops that are certain, and equally profitable, may be raised. It will be much better for the settler to cultivate the crop most likely to succeed, than incur the risk of disappointment in sowing wheat. He can always sell oats and barley to buy the wheat he may require, and oatmeal will be an excellent substitute occasionally for the flour of wheat. It is exceedingly discouraging to a settler when his first crop fails, and I have known it often to occur, from sowing wheat in a sheltered spot surrounded with high trees, at a late time in spring, when it was certain, in a moist season, to be injured by mildew or some other disease, or by early frost in the fall. When the settler will advise with his neighbours, and know how they have succeeded in circumstances similar to those in which he may be placed in spring sowing time, he will be better able to determine what course to pursue ; and in asking such advice, it will be well to apply to those that are known to have succeeded best in the settlement ; the advice of any other is not safe to follow.

After a year or two, the settler who has agricultural knowledge, and is prudent and industrious, will not require advice from any one ; and those who may go to the woods without these qualifications, cannot be better instructed than by following the example of those who are so qualified, and those whom he finds are doing well. If he can improve upon their system, so much the better, but it will be safest not to try experiments, until he is in circumstances that their failure would not affect him very injuriously.

As I before observed, agricultural knowledge is of great value to any person who becomes a farmer on cleared land, or in the woods ; but it must be obvious to any clover man, that he will have something to learn in coming to a country so different in climate from the British isles, and particularly when he goes into the forest, where it will be many years before he can plough freely, and cultivate as he was accustomed to do before. In consequence of this circumstance, he will not have the same latitude to exercise his skill, confined by the forest, and interrupted by

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the roots of large trees ; but nevertheless he will find means to overcome difficulties with greater facility than a man who has not much experience in farming, because he will understand where he ought to conform to the climate and circumstances of a country so different from that he was accustomed to, and no national prejudices in favour of the system of the country he has left will prevent a sensible man from adopting what is suitable to that he finds himself placed in. I am persuaded that a person possessing the qualifications that are necessary to constitute a good farmer in every country, fixing his residence in a new settlement, would not only be sure to be successful, but his example would be of incalculable advantage to his neighbours, at least to all those who would be possessed of sufficient common sense and due regard for their true interest, to learn and profit by it.

Indian corn is a crop that ought not be neglected on new land. Though it should not always come to full perfection it will be very useful for feeding swine, and the stalks will be good winter food for cows, when it may be difficult to provide hay. Should the season be favourable, there is not a more profitable crop for a new settler than Indian corn ; it is easy to cultivate, requires little seed, and the produce when it succeeds well, is very great, and will be found good food by the settler, until he can grow wheat to advantage. It is usual to sow seed of pumpkins at intervals in Indian corn land, after the corn is over ground, and first hoed. There is generally a considerable produce of pumpkins, which assist in feeding cows or swine, and do not injuriously affect the growth of the Indian corn crop.

Peas will grow well on new land that is not over fertile, and are a good crop for a settler. The greatest danger of their failure is from lodging, and in consequence not filling. If they were only sown on a small scale for table use, it would be a good plan to put them in rows far apart, and plant a few beans at proper intervals, that would help to support them and yield a produce. Settlers cannot often find time to put down stakes to peas. In most places spots of suitable light soil will be found to grow peas in perfection, without any support being necessary for them. Windsor, kidney, and horse beans succeed well, and are very productive if sown in good time. I would recommend their cultivation, particularly the two first, to settlers. They answer well for soups and haricots.

Turnips grow in greater perfection on new land, and are less subject to failure than on the old cultivated lands ; they are a good crop for the settler to a certain extent, who may sow them any time he finds opportunity to the 1st of August, and when it would be too late to sow any other crop.

Carrots are a crop I would highly recommend ; the produce is great, and they seldom fail. Parsnips will succeed well, as will onions, and all kinds of garden vegetables. The new soil and ashes are the very best for their production in perfection. For carrots, parsnips, and such root crops as penetrate deep into the soil, the settler will require to take out all roots of trees to the necessary depth. Though this will be at an expense of some labour, it will amply repay it. A few perches well prepared, will produce more roots than three times as much land ill prepared.

Potatoes may be cultivated without much labour, in hills between the roots and logs, and give a large produce, and they are generally of better quality in new land, than in land long in cultivation. It is not possible to cultivate potatoes in any other way but in hills, for the first few years, until the roots of trees are taken out.

The settler who will manage judiciously, and cultivate vegetables or green crops, *principally*, for the first two or three years, will seldom fail of success; he will grow the vegetables I have enumerated with ease and almost certainty, where, perhaps, he would not reap a crop of wheat that would produce more than the seed sown. With these vegetables in abundance, he can feed pork in sufficient quantity to supply his table constantly; and if a new settler, for the first few years, can insure for himself and his family a full allowance of good pork and vegetables, with milk, butter, eggs, and whatever more his means or industry will allow him to provide, their lot will not be very deplorable. I do not wish to be understood as recommending that no wheat should be sown the first years under any circumstances. On the contrary, I have said when the soil and season were favourable, and the seed could be sown in good time, it would be right to try it; but only when all these favourable circumstances would combine. Barley, oats, peas, rye and Indian corn, are the most certain grain crops for the first few years, in Lower-Canada, Nova Scotia and New Brunswick, until the clearance is more extensive, and a free circulation of air is admitted. Grass seeds should be sown as soon as possible, the first year if practicable, on a small part that could be sufficiently cleared of the small roots. Grass will effectually check the small roots under the surface from sprouting again, and hay is very necessary for the winter support of a cow or two, and a horse, if the settler can keep one.

It is of the most essential consequence to the settlers that they would so manage as to be able to locate themselves convenient to each other, if possible, so that each lot would be connected. Though the land might be rather of inferior quality, it is a great benefit that no interval of wild land should be allowed to remain between farms. Settlers are, when located together, able to assist each other in various ways, in erecting houses, piling logs, making roads, draining, and by example of the most experienced and industrious. What is the consequence when a settler happens to get upon a lot that requires draining, if he be surrounded with unoccupied wood land? He perhaps loses his crops, and the benefit of his labour year after year, without a remedy being in his power. It is out of the question that under such circumstances he could alone and unassisted, attempt draining through the wilderness. I know that from this cause proceeds the failure of many poor settlers, and it may well be supposed that perfect draining is impracticable unless the land is regularly taken up and settled in rotation, without allowing any waste lots to intervene or remain unoccupied. I do not believe it would be possible to promote successful settlement more effectually than by adopting this regulation in disposing of the waste land.

In no country in the world is draining more necessary than in both the Canadas, where the surface is generally level, and where there are heavy falls of rain which requires ample drains to carry off the superfluous wa-

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ters in the spring, and when the crops are in a growing state before they are injured by it. It may reasonably be supposed that in a new country yet almost in a state of nature, and abounding in rivers and lakes, much superfluous water must be retained in many situations by natural causes, which would require ample outlets to be cut, to allow these waters to run off. In England, so long inhabited, and cultivated for centuries better than any other country, it is only within the last fifty years that extensive tracts of land have been drained and cultivated with great success, which previously gave no valuable produce. A settler who gets a few acres cleared in the forest, and cannot get it perfectly drained, will have to wait in spring until the moisture is dried up by natural evaporation. In new land the surface is very uneven, and it has many hillocks and hollows that require several days of fine weather to dry them perfectly. From this cause sowing is delayed, or a large portion of the best of the soil is left waste. There are some situations where the soil is naturally high, dry, loamy or sandy, that will not require much draining; but in every situation new land is of uneven surface, caused by the roots of trees, &c. that cannot be perfectly levelled until it is some years under cultivation.

There is a very considerable difference between the Upper and Lower Provinces of Canada in respect to the first crop raised on new land. In the Upper Province they generally sow the new land with wheat in the fall, and it succeeds in favourable seasons extremely well; almost all the wheat is sown there in the fall, which is certainly a great advantage, as it secures the cultivation of the only crop that requires very early sowing. There can be no doubt but Upper-Canada generally is much better adapted to growing wheat than Lower-Canada or the other British Provinces; however I have seen very fine crops in Lower-Canada of spring sown wheat, and have raised, not on the very best wheat land, 33 English bushels to the acre; but I must say this produce is of rare occurrence. I shall give the average returns reported from several counties and townships of Upper-Canada, but I cannot answer for their accuracy. The climate is on an average, warmer and dryer than that of Lower-Canada, and more favourable to the production of wheat in perfection; but the reader is not to infer from this, that Lower-Canada is not a good wheat country, though it may not be equal to Upper-Canada. I believe that oats are more productive in the Lower Province than the Upper. I have seen as fine crops of oats in the county of Montreal as could grow in any country. Barley, rye, and peas are produced in perfection in all the provinces. Indian corn succeeds well in Upper-Canada, though it may occasionally be injured by frosts before it is at maturity. Much of that province is south of 45 degrees latitude, the line that is said to be the northern boundary for successfully cultivating that plant. Potatoes do not succeed so well in the Upper Province as in the Lower, nor are they so good for the table. The crop of hay is seldom so abundant in Upper as in Lower-Canada.

There is no peculiar mode necessary to be observed in the cultivation of crops in one province, more than in another except in sowing wheat in the fall, which seldom succeeds well in Lower-Canada. I think, however, it might be tried there on new land, if sown sufficiently early in the fall to take firm root before the winter. The snow is so likely to re-

main on the ground in sheltered situations, that it might succeed in favourable years. The covering of snow upon the wheat until the spring is fairly commenced, is the best protection for fall wheat; but it has to incur another risk, the danger of rust, to which it is much more liable than spring wheat in Lower-Canada, though it does not appear to be so in the Upper Province. As I before observed, the settler in the Lower Province will do well to be cautious in making experiments unless he is prepared to meet the results, whether they turn out favourable or the contrary.

It is not necessary for me here to state how the settler is to put in the seed in his new land when prepared. He will be very unfit for a farmer if he is not able to take example by those who he may find placed in similar situations, when he sees how they execute the work. The more effectually he can stir up the soil between the roots with the hoe or harrow, the better chance he will have to reap a good crop of wheat, barley, oats or peas. One bushel to the acre on new land is sufficient. It is not good to sow over this quantity, except the land is very poor. The seed is in most cases harrowed in, if not, it is hoed or raked in. The settler must, in planting potatoes, endeavor to cover them as well as the roots of trees will allow; in sowing any other seed, there will not be much difficulty in finding sufficient mould or soil to cover it. If the land gets a good burn, all is likely to go on well, but frequently settlers are disappointed of obtaining a good burn the first year. In that case the settler must sow and plant between the logs and stumps in the best manner he can, but a full crop is not to be expected, unless of potatoes, and perhaps Indian corn and turnips.

It may be proper to notice here that settlers are prone to form erroneous ideas of the progress they are likely to make in the clearing and cultivating of new lands. They imagine they can go on year after year adding to the quantity of cleared land, and the extent under crop. This must, however, depend on the abundance of his funds for the employment of labour, or command of labour in his own family. When a settler has not abundance of help or funds to employ labour, there must be a limit to the extent of his clearance and his crops, because one man is only able to cultivate to a certain extent, and when he has brought it to that extent, all his attention will be required for the cultivation and cropping of a few acres of land, and he is not able to add much to his clearance. If the settler was strong and active to go on with clearing new land, and seed down with grass after the first or second crop what he had cleared and cultivated, it would be the most speedy way to bring the land into a productive state, and the most certain to independence. The roots would be decaying in the land seeded down, and it would be producing hay or pasture, which would, perhaps, be as profitable as any other crop, and he would be constantly adding to his clearance, and cropping the new land with grain and vegetables. In this way a man might in a few years, have a considerable farm cleared. I have seen some tables showing the progress of improvements on new settlements in Upper-Canada, and though they are wanting so far as that they do not show the means of the settlers, yet they give some idea of what progress may be possible. By one table, 25 settlers, who appear to have been all married, and to have between them 87 children (but their ages are not given) in five

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years had cleared 574 acres, or 23 acres for each family on an average: By another table, 21 settlers, 19 wives and 51 children, had in crop the second year 175 acres, being an average for each family of $8\frac{1}{2}$ acres. A third report was of 24 settlers, with 15 wives and 54 children, who, the second year, had 175 acres chopped, and 122 acres in crop, being an average for each family of near 6 acres in crop, and $7\frac{1}{2}$ acres cut down. By a fourth report, 24 settlers had in two years $9\frac{1}{2}$ acres chopped, 9 cleared, of which $8\frac{1}{2}$ acres were in crop for each, on an average. In all these cases log houses had been put up by the settlers. These tables give a fair view of the progress of settlement in the forests, when the settler has not very sufficient funds to expend on clearing land, but must rely chiefly on his own labour and exertions.

There is another error that settlers are liable to in the estimate they make of a lot of wild land. I have seen estimates and calculations of the produce that might be expected from new land, from which a stranger would infer that any lot of land he would purchase in Upper-Canada, he might expect that every acre of it would produce, when merely cleared of the wood upon it, at the rate of 25 bushels of wheat to the acre, or more. There may certainly be many lots that are all capable of producing wheat, but there are other lots that will be found of very mixed quality of soil, and requiring much draining before they can be profitably cultivated, and perhaps considerable portions that would not pay for cultivation, only fit for pasture, or to produce wood. I do not make this statement to discourage settlers, but to prevent them from entertaining erroneous expectations which could not be realized in any country on the globe.

There are few farms in England at this day, though long it has been occupied, and cultivated better than any other country, that would not show some inferior land, requiring draining and improvement. How can it then be expected that farms are to be had in the forests of America that will have no inferior land, or require any expenditure but that of clearing off the wood, and sowing the seed? Farms may be cultivated in this way certainly, but strangers may rest assured that the crops that will be produced by such management will be far short of yielding the large returns attributed to them; except small portions of land that are very favourably situated. I offer these remarks in order that emigrants may expect to find British America in some degree like other countries; that though the soil in general is good, yet it will only produce crops in proportion to the skill and good management applied to their cultivation. Though the country has not much bogs, almost every part of it requires draining, and constructing proper drains through a forest lately cut down, is a work of some difficulty. There is no doubt that much of the lands in Canada produce good crops of wheat with cultivation that would be considered in Britain very defective indeed; but, nevertheless, I would by no means hold out this circumstance as encouragement to strangers that they could expect good crops in British America without adopting a judicious and regular system of improved husbandry. There is sufficient encouragement to the skilful and industrious farmer, in a permanent title to lands, and in the almost total absence of rents and taxes, to settle in British America, without its being necessary to offer the prospect of obtaining abundant crops by the least possible expenditure of labour in their culti-

vation. Any competent farmer who travels through the settled parts of British America, will see in every direction he goes, a great necessity for improvement in the system of agriculture, and the breeding and management of live stock. Whatever be the present produce from agriculture, it might unquestionably be vastly increased by adopting a better system of management throughout.

RETURNS WHICH MAY BE OBTAINED FROM AGRICULTURE IN DIFFERENT SECTIONS OF BRITISH AMERICA.

I fear that under this head I could not be able to offer very satisfactory general estimates, and probably were I to attempt it, those who would read them, should they at any future time find by their own practical experience that they could not realize my estimates, might accuse me of having led them astray. I shall, therefore, confine myself to offering a few remarks that may sufficiently show what the returns from a given quantity of land might be, managed judiciously, by an active and attentive farmer. I will suppose a farm of one hundred acres of good land, all arable, to be situated within a day's journey of Montreal or any other of the principal Cities of British America (say within 15 to 50 miles, or not to exceed this) with suitable buildings for the occupancy of a farmer. That the land should be managed on a plan of convertible husbandry and regular rotation of crops, one-third in tillage, one-third in meadow, and one-third in pasture, taking up eleven acres of grass land for tillage, and seeding down for meadow eleven acres of what may be in tillage annually. Of the land in tillage, one-third should be under green crop, and all that was not, to be in summer fallow, and two-thirds under grain, of wheat, oats, barley, rye and peas, or either of them, that the soil will be most suitable for, seeding down with timothy and clover, eleven acres annually. On a farm of this size, from 12 to 15 milch cows might be kept, and three horses would be sufficient to work it, if the soil was not very strong and heavy, but if it should be so, a yoke of oxen or perhaps more, should be kept in place of one of the horses. If the farm had a good soil, and was managed properly by observing a regular rotation of crops and manuring, it would maintain amply the stock I have named, and perhaps more, and allow of 33 acres being in tillage constantly. From this management the following returns might be obtained :

11 acres of wheat at 20 bushels the acre, or of barley at 30 bushels to the acre, of which one acre was to be allowed for seed and other waste, either crop might be of equal value one at 5s. and the other at 3s.4d. the bushel, would be	£50	0	0
11 acres of oats and peas, oats 30 bushels the acre, and peas 20, the price of one 2s. and the other 3s. the bushel would be after allowing for seed, &c.	-	30	0
11 acres of potatoes, carrots, turnips and Indian corn, potatoes 200 bushels the acre, and either of the other crops would, if good, be of equal value with potatoes, at 1s. the bushel after allowing for seed, &c.	-	100	0
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The actual value of produce from 33 acres in tillage would be	£180	0	0

But if a family and servants had to be maintained, there could not be more than two-thirds of the produce of wheat or barley sold; one-third

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would be required for to furnish bread to a family of eight or ten persons, including servants, if required to work the farm. The produce of oats or peas would also be necessary for the support of the horses, for family use, and for a help to feed swine. If any of the peas could be spared they might be sold, and make up for some other deficiency. The green crop should be applied to feeding cattle and hogs, if a convenient market could not be had for potatoes at one shilling the bushel. By judicious management in feeding stock, never giving the potatoes to them in a raw state, one shilling a bushel might be realized for them.

I refer the reader to my Agricultural Treatise for more particular directions as to the best mode of feeding cattle with potatoes, &c. The hay raised on 33 acres of good meadow would support the regular stock on the farm, and afford sufficient surplus for feeding a few head of cattle, with the vegetables, or could be sold. Should oxen be kept on the farm, they should be fattened and sold off every year, and lean ones bought in. As many more cattle as there would be feeding for, might be purchased late in the fall and fattened on the produce of the green crops, and hay if not disposed of to better profit. The disposable produce might than stand as follows :

11 acres of land in wheat or barley, if in wheat, the one-third would be necessary for the family of eight or ten persons ; and if in barley, one-third of the produce would be required to purchase wheat or flour for the use of the family.			
This would leave two-thirds to be disposed of, which might be estimated at	-	-	£33 0 0
The produce of 12 cows in butter and cheese, over what would be required for moderate family use, might be £5 for each cow, at the lowest,	-	-	60 0 0
10 calves fattened and sold at five or six weeks old, for from 5 to 6 dollars each,	-	-	12 10 0
2 calves might be raised annually, and two cows from the stock fattened for family use.			
The produce of 11 acres of vegetables properly applied, leaving one acre for family use, would pay	-	-	100 0 0

Annual produce of 100 acres of land, - - - £205 10 0
 Together with supplying a family of eight or ten persons with farm produce for their own food, including beef and pork, milk, butter, &c.

If any item of my estimate should prove deficient, another may make up for it. The hay crop will make up for the green crop if estimated too high, as it will be more than sufficient for the regular stock.

If the farmer should not have sufficient working persons in his own family, the hire of two men and one woman must be taken from the above. One man at 20*l.*, another at 15*l.*, and a woman at 12*l.* and about 10*l.* for extra work in harvest time, which make 57*l.* This wages will only apply to Lower-Canada ; in the Upper Province it will be fully a third or a fourth more. Food I suppose to be provided from the farm exclusive of the above produce, as I include the necessary number of servants in the family of eight or ten persons. A larger family will require a larger expenditure. It would be right to allow for wear and tear of im-

plements; blacksmith, firewood, and casualties, suppose 28*l.* 10*s.*, which would leave the nett proceeds that might be realized from 100 acres of land, stocked with cattle and necessary implements, about 110*l.* Out of this the farmer's family would have to provide clothes, and luxuries not produced on the farm. An industrious family, if able to work, would save the wages of servants, and might supply wine and cider of their own manufacture at trifling expense; their soap and candles, and perhaps part of their clothing. Much can be effected by those who are industriously disposed.

I do not think it very necessary to value the whole produce that might be annually created on a farm of 100 acres, because the food of those employed in its cultivation must of course be taken from it, as well as the support of horses and cattle. I have left the straw out of the estimate to supply manure, and the hay to feed the stock of horses and cattle. Should the family consist of a smaller number than eight or ten persons, their expenditure will be so much less, and will allow of the nett proceeds to be of greater amount. I have for my own satisfaction calculated the gross returns that might be possible to obtain from 100 acres of good land, well managed, and including every species of produce (except the pasture, which is consumed by the cattle that give the milk, butter and cheese), I believe it might amount to from 350*l.* to 400*l.* annually, or from 3*l.* 10*s.* to 4*l.* the acre. Out of this amount all the expenses of production, interest of capital, &c. would have to be charged. On farms near a market, a more valuable produce might certainly be realized, but I think it would be well for a stranger not to expect to exceed this estimate much, and if he should, he may fairly attribute it to his own superior skill, management and industry. The cost of production may vary considerably from the soil being better and more easily worked, and more particularly from the skill and industry of the farmer applied to its management. If a total gross produce of 350*l.* to 400*l.* or more be obtained from 100 acres of land, the less expenditure that will be directly incurred to produce it, the greater amount of profit it will give the farmer, so that the nett amount of profit will depend upon these circumstances.

The waste of the dairy and the inferior grain should be allowed to go to the feeding of pork, and would greatly contribute to increase the amount which I have stated might be obtained from the produce of the green crops applied to feeding stock. All my estimates are made, as what I would expect to be produced by agricultural skill, industry and good management of qualified farmers. For those who do not understand farming, and want industry and good management, I would not attempt to estimate. If such should become farmers, they will have to abide the results, which they may be assured will be favourable or unfavourable in proportion to the skill they are able to acquire, and the industry and judicious management they apply to the cultivation of their lands and stock.

On farms situated more than a day's journey, or 50 miles from a good market, the vealing of calves will not be very profitable, unless there is means of water communication, or by railroad. A different mode of management should then be adopted with regard to calves. A less number of milch cows might be kept, and more stock raised and sold. Heifers at two years old, well kept, and having calves at that age, would sell well.

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Steers, at three years old, sold fat, would pay, provided they had been properly kept and fattened. The value of produce might and will vary in some degree in consequence of the situation being more or less convenient to market; but if the farm be judiciously managed, and the rearing and feeding of stock be carefully attended to, the difference will not be so great as persons might imagine. Of course, the system of management that should be pursued on a farm near a good market, would not be suitable on one at a great distance from market, and the skillful farmer will be able to calculate the advantages and disadvantages of situation, and turn all to good purposes, will avail himself of the advantage that proximity to a good market will afford, and will endeavour to adopt the best remedy that is practicable to meet the inconvenience of being far from market. I am confident that in most situations in British America, good arable, meadow, and pasture land, well managed and properly stocked, will give an annual gross produce of from three to four pounds per acre, and under very favourable circumstances perhaps more. From the information I have given before, I hope there will not be much difficulty felt, in ascertaining the cost of production. If labour has to be paid for, it must be charged; and the expense of keeping working cattle, fat cattle, and milch cows, in every way, except when at pasture, which I set no separate value upon, will also have to be deducted from the gross produce obtained from land and stock.

Should farms be well adapted for the keeping of sheep, I believe they would be found as profitable to the farmer as any other stock, provided they are properly kept, and that the farmer makes it his regular business. There is a great saving of labour on a farm stocked with sheep. I have in my *Agricultural Treatise* given the best information in my power in regard to the keeping of sheep. I know that this particular stock, should by all means be increased in these provinces, that there is nothing in the climate or soil unfavourable to their cultivation if the farmer will manage them properly in breeding, feed them sufficiently, and provide suitable house shelter for them in winter. The latter may be considered by the farmer from the British Isles to be very troublesome, not accustomed to provide house shelter for his sheep in those countries, but he must now recollect he is in a different country, and climate, and though he may have to house his sheep, and hand feed them for four or five months in the year, yet he will be able to enjoy many advantages he had not before he came here, which will more than make amends for any extra trouble he will have with his sheep. There is no branch of husbandry, that does not require its own share of care, and attention, and the farmer who would expect to have exemption from this in carrying on his business, does not understand it, and is utterly unfit to be a farmer. In a cold climate great care and sufficient shelter is necessary for sheep at the lambing time, or a great part of the profits may be lost, in the loss of the lambs. By having suitable sheep houses which need not be very expensive, the lambs may all be saved, and this with sufficient food, will insure the profit of sheep stock, in British America.

The average price of stock may be ascertained from the tables I have given of the moveable property in each province. The prices of implements are also given. The farmer can have no difficulty in estimating

the cost of stock and implements. The price of cleared farms with buildings on them, will vary from three pounds, to ten or twelve pounds the acre, according to the situation, the buildings, and quality of the soil. Partially cleared farms, with buildings, can be had for much less. In all the provinces, farms can be had, for less money than was expended upon them in clearing and improvements.

I do not see that there would be much inducement to capitalists to purchase farms in British America except for their own occupation, with a view to stock and farm them for their own profit. Farms cannot be readily let at an annual rent equal to the interest of the purchase money unless they are purchased under very favourable circumstances at Sheriff's sale, or that the seller is *obliged* to sell. The Provinces afford so great a facility to almost every man that has any capital to purchase a farm, and be a *proprietor* of land, that few are much inclined to pay high rents for land on lease, and I think they are perfectly right. It may be possible that in some cases it would be prudent and profitable for a stranger coming to the country, with considerable agricultural skill, and a very limited capital, to hire a farm for a few years in preference to going to settle in the woods, but he will have this disadvantage to encounter, that he will seldom get a farm to hire that has been under good management, because those that have been so, will not often be offered to let, and if he rents a worn out farm on a short lease, (and he cannot get any other) it will be only at the expiration of his lease that the farm will be in condition to make him some returns. In consequence of these circumstances, hiring farms is not a plan I would be much inclined to recommend, and the same circumstances prevent high rents being attainable for lands by those who would purchase lands with a view of letting them to tenants on lease. There can be no doubt but money invested in the purchase of lands, will be safe, and pay well at no distant period, but at the present the returns from capital so invested will not be great, from the reasons I have stated.

The preference that most persons will feel to be proprietors of land, to holding them on lease, will bring more purchasers for property into the market, and this is another cause which raises the value of property so as not to yield a rent proportioned to the purchased money. But there are none of these circumstances that should deter agriculturists from purchasing farms in any of the Provinces for their own occupancy. The farmer who will purchase land, can do so at fair value, and if he understands his business, he will very soon bring it into such a state of production as will pay the interest of his capital invested in the purchase, as well as the improvements, provided these improvements are judicious, and necessary, and calculated to increase production. By the term "improvements" as applied here, I mean, works that are useful and necessary for the farmer's comfort and convenience, for the good management of his stock and crops, and putting the land into that state, that it will yield an abundant, and excellent produce. Expenditure on any other objects by the farmer, I do not look upon as improvements in the way I use the term here.

I am sorry I could not give more full information under this head, for the satisfaction of strangers.

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LAWS AS THEY ARE, THEIR INFLUENCE ON AGRICULTURE, AND ON
THE GENERAL PROSPERITY OF BRITISH AMERICA.

Under this head I come to discuss subjects of considerable delicacy, and to which I feel I am not competent to do justice. I have undertaken the task with a view to promote the interests of the country of which I am an inhabitant. I hope, therefore, I shall experience the indulgence of those who may find what I advance to be deficient in argument to justify the changes I would wish to recommend, as well as of persons who may disapprove altogether of what I propose. I feel rather more confidence in commencing on this discussion, because the subject is in no way connected with politics, but one in which the great majority of the people are deeply interested, whatever political party they are attached to.

I believe it is indisputable that in most countries bad laws have been suffered to remain unchanged and unrepealed, long after their perniciousness has been fully ascertained. This is to be attributed to various causes. The self-interest of the few, the supineness of the many, and the pretended veneration of all for the antiquated laws and customs of their fathers, have in many instances prevented the abrogation of unequal and injurious laws, and hence they have been suffered to remain in force to aggrandize the few, at the expense of the many. There is not, I believe, a greater obstruction to improvement than the too frequent appeal, and the too supine resignation of our understanding to the laws and customs of antiquity; and it is much to be doubted if it is altogether from modesty that we have this resignation, or from any conviction that we feel that our ancestors were wiser than ourselves, but rather from an indisposition to take the trouble to examine these laws and customs, and what they were founded upon, and whether they can be suitable to the present state of things. Let it not be said of the people of Canada, that because certain laws and customs of our fathers have been sanctioned for ages, we have no reason to question their lawfulness, or enquire into their justice, but submit to and defend things as they are, because we found them so. If we would act thus we would subject ourselves to the imputation that we would be equally prepared to defend any other state of things, if we had found it in existence. I do not apprehend that it is by any means likely the people of Canada will act thus at the present day.

In the enlightened time of the world in which we happen to live, when such great changes have, and are being introduced in the laws and customs of every free people, it is the duty of the people of British America to examine into their laws and customs, in order to discover if any of them are unequal in their bearings, or calculated to obstruct general improvement and prosperity; and if it should be clearly ascertained that any of them have this tendency, then the people should unite with one voice in procuring their repeal or amendment to suit the present order of things. If the people will be generally and permanently determined to obtain what is right, and introduce the changes that are necessary, they will assuredly ultimately prevail. Many of the nations and people of Europe, have lately discovered that laws and customs which might have been suitable to the habits of their progenitors are not so at the present age

and indeed the people now begin to look with astonishment on some of these laws and customs, and only wonder how they could have submitted patiently to them so long. There have been many changes made in the laws of England within the last few years, with the almost unanimous consent of the legislature and the people, that twenty or thirty years back would scarcely have met with any support in parliament, or in the country. Down to the revolution in 1790, the French people did not possess much of either civil, political or religious liberty. A large proportion of the people were in a state of vassalage to the nobles, and one of the first uses they made of their political liberty was to sweep away every vestige of feudal laws and privileges. In Prussia, in 1810, by a royal edict, the condition of the vassals or peasantry was totally changed. By giving up a portion of the land they held from the proprietors, they become free proprietors of the remainder, instead of being vassals or tenants, as they were previously; and I have seen it stated by good authority, that the agriculture of the country has been most astonishingly improved in consequence of this change. The circumstances of the nobles and great proprietors are also greatly improved, though they complained very loudly when the royal edict was first published.

To encourage the improvement and prosperity of agriculture, it is most essentially necessary that the whole of the profits arising from the application of capital, labour and industry, to the improvement of the country, should be insured to the persons who apply it, without being subject, in reality or prospect, to any drawback, in consequence of this very improvement, which they could not be subjected to if the improvement had not been made. It must ever check improvement, if the laws are such as to admit a party under any circumstances to come forward and claim a portion of the capital of others, expended in improvements, that has not in any way contributed to the production of that capital or improvements, directly or indirectly. The bare possibility that such a claim could be made and sustained must be a very great bar to improvement in any country. In a new country, when a lot of ground is purchased for improvement in town or country, it is most essentially necessary that a sure and permanent title should be obtained for a fixed and unalterable consideration, whatever it may be, that cannot be increased or diminished by any circumstances that may subsequently occur. Unless labour and capital can be securely applied, and freely circulated for the sole benefit of those who apply it, the country will not improve and prosper as it might do, under more favourable circumstances. I would most earnestly urge the inhabitants of these fine provinces to look at, and examine thoroughly, things as they are, and if they find that any changes could be introduced that would be likely to promote the interest and happiness of the greatest number, to endeavor fearlessly, but by all fair means, to procure their introduction.

It is no part of my design to suggest any interference with unquestionable right of property, where this right can be clearly established, without giving an equivalent. But if private rights, and exclusive privileges (which seldom can be right,) should be found to obstruct general improvement, and prevent the expenditure and free circulation of capital and property, the government, legislature and people, will doubtless see

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the expediency and advantage of purchasing these rights, by giving an equivalent, and making such arrangement as will be just towards all parties. I may fail in convincing the reader that there is any necessity for change in any of the laws or customs of British America. If I do, it will be so much the better for the country, and my observations will not produce any evil.

To me it has ever appeared that laws, to be perfect, must be equal in all their possible bearings, and that no law or custom, however long established by usage, can be good, that will allow the property of one man to be subject to contribution or tax of any species, while by the same law or custom, another man's property is not subject to the same contribution or tax. The tithe law in Ireland operated exactly as I have described, and was one of the greatest general objections to it. The best land in the country kept for feeding cattle, gentlemen's domains, and pleasure grounds, were exempt from tithes, while the industrious tillage farmers and occupiers of small holdings, had to bear almost the whole burden of the tithes. Hence tithes were a tax in Ireland on industry and improvement.

The operation of the Feudal laws in Lower-Canada, appear to me to have the very same tendency, that they are unequal, a tax on industry, improvement, and on the circulation of capital and property. To prove them unequal in their operation, I will suppose that three persons purchase from a seignior, three wild lots of land, or three waste lots in a town or village, at the usual rent that wild unproductive seigniorial lands are sold for. On these lands the seignior has probably never expended one shilling, directly or indirectly. One of the tenants, or *censitaires*, pays the rent of a few pence per acre annually, and makes no improvement of consequence. He does not sell, and this unimproved property remains in the same family for many generations, never paying *lods et ventes* to the seignior, nor adding much to the produce or riches of the country. The other two *censitaires* improve their lots, expend capital to the amount of one hundred, one thousand, or twenty thousand pounds. One of the latter does not sell; favourable circumstances unite which enable him to retain his property, and his posterity after him hold the same property for ages, without once changing owners, or paying one shilling to the seignior as *lods et ventes*. The other *censitaire*, who may be the most improving and industrious of the three, may have expended more in improvements than his capital would warrant. He may lose in trade, in his business as a farmer, by various casualties, that may oblige him to sell his property in a very short time after he has expended perhaps his all upon it. The seignior claims on this sale, *lods et ventes*, or a part equal to the twelfth of the purchase money. If in cities or towns, the property may change owners ten times in as many years, and each sale be subject to *lods et ventes*. It is not on the amount actually expended in making the necessary improvements, and buildings, on a farm in the country, or a lot on the city, but it is a *tax* levied on the amount of capital at every time it is transferred or changes hands for the purchase of property. These repeated sales may not in any one instance be voluntary, but brought on by adverse circumstances, by death, and by other laws of the country that give children or heirs the privilege of forcing a

same of property in order to get their portions. Thus the feudal laws tax those who are least able to pay taxes, and by the same laws, the rich and more fortunate are not obliged to pay any tax, and the unimproving tenant has the same exemption; indeed it is only for the latter description of persons that such a law would be suitable. To any person acquainted with Lower-Canada, cases similar to that I have supposed, will be known to have occurred frequently, and I must confess that I see very great objection to the laws or customs that would sanction such cases. The three lots were equally unproductive, and capable of equal improvement when the seignior conceded them, yet in the course of time, fifty or one hundred years, one lot, or rather the labour or capital expended on one lot, pays the seignior one hundred, one thousand, or twenty thousand pounds as *lods et ventes*, while the other two lots do not pay one penny. This is not an exaggerated picture of the possible operation of the Feudal laws.

SAY, a French Author, in his Political Economy, a work of great merit, gives a very good article on the transfer of property; it is the following:—"Taxes upon transfer, besides the mischief of pressing upon capital, are a clog to circulation of property. But has the public any interest in its free circulation? So long as the object is in existence, is it not as well placed in one hand as in another? Certainly not. The public has an interest in the utmost possible freedom of its circulation; because by that means it is most likely to get into the hands of those that can make the most of it. Why does one man sell his land, but because he thinks he can lay out the value to more advantage in some channel of productive industry? And why does another buy it, but because he wishes to invest a capital that is laying idle or less productively vested, or because he thinks it capable of improvement? The transfer tends to augment the national income of the two contracting parties. If they be deterred by the expenses of the transfer, those expenses will have prevented this probable increase of the national income."

It will be objected that seigniorial property is as much the property of the seignior, and that he should enjoy every right that belongs to it, in as full and ample a manner as the owner of any other description of property. I will not dispute this question here, because I am not perfectly acquainted with the conditions on which these grants were originally made to the seigniors; but I understand that they were not entitled to charge their tenants or *censitaires*, more than one quart of wheat and one halfpenny per arpent annual rent, and I have also been assured, that the seigniors were not entitled to demand *lods et ventes*, on the sale of property, for capital expended in improvements, but only on the value of the land, and that the contrary practice has only been lately introduced by the arbitrary construction of the law by the Canadian Bench. I would be very much inclined to suppose, that so far as regarded the rent that was to be charged, my information was perfectly correct, for this reason, that it appears that all the lands in the Province, however more valuable one situation might be above another, were uniformly let at a low rent, until very lately, that it has been generally raised to more than three fold that amount. It is surely no trifling defect in this law, if there be any uncertainty in its provisions.

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Proprietors of estates in England derive their titles in many instances from direct grants by the crown, but more frequently I believe at this moment, from purchase. Landlords in England are generally at the expense of all necessary permanent improvements, such as houses, out-offices, and often hedging and draining, and the tenant has only to stock the land, and cultivate it. In such a case as this, the landlord is entitled to a reasonable rent for his land, which very rarely amounts to near the interest of the capital invested in the purchase of property, and expenditure in improvements. Hence the tenant only pays the value of the land in a state of preparation for actual production. These remarks do not apply to many of the Irish landlords, unless a great change for the better has taken place lately.

In any of the cities or towns of the British Isles it was very rarely that houses were erected except on leases in perpetuity, where the rent was fixed, and could never be increased or diminished. were the property to change owners a thousand times, or the value of it increase an hundred fold. In America capital is fully of twice as much value as in England, computing the difference of sterling and currency. Consequently those who possess it, and expend it either in money or labour, are entitled to proportionate returns; and it is no wonder they should be unwilling to allow another party to advance a claim to part of it, that did not contribute in any way to its production. If the seigniors of Canada would only clear and prepare their lands in the same way, and make them ready for occupation, a tenant might be able to give a fair rent, but the seignior will find it will not be equal to the interest of the money expended by him in clearing, cultivating, and building on each farm. If then the seignior cannot obtain a rent equal to the interest of the expenditure incurred in preparing a farm for the occupancy of a tenant, it would, I think, be a great hardship on the tenant who would execute all this work at his own expense, if by misfortune or any other cause, his farm and improvements should be brought to sale, that the seignior should have his claim on a part of the purchase money, that never belonged to him and was actually and bona fide the labour and capital of another expended on waste land that was subject to a rent the full value of the land when he took it in a wilderness state. Is the rent of six pence the arpent, which is now charged for seigniorial wild land, fully equal to the price of the day, of land sold by the government, and granted in free and common soccage? I believe that it is considerably over what the wild lands may be had for in good situations and that will be forever free of *lods et ventes*; six pence the arpent rent amounts to five per cent interest for ten shillings an arpent purchase money, and the wild lands of the crown are usually sold at auction for less than half this, and I doubt very much if the waste seigniorial lands could now be sold, if free from *lods et ventes*, for ten shillings the arpent on an average.

There is another important question. At the time the land that is now most valuable, was first conceded, was it worth more than the rent charged for it, then in its wild state? I believe that up to a very late period, the land was not worth more. It was only during the last war that the rent of lands was raised so much above their value in the British Isles. I know lands of middling quality in Ireland, that about the year 1760 had

been let on a long lease, which has only terminated within the last ten years at a rent of five shillings the Irish acre (equal to one arpent and three quarters), and up to the year 1790, the *best lands* seldom let for one pound the Irish acre. The rent of lands in France was still much lower. I have seen it stated on good authority, that very lately in the district of Solongnie in France, the rent of land was not more than one franc the arpent, (owing it was said to the want of roads, added to the charge for cultivation which absorbed nearly the whole amount the produce would sell for. How very similar to the circumstances of some lands in Canada, so that heretofore a *gift* of the wild lands, with the condition of settlement and cultivation, could not be considered a very valuable boon. Indeed I consider the rent, except in favourable situations, fully sufficient at this day. If then the wild seigniorial lands were let for their full value at the time in proportion to the price that other lands could be had for in perpetuity, what has added to their value but the labour of the *censitaire* ? I admit that the altered circumstances of the country as regards the increase of population, and the growth of cities and villages, has increased the value of the lands in many situations ; but this was an advantage that the *censitaire* was entitled to expect, and was not produced by the seignior. He would not have taken the land unless he got it in perpetuity. I will maintain that at this day the seignior cannot clear and prepare a farm from the forest, erect the buildings necessary for the occupation of a farmer, and put it in the state of improvement that cleared farms are generally in, and be able to sell it for an amount equal to the expenditure, though it should be free from all rent and *lods et ventes*.

At the period of the first settlement of Canada the feudal laws were in full force in France. It was quite reasonable that they should be introduced into Canada, and perhaps it was the best mode that could have been adopted for the settlement of a new country then, when as Mr. Bouchelt says, " the countenance, aid, and protection of the Seignior " might have been a very great benefit to the *Censitaires*, from the unsettled state of the country. The obligation of erecting mills for grinding the corn of the tenants, might also have been a great convenience. From the altered circumstances of the country at the present, " the countenance, aid, and protection " of the Seignior, is not so much required, when there is a local Legislature to take care of the people's rights ; and as to the convenience of mills, if the seigniors would only forego the *privilege* of erecting mills, and leave it open to public competition, the *censitaires* would not experience any inconvenience in consequence. The mills, I believe, have paid their owners amply, and if not, they can be always sold for a valuable consideration, or retained without any exclusive privileges, which must have an injurious tendency, in every country.

I feel bound in justice to remark here, that though we may owe the introduction and establishment of the Feudal laws in Canada to the French people, yet any of the present seigniors who are of English descent are fully as well disposed to take advantage of every privilege which the Feudal laws allow them, and to exact the *last farthing* of *lods et ventes* at every opportunity, as the seigniors of French descent. I believe it was the seigniors of English descent who first raised the seigniorial rents and made them more burdensome on the people than they were previous-

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Far be it from me to question the right of the seignior to his lands, but I object to the claim that is made to a share of the tenant's labour, improvements, and capital, beyond the fixed rent. If the lands are sold at a money and produce rent, when in a wild state, equal in amount to what other lands of the same description are sold for, subject to no after claims, I cannot see the equity of levying contributions at every subsequent time lands may exchange owners. I have already endeavoured to show the unequal bearing of the Feudal law, as one property may not be subject to pay *lods et ventes* for a century or more, while another may in that period pay it twenty or fifty times; and though this is only a possible case, it would appear that the law which would sanction it would require amendment. It may be objected that seigniorial lands conceded up to this time, were sold to the *censitaires*, subject to *lods et ventes*; that the sale was fair, and the purchase voluntary, and therefore no change should be made to favour one party to this contract more than the other. I admit this, that any law which would deprive the seignior of any part of his equitable rights, without an equivalent, would be unjust, but the matter to be ascertained is, how far the seignior's rights extend, whether he has a claim for a twelfth part of the amount that a property sells for *at every sale that may be made of it*. If he has this right, I must say it is one that never would have been granted, if its unequal, if not injurious future operation could have been contemplated when the grant was made. But it is by no means clear that *lods et ventes* can be strictly considered as the *property* of the seignior, because he can exercise no actual controul over it; it is produced at the discretion of another person. A man who takes a lot of seigniorial land, is obliged to perform the settlement duties upon it, but no more. He cannot be compelled by the seignior to expend labour or capital, that would produce *lods et ventes*, or if he does expend capital the seignior cannot oblige him to dispose of his improvements and pay him *lods et ventes*. The *censitaire* cannot be deprived of his land though he should never improve it, or pay *lods et ventes*. Hence it would appear that the seignior cannot have any actual right of property in the *lods et ventes* that is at the absolute discretion of another to produce it or not. The present laws of the country allow the claim, but this does not constitute it property, nor cannot, because it is actually the property of another. I view the law now, however, like all other laws of our ancestors, subject to be revised, and corrected, always securing the rights of individuals. I cannot discover any particular delicacy manifested by public men in Europe at the present day, in abrogating old laws and introducing new, and even in Canada, the Constitutional Act, which I believe was in 1792 received by the people in the most favourable manner, there are many who now desire to alter several of its provisions, and some provisions that affect the rights of property. I allude to the Clergy reserves. On reference to the 38th and 39th sections, it will be seen that by the *reading* of that act, whatever may be said to have been the *intention*, the reserved lands were set apart for the support of a Protestant clergy, who were to be ministers of the Church

of England duly ordained according to the rights of that church. It is not necessary now to discuss the justice or propriety of making a provision for the clergy of one church only; as the clergy reserves are no longer held sacred for their exclusive use and benefit, and though a sincerely attached member of that church, I rejoice that it has been so decided, because I am confident that otherwise it would inevitably have caused much dissatisfaction and ill feeling; and no wonder. However, it will be admitted that the British Parliament had the power when they passed the Constitutional Act, to legislate for Canada, as a part of the British Empire, before she possessed a local Parliament to make laws for her, and therefore the clergy reserves were as firmly made over for the support of the English Church as an act of the Imperial Parliament could make them.

But as it has been discovered, subsequently to the passing of this act, that its provisions would be unequal, and consequently unjust in its operation towards other portions of the community, the claims of the English Church should not stand for a moment to prevent a more equitable arrangement, and one that would give more general satisfaction; and I believe the members of the English Church most cheerfully acquiesce in the decision of the British Government that these lands should be given up for more general public purposes.

I make these remarks in order to show that many laws that might have been looked upon some years back as harmless, and were not complained of by the people, are now considered as most unjust and pernicious in their tendency, and their repeal loudly and almost unanimously called for.

We are not bound to continue the laws of our ancestors, more than we could expect to bind our posterity to retain our laws. The Feudal laws were found unsuitable to England, centuries back. The English laws were altered to suit the circumstances of the United States, and the Americans are highly commended for the alterations made; but among these alterations they did not see the expediency of introducing the Feudal laws of their ancestors, and yet the Americans have succeeded to admiration, without the countenance, aid, or protection of seigniors, or the granting of exclusive mill privileges. France abolished Feudal laws, and gave only a very moderate compensation to the seigniors for *real rights*, which were determined by valuation.

I have heard it stated, that any change of tenure, or in the Feudal laws, would alter the rule of descent by inheritance, and change the whole body of the laws applicable to real property, and be felt as a strange and injurious novelty by the *centitaires*. This objection cannot be entertained for a moment. The same authority that would be competent to introduce a change in the Feudal laws, would certainly be equally competent to secure and make permanent that part of the existing laws, that would be agreeable to the habits and wishes of the *centitaires*, as regarded descent by inheritance, and the laws applicable to real property. It is no part of my design in publishing this work, to undermine, or endeavour to abrogate, any laws that are acceptable to the majority of the people which I know the laws of inheritance to be; but I am equally certain, that a vast majority of the people are anxious for a change in the Feudal laws, as regards *lods et ventes*, and exclusive privileges.

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The principal cause that a change has not been demanded long since, with a unanimity that would be irresistible, is, that when a man takes a lot of wild land, he never contemplates such a possibility as that of the farm changing owners. He would not encounter the labour and difficulty inseparable from clearing and cultivating the forest, if he did not expect to enjoy the produce, and leave the inheritance to his children. So it is in most cases, when a man purchases a farm; the *lods et ventes* are paid at the expense of the person who sells, and cannot be demanded on the new purchase until a sale is again made. Hence the tax is only viewed in prospective. Every man expects that he will not have to pay it, and he leaves it to those who may have it to pay, to consider of its equity. I know several properties that in ten years have gone through three sales, and some in five years have been three times sold, and in each instance extensive improvements were made. I know other country properties that if now sold the *lods et ventes* would be nearly equal to a third of what the properties sold for ten years back, and this increased value produced entirely by the improvements of the purchaser. I have ever looked upon *lods et ventes*, to have the same injurious operation upon industry and improvement as that of Irish Tithes; the most industrious and improving occupiers in town or country have most to pay out of the produce to a party who gives no equivalent, nor contributes in any way towards the production in labour or capital. It may be said to be the law, but if it is the law, there is a legislature to amend it, and make its provisions more equitable, and more suitable to the altered circumstances of the country, and the times in which we live; and I would ask, in what free country is such a law suffered to exist now?

Suppose that for the waste seigniorial lands not yet conceded, *lods et ventes* were to be abolished, would not the seignior have the full advantage of selling his land in a fair open market, free from all after charge, and of course would be entitled to receive the value in proportion? All the advantages of the Feudal system, as regards selling the lands at a fixed moderate rent, equal to the interest of the fee simple of the land at the price of the day, may still be retained by those who wish to forward the interest of the settlers, and allow them to retain the capital they may be possessed of to improve their land; and I look upon it, as being as much in favour of the seignior to receive an annual rent so well secured to him on property in land, as it will be convenient to the *censitaires* that it should be paid in this way. I do not object to the Feudal laws for any good that may be found to be in them, but only to that part that may be proved to be injurious, unequal, or that would justify any thing like *vassalage*, a term that is hateful, and cannot exist in any state that is really free. I have known a case where a Canadian farmer who had all his land in cultivation, had a good stone house and other suitable buildings, unfortunately got in debt, and was obliged to dispose of his farm. The price he sold it for made the *lods et ventes* near £40; of course he got £40 less for his farm, than he would have done, had it been free from *lods et ventes*. It required every shilling of the proceeds to pay his debts, and he had to commence anew on wood land, with a large young family. Had he been able to get this £40 that was stopped for the *lods et ventes*, he might have established himself with some degree of

comfort and prospect of success ; but the difficulty to be encountered in settling in the forest without a reasonable capital, I would much rather imagine, than understand by practical experience. On the farm above alluded to, it was the labour and capital of the *censitaire* that constituted its almost entire value. Indeed I am convinced that the whole of the price it was sold for, including the *lods et ventes* , would not fully reimburse the labour and capital expended ; consequently it must be from this labour and capital that the *lods et ventes* were paid, and no other.

I may have failed to convince the reader that the Feudal laws require amendment, but I hope that what I have said will excite inquiry by those who are better qualified than I pretend to be, to understand the true nature and tendency of these laws, which must have a very powerful influence on the future prosperity of Canada, as the seigniorial lands occupy each bank of the St. Lawrence, and are the site of our principal cities and towns, where the properties must necessarily often change owners ; and it must be exceedingly injurious to check the free circulation of property by levying any species of tax on its transfer. It is not for me to suggest the equivalent, in kind or quantity, that the seigniors ought to receive. The first question is, to determine their rights, what they are, and then I do not see that the Legislature should have any difficulty in fixing the equivalent. An increased rent, determined on equitable principles, I cannot think there could be any great objection to, nor would this mode of arrangement injure the right of any party, if a better cannot be devised. This would be a remedy similar in its effects to the commutation of tithes in Ireland, that assessed them on the *lands* according to their value, instead of the *crops* , and thus obliging all who held lands to contribute towards the tithes, which under the former law they were not obliged to do. It is because *lods et ventes* are generally paid by those least able to pay them, that they are they more liable to objection ; and as I have already endeavoured to show that the most industrious and improving *censitaires* who by death lose, or other unfortunate occurrences may have their properties and improvements sold, bear the burden of *lods et ventes* , while the rich and fortunate who do not sell their properties, and the unimproving occupiers, are almost free.

The British Government is entitled to receive from the seigniors the same Feudal dues, which were payable to the French King. I cannot say what these are in all cases. The *quint* is a payment due to the king on the sale or transfer of a seignior, of the fifth part of the whole purchase money, which if immediately paid, it was reduced two-thirds of the *quint* . Perhaps there may be about six thousand pounds of these *quint* s, now due to the king. By the instructions to Lord Dorchester in 1775, in case any new seigniories were to be granted, a quit rent of one halfpenny per acre was to be payable to the king, " after the expiration of ten years from the admission of the respective tenants." I believe the same amount was payable for the seigniories granted by the French King. I do not know if all these dues be collected.

As the Government have a share in the Feudal dues, I would suppose it ought greatly to facilitate their equitable and judicious arrangement. It will be in the power of Government to set the example of remitting *lods et ventes* where it becomes due to them, on equitable terms, and by

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a judicious arrangement with the seigniors in respect to the *quints*, and quit-rents, the worst features of the Feudal laws might be finally got rid of, and abolished forever. The remission of dues that may be made on the part of the Government, will not ultimately prove a sacrifice, provided it is made the instrument of a commutation of those Feudal burdens that are calculated to obstruct the free circulation of property in town and country, and consequently the advancement of improvement.

In concluding this subject, I again repeat, that I do not propose any measure that would deprive the seigniors of their just rights, but only a conversion of these rights, that they may bear equally on all seigniorial property, proportioned to its value, (but not the capital expended upon it,) by a fixed rate being established, that all property improved or not, sold or unsold, should after once being conceded, be equally subject to an equivalent for *lods et ventes*, and all other exclusive privileges, but retaining such other provisions of the Feudal laws as may be agreeable to the people, and securing the "rule of descent by inheritance, and the whole body of the law applicable to real property," which the *censitaires* are acquainted with, and attached to. I hope that the remarks that I have thought it my duty to make on this delicate subject will not excite hostile feelings towards me. If the people and their representatives are convinced that the changes I have suggested are not required, and are perfectly satisfied with *things as they are*, my observations will do no harm, and as one of those interested I shall submit without murmur to matters I cannot remedy; and if I had not long since determined to take my chance with the people settled here before me, that their laws should be my laws, I would have fixed my domicile in some other part of this vast continent.

Perhaps before parting with this subject it would be interesting to show that the House of Assembly have manifested a disposition to introduce a commutation of *lods et ventes*. It appears that on the 14th January, 1834, a petition was presented from the inhabitants of St. Roch Suburbs of the City of Quebec, who are the *censitaires* within the limits of His Majesty's Domain. The petitioners stated that from poverty they were unable to pay the accumulated arrears of *lods et ventes* and other dues then due to His Majesty, and praying the House for relief. According to a statement sent to the House by the then Governor, Lord Aylmer, on the 31st January, the amount of *lods et ventes* then due was about £9554 12 3½. The Committee to whom the petition was referred, made a report to the House, of which the following is the substance:—"That by the evidence it appears that the mass of the inhabitants of the suburbs are poor, that their property is but of little value, and that the *lods et ventes* due to the Domain have accumulated since the 24th of May, 1803, to the 1st of December, 1831, to so considerable an amount, that the *censitaires* cannot pay them without being utterly ruined; that these *lods et ventes* have accumulated on their properties at the period when the general impression in the suburbs, though erroneous, was, that His Majesty would not exact them: This opinion would seem to have arisen from the remittance made to the *censitaires* of the Domain in 1801, by virtue of an act passed by the Provincial Legislature, and the neglect of the King's officers to sue for the recovery thereof from time to time as said *lods et ventes* became due, and that with the consent of the Domain."

"Wherefore your Committee respectfully submit *us* their opinion, that it would be *just and proper* to limit the payment of the *lods et ventes* due to His Majesty's Domain by the *censitaires* of the Suburbs of the City of Quebec, to the last ten years, whether the *censitaires* be personally responsible or by mortgage."

A Bill was brought in and passed the Assembly and Legislative Council, for the relief of the *censitaires* from all *lods et ventes*, except those that were personally due. The bill was however reserved for His Majesty's sanction.

From these proceedings it would appear that the Legislature have not considered *lods et ventes* as a species of property that is inviolable, or that may not be commuted or remitted, without giving any equivalent. And though it was the King's Seigniority on which the *lods et ventes* were due in the particular case I have introduced, yet if there is a right of property in *lods et ventes*, any one who is actually seignior must enjoy this right, whether it be the King or his subjects.

The sooner a final arrangement is made respecting *lods et ventes*, and an equitable commutation of them effected, the better it will be for all parties. Though it might perhaps be put off for a short time, it will inevitably have to be conceded to the people before many years are expired. It is a question in which ninety-nine hundredths of the people are deeply interested, whatever be their politics. North America is a soil on which Feudal laws and hereditary privileges cannot be expected to thrive, at this advanced period of the nineteenth century. The laws that are agreeable to the people may be secured to them, but I must state, that I have never met with a Canadian farmer (it is only them I will allude to) who in giving an opinion on the subject of *lods et ventes*, did not unequivocally express his disapprobation of this demand on every sale of property. The Canadian farmers are not a people inclined to encroach upon the rights of others, even though their own interest might be in question; indeed I believe there is not a better disposed people on the face of the earth. There is not, therefore, much probability that they would require of the seigniors to remit any part of their just rights, without giving an equivalent. They would cheerfully submit to an equitable commutation, that would bear equally on all lands conceded, whether improved or not, sold or unsold. This is not a political question. If the Feudal claims are commuted the vast majority of the community will participate in the benefit it will unquestionably produce. It will encourage the improvement of the country, the free circulation of capital and property, and hence must be productive of unmixed good to the people of Canada.

The Laws in force with respect to property in the seigniories of Lower Canada, are to most persons from the British Isles, very objectionable. But as the operation of those laws may be in some degree guarded against, by those who wish to do so, I do not see that any just grounds of objection can be advanced against them. If the majority of the people should at any future time discover that it would be expedient to make any change, it will of course be their privilege to do so; but certainly these laws are not felt so injurious in their operation by emigrants from the British Isles, that they could reasonably call for their alteration or removal in the seigniories, contrary to the wish of the

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Canadian people of French descent. The following are the laws alluded to.

Property, according to the laws of Canada, is either *propre*, that is held by descent, or *acquits*, which expresses being acquired by industry or other means. *Communauté des biens* is partnership in property by marriage; for the wife, by this law, becomes an equal partner in whatever the husband possessed before and acquires after marriage, and the husband is placed in the same position in respect to his wife's dowry property. When the wife dies before the husband, the children may claim half of the father's property as heirs to the mother, and the mother's relations often persuade them so to do.

The *dot*, or dowry, is the property which the wife puts into the *communauté de bien* moveable or immoveable property, falling to her by descent, is *propre*, and does not merge in the *communauté*.

Dower, in Canada, is either customary or stipulated. The first consists of half the property which the husband was possessed of at the time of marriage, and half of all the property which he may inherit, or acquire; of this the wife has the use for life, and the children may claim it at her death. If they be not of age, the wife's relations can take it out of the father's hands for them, and may compel him to sell his property to make a division.

Stipulated dower is a portion which the husband gives instead of the customary dower, and is fixed by marriage contract. These laws are not certainly altogether free from objection, particularly that part which allows children or heirs to force the sale of property, to the great injury perhaps of all parties interested. There is however, a possibility of guarding against some provisions of these laws by marriage settlements, or contracts, that will be in the power of every man who marries, and if he neglects to do so his family must be subject to the consequences. By executing wills or testaments, persons have it also in their power to dispose of their property and effects, so that those who object to the laws, may in a great measure be able to prevent the operation of those parts they disapprove of so far as the disposal of their own property is in question.

There is a law or custom established by long usage in Lower Canada, which I think is injurious to agriculturists. In every part of the country there are public roads constructed between the several concessions which make it necessary to have an additional line of fence to enclose such road. As it was considered to be unjust to oblige the proprietors of the lands through which the roads are conducted to make and keep in repair this double fence, the farmers of the next concession who use the road are obliged to make and maintain one half of these fences. There is no doubt but this arrangement was perfectly just in itself. The objection to it is, the waste of time and labour that is incurred in coming to perform the work, and in returning perhaps several miles, when a man residing on the spot might do the work for one seventh of the expenditure of labour and time that is now consumed. Works that are executed by a requisition of labour as these fences are, can be looked upon in no other light than a mischievous kind of taxation on farmers, at the most hurried time of spring, interrupting their agricultural pursuits, and wasting

their most valuable hours in going and returning several miles to do work that might not occupy one hour. Indeed it is an unproductive consumption of labour that must be a dead loss to the public. A farmer may have to go to work in two or three opposite directions on these road fences. In the settlement in which I reside, farmers have to make and keep in repair fences of three several roads, beside the road that passes through their lands, both fences of which they are obliged to keep up. These fences not being in charge of the proprietors on whose lands they are constructed, are subject to be stolen, and get out of repair. In consequence, a trespass may be committed on the crops, and a farmer who may reside seven miles off, through whose fence the trespass has been committed, will be subject to pay the damage. I have experienced the inconvenience of having these fences to maintain, and also, of the injury and annoyance of holding land that had road fences of this description to be kept up by farmers who reside at a considerable distance from the spot. I found it almost impossible at any one time, to have all the fences made up properly; perhaps one half was well made; a few more farmers had made their parts very insufficiently, and the remainder had been left without any repair. I know that in most instances the farmer that owned the land where fences have to be made up by this means, had much better make the whole at his own cost, than lose time in calling upon others to come and do the work, and after all never have his lands perfectly enclosed.

There could be no difficulty of commuting this obligation by a law of the Legislature, that all farmers subject to keep such fences in repair should pay a reasonable consideration together, or annually, to the proprietors on whose lands the fences were situated, to be relieved from the obligation of doing the work. These proprietors would then be interested in taking care of the fences, keeping them in good order, and could do so at about a *seventh* of the expense that is now incurred, and the fences are seldom in good order. An unnecessary waste of labour in such a country as Canada, must be an injury to the whole community, and works such as I have described, that are done by a requisition of labour under the circumstances I have stated, will always cause a great waste of time and labour, and from the work being insufficiently executed, will subject property to waste by trespass of cattle. It was supposed that the repairs of the roads in France by the *corrée* system invoked a sacrifice to the nation of 40,000,000 livres annually, and the roads were not kept in good order after all. The waste of time and labour incurred in every way, by maintaining these road fences throughout Canada is more than most persons would imagine, and of the most valuable time of the year, the spring. The cross roads have also to be kept in repair by the farmers who are obliged to make the fences, but though there is a waste of time in doing this work, yet the obligation is by no means so liable to objection as that of keeping up the fences, and therefore I offer none. By making these roads with suitable materials, they will not require to be often repaired; the materials are not perishable, nor can they be stolen, nor is there any danger of trespass on property by some parts being out of repair, as in the case of the fences. In every country it is most necessary to guard as much as possible against waste

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of labour and time, and though the laws cannot provide a remedy against this waste in all cases, no laws should by any of their enactments *demand* or *sanction* what must produce a waste of time and labour to fulfil the laws, or carry the laws into effect. Some will object that farmers far back in the country would prefer making these fences, to being obliged to pay the smallest sum in cash for having them made. It would be easy to meet the wishes of all parties, by a law which would allow those who prefer making the fences to continue to do so; but those who would find it more for their benefit to commute this obligation on a fair principle, to have it also in their power to do so.

In the last session of the Imperial Parliament in 1835, an act was passed relating to weights and measures in the British Isles. By this act, all local and customary measures were abolished. Heaped measure was also abolished, and articles heretofore sold by heaped measure, are now to be measured by the Imperial bushel, fitted in all parts as nearly to the level of the brim as the size and shape of the articles sold will admit; but they may be also sold by weight. By the same law coals are to be sold by weight and not by measure in future. For a breach of this law, penalties by fine are incurred. Weights made of lead or pewter not to be used, unless wholly and substantially cased with brass, copper, or iron.

I have introduced the heads of the above act for the information of the farmers of British America who may not be aware that such an act is in force in the British Isles.

It would be a great benefit to agriculturists if the standard measure of British America in all the provinces, should be assimilated to the Imperial bushel measure of England. The Canadian minot contained 2381-184 cubic inches, English, striken measure; the Winchester bushel, 2150-4 cubic inches, making a difference of between a ninth and a tenth. This is the measure, (the Winchester,) that is established in Upper-Canada, Nova Scotia, New Brunswick, and the United States. The Imperial bushel contains 2218-192 cubic inches, and is to weigh 80lb. avoirdupois of water. This measure is about a thirtieth part, or a fraction over, more than the Winchester bushel, and is between a thirteenth and fourteenth part less than the Canadian minot. It is difficult to discover how this dissimilarity of measures can be useful to the agricultural class. It is with England we are connected; in her markets our produce is sold, measured by the Imperial bushel, not by the Canadian minot, or the Winchester bushel. If a farmer sees the English prices current, he does not take the trouble to calculate the difference of measure, and is apt to form an erroneous opinion of the relative prices in England and Canada. It may be said that in Liverpool they estimate by weight, and that 70lb. is the standard for one bushel. Be it so; let us have 70lb. as our standard. It only tends to confusion that a different standard measure should be authorised in these provinces, from that of the British Isles. While we are connected with them, and resort to their markets for the sale of our produce, it would certainly be for the advantage of the agricultural class, whatever it might be for others, that the same weights and measures should be established here as in the British Isles. The farmer will not object, or ought not, whether the standard is by weight or measure, so as it is the same as the merchant sells by in the

English Market. Lower-Canada in particular is surrounded by the British Provinces and the United States, who use the Winchester bushel, that is so much less than the Canadian minot. It is not to gain any undue advantage that it is proposed to assimilate the standard measures and weights of grain, coals, &c., but to make the business of the farmer and merchant more simple and easy to be understood.

In heaped measure, there was scarcely two persons who gave exactly the same measure. One would give not more than half the height that the law provided in England, (6 inches over the brim of the bushel,) another less, and others would give the full quantity, yet all were received and passed in the market as a minot. By adopting the new law, there can be no mistake; the bushel should be filled to the brim, and those who would not give this measure might be fined. In selling vegetables in the markets, potatoes in particular, there is now no standard measure for what is sold as a bag, and it may contain, from one minot and a half, to less than a minot, and all is still sold as *bags*. Though there may be some liberty in this, it would certainly be for the benefit of the whole community to have a standard measure or weight for potatoes sold in bags, and it would prevent considerable imposition, and give a more fair market to the farmers as well as the citizens. It could not be unjust towards any one, that they should be obliged to sell their produce at a standard measure, that would be the same for all parties, the buyers and sellers, and could not be considered as an injurious clog or impediment to the free disposal of our own goods.

In the Hay market, at Montreal, there is a mode adopted of disposing of hay and straw, which would appear very objectionable. Persons will sell loads of each of these commodities not regularly weighed, and though in most cases the Inspector of Hay weighing obliged them to weigh, and pay him, yet they will not weigh their carts or trains, and the nett weight of the hay or straw is not known or marked on the tickets. It would appear just, that if any were compelled to weigh, *all* should be obliged to do so, or an unequal advantage is given to sellers. The man who will not have the nett weight marked, will sell so many bundles as he may think proper to name, though it may be far short in reality of this number by weight. This operates injuriously against those who sell by actual weight. If all were obliged to weigh, and have the exact weight marked on their tickets, it would be a much more equitable mode of proceeding both for buyers and sellers. There is also much complaint of the charge made for weighing, one shilling and four pence for the hundred bundles, together with an additional charge for weighing the empty cart or train when necessary. This charge for weighing is manifestly more than is necessary fairly to compensate for the duty performed, and all expenses attendant upon the service rendered. It would be unjust not to give a fair and equitable compensation to the person in charge of the Hay Scales, and for all necessary expenses attendant on weighing, but this is the limit of all just claims, and whatever it exceeds this, is nothing less than a species of indirect taxation on farmers.

In the City of Toronto they have established a high charge for weighing hay, &c.; but perhaps it is more necessary there than in more populous cities, because a constant attendance may be required though the

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quantity weighed may not be a fourth of that weighed in Quebec or Montreal. The principle is not a good one to act upon, that City corporations or magistrates should lay on *one farthing* for the weighing of hay or any other agricultural produce, more than was a fair equivalent for the services rendered to the farmer. If the farmers go to town with their produce, it is useful to the inhabitants of that town, and perhaps a large portion of the proceeds is laid out for the purchase of goods sold by the citizens, so that the advantages are perfectly reciprocal. It is not to accommodate farmers that any of the town expenses are incurred by the citizens, and the privilege of standing in the streets to sell their produce is not one that it would be very fair to charge for. If a covered market were erected for the particular use and benefit of farmers, a charge for such an accommodation would be justifiable, proportioned to the benefit received. In the old country it was customary in some of the cities and towns to make charges on agricultural produce brought to market, that had no right but power to justify them in doing so. In some cases, the farmer's bags of grain, &c. were not permitted to enter the market before a certain quantity was taken out of each. If the farmers in British America should be charged on coming to market, more for any service rendered them in the way of weighing or measuring their produce, than a just equivalent for this service, whatever it may exceed this is a tax, is as objectionable as that of taking a certain quantity out of each bag, and cannot be justified by any law that is or that ought to be in existence in these provinces. As in Toronto, a high charge for weighing hay, &c. may now be necessary; so it may have been necessary in Montreal and Quebec heretofore, when the quantity brought to market was not a fourth of what is now brought. It will therefore follow that if the charge was sufficient remuneration twenty or thirty years back in Montreal and Quebec, it must greatly exceed what is necessary now. The wages of labour was higher then, and the price of hay was generally much greater than it is now. I have seen hay sold many times in Montreal market for 7s. 6d. to 12s. 6d. the hundred bundles, and out of this perhaps the farmer would have to pay both for weighing the hay, and the carts or train, a charge of 2s. 4d., but in any case 1s 4d for weighing the hay.

OFFICES OF REGISTRY, for deeds, mortgages, &c. are considered highly necessary to be introduced into the seigniorial parts of Lower Canada, by a very considerable portion of the population. The great majority of the Canadian people, however, look upon the proposition as an innovation that is not required by them, in as much as they have been able to manage their own affairs heretofore perfectly satisfactory to themselves, and have not suffered any material loss, though they had no registry offices. It may be a very good objection to introducing new laws, when a great majority of the people do not see an obvious necessity for them. The altered state of society, and the greatly mixed population of Lower Canada, may however require laws now that were heretofore found unnecessary; and if this be a fact that can be clearly demonstrated, I think the objection to the introduction of registry offices will not be long persisted in.

It is one of the most confirmed opinions of political economists, that

a free, and secure circulation of property, and capital, is necessary to advance the prosperity of a country. Need I observe, that neither one or the other, will circulate freely, without security. It will not follow that any man should be *obliged* to part with his property because it was possible for him to do so with facility, and to the best advantage if he was so disposed. There cannot be any doubt but the want of offices of registry must depreciate the value of property that is brought to sale in Lower Canada. No one will pay as much for a property offered for sale if any uncertainty exists as to title, or whether there be after claims, by mortgages, widows, or minors. A sheriff's sale will cut off all mortgages, but not the other claims. In cases of voluntary sales, if a sheriff's title is required and agreed upon between the seller and purchaser, considerable delay and law expenses are incurred to obtain a voluntary sale by the sheriff. This expenditure of time and capital might certainly be much more productively employed, than in paying for a title that is not a secure and perfect one after all. This is truly an unproductive consumption of capital. The law that would establish registry offices, might readily provide that there should be no unnecessary exposure of the circumstances of private individuals, unless where the individual was disposing of property, or raising money upon it, and in that case few would question the reasonableness of the true circumstances of that property being made known to those who were to give a valuable consideration for, or upon it, assuming it to be exactly as represented. No man has a right to enquire into the private circumstances of another, unless that other applies for an accommodation in money or property, or offers to dispose of property for a money price; then indeed no man should complain that his true circumstances should be known to the person who proposed to give him his money. The purchaser cannot oblige the owner of property to sell; but if the proprietor offers to sell, there cannot be any sound objection that the laws should make known the true circumstances of such property for the security of the purchaser. I appeal to the good sense and good feeling of all those who may think differently on this subject.

There is another circumstance that I cannot reconcile to the law of equity, that is when a property is by the laws of the country adjudged to be sold to satisfy claims of creditors, &c. a sale by the sheriff, who is the officer appointed to execute that law, is not a security against future claims of widows, and minors. There cannot be any objection to these claims; on the contrary they should be secured before all others, but certainly these claims should be announced by the sheriff previous to the sale. It would be competent to the Legislature to make such a law as would meet this case, and provide that the widows, minors, or their guardians or friends, should be duly advertised in time to make known their claims previous to the sale. It is very proper to make provision for widows and minors, out of their husband's or parent's properties, but if these properties are sold for their full value to strangers, without reserving the claims of widows and minors, or making them known, it will be the stranger who will be at the cost of providing for the widows and minors of others, while the full value of the property chargeable with these claims will pass into the hands of other parties for

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the benefit of the friends or relatives of these widows and minors. The bare possibility of such a circumstance taking place, requires that a remedy should be provided, that will secure the rights of all parties, on honest and equitable principles. So long as the owner of property retains it in his own hands, he may do with it what he thinks proper; but when he chooses to dispose of it, or when it is sold under the authority of a lawful decree for the owner's benefit, and for a specific valuable consideration, in both cases no claim should legally attach to that property, that were not declared at the time the bargain of sale was concluded upon.

In cases where capital would be wanted, if there could be sure means of ascertaining the true circumstances of the person who required it, there would be no difficulty of obtaining it. In England they are glad to find landed security and from 2 to 4 per cent for their money, and in Canada where land must greatly increase in value, and with the absence of all direct taxes, the security of landed property would be as good as any in the world.

These are the only laws which I think it necessary to advert to here, and those which I am persuaded must have a very great influence on agriculture, and on the general prosperity of the country. I have candidly endeavoured to point out the manner in which these laws are injurious in their operation, or rather I should say, how they appear to be so, in my humble judgment. I submit my views with great deference, on subjects which must be deeply interesting to the present and future inhabitants of Lower Canada. It is not from any discontent that I feel as an individual, at submitting to the laws and institutions of a country, which though having these laws, I prefer notwithstanding to any other country I know or have read of, but from a persuasion that the prosperity of the country is most materially retarded by the operation of some of our present laws and usages, and they are of such a nature, that a change or amendment in them could not possibly fail to have a beneficial effect for the vast majority of the people, so that no risk can be incurred by introducing the change, whatever may be thought to the contrary. We know that European nations that have any pretensions to enjoyment of political and civil liberty, have done away with feudal laws and exclusive privileges; but though they had not, such laws and hereditary exclusive privileges are not suitable for this country, where improvement is so much required, where the improvements made constitute almost the whole value of landed property, and on seigniorial property must be entirely effected by the labour and capital of the *censitaires* , and not of the seigniors. Offices of registry may not be general in the old countries, but if we have cause to believe that they would be necessary here, to increase the free circulation of capital and security of property, the public are interested in their introduction and have a right to obtain them. We may be proud to bring with us from the land of our fathers to this new world, any of their laws or usages that have been proved by experience to be beneficial to society generally, and would be suitable to the state of society and other circumstances peculiar to British America, but our partiality to our fathers' laws, and customs, should not carry us further, and will not justify us in inflicting

injury, upon ourselves and our posterity. What should we think of the public man who would propose to introduce tithes here, on the principle that they are still collected in England, and other European nations?

Would the parties into which, unfortunately, the people of the Canadas are now divided, only consent by mutual concession to reconcile their differences, and unite as one people of common interest, and make it permanently the order of the day, truly and sincerely to desire the good of Canada and to promote the greatest happiness of the greatest number of her people by every *just* means, what happy results would inevitably be the consequence. It is then, *and not until then*, that we may expect to see our laws and customs ameliorated, so that they shall give ample encouragement to improvement, afford every security for the employment of capital, remove every bar to a free circulation of property, commute on some equitable principle the obligation of personal labour in all cases where it is now wastefully, ineffectually, and unproductively consumed, and introduce such other changes as a united and friendly Legislature would in their wisdom see likely to advance the prosperity of these fine provinces, and increase the means of human happiness for the people.

THE PRICE OF WILD LAND, THE MODE OF SALE, AND THE APPLICATION OF THE PROCEEDS.

The price of wild land, and the mode of sale adopted by the Government, and by the seigniors of Lower Canada, has been already stated. Land Companies, and individuals who hold wild lands, will have to dispose of them according to their relative value as regards soil and situation to the Crown lands sold in the market at the same price. I shall now proceed to the consideration of what would be the most favorable mode of sale to adopt to ensure successful settlement, and the most judicious application of the proceeds derived from the sale of wild lands to promote the prosperity of British America.

In treating of settlement in the forest, I have perhaps too freely expressed my opinion, that the price of the wild lands of the Crown would be much more likely to produce general benefit to the community, left in the hands of the industrious settler, than if disposed of in any other way whatever. With the exception of what has been paid by Land Companies, and what the Clergy reserves have been lately sold for in Upper Canada, the nett proceeds of revenue that has been derived from the sale of crown lands for the last thirty-six years is considerable. The expense of superintendence, commissioners of crown lands, of woods and forests, &c. &c., who certainly have never done much to promote successful settlement in the provinces, have consumed a large proportion of this revenue until very lately. As however it is probable that no argument that could be advanced would persuade those in authority that the price of wild land left in the hands of the industrious settler would be productive of more general good than if made a source of revenue, it may be as well to submit a mode of payment for the land, that would afford the *poor* settler some chance of success, and be suitable for all descriptions of settlers, whatever their means.

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Few persons who understand perfectly what settlement in the forest is, if they have adequate funds to purchase cleared or partially cleared farms, will give a preference to a farm covered with large trees. Hence it is that those who go to the woods are generally only those whose means are insufficient to establish them elsewhere. To deprive settlers so circumstanced of any part of their limited funds before they have got any return from the lands, may be the means of checking their progress in the very commencement, and inflicting much want and suffering for years on the settler and his family, should he have one. To the wealthy, the price of wild land may appear trifling, but notwithstanding, its payment or any part of it at the time the land is sold may be severely felt by the settler, and embarrass all his future operations. I have already endeavoured to point out the many disappointments that settlers are exposed to, and when their means are insufficient to meet these disappointments, they may be unable to go on with the clearing and cultivation of their farm, and be obliged to go to work for others to procure necessaries which their own farms would produce could they work constantly upon them. Those who have never experienced temporal wants in any shape, cannot comprehend what value a few pounds would be to a poor family in the woods, and how much privation and suffering the want of it occasions, or they would never approve of measures that would be calculated *unnecessarily* to produce these evils. The working settler who has means to supply himself with necessaries, and devote all his time to his own farm, after he gets his first crop is able to purchase a few pigs, a cow or two, or more if he can provide food for them, will have a fair chance of success, and after a few years will be sufficiently independent to pay the purchase money of his farm without inconvenience, when if obliged to pay in the commencement of his settlement, he might not be able to purchase either cow or pig, and hence be deprived of a great help to his support, and be devoted to spend the most of his life at hard labour with a very scanty portion of the necessaries or comforts of existence, in the power of himself or his family.

Suppose that a settler purchases at a government sale a lot of wild land, one-fourth of the purchase money is to be paid at the time of sale, and the remainder in three equal annual instalments. I would appeal to the experience of those who may be acquainted with the circumstances of British America, and the progress of new settlements, whether it is probable the settler will be in better circumstances to pay these instalments as they become due, than he would have been at the day of sale. For my own part, I have no hesitation in saying that in most cases the thing is impossible. It is only at the termination of three years that a settler could expect to raise produce sufficient for his own wants, and if he has a helpless family to provide for, he must be industrious indeed if he is able to do so in that time, without paying one penny from the produce of the land towards the purchase money. There may be some exceptions, but it must be owing to a combination of favourable circumstances, where there is abundant capital to employ labour, or large families of working persons.

When a settler comes to the country, he and his family are generally well provided with wearing apparel and bedding, sufficient to serve for

two or three years. When this stock is worn out, a new supply has to be provided. To settlers that have not adequate means, this will be a demand which may be severely felt for the first few years, until they have got their land in a reasonable state of production, and this necessary expenditure will make it the more difficult for them to pay immediately the purchase money for their farms. Those who never have experienced wants, are apt unfortunately to forget the many little necessities that are essential to the comfort of others, and particularly for the poor settler in the forest. Without ample clothing by night and by day he cannot expect to pass a Canadian winter very comfortably, and I believe most of those who estimate the amount of his necessities do not include the cost of clothing that is so essential to his very existence.

There have been estimates published to the world of the large produce that is attainable from a lot of wood land brought into cultivation, in the course of four or five years. But if we look to the amount of exports from Canada, and the imports of agricultural produce brought into Upper Canada from the United States, it will show how extremely erroneous these estimates must be, if generally applied. In 1834, there was over one million acres of land reported to have been in cultivation in Upper Canada, together with the use that is made of forest land. This would give more than three acres for each soul, and notwithstanding this abundant source for the supply of every species of food, there was much more agricultural produce imported from the United States than was exported of the produce of Upper Canada to other countries.

It is to practical results we must look to ascertain the probable returns that may be obtained from agriculture. It is quite manifest that were the produce on an average any thing near what is reported, the exports would be much greater than they have ever yet been, though there should not be one shilling's worth of agricultural produce brought into Canada from any country on the globe. It may however be admitted that the produce would be much greater were a good system of husbandry generally introduced. I have seen late statistical returns of the Kingdom of Belgium, in Europe, which show that there is not more than one acre and a half, English, of land in cultivation, for each inhabitant, and I believe they are well fed and clothed, but the country is exceedingly well cultivated generally, though the soil is not so good in quality as that of Upper Canada.

The mode of payment which might suit the circumstances of every description of settler would be, that at the time of sale it might be optional for those who would have means of paying for their land to do so at once, and be allowed a reduction of fifty per cent, which would be equal to ten years interest at five per cent per annum. That those who could not spare funds to pay at the time of sale should be allowed credit for ten years, interest free, and at any time previous to the expiration of this period, they would find their circumstances would admit of their paying the whole or any part, they should be allowed a reduction equal to the interest for the unexpired term. That from the expiration of ten years from the day of sale, the purchase money should be subject to the payment annually of interest at five per cent, until paid. By adopting these conditions, the settler who had sufficient capital, would be able to in-

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vest it to advantage, and the man who had not much funds over what was necessary to establish him on his wood farm, would be allowed time for the purchase money until he could pay it from the surplus produce of the land he had received in a wild and unproductive state.

This mode of sale of the crown lands (which can be only looked upon as public property and should be disposed of in that way which would best promote the general interest,) would not demand any sacrifice, because it would be the means of obtaining a higher price for the lands, equal no doubt to the amount of interest remitted. People will pay in proportion to the advantages offered them to purchase, and the advantages offered in this mode of selling land would be so obvious that it could not fail to be duly appreciated. It would not unfairly depreciate the value of private property, when the crown lands were to be sold at public auction, in open market, with all the advantages of the conditions made known. Any commodity thus fairly offered to the highest bidder will bring what it is worth, and wild lands held in private hands, it would be unreasonable to expect that they should sell for more. But in matters which involve the happiness of thousands as this would do, private interests should not be allowed *unfairly* to obstruct the prosperity of this fine country, and those who may come to increase her population and production should have every *reasonable* encouragement.

In reply to those who would urge objections to giving lands to settlers on a credit, lest some might not have sufficient funds to cultivate them, I would observe that the present mode of disposing of the wild lands, will not prevent persons purchasing whose funds may be very inadequate to bring them successfully into cultivation, when only a fourth part of the purchase money is to be paid at the time of sale. Emigrants are induced to purchase, expecting they shall be able to pay the annual instalments as they become due, from the produce of the land, together with supporting their families from the same source after the first year. In consequence of these expectations, they are tempted to part with perhaps most of their funds to pay for the land, and if their progress subsequently is not so prosperous or successful as they anticipated, they find all their funds expended, and are not only unable to pay the instalments from their extra produce, but they cannot proceed as they should do with the clearing and cultivating of their farms, from the want of funds. It is possible that the small sum they paid in advance for their lands, if they had retained it would have enabled them to go on successfully. This is not an imaginary case, but such as constantly occurs in British America. It does appear to be a strange kind of remedy to prevent persons with insufficient capital to cultivate from purchasing land, to take from those who do purchase, whether they have this sufficient capital or not, a part, and perhaps a greater part, of what they do possess. It is well known that many circumstances may exist that leave no choice to the emigrant but to go on wild land. Those who may have been reduced in circumstances would prefer taking their chance on a lot of wood land, though their means might be insufficient, to go to work for others, or to public works. They may have a family able to help them, or that soon would be in that state, and they venture on the experiment because they have not any other resource. In case of a failure of crops, or any other disap-

pointment, the use of a few pounds to a settler under such circumstances would be of greater advantage than it is possible for any one to imagine that has not had personal experience of like circumstances; and it is nothing short of cruelty to deprive the poor settler so circumstanced of any part of his little capital, if he finds he cannot conveniently spare it.

A settler may be under the impression when he comes to the country that he has sufficient funds to pay the first instalment for his land, and the others when they become due; and if his progress was uninterrupted by any disappointment or reverses, he might be able to do so; but he will find it imprudent to expose himself to the risk of the consequences of disappointment by not retaining sufficient funds in his hands until he is fairly settled on his farm and has got it in a productive state. If he is a prudent man, should he find himself in circumstances to pay the whole or a part of the purchase of his land, he will do so at any time previous to the expiration of the credit of 10 years, because he will save the interest which will be remitted to him out of the principal for the unexpired time. Giving credit may possibly be an inducement to persons to become settlers with insufficient funds to cultivate the land who otherwise would not do so; but though a few should be foolish enough to do this, the benefit it will produce to the many will more than make amends ten fold for any evil it may cause to those who would be so thoughtless as to become settlers without means sufficient for their support.

Whatever may be the objections that will be made to this mode of disposing of the public lands, from whatever quarter they may come, I am firmly persuaded it is the most certain mode that can be adopted to insure successful settlement. In a political view, perhaps some would fear that it would give a preponderating influence to the government that might be dangerous to liberty. To guard against this, it would be well that the purchaser of land should not be compelled to pay the purchase money so long as he paid the interest, and that he might pay the principal at any time he was disposed to do so. The settlers would then be as free from undue influence as if they were settled on seigniorial lands, and more so.

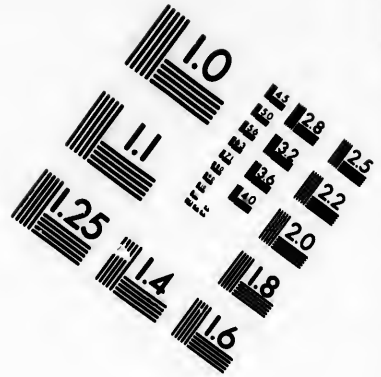
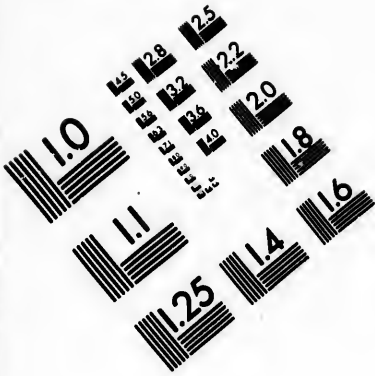
We hear every day of the want of capital in British America, and how immense would be the advantage of the introduction of capital to a country possessing a territory of almost boundless extent in an unproductive state, if applied to render this territory productive. Capital thus expended would manifestly be advantageous to the whole country. The settler in the forest, if he has capital, will *most certainly* apply it to that purpose, which few other capitalists will be induced to do, however they may *wish* the country to improve. Is it not then depriving the country of the most advantageous application of capital brought into it, to take it from the settler, when perhaps his *all* is only trifling in amount, in payment for land lying waste and unproductive, and that might continue waste if he had not the courage and industry to undertake its cultivation? By leaving the purchase money in the hands of the settlers, if they require it, it is giving the country all the advantage of so much capital for ten years, and on much better terms to the settlers than they could expect to obtain it from banks or money lenders, who, if they should consent to accommodate them, (a matter of great uncertainty), would bind them to a given time

for its repayment, which were it enforced in all cases, might be extremely injurious to them. Hence it is clearly in the power of government most effectually to promote the settlement and improvement of the British American provinces, by merely leaving in the hands of the settlers who require it, the funds they may be possessed of for a few years, to enable them to clear and cultivate the wilderness. The security for its payment ultimately, is as good as could possibly be given under any circumstances; the lands and improvements upon them would be accountable before any other claims, and what reasonable objection can there be offered against giving this mode of disposing of the forest land a fair trial? Again I would say that if capital is wanted to the industrious (not the idle) settler in the forest, it is in the power of the government to leave him what he may be possessed of, and in no other situation could it be more usefully employed than in his hands, or where it could confer more happiness, and the want of it inflict more suffering and privation, paralyze industry and impede improvement. The small sum of ten pounds in the hands of an industrious settler for ten years, might be the means of affording comfort and temporal happiness to him and his family, when, if deprived of it, they might be subjected to suffering and privations for all that time, and make little progress in their improvements.

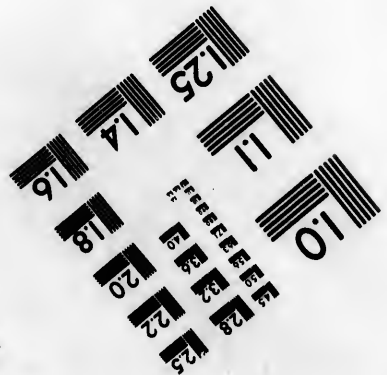
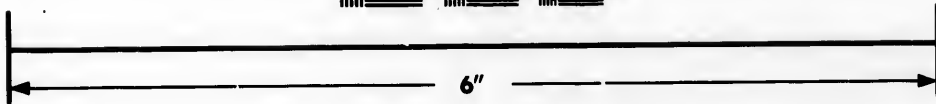
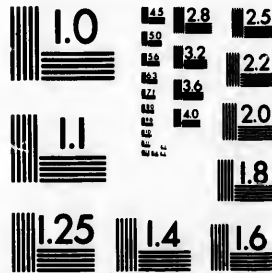
At some future period the price of the crown lands may be a very valuable source of revenue, but at the present there is no pressing necessity to seek an immediate revenue from them to the injury of the poor settlers. The whole of the revenue paid in the Canadas now, does not exceed five shillings for each inhabitant annually, and of this, three-fifths, or nearly two-thirds, is annually expended for internal improvements, education, and charity. A revenue amply sufficient for the support of a respectable, but cheap government, and other purposes of general usefulness, may be raised without pressing injuriously on any portion of the community, and without making any demands upon the poor settler in the wilderness, until he brings part of it into a productive state. In a new country, education requires some aid from the revenue, unless it is provided for by endowment of lands, or has other public means of support. It is also the bounden duty of Government and people to make a provision for those reduced to a state of destitution, by the death of friends, by age, or bodily infirmity. To meet all these demands, ample funds may be readily obtained. In these provinces, revenue is raised on the productions of other countries that are consumed by the people here. The greater the production from every species of industry, the more ample will be the means to purchase taxable commodities, and the less the payment of a revenue will be felt. To allow the price of wild land to be retained by the settler, if he should require it, as capital to enable him more effectually to subdue the forest and bring it into cultivation, will vastly increase production, and what is considered to constitute human happiness.

England has abundant wealth to meet her demands without resorting to the poor settlers in her American forests, to raise a revenue in a manner that would be hurtful to them, and certainly ultimately so to her. No objection is offered against paying for the land on the terms proposed, but a very great objection would still exist to the application of the proceeds





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derived from its sale, to any other purpose than to promote the improvement of the provinces, and for their exclusive use and benefit. The Government and people of these provinces should be equally interested in the general prosperity. Whatever will advance the prosperity of the people, must add to the true security and respectability of the Government, and in America, no Government can be secure or respectable if the governed are not in a prosperous state. It is this that will be their best security. The Government which will make it the *interest* of the vast majority of the governed to support it, will find in it better security than any military force could give. It may well be said, "That Government only is great which promotes the prosperity of its own people." It is for this end governments are instituted and supported, and if they do not use their best endeavours to accomplish this object, they are wanting in their duty to the people they rule over.

The question then to be ascertained is, whether the British Isles have a redundant population for whom it would be desirable that they should have an outlet, in the shape of emigration to their own colonies? The next question is, whether it would be advantageous to British America to receive those emigrants to become settlers in her forests? And if these questions be answered in the affirmative, it will only remain to be determined in what way these measures will be best carried into effect, so as to ensure the success of the emigrants, and that their coming to these provinces shall be useful to themselves, and advance the prosperity of those who are settled here before them. It is for the Government to give these questions due consideration, and to act on them in that way that will be most likely to be beneficial to the people of British America, and of the British Isles.

Those who would consider my propositions as giving more advantages to settlers than they would be entitled to expect, would do well to try the experiment themselves of clearing wild land, or pay for doing the work. This will be the sure means of becoming acquainted with the expenditure of labour required, and the produce obtained, perhaps under the most favorable circumstances that command of ample capital could afford. They will find that their nett profits will depend on many contingencies, and be subject to some disappointments for the first two or three years. It is by practical knowledge alone they will be able to make a right estimate of the consequence of such disappointments to a settler without means.

The difficulty of collecting the rents, or annual interest, might be another objection. If a proper system of settling the waste lands were once in operation, those whose duty it would be to superintend this department, under the control of the Government and Legislature, might very well collect the interest in the several counties at a fixed time in each year, and the expense need not greatly exceed that incurred at present for doing comparatively very trifling service. All that is wanting to ensure the plan working well is, to put it under proper superintendents, who will understand the duties they will have to perform, and devote their time and best exertions to these duties; to instruct the settlers as to their best mode of proceeding, and to superintend the works of a public nature that emigrants or settlers might be employed upon. The situation of

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a superintendent would not be a sinecure to any one who might be appointed if he was disposed and capable to do his duty.

Perhaps the following rules and conditions might be advantageously adopted in disposing of the crown lands in British America.

RULES.—That public sales at auction should annually take place on the second Monday in the months of June, July, August, September and October; and the places of sale be fixed in five different places or more, in each province, the most convenient to the lands to be disposed of and offered for sale from time to time.

That the quantity of land offered for sale at each place approximate to the probable wants of actual settlers in the market at the time, and disposed to purchase.

That the upset price be determined according to the general quality of the soil, and situation with regard to markets.

That it shall be the duty of the surveyor appointed by government carefully to examine every lot, and give a correct report on oath, of the soil, fitness for cultivation, and state as regards the necessity of draining, and the difficulty or facility of executing perfect draining.

That each lot shall be sold in order of rotation, and no waste lot be allowed to intervene, unless previously declared by the surveyor to be incapable of being occupied as an arable or pasture farm, without an expenditure that would be immoderately high for a settler to undertake. That in case of such report being made of any lot or lots, such lots shall be set up at one penny the acre, and sold to the highest bidder who will undertake to clear it, and bring it into that state of improvement that it shall not be injurious to occupied lands in the neighbourhood, particularly in respect of draining.

That an agent be appointed by government in each district, whose duty it shall be to make an annual survey of the lands sold in future, and report on oath the progress of each settler, in order that those who may not have complied with the conditions of sale, may at once be dispossessed of the lands, to be again sold.

CONDITIONS FOR PURCHASERS.—That every purchaser of a lot of one or two hundred acres, shall be bound to have an actual settler resident upon each lot before the end of two years from the day of sale, who shall have a log house of the usual dimensions erected, and five acres at least in crop, or prepared to receive a crop, and in failure of this consideration, the lot or lots shall revert to the crown, and be again sold.

That no title or deed be given, except a ticket of location, until the above condition be fulfilled. They are not however intended to apply to lots that may be reported by the surveyor as unfit for arable culture.

That the above conditions are not intended to prevent persons possessed of capital purchasing more than one lot of land, should they require it for their occupation, provided improvement is made in proportion to the quantity of land that is occupied, at the rate of five acres for each hundred acres annually for ten years from the day of sale, and in failure of this condition being fulfilled in ten years, the government may demand the surrender of any land of which the due proportion has not been cleared, returning the purchase money if it should have been paid for the quantity of land which is surrendered and reverts to the crown.

That it shall be optional with the purchaser of the crown lands to pay the purchase money on the day of sale, and be allowed a reduction of fifty per cent on the amount, or pay the full amount in ten years from the day of sale without interest, or at any intermediate time that the purchase money is paid, a reduction at the rate of five per cent per annum for the unexpired time of the period of ten years from the day of sale be made to the purchaser. That should the purchase money remain unpaid after the expiration of ten years from the day of sale, it shall be subject to interest at five per cent per annum, until paid.

I do not pretend to offer these rules and conditions as those that it would be expedient to adopt, and no other, but they may suggest some others that would be more appropriate. I am however perfectly convinced that the present mode of disposing of the crown land is not the most advantageous for the government or the governed, either in the British Isles or British America. It is impossible that any sale of the waste lands of the crown be for the public good, unless the obligation of immediate actual settlement, or improvement of the land sold, is incurred by the purchaser. I think this proposition must be manifest to any one acquainted with the circumstances of the British Isles and their redundant population, and with British America and her want of population. To any one that would be disposed to settle in the woods and cultivate, their land should be given on the most reasonable terms, and with the least possible trouble by the land granting department. It is from some defect in the management of land granting hitherto, that has retarded their settlement, at least I would suppose so.

Many thousands of emigrants have landed at Quebec that have not settled in Canada, but have gone to the United States. Surely the British American Provinces ought to hold out as much encouragement to induce British subjects to remain in the British empire, as a foreign state could do. And as the power of empires is generally estimated by their population, if England desires this power, she undoubtedly possesses wealth sufficient to enable her to grant the wild forests of her vast dominions to her hardy and industrious sons, on as favourable terms as they could obtain forest lands from a foreign state, and not exact almost the *last penny* that they are able to take with them when quitting for ever the land of their fathers, to seek subsistence in the American, Australian, or African wilderness. Those who wish well to the prosperity and power of the British empire, would surely recommend that every reasonable encouragement should be held out to emigrants to settle in the British dominions, rather than in a foreign land, particularly when she possesses lands of almost boundless extent, that are only occupied by wild beasts.

Considering all the circumstances of the British empire, there must be something wrong, that would induce the sons of the British Isles when emigrating from their home, to go to a foreign country in preference to settling in the territories of Britain, that I am persuaded are capable of offering equal if not superior advantages to any part of the United States. It is for those in authority to examine into the causes which produce this effect, and they will be wanting in their duty to their country if they do not provide a remedy, if it is possible, that will induce those that are born Britons to continue Britons while they live, from a

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conviction that they cannot enjoy more prosperity as the subjects of any other empire on the globe.

The next question that presents itself is, the most judicious and profitable application of the revenue arising from the sale of the crown lands. For the present, this revenue, or the greater part of it, could not be applied more usefully or beneficially than in opening communications to the most inaccessible parts of the provinces that are fit for settlement, by constructing roads, rail-roads, and bridges; improving the water communications and making them navigable, and draining large tracts that may otherwise prevent regular settlement so necessary to successful settlement, and to give every further reasonable assistance to the settlement and cultivation of the vast wilderness of the British American provinces. This proposition may, no doubt, appear a very strange one, and troublesome to execute, but I will nevertheless maintain that were the provinces *private property*, it would be the most certain and judicious means to improve such an estate and to render it fit for occupation and production, and the course that would be proper for private individuals to adopt under such circumstances would be equally proper to adopt for the improvement of the public property. In a pecuniary view it would be a judicious expenditure that would inevitably be refunded. A numerous population and abundant production is what will make these provinces a valuable part of the British Empire. The policy that will augment both population and production, will, therefore, unquestionably be the best to follow.

Improving the means of communication with the unsettled lands in the provinces, would be sure to increase population and valuable production in those parts that now have neither one or the other.

The application of every shilling of revenue derived from the sale of the public lands to the purposes I have enumerated, will have this effect, and increase the resources of the country, and the disposable means of the inhabitants to purchase foreign commodities, and thus promote the interests of commerce as well as agriculture, and also augment the revenue to be again expended for the general good of the people.

When the country becomes more populous and productive, the people would not require so much assistance in making roads, draining, &c.; but while they are or should be employed in clearing the wilderness, and in cultivating and rendering productive what is now waste and unproductive, and erecting the necessary buildings where there is now no shelter for man or animals, it is not possible for them to attend to other objects, however useful they might be to themselves. The task they undertake is fully sufficient to occupy all their time and capital, and it will be good policy to extend every reasonable support and encouragement to those who may be so engaged, and to make their burdens as light as possible until able to bear them, whether native or emigrant, coming to the country. Granting lands on terms I have suggested, and applying the proceeds derived from the sale of the public lands for the present, to general improvement, particularly in the most thinly settled parts of the country, would be all perhaps that would be required to promote settlement, though indeed it would appear that a part of the revenue, derived from the sale of wild land could not be more *profitably* applied, for ages to come,

than to the improvement of the means of communication throughout every part of the extensive territory of British America, and to the draining of extensive wastes that are unsaleable in their present state, and must be of a great injury to the lands that are and may be occupied in their neighbourhood. In many places where water is retained on the lands, it might not require a large expenditure to cut outlets that would drain them, and these lands would repay the expenditure amply when they would be offered for sale. Settlers will not purchase lands so circumstanced; and if they did, they would perhaps be useless to them, as it might require all their means to drain them. Under judicious superintendence of *practical* men, one main outlet, or drain, might be cut, that would let off the water from thousands of acres of land to such an extent that the settlers might be able to execute the remainder of the work of draining. My proposition would not subject the Government to any outlay, but from the funds derived from the sale of wild lands, and if the money was judiciously expended and not made a job of, it would assuredly be refunded, and not only that, but it would be of immense benefit to the country, improve the climate for agriculture, increase production, and allow the lands to be settled in regular rotation. It is not proposed that this system of draining should be generally adopted, but only where large tracts that are now considered useless, might be rendered fit for settlement by a comparatively trifling expenditure. As it has been already observed, the true mode of making the wilderness of the British American Provinces a valuable estate, is by managing them in the same way it would be prudent to do were they private property; and why then not manage them so? By a sale of these lands for cash payments, and taking no further trouble with them or the settlers upon them, the government might perhaps gain more immediate benefit from them, than by the mode I have suggested; but ultimately the plan I have submitted would unquestionably be productive of most benefit to government and people.

The revenue that will be raised subsequently from settlers in the forest, will not be confined to the price of the land or the purchase money, but will be in proportion to the amount of taxable goods which the settlers are able to purchase. This may be considered as the rent that the estate will pay. And the amount of this rent will depend on the amount of production created by the labour and industry of the settler.

In managing a private property of woodland, perhaps it would not be prudent to expend more upon it than would fit it for settlement, and increase its value before it was sold. Subsequently to its sale, the former owner cannot expect to derive any more revenue or benefit from it, and he is not called upon to expend his own capital further, for the sole benefit of other persons. Not so with the government; the revenue will be every year increasing, from the labour and improvements of the settlers. They will, as they are able to increase production, increase their expenditure on taxed commodities, and by this means be contributors to the revenue, both here and in England. As it will therefore be the manifest interest of the government to advance improvement, and augment production, their efforts should be unremitting in furtherance of these objects. Not only should these efforts be directed to the improvements that have been enumerated, but they might be profitably applied in assisting emi-

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gration of the useful class of settlers. Some of the funds derived from the sale of the public lands might be most usefully expended in this way. The working class of emigrants who would not have much capital, could be employed on the public works carrying on for the improvement of the waste lands, and might thus be able to acquire capital to become settlers. By adopting judicious measures to facilitate the settlement of the British American forests, and give that reasonable assistance and encouragement to the settlers that would be prudent for the government here and in England to give, and necessary for the settler to receive, these provinces would advance most rapidly in population, wealth, and power, and soon become a great nation.

Much more might be advanced in recommendation of the application of the funds derived from the sale of wild lands to the improvement of our internal communications, and the settlement of the waste lands, &c. but perhaps what I have said may not avail much with those who have it in their power to give effect to plans of this nature. To suggest what I conceive might be productive of good, is the limits of what is in my power to do: It is only as an inhabitant of British America, and interested with her people, that I would attempt to discuss the subjects I have introduced. Much objection may possibly be urged to some of the propositions I have submitted, but when I did attempt to examine matters in which the great body of the inhabitants are deeply interested, no consideration on earth would deter me from candidly stating my humble views on the subjects I introduced. I may be very much mistaken in my views, but offering them to the consideration of the public, it may induce more competent persons to consider the subjects that have been brought forward by me, and propose measures that will be better calculated to promote the public good.

MEANS OF INTERNAL COMMUNICATION BY ROADS AND BRIDGES, RAIL-ROADS, RIVERS AND CANALS.

Facility of communication assists production, inasmuch as it abridges the labour connected with production. Good roads, navigable rivers, rail-roads and canals, will, if they abound in any country, be sure to produce improvement, and vastly augment the resources and comfortable enjoyment of the people. In the dark ages of barbarism, the Romans were so civilized, as to be aware of the importance of good roads, and constructed them throughout their empire and in some of the countries that they had only temporary possession of. In modern times, England owes much of her prosperity to her ample means of internal communication by good roads, safe bridges, rail-roads, navigable rivers and canals. In this respect she excels all other nations on the globe, and at the present time, there are so many applications to the British Parliament for the privilege of constructing rail-roads in every direction throughout the British Isles, that it is probable rail-roads will very soon supersede most of her roads now in use, at least on all the great public thoroughfares, and prevent altogether the construction of canals in future.

In British America the want of good and ample means of internal communication is severely felt, and will be likely to continue so, until the population is vastly increased, unless public funds are applied to the pur-

pose; and there are funds that might be applied to these purposes with advantage to government and people. I allude to those derived from the sale of the public lands. Even in the immediate neighborhood of the cities the roads are generally bad. The waste of time and labor that is incurred in taking produce to market on bad roads is very great; not more than half loads can be carried a great part of the year, and even half loads are more injurious to the horses' harness and machines, than full loads would be on good roads; there is also near double the time consumed in going to and coming from market. In every way the want of good roads is injurious, and acts as a drawback on the produce of agriculture, and every species of industry. It may be said to prevent production, because it consumes unnecessarily, time and labour that might otherwise be applied to production.

We could not expect good roads throughout such an extensive country as British America, with her present thin population, unless by the aid of public funds. In the neighborhood of the principal cities and market towns, were turnpikes established, we might have good roads where they were most required, which would certainly produce much benefit. It would also be an experiment for the people, of this mode of making and maintaining roads. The Legislature would have it in their power to provide that a reasonable degree of exemption should be afforded to farmers who had their own roads to make and maintain, at their own expense, elsewhere. If turnpikes were generally established, all would participate in the full benefit, and it would be fair that all should pay who made use of them; but until that is the case, it does not appear just that a farmer who resides off the line of the turnpike, and has his own roads to keep up unassisted, for the public use, should have to pay constantly the full tolls for passing on the turnpike road to market. Those who would reside on the line, and have their roads made for them to their doors, would not be entitled to any exemption, because they would be relieved from the obligation they were previously subject to, of making these roads at their own expense. There is another circumstance worthy of notice, that until good roads were general, those who would reside at a considerable distance from the turnpike road, would not derive so great advantage from it as some would imagine, and could not, perhaps, bring more to market than if all the road were equally bad; it would, therefore, be unjust to make any pay more than a fair proportion for the benefit he received. There cannot be any doubt that turnpike tolls, established on a just and equitable principle towards all parties, and managed properly, without any jobbing, would be the best and fairest means that could possibly be adopted for the making and maintaining of public highways. Those who would use them, would pay for them, and their contributions would be expended in such a manner, that they would receive a full equivalent in convenience and comfort. Turnpike tolls are a just and equitable tax; and were the inhabitants of British America to have good roads for paying moderate tolls, they might cheerfully submit to the tax, as they would find it would be every way advantageous to them, and for any pecuniary sacrifice that would be necessary, they would be amply compensated, and it would be more than refunded at the year's end.

The Legislatures in the different Provinces have granted within the

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last few years, a large amount for the making and repairing of roads, and I believe the money has generally been applied so very judiciously that it has been productive of much benefit. The granting of money from the revenue of the country for repairing roads, is a measure of rather doubtful policy, considering the sources from which our present revenue is derived. There are some particular circumstances which might make such grants expedient, but if they extend beyond these cases, I do not see that there should be any limit to the grants. One part of the country has just as much right to participate in the benefit of grants for road making as another part, and if this principle be generally admitted and acted upon, the whole revenue would be insufficient to satisfy the applications that would be made. A revenue for general road making should be a distinct and separate one, raised expressly for that purpose only. An appropriation from the land funds would answer for making roads in all the new parts of the Provinces; but in my humble judgment, a revenue for the general support of roads should be provided for separately from the present Provincial revenues of the Provinces. Where grants would be made for roads from the public revenue, it would be well to provide that *in every case where it was possible*, the money should be expended on the roads in hard metal or broken stone, and if stone was not to be procured, the best kind of hard gravel, or pure sand. Unless the money is thus applied, the public will not derive much benefit from it. If the roads are to be made in the unsettled parts of the country, a different plan must be adopted. All that can be done through a forest, is to remove the trees, root and branch, from the line of road, to drain it perfectly, and make bridges where necessary. When grants of public funds are made for improvements of any description, the most durable, and if possible, imperishable materials should be made use of, and the work executed in a substantial way, so as to give it a fair chance to be permanently useful. If this rule was observed in granting and expending public money, it would rarely be misapplied; some permanent good would always remain to the public. On the contrary, if public revenue is expended on improvements that can be of only temporary duration, from the description of materials used, and the manner of using them, the public will not derive much advantage from them, and it can scarcely be considered in any other light than a waste of the public money. If, for instance, in making or repairing roads, materials that are not durable or suitable are made use of, the money so expended is so much thrown away. Or if in executing public works, to make a paltry saving, an imperfect plan is adopted; contractors allowed to make use of materials that are not of the best description; and inferior workmanship in style and execution permitted; in all these cases a great waste of the public money is the consequence. The works are, perhaps, from an injudicious plan, very unsuitable for their uses, or not the most suitable; and from inferior materials and workmanship, they soon get into a state of gradual decay. All works of a public nature, and paid for from the public funds, should be executed on well considered plans made by competent professional men, of the best and the most durable materials; and the workmanship, though it might be plain, executed in the most substantial manner possible. Ornament and show, is, perhaps, not desirable, or at least not so much so as utility,

strength, and durability. The exterior of the Roman Catholic Parish Church at Montreal is a very fine specimen of the description of architecture that would be suitable for public buildings. It is of excellent design, materials, and workmanship; no flimsy ornament about it, but all substantial, in good taste, and highly creditable to the architect and mechanics who were employed to execute the work. I might also mention the new St. Ann's Market at Montreal, as a substantial and well constructed public building. Either of these buildings will not require a constant outlay for repairs, as buildings not well constructed or of good materials will always do.

Rail-roads would appear to be well adapted for British America. The country is generally level, and from the climate that is peculiar to the provinces, rail-roads would be much more suitable than canals. In the first place, they would not be so subject to injury by severe frost, which will always be a great objection to canals in Canada, in most situations. In the next place, rail-roads can be longer made use of than canals that must be shut up with ice five months in the year, when the use of the rail-road might, perhaps, be only a very short time interrupted. The waste of time that is incurred in passing through several locks of a canal is another great objection, when compared to the extraordinary facility of communication on rail-roads. It is not possible to increase the speed of a loaded boat, on most canals, beyond the rate of from two to three miles the hour, without greatly injuring the banks, and requiring a great power to draw the boats, as increasing the velocity would greatly increase the resistance of the water to a loaded boat. The time lost in passing locks will be nearly ten minutes for each lock. The Lachine canal is nine miles long, and has seven locks. It must take from four to five hours, at least, to pass a loaded boat through, from the entrance at Lachine, to the harbour at Montreal, passing all the locks. If a rail-road was constructed, the same distance would not occupy more than half an hour to travel over. The last objection to canals, (though not the least, in my view,) is their injurious effects on the lands intersected by them, which must, in general, be very great, particularly when puddling the banks is never thought of, or intercepting drains cut to receive the water that leaks or percolates through the embankments.

If the improvement of the navigation of the St. Lawrence was effected, as it is likely to be, to Prescott, and steam navigation possible from Lachine to Lake Ontario, it would certainly be desirable that steam navigation should be continued to Montreal; but this should not prevent the construction of a rail-road; because, though the canal might be enlarged to admit of uninterrupted navigation for steamboats, travellers would give a preference to go by rail-road to Lachine, to the delay of passing by the canal. A rail-road to Lachine would add greatly to the enjoyment of the citizens of Montreal, and the time consumed in making the trip would be so trifling, that it would not be injuriously felt by any class, to make the journey occasionally.

A great means of improving the Canadas particularly, would be by diminishing the expense of carriage to the more remote parts of the country. To accomplish this, the most effectual way would be, first by improving the navigation of the rivers, not by damming their waters and flooding the

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rapids, but by removing the obstructions, and constructing locks where there are falls. It must be injurious to dam the waters of rivers that have naturally formed their own beds. Vast improvements may be effected by straightening the course of rivers and removing obstructions, but never by damming back their waters. When rivers have formed their natural channel through a country, their waters must have required that channel or it would not have been formed, and particularly where there are rapids, and the channels shallow, it must be from the nature of the soil being rocky or hard, and water cannot have formed a deeper channel in such situations than was necessary for their free discharge. If artificial means are adopted to dam the water at those rapids, it must in most cases have a very injurious effect on the lands situated on the banks of the rivers, and perhaps to a great extent back. The waters would be impeded in their course, take a longer time to discharge a given quantity, and hence all the small streams that discharge into these rivers may be similarly affected, and cause great damage to growing crops of whatever kind that may be within the influence of such river or streams.

As to the construction of canals, I think they are very unsuitable for these Provinces, unless in situations where a long continued navigation might be effected by means of a canal to connect navigable waters. In all other situations, rail-roads will be found preferable. By constructing main lines of rail-roads on the principal thoroughfares, and branches from them to distant sections of the Provinces, it would be the greatest improvement, next to increase of population, that could possibly be effected. The produce of distant parts might in winter be collected to places connected with main rail-roads or their branches, and the expense of carriage then to the principal markets, would be so trifling that the most distant part of the Provinces would be rendered nearly as valuable as those in the immediate vicinity of cities and towns. It would be a saving of time and labour that might be applied more profitably, and of unproductive consumption in horses, the wear and tear of carriages, harness, and other implements that are injured and wasted by bad roads. Who that are inhabitants of these fine Provinces, and are placed in a situation that would give them power to forward measures of improvement that must produce favorable results to the whole community, but would join heartily to effect so desirable a purpose? They would be patriots indeed, who would improve and extend the means of internal communication in British America. It would be the most easy and certain way to increase annual production, and augment the wealth and resources of the people of every class.

The price of the waste lands might, as I observed under another head, be in part applied to the construction of rail-roads and other roads in the thinly settled parts of the country, and through the waste lands, to facilitate their settlement and cultivation. This would be the legitimate application of a part of the funds derived from them. Another portion might be applied to assist emigration by superintending their settlement, and adopting such other measures as would be calculated to give them a fair chance of success. Can it be necessary to say more to recommend this subject to the Governments, Legislators and people?

It would be wasting the reader's time to describe how rail-roads are

constructed. It is not for me to do more than endeavor to prove their usefulness, and to show how well they are adapted to the circumstances of British America. The mode of construction is the business of the engineer. It might be well to observe that the rules adopted by the British Parliament in respect to applications for privileges to construct rail-roads or canals, which obliges those who apply for them to deposit plans or maps of the proposed line in the proper office, would be a very judicious rule to adopt in these Provinces. Those who undertake those works are generally unconnected with the agricultural class, and when they are privileged by an act of the Legislature to construct these works, they are not accustomed to use much ceremony about the injury or damage they may occasion to farmers. Legislative acts for these purposes cannot too carefully guard the rights of the farmers. It can do no harm to provide for the just protection of those who are *entitled* to exemption from injury. No part of the profits derived from such undertakings is divided with the farmers, and therefore they should not be subject to suffer damage by these works. However carefully the legislative act may be worded, it can do no harm to rail-road or canal companies, if they are disposed to act justly towards the farmers, and if they are not so disposed, it will be well to have the means to oblige them to do so. In England I believe it is usual in canal acts to insert a clause for the security of landowners, to require the company to cause all the banks that need it to be secured by puddling, to prevent damage to the land below by leakage; and I believe this clause is generally enforced. It is also the invariable system to cut intercepting drains. It is well known how little attention is given to these matters in this country. If canals are constructed through soils that are not water-tight, the banks require to be puddled. Any soil that will let the water soak or percolate through it, such as sand, gravel, loose or open rock, is considered as porous soil, and should be puddled to prevent injury to the adjoining lands. If the canal is cut in soil that is altogether of a porous nature, the bottom as well as the sides would require puddling. The puddle-ditch, or puddle-gutter as it is generally called, is usually about three feet wide, and when it is not necessary to puddle the bottom of the canal, it should enter about a foot into the soil that is not porous and is water tight, and be carried up a few inches over the water line in the canal. The best stuff for puddling is said to be a lightish loam, with a mixture of coarse sand or fine gravel in it. The principal operation in puddling consists in consolidating the mass by watering and working it well before it is filled into the ditch. If canal companies were *obliged* to adopt these necessary precautions, farmers would not be so subject to be damaged by these works, and it would be much better to prevent damage than to be obliged to have constant recourse to a court of law for redress, and waste the time and money of both parties in obtaining it.

It may be useful to offer a few remarks on the most approved method of making and repairing roads as practised at present in the British Isles.

In England, the principal roads or highways between the capital cities and seaports, where they are most frequented, as within a few miles of large towns, are from 30 to 60 feet wide, with footways on each side from 4 to 10 feet wide. In no case is the metalled part of these roads less

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than 20 feet; that width being requisite to admit of one loaded waggon passing another. These roads are supported by tolls levied on carriages and animals passing over them.

According to minutes of evidence before a committee of the British House of Commons, given by several engineers, "*A dry foundation and clearing the road from water*, are two important objects which ought to be kept in view, in laying out roads, that the foundation of the road should be kept dry, either by avoiding low ground, or by raising the surface of the road above the level of the ground on each side, or by drawing off the water by means of side drains."

Edgeworth observes "the substratum must be laid dry by proper drainage, and where the road is liable from the flatness of the country, to be at times under water, the expense of raising it above the water must be submitted to in the first instance. All drains for carrying off water should be under the road, or at the field side of the fences, and these drains should be kept open by constant attention, and should be made wide at the outlet."

Paterson recommends "That before the materials are put on, run a drain along the middle of the road, all the way, from two to three feet deep, then fill it with stones up to the surface, making those at bottom of a pretty good size, and those at the top fully as small as the road materials. And, in order that the quantity of stones used for the said drain may be as little as possible, and every way to save expense, it may be made as narrow as it can possibly be dug. From the leading drain make a branch here and there to convey off the water to the drains on the sides of the road." This mode of draining has been found so beneficial, that a road so drained would be better and more durable with eight inches than it would otherwise be with twelve inches of materials, and not only so but on such a road there would be a saving of the incidental repairs ever afterwards of about one-half of the labour, and at least one-third of the materials. There have been some roads made on this plan under Paterson's directions, which are said to have stood all the winter rains and frosts without injury, and promise now to make the finest roads in England. In some cases, two drains running parallel, and five feet apart are cut, and he recommends in wide roads that three or four should be cut. He says that though at all times the effect of these drains will be beneficial, it will be particularly so in time of a thaw, after severe frost. In frost the surface of the road, though wet before, becomes dry, the water being absorbed by the road, or otherwise condensed by the frost; but no sooner is this succeeded by a thaw, than the absorbed or condensed water, again makes its appearance all over the surface of the road, and this is the time these drains are so peculiarly beneficial. Where such drains are wanted, the road on the return of a thaw, throws up to the surface all the water it had imbibed, and in many places the materials swelling up become quite loose and open. This is a natural consequence when the materials are not thick, and where the soil under the road is not perfectly dry; but where a road is dried in the way described, it will be uniformly seen that the water instead of spewing out on the return of a thaw, is sucked in by the drains, so leaving the surface of the road quite dry. It may be observed that at such times the places of the roads where a few rods of such drains have been introduced, present to the eye at a quarter of a mile distant quite a con-

trast to the other parts of the road; the one opaque and dry, from the moisture being all sucked in; the other all wet and glistening, from its being thrown out of the surface. To adopt this mode of draining roads in British America, would, I am convinced, answer extremely well, provided some care was observed in making the drains sufficiently deep, and having many outlets from them.

The late Mr. Talford observed "that when roads are made on ground where there are many springs, it is absolutely necessary to make a number of under and cross drains to collect the waters and conduct them into the side drains, which should always be made on the field side of the fences. The surface drains or water tables formed between the metalled road and footways, should be made a few inches lower than the side of the road, and of the common width of the spade at the bottom, and they should have frequent cross drains under the footways and fences into the outside drains that are cut on the field side of the fences. These latter drains ought invariably be cut with a considerable slope. In another case where draining was, from the nature of the soil and situation, found to be impracticable, Talford laid down and joined by cement, blocks composed of coarse gravel and Roman cement. The water is thus prevented from oozing up, and a foundation formed at once firm and dry.

Water is one of the most serious causes of the wear of roads; it acts, aided by pressure, like gunpowder, in rending the surface of bodies. Frozen, it acts precisely in the same manner; and when it has penetrated deeply, as it usually does in Canada, into a stratum of materials, a thaw produces an entire derangement. Mud is formed in consequence of the presence of water and dust or earth, and acts as a sponge to retain it and perpetuate its bad effects. In British America it is the most necessary part of road making to drain them perfectly, if the soil is not of a very porous nature. I have not seen many roads in the country that do not require great improvement in respect to draining and the formation at their surface.

Talford adopted another mode of making roads where the foundation was not dry, by forming a pavement of stone with the hand, the broadest end downwards, and filling up the cavities with stone chips or small stones so as to make all level and firm, and then putting on six inches of broken stone of the proper size.

According to the road act in England, the ascent or descent of roads in passing through a hilly country, should not be more than one foot in height to thirty feet of the length thereof, if it should be practicable without causing a great increase of distance. It is the general opinion that a perfectly level road is not always the best for every species of draft. Slight and short alternations of rising and falling ground are serviceable to horses moving swiftly; the horses have time to rest their lungs and different muscles. Talford, Paterson and several other engineers, were of opinion that it would not be proper to line a road upon a perfect level, even to the length of 1 mile together, though it could be quite easily obtained. They say it is well ascertained that where a horse, dragging a load over a long stretch of road quite level, will be exhausted with fatigue, the same length of road having here a gentle acclivity and there a declivity, will not fatigue the animal so much. This is easily accounted for. On a road quite level, the draft

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is always the same without any relaxation ; but on a gentle ascent one of his powers is called into exercise, on the descent another of his powers is called into action, and he rests from the exercise of the former. Thus are his different muscular powers moderately exercised, one after another, and thus this variety has not the same tendency to fatigue.

McAdam in making roads preferred a soft bed, provided it was perfectly drained, and recommended that the stones should be reduced to a size that none should exceed six ounces in weight. The quantity of metal put on depends on the situation near great towns. Where they are much travelled on, from nine to twelve inches are considered necessary ; and at a distance from large towns a third less would be sufficient to make a good road. The degree of convexity given to a road in laying on the metal, should not exceed what would be necessary to incline the water to the sides. If the road is raised too much in the middle, wheel carriages will run in the middle and soon wear that part into deep ruts and spoil the road. A road of thirty feet wide should not be more than eight or nine inches higher in the middle than at the sides, and a less width in the same proportion. Edgeworth recommends that clean gravel should be put over the broken stone, which would insert itself between the interstices, but that no more should be used than what will sink to a level with the surface of the stone. In all cases, after the road has been covered with stone, and before the gravel is put over, it should be carefully examined, and any stones that are over the proper size should be broken or picked off. Paterson says that the earth obtained at the sides of the road, and without expense, will answer as well or better than gravel, for putting over the stone.

According to Stevenson, the breadth of roads in the vicinity of towns of 50,000 inhabitants, should be at least fifty feet between the fences, and be metalled from side to side. Where the population would be only 30,000, the breadth should be 40 feet, and metalled from side to side, in each case with paved side drains, and provided with a foot-path on each side.

Narrow roads are generally in bad condition near large towns, which is accounted for from the circumstance of carriages being obliged to go in the same ruts or tracks, and these ruts being not over six inches wide, one foot only of the road is worn by the wheels, instead of the whole breadth of it, which would be the case if the roads were of the proper width and well constructed, not rising too high in the centre.

At a distance from large towns, and where there is but little traffic, it is unnecessary to waste land by making very wide roads. In such situations, twenty feet in breadth would suit the public convenience as well as a road of forty feet, but the principal public roads would always require to be at least forty feet wide, and strongly made with hard metal in proportion, to their vicinity to large cities or market towns.

The London Commercial road is seventy feet wide ; ten feet on each side is occupied as foot-paths ; twenty feet in the centre is paved for heavy carriages, and there are fifteen feet of gravel road at each side for light carriages and saddle horses.

In the vicinity of all our principal towns, foot-paths ought to be made at the sides of all the public roads for the accommodation of those who may not be able to go in carriages or on horseback, and who surely are

entitled to this accommodation. What are called *water-tables* are sometimes required to be made across the road, particularly in flat roads on a steep slope. These should be made at right angles with the road, with their sides gently sloping to occasion as little obstruction to carriages as possible. In cases where there may be considerable water, these surface-tables may be laid six feet wide at the bottom, which should be perfectly flat, and twelve feet wide at each side, to rise at the rate of one inch in the foot, which will make the depth in the centre one foot, and from the size, being altogether 30 feet, no carriage will feel any jerks or shakes in passing it. The pavement should be made of hammered stone of nearly equal depth, each stone from nine to twelve inches long on the surface, and four to eight inches broad, and at least one foot deep or more; the under side to be flat in the under face, and not of an irregular or angular under surface, as in that case it would not be solid. It would be well to have the stones on a firm foundation.

It is the opinion of experienced engineers that good roads of broken stone are preferable to pavements. They certainly are preferable to pavements that are not well made, and I have never seen a well made pavement in British America. Major Taylor who was at the head of the paving board in Dublin, before he began to pave a street, made a good gravel road, and left it to be beaten down by carriages for several months; it then became a fit foundation for a good pavement. A foundation of ten inches of broken stone would answer well. The stones used for paving should be of a cubical form, the lower bed having an equal surface with the upper face; they should be as nearly as possible of an equal size, and they should never be of unequal length on the face. In quarrying and preparing the stones, these matters should be strictly attended to; and though the dressing may be expensive, it will be well bestowed, and the stone broken off in dressing will answer for other roads. If the stones are properly prepared, and a good foundation of smooth surface for the pavement, it is easy to lay down the stones, which should all bear broadly and firmly on their base. The whole should be rammed repeatedly to make the joints close. The pavements should be covered with gravel which will fill the joints and serve to hold them together, and will preserve the pavement from the irregular pressure of wheels until the whole is consolidated. The stone should be of equal hardness, and one stone should not be higher than another. They should be laid at right angles from the sides, in perfectly straight lines, and the joints broken in the courses, so that the joints in one course shall not be in a line or opposite to a joint in any of the two courses adjoining. Filling up the joints, or grouting them with lime-water, which finds its way into the gravel between and under the stones, forms the whole into a solid concreted mass. It has been lately suggested to lay the paving stones properly dressed on a bed of good mortar placed on a firm foundation, and grout the joints with cement. It is said the whole mass will then become a solid body, and effectually prevent the rain from penetrating to the foundation, and hence could not be injured by rain or frost. Without adopting an improved mode of paving in Canada, and using stones of a proper size and shape laid on a firm foundation, we never can expect to have good or durable pavements.

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The repair of roads should be constantly attended to from the moment they show any break or inequality. The ruts and hollows should be filled up, and any loose stones broken. By due attention from the time the road is made, it might be kept a long time in repair at a trifling expense, and when much worn, renewing the surface by a coating of metal three or four inches thick. It is a great waste of money to neglect roads after they have been made at heavy expense. It is considered that the wheels should not be less than four inches broad, and that if the axletrees were of different lengths it would be a means of preserving the roads, as the wheels would not then run in one track. It is recommended that heavy coaches should be so constructed that the hind wheels should follow either two inches within or two inches outside the track of the fore wheels, as might be considered most proper; that by this means the stones displaced by one carriage or wheels would be replaced again by the next that would pass, and prevent the roads from being rutted. It is highly probable that were this plan adopted, it would be a great means of preventing the roads from being so cut up as they usually are from the wheels of every kind of carriage going in the same track. A division of weight is recommended, and four wheel carriages or wagons with the horses driven abreast are said to do less injury than two wheel carriages. The horses travelling abreast go before the wheels and are the means of levelling the tracks made by wheels. Whatever good effect this might produce on the summer roads, there can be no question that we should introduce winter carriages drawn by two horses abreast, or we never can expect to have good winter roads in Lower Canada.

It is much to be regretted that the principal streets in our cities and towns are not generally wider. In Quebec, within the walls, there might be some justification for narrow streets, but in Montreal there can be none. In countries that are subject to heavy falls of snow in winter, narrow streets must be extremely inconvenient. In Montreal there are not more than two streets of sufficient width,—St. James and McGill streets. If the side walks were of sufficient width in St. Paul, and other narrow business streets, there would not be room for two carts or carriages to pass each other. These streets might be sufficiently wide perhaps if the city was never to exceed the present population; but when it will become populous and extensive as it is likely to be, narrow streets will be found a great inconvenience, and particularly in the principal business streets. Should Canada improve to the extent it is capable of, Montreal must become one of, if not *the* principal city of North America. In the city of Dublin, an incorporated company was established by act of Parliament, which had the privilege to widen any streets, or parts of streets, that were considered too narrow. The mode of proceeding was, I believe, to summon a jury of respectable citizens, who valued the houses that were necessary to be taken down, and the owners of the houses received their value, and new houses, or ranges of buildings, were erected by the Wide Street Company, so as to give the streets sufficient width; and it was found in most cases, that the improvement made in the streets enhanced the value of houses so much as to reimburse the whole extra expenditure, and the city was vastly improved by this means. I have no doubt similar companies will have to be established in the cities of British Am-

erica at some future time. But in order to prevent unproductive consumption of capital, it would be well to guard against the necessity of widening streets hereafter, by making them sufficiently wide now, particularly when we are aware of the necessity and utility of their being so. In the business parts of the cities, the streets would not require to be a greater width than to give room for side walks eight or ten feet wide, and a carriage road from thirty to forty feet wide. The health and convenience of the inhabitants would be greatly promoted by the streets and side walks being of sufficient breadth, and land is not so scarce in British America that streets should be so confined as to lessen health or convenience.

The street of Notre Dame, in Montreal, now that the wall in front of the Catholic Parish Church is removed, would be a noble one indeed, if its breadth was a little better proportioned to its great length. Were it twenty feet wider, it would at no distant day, rival any street in America.

There is another great inconvenience to be complained of, which makes the narrow streets and side walks still more disagreeable. At the doors of most of the old houses in Quebec and Montreal, steps of stone or wood extend out, from one to three feet, over the side walks, so that two persons cannot walk abreast for many yards without being interrupted by these steps, and iron scrapers fixed on or near the steps. This is an evil that could readily be remedied, by obliging those who find door steps necessary, to remove them *within* the range of the outer or front wall of their houses. I cannot perceive on what principle any house owner can have a right of obstructing the public highways, as the steps and scrapers in question obstruct the public streets. If house owners had not the means of remedy within their power, there would be some justification for continuing the inconvenience, but in every stone house, the breadth of the wall alone would afford room for two steps, which in most cases would be amply sufficient. Whether or not, the public should not be inconvenienced in this particular instance, to save a little trouble to private individuals, and these steps are certainly not in any way ornamental. In six months, the nuisance might be remedied; that time would give every house owner full opportunity to fix door steps which might be necessary for his own convenience, so that they should not *greatly* inconvenience the public, and often subject them to broken faces, if not to broken bones. I appeal to every one acquainted with our cities, whether or not I am justified in making these observations. All the buildings erected latterly, however, have not door steps that extend over the footways, and it is not probable that in Montreal at least, any of the stone houses erected in future will have steps outside the range of the front walls. In the suburbs where wooden houses are numerous, they will continue the nuisance unless there is some law to prevent it.

The improvement of our streets and highways, constructing rail-roads, and improving the navigation of our rivers, are matters which are interesting to every inhabitant of British America. If the government would allow a proportion of the proceeds derived from the sale of the wild land, to be appropriated to these uses in the newly settled parts of the country, and to open gradually the unsettled parts for settlement, it would greatly advance the prosperity of these Provinces. The expenditure would be of the utmost use to poor emigrants, give them employment, and prepare

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them for becoming settlers in the forest. This application of the funds to a certain extent, would prove to be a judicious and profitable one; increase production, and diminish the expense of production in every way, and would hence enable the people to accumulate savings, to extend improvements more and more, the annual profits of which would give the means to purchase imported goods necessary for their comfort and convenience. It is in this way the Provincial, as well as Imperial revenue, will most certainly be augmented, and without being injuriously felt by those who pay it, because it will be in exact proportion to their means and desires of buying taxable commodities, and no more.

The grand principle to be attended to in expending public money for improvement, is, that it should not be applied in any case where any doubt would exist of certain benefit being derived from it by the public. Local, and often private interests, have a great influence on expenditure of this nature, and very much to the prejudice of the public. There are other precautions that should be observed: first, that no extravagant expenditure in any one case should be allowed until the resources of the country are better developed; and secondly, that in constructing public works, particularly canals, and improving the navigation of rivers, the greatest care be observed to guard against damage to the lands, whether settled or unsettled. It is reasonable to suppose, that if canals and navigable rivers are to enhance the value of lands, those that are on their banks ought not to be the least valuable. To injure or flood these lands by insufficient embankment of canals, or damming the waters of rivers, appears to me a very doubtful means of improving a country in most cases; and as to damming the course of rivers to improve their navigation, it is nothing less than a mischievous plan. The dams are liable to get out of repair constantly; witness the breaking of one of the dams of the Rideau Canal, lately, whereby the navigation is interrupted in the most hurried time of the year, and it is said it will take several weeks to repair the dam. This breach let off the water from twenty miles of the canal. The rivers of British America are such that dams formed across their beds, must ever be subject to give way; it is scarcely possible that any human skill or precaution could prevent it, and if an ample expenditure could have made the dams of the Rideau canal permanently secure, they ought to remain undisturbed for centuries to come.

Before parting with this subject, it may be no harm to submit a few remarks on the subject of granting extensive privileges to incorporated companies, or to individuals, to construct rail-roads, bridges, or canals.

Exclusive privileges can seldom produce public good, under almost any circumstances, and in all cases the Legislature would do well to be cautious in granting them, without securing the rights of the public. It may be very well for the people of the present day in British America, if they want a rail-road, bridge, or canal to be constructed for their convenience, to be ready to encourage the expenditure of capital on such works, and advocate the principle of granting extensive and exclusive privileges to those who expend it; but though it may be advantageous for a thin population, who are in want of capital for constructing public works of improvement, to do this at the present day, and for themselves, yet a few years hence, when the country becomes more populous, our

future generation may view these matters very differently, and consider that we had no right whatever to grant privileges that would be binding on them, to serve our day and circumstances, but that would be unsuitable for their time and circumstances. Any one of these works constructed at the present day, would require a much higher rate of tolls to remunerate those who expended capital on them, than would be required, perhaps, in ten, twenty, or thirty years hence, when the population may be increased three-fold. It will be much better for a country to keep rights when they have them, than attempt to resume them unjustly after they have granted them to others. If privileges should be granted, it would be very proper that those who were disposed to embark their capital should have every fair advantage given them, consistent with the just rights, present and future, of the public; but here would be the limits of their claims. On any *great public thoroughfare* that works of this description would be requisite, it would be very desirable in a new country that they should be constructed at the public expense, and the tolls proportioned to the expenditure. When population would increase, the tolls could be reduced, and when the money would be refunded, the tolls could be diminished to what would be required to keep the works in repair, and the public might then have the use of them nearly free.

I do not offer objections to granting privileges to discourage improvement, but in order that future generations may not have to pay too high a price for our accommodation. Let capital expended for the improvement of the country, have fair and equitable encouragement; but in a country circumstanced as this is, it is extremely difficult to foresee what would be a fair and equitable arrangement for a future time, and therefore, it would appear proper that some reasonable limit should be established in all grants of exclusive privileges.

Can there be a question that the public interest would not be more promoted, were they to have the use of a rail-road, bridge, or canal, at half a dollar, rather than by paying a dollar for the same accommodation, an individual or an incorporated company should be enriched more than they were entitled to be? The principle I advocate, or would wish to advocate throughout this work, is what I declared it to be at the commencement: the greatest happiness of, and the greatest good to, the greatest number, without doing injustice to the lesser number. In furthering my object, I may have proceeded to greater lengths than I should have done in urging the claims of the public or of the greatest number, but I beg the reader will acquit me of design to mislead public opinion in any quarter here or elsewhere, by wilfully misrepresenting any circumstance connected with the subjects I have attempted to discuss. Improvement is wanted, and expenditure of capital to this purpose most desirable; but, nevertheless, it is possible to purchase these advantages at too high price, and at an unfair price. This should be guarded against, particularly so far, as to only bind ourselves to what arrangement we may enter into for our accommodation, but not to attempt to bind those who may succeed us, by arrangements which though perfectly suitable and convenient for us, would not be either the one or the other for them.

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INTERCOURSE OF BRITISH AMERICA WITH OTHER COUNTRIES.

According to Paley, "the business of one half of mankind is to set the other half at work." Let us enquire by what means this is to be effected. — That portion of mankind who are employed in cultivating the soil, create a produce in the first instance which must set the other portion to work. It is the surplus produce of land, over what is necessary for the food of those who are engaged in its cultivation and management, which can alone be the means of giving employment and pay to all those not employed in agriculture. This is the only possible source from which commerce, manufactures, and civil and military professions can be maintained. If the earth would only produce what was sufficient for the food of those employed in its cultivation, no manufacturers or idle persons could exist. The more abundant the production which in British America is annually created, and which was not previously in existence, the greater will be the funds for the improvement of the country, and extending her commerce and manufactures. However paradoxical it may appear to some, *it is production which must open a demand for production*, if our laws are good, and the industry of the people properly directed. In any country that does not produce abundantly, commerce cannot be profitably carried on, nor can the people enjoy much of the comforts or conveniences of civilized life. The amount of imports to British America does not actually enrich the country, unless we have a produce to give in exchange for the goods imported. The imported goods are not a new production, nor can we obtain them for our use without giving an equivalent in money or goods in exchange for them. If we produce largely, we can purchase in proportion, commodities necessary for our convenience and comfort, and hence a large production is beneficial to the merchant, manufacturer, and every part of the community in the Provinces. When the farmers produce abundance of their own commodity, it must be a flourishing condition of the community; and when they do not do so, it must leave the community in a poor, weak, and exhausted state. It is by the continual efforts of men to produce more, and grow rich, that a country rises to prosperity; it is by the saving and narrowing of consumption, that a nation falls into decay. The following article is from the French author, Say, on production: "That each individual is interested in the general prosperity of all, and that the success of one branch of industry promotes that of all the others. In fact, whatever profession or line of business a man may devote himself to, he is the better paid and the more readily finds employment, in proportion as he sees others thriving equally around him. A man of talent, that scarcely vegetates in a retrograde state of society, would find a thousand ways of turning his faculties to account in a thriving community that could afford to employ and reward his ability. A merchant established in a rich and populous town, sells to a much larger amount than one who sets up in a poor district, with a population sunk in indolence and apathy. What could an active manufacturer or an intelligent merchant do in a small, deserted, and semi-barbarous town in a remote corner of Poland or Westphalia? Though in no fear of competition, he could sell but little, because little was produced: whilst at Paris, Amsterdam, or London, in

spite of the competition of one hundred dealers in his own line, he might do business on the largest scale.

"The reason is obvious, he is surrounded with people who produce largely in an infinity of ways, and who make purchases each with his respective products, that is to say, with the money arising from what he may have produced.

"This is the true source of the gains made by the towns' people out of the country people, and again by the latter out of the farmer ; both of whom have wherewith to buy more largely the more amply they themselves produce. A city, standing in the centre of a rich surrounding country, feels no want of rich and numerous customers ; and, on the other side, the vicinity of an opulent city gives additional value to the produce of the country. The division of nations into agricultural, manufacturing, and commercial, is idle enough ; for the success of a people in agriculture, is a stimulus to its manufacturing and commercial prosperity : and the flourishing condition of its manufactures and commerce reflects a benefit upon its agriculture also. The position of a nation, in respect of its neighbours, is analogous to the relation of one of its provinces to the other, or of the country to the town ; it has an interest in their prosperity, being sure to profit by their opulence.

"From this fruitful principle, we may draw this further conclusion, that it is no injury to the internal or national industry and production to buy and import commodities from abroad ; for nothing can be bought from strangers except with native products, which find a vent in this external traffic. Should it be objected that this foreign produce may have been bought with specie, I answer specie is not always a native product, but must have been bought itself with the products of native industry, so that whether the foreign articles be paid for in specie or in home produce, the vent for national industry is the same in both cases."

This article may not be considered applicable to the subject I am about to discuss, but as our intercourse with other countries must depend upon our production and possession of exchangeable commodities, I cannot forego any opportunity to recommend the increase of production by every possible means. I do not expect to succeed in doing justice to this subject, as it is not one I have given much thought to. I undertake the task however, as a farmer, and can only give a farmer's view of it.

As our intercourse will be principally confined to England and her dependencies, it is necessary to state on what grounds we claim a free participation of trade as a part and portion of the British Empire, and in doing this I must introduce matter which more particularly belongs to Britain than to these Provinces, but I feel that I could not otherwise pretend to do justice to this subject. Timber and pot-ash, the natural produce of the forest, wheat, flour, fish and peltries, are the principal exports from British America. There is no part of the exports that come in competition with English agricultural produce except wheat and flour, of which a very small quantity has been exported latterly ; indeed the quantity was so small that it could not depreciate the value of English wheat and flour. This year a large quantity of foreign wheat and barley which was in bond in England, has been sent out to Canada as a mercantile spec-

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ulation, which certainly was not required for the consumption of the people here, though our harvest was bad last year.

An important question presents itself here. Is British America in her commercial intercourse with the British Isles considered as a part of the British Empire, entitled to all the privileges of being so, or *ought* she to be so considered? For me I cannot discover why she should not be allowed every privilege of intercourse as a part of the Empire, and that her produce should have the same protection in the English markets, that the produce and manufactures of England have in the markets of British America. This is all that we could require, and I am persuaded it would not be prejudicial to England or her people to grant and secure this to us. It will be objected that British America does not contribute towards paying any part of the burdens of England, and that therefore we could not expect to enjoy the same privileges of commercial intercourse that are enjoyed by the British people. To this I reply that the people of British America do contribute their mite towards the taxes, and fully as large a proportion as they are able to do in their new country. They indirectly contribute to the taxes in purchasing British manufactures which must come to them charged with all the cost of production, including the taxes paid in every way by those who produced them. It is clear that British manufactures would not be sent here if they did not pay the manufacturer his expenses and a profit. I leave it to those political economists who have so often calculated the amount of tax which is paid in the production of every article, to estimate what proportion of the total imports to British America (£3,500,000 annually,) may be considered as taxes, and what that amount may prove to be, is the proportion of the British revenue paid by British America. As the circumstances of these Provinces improve, the people will consume more of British goods, and every year will thus increase their contribution towards the British revenue. British manufactures meet with no competition in our markets, and they are only subject to a duty of 2½ per cent. The shipping and tonnage employed in this trade, inwards and outwards, is nearly a fourth of the whole British merchant shipping, and this trade is almost exclusively in the hands of British merchants, who must gain fully as much by the trade, I should suppose, as the people of British America, considering that the charge for freight of an article so bulky as timber, must bear a large proportion to its entire value when landed in British ports.

Not to argue the question farther, I would state that it is for the advantage of Britain to encourage and protect her trade with British America, simply on the principle that it *must* be as beneficial to her people as to ours, that it would be most unjust towards us to put foreigners on the same footing with us, considering the way in which the trade is carried on at present, and who they are who actually derive the most advantage from it. If the timber of the north of Europe is taken in preference to ours, our trade with the mother country will in a great measure be put a stop to. It is for the people of England to decide, whether the trade with these Provinces is likely to be more valuable to them than the trade with Prussia, Sweden, Norway, Denmark and Russia who might furnish them with timber, and perhaps grain. In trading with these countries, British shipping will not be often employed in the transport of timber; with us

they are *exclusively* employed, and probably will continue so. I cannot state the exact amount of the trade of Britain with the northern countries of Europe, but the amount of cotton goods to Sweden, Norway, Denmark and Prussia was in 1834 only £62,600. To Russia the amount was certainly greater, but I believe it was chiefly in cotton twist, not in wrought cotton goods. The estimated amount in 1834 was £1,100,291, which showed a falling off from the previous year of £264,390. The total of woollen goods to all these countries, was in 1833 only about £110,000. These countries of Europe have too great a jealousy of England to be very profitable customers for her manufactures, and there is not much probability that the trade will increase. On the contrary, by fostering the trade with these Provinces, it will inevitable increase rapidly, and at no distant day be the most valuable trade that England will have.

The capital in British America is too limited to admit of her people engaging extensively for the present in the carrying or shipping trade. All this capital will find more useful and profitable employment in giving activity to her native industry, which considering the circumstances of the country every way, is decidedly entitled to the preference. We can very well leave the carrying trade in the hands of Britain which has ample capital, thousands of ships, and open ports at all seasons, and no wilderness to clear and cultivate. We do not at present require to train up a military, marine or navy for our protection; when we do the country will be in a better state to bear such an expenditure of capital, and until then, we shall not suffer much loss though not possessing a numerous fleet of merchant ships.

For several years past, the importation of wheat and flour from British America was so trifling that it could not have any sensible effect on the English market. For the last three years the average price of wheat in England was below 52s the quarter, the lowest price at which foreign wheat is admissible, consequently no foreign wheat was imported. The Colonial wheat is subject to a duty of five shillings sterling the quarter, but is always admissible. When wheat is about 5s the bushel, the duty will be 12½ per cent. The timber duty perhaps exceeds this, but I cannot exactly say how much.

The national debt of England cannot be well connected with the inhabitants of these Provinces. Had they been sunk in the ocean the debt would not have been much less. It was to maintain the honor, power, and influence of the British Empire that these Provinces were and are protected. The inhabitants are not therefore rightly chargeable with any of the expense of the last wars. The national debt of England is looked upon by most persons as an overwhelming evil. I have *learned* to view it in a very different light. If it was so in reality, how is it that Britain is constantly advancing in wealth and power, notwithstanding her taxation, the same amount now as it was at the termination of the war, 22 years back. She owes a large debt, it is true, but who are her creditors? Her own people generally, who spend the interest they receive annually in purchasing the produce and manufactures of England, that must certainly be charged with all the cost of production, including the taxes paid directly and indirectly by the producer.

This debt is not felt in the same way by England, that any other coun-

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try would feel it. She does at this moment possess unemployed capital to a vast amount, that cannot be invested in any branch of trade that would be likely to be profitable, all the channels are so completely filled up. She has lent capital to many foreign countries, the repayment of which is more than doubtful. No other country on the globe could pay the revenue that England does, and without any very perceptible inconvenience. It is her capital, her machinery, her commerce, trade, and the industry of her people, that make engagements light to her, which would overwhelm any other country that did not possess the same advantages. Let us examine this matter a little further.

Suppose that England was to pay off the national debt to-morrow, in what way would it be productive of good? What would those who live on the interest of their money in the funds, do with their capital, if paid off to them? How would they invest it when so much capital is already idle? Farming is overdone, or at least unprofitable. Trade is overdone. In what channel of productive industry could it be invested? It would certainly support the owners for a while, but what was to become of them when all was expended? So long as the income of England is expended in England on the produce and manufactures of her people, she will not be injuriously affected by her taxes, provided always that the taxes are equally borne by all, collected as economically as it is practicable, and her expenditure is not extravagant; all sinecures abolished, and no pensions paid but such as are well deserved.

A military or naval establishment that would be unnecessarily large, would certainly be an evil, because a large proportion of their expenditure must be considered as unproductive consumption; but if they are only sufficiently numerous for the protection of the British empire and her colonies, considering that almost all nations by whom she is surrounded are constantly armed, the expenditure is necessary and cannot well be complained of.

If all taxes, or the greater part of them, were repealed, would it be expected that every person in the community who now pays them, directly or indirectly, would have the exact amount which they now pay in taxes, in addition to their present revenue, whether derived from labour or from whatever source? Would they hope that their future income would be increased by the full amount they now pay in taxes? To make the question plainer. If a man is now able to earn by his labour or industry in any way 100*l.* annually, and that in expending this sum for necessities, a fourth part, or 25*l.*, is actually taxes, direct and indirect, on the commodities he purchases, would he expect that if taxation were done away he would *still* have 100*l.* income for the same quantity of labour or industrious exertion, and be able to purchase the same quantity of commodities for 25*l.* less than he now has to pay for them? If it can be satisfactorily proved that this would be the result of the absence of all taxation in England, it is much to be regretted that taxes cannot be done away altogether. I, however, much doubt, that from the peculiar circumstances of Great Britain, so very different from any other country on the globe, that the absence of taxation would not

produce so much general good to the people as some would anticipate. Taxation is not so great an evil to those who have the means of paying it. If the inhabitants of the British Isles conceive that were taxes of every description abolished, that each inhabitant of 25,000,000 would on an average have their income increased 2l. annually, or that they would be able to purchase to the amount of 2l. more of the necessaries of life than they do now, I think their expectations would prove to be fallacious.

The following table will give an idea of the vast resources of England to meet all demands.

An ACCOUNT of the VALUE of all IMPORTS into, and all EXPORTS from the United Kingdom, calculated according to the official rates of valuation; distinguishing the value of the produce and manufactures of the United Kingdom, from the value of Foreign and Colonial merchandise, exported during the years 1833 and 1834.

Value of Imports into Great Britain, calculated at the official rates of valuation.	Value of Exports from Great Britain, calculated at the official rates of valuation.			
	Produce and manufactures of the United Kingdom.	Foreign and Colonial merchandise.	Total exports.	
1833	£45,952,551	£69,989,339	£ 9,833,753	£79,823,093
1834	£49,362,811	£73,831,550	£11,562,036	£85,393,587

Revenue and expenditure for the year ending 5th January, 1835,

INCOME.

Customs, - - - - -	£21,118,920
Excise, - - - - -	16,756,716
Stamps and Hackney Coaches, &c - - - - -	7,562,755
Taxes, - - - - -	4,667,349
Post Office - - - - -	2,319,980
1s. 6d. and 4s. on Pensions, &c. - - - - -	13,719
Crown Lands - - - - -	354,980
Small Branches of the King's Hereditary Revenue, - - - - -	34,746
Surplus Fees, - - - - -	24,078
From the Bank of England, on account of unclaimed Dividends, - - - - -	4,680
Impressed and other Monies, - - - - -	18,912
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	52,777,839
East India Company, for 4 George IV. c. 71 - - - - -	60,000
Repayments for advances for Public Works - - - - -	618,731
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Total Revenue and other Receipts, - - - - -	£53,456,571

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PAYMENTS OUT OF THE GROSS REVENUE.

Repayments, Drawbacks, &c. &c.	£2,204,295
Charges of Collection, &c.	3,582,635
Other Repayments,	130,403
Bounties,	13,344
Woods and Forests	130,639
Pensions and Grants,	21,182
Civil Government of Scotland, &c.	127,790
Miscellaneous,	265,319
	<u>£6,525,711</u>

PAID AT THE EXCHEQUER.

Interest and Management of Permanent Debt,	£24,158,879
Terminable annuities,	3,653,922
Interest on Exchequer Bills,	691,294
Russian Loan, raised in Holland,	190,809
Civil List,	510,000
Civil, Naval, Military, and Judicial Annuities and Pensions,	502,309
Salaries and Allowances,	162,930
Diplomatic Salaries and Pensions,	181,448
Courts of Justice,	433,600
Mint,	14,649
Miscellaneous,	274,194
Payments on the annual Grants for Army,	6,493,925
do. do. Navy,	4,503,908
do. do. Ordnance,	1,068,223
do. do. Miscellaneous,	2,061,395
	<u>£51,427,412</u>

ADVANCE FOR PUBLIC WORKS.

Commissioners for issue of Exchequer Bills for employment of Poor,	£695,450
Exchequer Bills issued for Relief of Owners of Tithes in Ireland,	800,000
Advances for Public Works in Ireland,	619,063
	<u>£2,014,513</u>
Total Advances,	£2,014,513
Expenditure, exclusive of Advances	51,427,412
	<u>£53,441,925</u>

Balance in the hands of Collectors on 5th January, 1835,	£1,709,462
Bank of England notes in circulation in 1834,	
on an average of the four quarters, was	18,235,983
Of Joint Stock Companies of England and Wales,	2,508,030
Of Private Banks in do.	7,913,587

Total Bank Notes in circulation in 1834 - £28,656,606

I do not know what quantity of gold and silver coin is in circulation, nor have I any information of the amount of Bank notes in circulation in Scotland and Ireland.

The quantity of gold coined at the mint in London since the commencement of the new gold coinage in 1817 to the 31st December 1829, amounted in value to £44,224,490, and it was coined into 16,120 double sovereigns, 40,672,456 sovereigns, and 7,839,588 half sovereigns,

The amount of Bank notes in circulation in England and Wales from the year 1810 to the year 1820, varied from 42,000,000*l.* to 52,000,000*l.* During that period, however, there was not much gold or silver coin in circulation.

It is interesting to show the effects of monopoly. In 1833-4 the quantity of tea imported into the British Isles was 29,593,310 lbs. This was under the East India Company's monopoly. In 1834-5, when the monopoly was done away, the importation amounted to 41,041,843 lbs. and three ships were still due when the returns were made up in October, which were expected to bring cargoes of about 2,000,000 lbs. This would make the importation of last year, when the trade was open, over 43,000,000 of pounds, which shows an increase in one year of more than one-third, or about 13 millions of pounds. Well may the great majority of every nation condemn monopoly in almost every shape and form. I perceive by the tea returns that nearly half the quantity imported is Congou, and nearly a fourth part Bohea.

I give the following tables, which may further explain the nature and extent of the trade and resources of the United Kingdom. It is possible some information may be derived from them, that might be useful to the people of these Provinces, and help them to direct their industry.

WHEAT.—Annual average prices of wheat in England and Wales from 1815 to 1834, by the quarter:—

	<i>s.</i>	<i>d.</i>		<i>s.</i>	<i>d.</i>
1815	63	8	1825	66	6
1816	76	2	1826	56	11
1817	94	0	1827	56	9½
1818	83	8	1828	60	6
1819	72	3	1829	66	3
1820	65	10	1830	64	3
1821	54	5	1831	66	4
1822	43	3	1832	58	8
1823	51	9	1833	52	11
1824	62	0	1834	46	2

and in 1835 the average was not 40*s.* the quarter.

In Lower Canada the average price of wheat for the last sixteen years was about 5*s.* 3*d.* to 5*s.* 6*d.* the minot.

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Grain imported into England and Wales in 1834.

Description of Grain, &c.	Quantities imported.		Quantities brought from Ireland.
	Foreign.	Colonial.	
Wheat, quarters.	no returns.	no returns.	462,229
Rye,	841,40	47,167	982
Barley,			217,568
Oats,	87,192		1,227,597
Peas,	175,185	666	2,196
Beans,	67,802	283	18,776
Maize,	48,229		75
Malt,			3,862
Wheat meal, cwt.	87,772	61,984	1,118,464
Oat meal,	72		672,993

Duty on Colonial Grain in 1834.

	s.	d.		s.	d.
Wheat, per quarter	5	0	Oats,	3	0
Rye,	2	6	Peas,	1	9
Barley,	2	0	Beans,	3	0

Prices of various articles of provisions and Merchandize in the markets of London in January and June, 1834.

	January.		June.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Beef in Smithfield market per stone of 8 lb.	0 3 0	to 0 4 4	0 2 4	to 0 4 0
Mutton,	0 4 0	to 0 4 10	0 2 8	to 0 4 4
Newcastle coal per ton.	0 10 6	to 0 9 0	1 0 3	
Iron in bars,	8 0 0	to 8 5 0	7 10 0	to 8 0 0
do. in pigs,	5 0 0	to 5 10 0	5 0 0	to 5 10 0
Cheese, Cheshire, per cwt.,	2 16 0	to 3 14 0	2 16 0	to 3 6 0
ditto, Gloucester ditto.,	2 10 0	to 3 0 0	2 14 0	to 3 0 0
Butter, Cork, first rate,	3 14 0		3 14 0	
Hemp, Riga Rine per ton,	29 0 0		28 10 0	
Petersburgh, clear "	25 10 0		25 10 0	
Flax, Biga, P. T. R. "	47 10 0		51 10 0	
Tallow, yellow soap, per cwt	2 3 9		2 3 0	
Petersburgh "	2 3 6		2 3 0	
British town made "	2 10 0		2 4 6	
Whale Oil, New Greenland, per ton,	21 0 0		22 10 0	
Spermaceti, "	67 10 0		61 0 0	
Deals, Memel, yellow, per stand. hd.	15 0 0	to 16 0 0	15 0 0	to 16 0 0
Timber, Memel per load,	4 15 0	to 5 5 0	4 15 0	to 5 5 0

Woollen Manufactures, &c. in England and Wales.

The quantity of British sheep and lamb's wool exported to foreign countries during 1834 was 2,278,721 lbs.; of woollen and worsted yarn (including yarn of wool or worsted mixed with other materials) 1,861,870 lbs.; the declared value of British woollen manufactures exported during the year 1834, amounted to £5,736,870; and the quantity of sheep and lamb's wool imported into the United Kingdom from foreign countries, including the Isle of Man, during 1834, was 46,490,720 lbs., of which 40,840,271 lbs. were retained for home consumption, 807,362 lbs. were re-exported, and 6,494,266 lbs. remaining were housed under bond on 5th January, 1835.

Wool, (Cotton.)

Imported in 1833 was 303,656,837 lbs., and in 1834 was 326,875,425 lbs. Of this quantity about 270,000,000 lbs. were from the United States.

The quantity and declared value of British cotton manufactured goods exported from the United Kingdom in 1833 and 1834. In 1833 was £18,486,401, and in 1834 £20,513,586.

SUGAR—Imported into the United Kingdom in 1833 was 4,763,414 cwt. Coffee—Imported 41,865,111 lbs., and exported the same year 15,250,480 lbs.

Quantity of coals brought into the port of London in 1834 was 2,080,547 tons.

IRON—Exported and Imported in 1834.—Of British Iron exported there were of bar iron, 70,809 tons; bolt and rod iron, 9,154 tons; pig iron, 21,788; cast iron, 13,870; iron ware, 298; anchors and grapnels, 1,940; hoops, 12,046; nails, 5,005; all other sorts, except ordnance, 20,947; old iron, for re-manufacture, 497; foreign iron imported in bars or unwrought, 16,215 tons. and 698 tons of unwrought steel.

SOAP—Quantity made in Great Britain in 1834.—Hard soap 143,904,897 lbs. Soft soap, 10,355,424 lbs. Exported to foreign countries 12,460,000 lbs.

Quantity of foreign and Colonial tallow imported in 1834 :—1,397,406 cwts.

Quantity of tobacco imported into the United Kingdom during the year 1834, was 39,478,906, of which 38,440,794 lbs. came from the United States.

Total amount of spirits distilled in the United Kingdom in the year ending 5th January, 1835, was, in England, from a mixture of malt with unmalted grain, 4,652,838 gallons.

Scotland, from malt only, 5,994,623 gallons; from a mixture of malt with unmalted grain 3,198,468 gallons. Total 9,193,091 gallons.

Ireland, from malt only, 63,895 gallons; from a mixture of malt with unmalted grain, 9,307,448 gallons. Total quantity for the United Kingdom, 23,216,272 gallons. Total quantity of Colonial spirits imported, 5,130,448 gallons. Total quantity of foreign proof spirits imported, 3,576,834 gallons, on which a duty of 11 2s 6d the gallon was paid for all admitted for home consumption.

Wine, imported, 9,766,116 gallons. The rates of duty on that retained for home consumption per gallon were, French, 5s 6d, Cape, 2s 9d. other sorts, 5s 6d.

Malt, from barley, 39,807,287 bushels	} <i>Bushels.</i>
Malt, from beer, or Bigg, 1,338,309 bushels	
Total, 41,145,596.	

Hops, 39,587,497 lbs. Duty paid on them, 329,895*l.* Number of acres under cultivation for hops in Great Britain in 1834 was 51,273, which yields a produce of about 765 lbs. the acre. The quantity of hops exported in 1834, of various growth, from 1817 to 1834, was 870,099 lbs., and the quantity imported from foreign countries was 52,699 lbs. Quantity of beer exported to foreign countries in 1835 was 71,418 barrels.

Number of cotton, wool, silk and flax factories worked by steam in the United Kingdom in 1835, was 3236, of which 76 were empty. The number of persons employed were 355,373, of whom 158,555 were males, and 196,818 were females. Of these persons 164,663 were under 16 years, and 190,780 over 18 years of age. Children under 13 years of age are subject to the education clauses of the act of Parliament for regulating labour in factories, and only work 9 hours per day. The average number of persons at work in each factory is about 112.

Such are the resources of England. She imports annually near £50,000,000, and exports of the *produce and manufacture of the United Kingdom*, near 74,000,000*l.*, and her exports altogether amount to 85,393,587*l.* While she continues to exhibit such a balance sheet, that proves the prosperous state of her trade and commerce, the national debt need not give her people much concern. The consumers of her manufactures all over the world assist in paying the interest of the debt, and they do so with advantage to themselves because England supplies them on better terms than they can, notwithstanding her taxation and the heavy duties which British goods have generally to pay in foreign ports. If England by the command of capital, the perfection and power of her machinery, and the industry and ingenuity of her people are able to undersell other nations, in their own markets, it is so much the more creditable for her, and must be beneficial to them, because they are furnished with necessaries of a better description and at a cheaper rate than they could obtain them elsewhere or manufacture them. Her own Colonies in every part of the world, pay in the same way their proportion of her burdens, and so far very justly, but this is the limit of what they are bound to do.

The manufacturing class has ever been the most violent and clamorous about taxation, and I think it would not be difficult to prove that the agricultural class have much more cause to complain that they are subject to the greatest burden of taxes, and that what is paid by the manufacturers is refunded to them by the English agriculturist, and by all those who purchase their manufactures all over the world. The malt, hop, and beer tax, (I will not include the spirit tax,) is a direct tax on agriculture, and though the consumer of beer pays it, yet the manufacturer finds means to be refunded what he pays, in the price of his goods which he sells to the farmer and other customers out of Britain. Hence the value of the farmer's produce is lessened by a heavy direct tax upon it, which is nearly all paid at his expense. Whatever the manufactures of Eng-

land finally sell for, including the cost of materials, labour, taxes and profits, must all be paid for from the produce of British agriculture, except what is exported, and what is consumed by the manufacturer. These are not idle propositions, but such as are capable of demonstration. The manufacturer would not continue at his trade if he did not find it as profitable as any other, and all his consumption, including all his taxes, must be charged on the manufactures he sells, and whoever pays ultimately for these manufactures, pays all the tax.

The farmer is confined to the market of Britain for the sale of his produce; he cannot extend it; he has only a given number to supply with food, and if he raises more food than they want, he cannot sell it; all the power of machinery cannot make land produce more than a certain quantity of grain or vegetables; not so with the manufacturer; he can use machinery that can perform the work of hundreds of men; he can multiply his products without end, and he has the whole extent of the globe for his market; and with all these advantages above their neighbors, the manufacturing class has ever heretofore been clamorous about taxes and dear bread. I have often thought of the remark of a great man, Sir Robert Walpole, in reference to the agricultural and other class, and doubtless there was some justice in it, when he compared the agricultural class to a flock of sheep, who tamely and without murmur suffered themselves to be annually shorn of a valuable fleece of wool; but the other class he compared to swine, who, if you attempted to shear them, made a tremendous noise and fierce resistance, and give no valuable fleece after all. This is no reflection on the manufacturing class; but contrasting their extreme unwillingness to be shorn with the simplicity of the agricultural class, who are proverbially negligent of their true interests. Constant intercourse with each other and with the world—a better education—a greater fluency of language which they acquire both from necessity and practice, give the class not agricultural in all countries a decided advantage over farmers of almost every grade. The press is generally on the side of the mercantile body, though I must say they are not unjustly so in Canada.

Farmers must indeed have clearly the better cause when they oppose successfully such opponents on any question which affects the separate interests of either party, and which have to be decided by argument supported by the influence of the London press. I do not desire to insinuate that the class not agricultural, or that the press would wilfully support measures and a state of things that would be manifestly unjust and injurious to the agricultural part of the community; but I attribute things being as they are to the circumstance that the class not agricultural understand perfectly their own interest, and always adopt the best means to secure it without ever troubling their heads to find out what would be the interests of the other class; or, perhaps, whether their own interests infringed upon the rights of the other class. Farmers on the contrary are so negligent, that they do not study their real position, whether they enjoy equal advantages, whether and in what manner they are debarred from any of their just rights and privileges, and whether they profit by all the favorable circumstances that belong to their situation. It is this supineness that in all countries subjects the farmers' interests to be

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less cared for than other parts of the community. I have witnessed its effects both here and elsewhere.

There is another question of some importance. Are the profits on produce from trade and manufactures capable of purchasing as much of the necessaries and comforts of life for all those employed in them, as the produce from agriculture, after all deductions, is capable of affording to those employed in agriculture? If they are on an equality in this respect, there can be no just cause of complaint for one more than another. If the manufacturer should pay a trifle more for his food than he would do were there a free trade in corn, he sells his manufactures charged with the expense of production, which includes the enhanced price of his food and his taxes. I admit if there was no restriction to the importation of corn, and that the manufacturer could buy his food at half what it costs him now (though that would be impossible,) and at the same time sell his manufactures for the same price he receives at present, his condition would be improved. But what was the farmer to do under such circumstances; would his condition be equal to the manufacturer's? Who would he sell his corn to; or could he obtain a price that would afford him means to buy manufactured goods? Certainly not, and hence the manufacturers would lose their best customers. Were farmers or farm labourers to be thrown out of employ, could they become manufacturers? In case of war, what was *the Nation of Manufacturers* to do, that should depend on foreign nations to buy their manufactures, and sell them food? Ruin would be the inevitable consequence of such a state of things.

By the report of the select committee of hand-loom weavers, the answer of one of the witnesses, Hugh Mackenzie, of Glasgow, to the committee, may be interesting:

"Do you ascribe your distress to what is called the Corn Bill? With respect to the corn bill, there are many different opinions upon it; but as relates to us as weavers, we are persuaded that though the corn bill were off to-morrow, such is the nature of our manufactures and the disposition for cheapness, that they would reduce us exactly proportionably to the fall of corn."

Remove every restriction on trade, and farmers cannot expect protective duties to be kept on for them; but England is so peculiarly circumstanced in regard to what is called her national debt, that restrictions and taxes must be supported, if the fund-holders are to receive their interest. If the country never had a national debt, it would unquestionably be better for the country; but now that she has one, though it should be possible, perhaps it would not be an expedient measure to pay off the whole. But this we need not speculate upon. It will not be paid in this age, while Sir Robert Peel's currency bill remains unrepealed.

Foreign wool is imported largely into England, but there is no objection to this, because the country is unable to produce sufficient wool for her manufacturers, and it must be very desirable, and add greatly to the national wealth, to import raw produce of little value, and export goods of great value, and this increased value given by the industry of the people, that might otherwise be idle and thrown for support on the agricultural interest. Though a farmer, I would not plead for any unjust or unequal

advantage for farmers ; but I would rejoice to see them placed on a perfect equality with other portions of the community, as regards rights and privileges, and that they should not be subject to any species of oppression. The agricultural interest ought not to be neglected in Britain. In case of war or other casualty, they would be found the most useful part of the community. Something must manifestly be wrong, or thousands of respectable farmers would not have been reduced to destitution year after year since the termination of the last war. It is well known how useful a class of persons these were in a community, and particularly in one constituted as that of the British Isles. Hundreds of thousands of them have lost their all, the fruits of their own industry and that of their fathers. Unquestionably other parts of the community must have gained unjustly by their losses. Farmers are not a class of persons generally given to expense or extravagance, nor is it probable that in many instances their losses can be traced to any such causes ; consequently some injustice must have been done to them, or they would not be the only sufferers in a thriving community.

The poor-rates in England are a drawback on her prosperity, because it must be injurious to all that there is not means of employing the poor profitably. The right of the unemployed poor to maintenance at the public charge is *unquestionable* ; no law can *justly* deprive them of this right. It is as firmly established as Magna Charta, the Bill of Rights, or the Habeas Corpus acts ; but that so large a sum as 8,000,000*l.* should be annually expended in this unproductive way, is a great loss to the community. If any means could be devised that the unemployed poor might be put into a situation that would enable them to provide for themselves, it would be greatly for their own advantage, as well as that of the English people. To settle them on the waste lands in her colonies, and furnish them with the means to cultivate these lands, would be one way that could be adopted to remedy this increasing evil, and it is the only one that appears practicable at this moment. The people of England are not, however, to get rid of their poor by transporting them out of the country, and leaving them to provide for themselves without means in a land of strangers. Unless they are reasonably provided for, and their settlement carefully superintended, it would be unqualified injustice to oblige or even encourage them to emigrate, particularly such as have families.

There is abundance of room for every man who is industriously disposed, and has means to settle in the immense forests of British America, but without capital they cannot succeed there. Were a judicious plan of emigration and settlement adopted, the poor who are now burdensome to the people of the British Isles, might in a few years be not only able to provide for themselves, but be consumers of British goods, and thus contribute their mite towards the revenue of England. England gave 20,000,000*l.* to emancipate the slaves of the West Indies ; the condition of her own poor would certainly require to be ameliorated. The poor of England have rights that were they purchased by the parishes at a fair valuation, would establish them in any of the British Colonies in a way that they could provide for themselves. The money, however, should not be committed to their charge, but measures taken to apply it for their comfortable establishment under proper superintendence, who would

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advance the money to them as they proceeded with their improvements, and provide each family with a cow, pigs, implements and materials for a small house. I shall refer to this subject again.

I have seen an interesting paper abridged from foreign communications made to the Poor-Law Commissioners in England a short time since. It may be useful to be acquainted with some of its details.

In several European countries, in order to prevent pauperism, the Government takes care to provide for the education of the working classes. In Norway, the children of the poor have free access to the parish schools, and scarcely pay anything for the education of their children, or for religious teachers. The general report from Russia states, that every parish in every town has a school which is open to children of all classes, under the direction of the clergyman. The Gottenburg report states that in Sweden gratuitous education is provided for the children of the indigent, and it is asserted that there is not one person out of 1000 who cannot at least read. The Danish report states, that the children of all poor persons are educated gratuitously; that the parish is taxed for the payment of the schoolmaster, the repairs of the school-house, books, paper, pens, ink, &c.; and that the parents are bound under a penalty to send their children regularly to school until they have passed the age of fourteen and been confirmed. Gratuitous education is also afforded in Mecklenburg and in Prussia. Mr. Gibson states, as a general law of the country, that "all children capable of going to school are obliged to attend it. Those whose parents are unable to pay the expense must be sent thither at the cost of the community to which they belong; the expense of school-money and religious instruction is about 1s. 6d. for each child." In the detailed regulations for the relief of the poor in Berlin, it is laid down, that "the period of children being sent to school regularly commences at the beginning of the child's seventh year, and terminates when the child, according to the testimony of the Minister, has acquired the knowledge necessary for his station in life, which generally occurs on his attaining his fourteenth year. If parents allow their children to grow up without instruction, the Commissioners for the relief of the poor are to remonstrate with them; and should this be of no avail, the commissary of police is to interfere." In Saxony, "the local poor commission supports free schools." The Bavarian poor-law enacts that all the children of the poor shall, without favour and without regard to the usual pretexts, be kept to the practice of the public school and religious instruction, as also of frequenting the work and industry schools and of learning a trade. The school money is to be paid from the poor institutions.

Among all the continental communities which recognize in the poor the right to relief, the only one which does not appear to provide the means of education, and to enforce their being made use of is that in which pauperism has become absolutely intolerable, namely, the canton of Bern; and were there any *aubain*, or person not entitled to *bourgeoisie* (settlement) in the parish in which he resides, may be summarily ejected (unless possessed of landed property in it) if it can be proved that he does not either send his children to school or provide otherwise for their education.

In France, in the department of the *Loire Inférieure*, the report states, "that to prevent the increase and lessen the present state of disorder into which the greater part of the labouring class and mechanics of Nantes has fallen, a number of master tradesmen and proprietors of factories will not employ those men who do not agree to allow a certain sum weekly to be retained from their wages for the use of the wife and family. There are no cottages for labourers as are seen in England; the chief part of the work on farms in this part of France is done by servants in the house of the farmer, or by married labourers, to whom an acre or two, sometimes as high as ten, according to the quality, are fenced off from the estate for the use of the man and his family, for which he has to give a certain number of days work. If such patch of land requires to be ploughed, the farmer does it for him for an additional number of days work. Besides those, there are an immense number of little proprietors, having from an acre and a half to ten or fifteen acres, and they give their labour also to the farmers of larger estates, receiving in return either assistance with oxen, carts, ploughs, &c., or an equivalent in some produce which they do not raise on their own land. Very little money, if any, passes between them. These little properties have sprung up from labourers and others fencing in small patches of commons or waste lands. Nearly all the vineyards in the *Loire Inférieure* are cultivated by labourers, who have a small spot of ground partitioned off from the main estate; it is for married men only that ground is so divided; the single men live with their families in the villages or in public-houses, but generally in the latter. In regard to these questions it must be observed, that almost every farmer who hires an estate takes such a one as will just sustain his family without any aid, or with the assistance only of a man, or a man and a woman servants, and that therefore very few daily labourers find employment. Few estates run to 200 acres, and if so large, a daily labourer is only hired during harvest, so wretchedly is the husbandry of the country managed." It is by acquaintance with the laws and usages of other countries we will be able to make such changes in our own as will be likely to produce good to the community we belong to.

To insure the prosperity of England, it is necessary, however, that all classes should have equal protection, and no undue advantage given to one class more than to another. It is a well established fact that though the trade, manufactures and commerce of England are now in a most prosperous condition, the agricultural interest is greatly and unusually depressed from various causes. If the class not agricultural is to be prosperous at the expense of the landed interest and farmers, it is a state of things that ought to be speedily remedied. Unless the burden of the National Debt is supported by all in proportion to their means of paying it, the debt would be a great evil indeed. The interests of these provinces are so linked with those of the British Isles, that I think it may be interesting to the reader to give the following address to the Farmers of Yorkshire, lately published in the *Agricultural and Industrial Magazine*. It will give some idea how the Agricultural distress in England is accounted for by Agriculturists. I have seen several reports and addresses on the same subject, that attribute this distress principally to

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the operation of Sir Robert Peel's currency bill. Their reasoning is certainly very forcible, and this bill, with a greatly diminished currency, must, under the circumstances in which England is placed as regards her debt, have had a very injurious influence on the landed interests.

TO THE FARMERS OF YORKSHIRE.

ADDRESS OF THE YORKSHIRE CENTRAL AGRICULTURAL ASSOCIATION.

"We, the Committee of the Yorkshire Central Agricultural Association, deeply impressed with the duties that devolve upon us, as the executives of a large, influential, and intelligent body, desire to address you. We think it right, in sending out the accompanying petition, with an earnest request that you will promote the object of it in your neighbourhood, to explain the motives which have induced us to confine it simply to stating the existing distress—the long period during which the landed interest have patiently borne it—the absence of all parliamentary assistance—and a prayer that the House of Commons would at once institute a bold and unflinching inquiry into the cause of agricultural distress, with a view to its immediate relief.

"We have done so to promote unanimity. All classes are agreed as to the long existence of the distress of the landed interest; and to the progression and awful increase of that distress. It is visible in every town, it is visible in every parish, and every hamlet witnesses its dire effects. The shop-keepers are without custom; the mansion-houses are closed; or their late residents, driven to the continent by the great reduction of rents, have abandoned them to the occupation of annuitants, until from some happy change the period of their self-banishment shall have expired. The instances are numerous around us where respectable freeholders, whose property twenty years ago doubled the amount of their incumbrances, have abandoned it to the mortgagees and ended their mortal sufferings in the grave, to which they have been hastened by the pressure of overwhelming poverty. Thousands of substantial tenants, finding that neither skill nor industry could obtain a reward in their native land, have taken the little remnant of their capital to foreign climes, whilst others, less fortunate, and destitute of all property, have sunk to dependance upon the bounty of their parish, and become the inhabitants of its poor-houses. These melancholy facts are known and acknowledged by all; but the causes from whence this distress has originated are not so thoroughly agreed upon or understood.

"The Houses of Parliament possess the means of inquiry and the power of investigation, which no individual body can command. We conceive that government is instituted for the equal benefit of the whole community; and that all classes who contribute to the expenses of government, are alike entitled to its protection and support. We quote the words of Mr. Pitt, whose knowledge of parliamentary power no one will impugn; that great statesman, anticipating some considerable defalcation in the returns of industry, said, "At such a crisis, parliament, if it be not then sitting, ought to be called together; and if it cannot believe you, its powers are at an end. Tell me not that parliament cannot

protect—it is omnipotent to protect.”—We believe this ; and we trust to the exercise of its wisdom in ascertaining the causes of our sufferings; and to the exercise of its justice in affording that relief which is necessary to our very existence.

“ We ask only for justice ; we desire not to raise ourselves at the expense of our national honor, or the sacrifice of the rights of any class of society. We know that our interests are combined with the interests of the community at large ; but we know, that the solid welfare of Great Britain is bound up and consolidated with that of the landed interest. Neither commerce nor manufactures can flourish under our ruin ; we are the root—they are the branches ; they cannot long survive our decay.

“ Some persons, of great intelligence, and possessing vast influence, seeing the increase of our manufacturers, and the flourishing state of our commercial towns, during the last twenty years, have been led to believe that our interests are not combined—that cheap bread, however obtained, was needful to promote their prosperity ; and that British farmers would continue to cultivate their lands at whatever price they might be compelled to sell its produce. They forget the wealth and the station we formerly enjoyed. They forget that however unproductive and ruinous might be the effect of the continued cultivation of the soil, men of rural habits, unfitted for other occupations, were likely to persevere in that cultivation ; and to cling to their homes as long as their means existed ;—and though unsupported by profit, their sole capital, dwindling away by degrees, could not be totally annihilated until the lapse of many years.

“ In 1813, the three per cent consols were about £50, and wheat, on the average of the preceding five years, 14s. 6d. per bushel. We will, however, take £60, and 14s. ; and show the relative situation of two men, who, at that period, invested each £10,000,—the one in funded, the other in landed property. The former received from that day to this, five per cent. for his money, viz., £500 per annum ; and without care, without exertion, his capital is at this moment increased to more than £16,000. The latter made a fair customary purchase with his £10,000, and bought 190 acres of land £52 10s. per acre, which he let at an equitable rent for the value of 2½ bushels of wheat, viz., 35s. per acre ; receiving a rental of £332 10s. ; or a little more than three per cent. Supposing it to be still at the same rent, of the value of 2½ bushels of wheat, he would now have a rental of only £118, and the value of his estate governed by those rules by which he made his purchases, would be reduced to £3,560 ; and if from the reduction of rents, or other necessary causes, he had been compelled to borrow £3,000, the difference between rent and interest would have left him without one shilling in the world. But if we presume that he had allowed his tenant to participate in his losses, and had only made the general reduction of 40 per cent., his situation, as to income, with that of the purchaser in the funds would be as £200 per annum is to £500 per annum, and his capital would be reduced to £6,000. The difference, therefore, in value of property between the two persons is precisely £10,000, the exact sum invested by both parties twenty-two years ago.

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Such is the real position of the land-owners. Have they been punished sufficiently for their folly in not deserting their country; or shall they submit to be still further scourged by the government?

"The rents in this extensive county upon the wheat soils appear to have been generally reduced about 40 per cent. This reduction, it is seen by the above statement, however great, has not been equal to the necessities of the cultivators, and many farms of clay soil, which formerly let at 20s. per acre, have been absolutely abandoned to a state of nature, and do not now let for more than 3s. per acre. To show the futility of a call for a further reduction of rent, we beg your attention to the following calculation, which proves that it was more advantageous to the farmer to cultivate a strong medium soil, paying a rent, as formerly, of 20s. per acre, selling Wheat at 64s., Beans at 42s., and Oats at 25s., than to cultivate it rent-free at the present prices:—

	£	s.	d.
18 Bushels of Wheat, at 4s. 7d.	-	-	4 2 6
20 Bushels of Beans, at 4s. 5d.	-	-	4 8 4
24 Bushels of Oats, at 2s. 4d.	-	-	2 16 0
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	£	s.	d.
18 Bushels of Wheat, at 8s.	-	-	7 4 0
20 Bushels of Beans, at 5s. 3d.	-	-	5 5 0
24 Bushels of Oats, at 3s. 1½d.	-	-	3 15 0
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"That the sufferings and the loss upon upland farms have not been severe during the last three years, we readily admit. They have been prevented from it by adventitious circumstances alone,—the dreadful rot in sheep, which succeeded the wet years of 1828, '29, and '30, and which destroyed the whole of the flocks in the lowland districts. This occasioned an unprecedented rise in the price of wool, and sheep were required to replace those which had died upon the plains. The dearth of mutton occasioned an increase in the demand for beef; but none are so ignorant as to believe that this visitation of providence could be beneficial to the landed interest as a body; those who derived benefit from it, merely obtained a temporary relief by the increased distress of their less fortunate brother farmers. The late dry springs have been unfavourable for the production of spring crops, and the price, in consequence of the scarcity, has not fallen considerably; but scarcity, arising from a deficiency of crop, cannot afford any benefit to the cultivator of that crop.

"We, the committee of the Yorkshire Central Agricultural Association, give this honest *exposé* of the real state of the landlord and the tenant; and we call upon the legislature to inquire into the truth of it. We believe that from the remainder of ruin we may yet be preserved by the wisdom and power of Parliament. We believe, that the foundation of that ruin has been laid by the great alteration in the currency, which has increased our debts in exact ratio with our diminished means of discharg-

ing them. We also believe, that by an equitable redemption of tithes,—by a total change of the highway law,—by a scrutiny into the county rates,—by a further reduction of the assessed taxes,—by the establishment of poor-laws for Ireland,—and by an equalization of all taxes correspondent to the means of paying them, we might obtain further relief. “In our petition, we have abstained from the expression of all particular opinions, because we conceive it to be the bounden duty of Parliament to search out the causes of our distress (so often acknowledged from the Throne), and to apply the remedies, *whatever they may be*, that are necessary to relieve it. We earnestly advise all our suffering brethren to adopt the same course ;—to be unanimous in the call,—to be universal in the petition ; and dispersed and unable as we are to act individually, we strongly urge a union with the General Agricultural Association now about to be formed in the metropolis. If thus we act, we cannot be defeated,—individually we are the weakest,—in unity, the strongest body in the state.

“Signed on behalf of the Committee of the Yorkshire Central Association.

“ CHARLES HOWARD,

“ York, 5th December, 1835.”

This address gives a very distressing picture of the situation of Agriculturists in England. Associations are formed throughout England, and a central one in London, which have petitioned the King and Parliament this session in strong language for redress. The petitions propose as a remedy, “That the price of produce should be raised to a level with the burdens imposed, or that the burdens should be brought down to the level of the present prices.” A very plain proposition, provided it could be readily carried into effect, but of this there is considerable doubt.

If the Imperial Parliament would only consent to introduce a modified property or income tax, it would, without being oppressively felt, produce twelve or fifteen millions annually, and if the same amount of taxes were repealed or taken off articles of common consumption by all classes, particularly malt, hops, beer, soap, sugar, and some others, as might be thought most expedient, it would greatly relieve the agricultural class, and subject fund-holders to contribute a due proportion to the public burdens, which they certainly do not appear to do at present. It would probably be more prudent to introduce a property tax than reduce further the interest of the National Debt, but it would seem either of these measures or a change in the currency is necessary to give some relief to agriculture. It is in Britain a remedy must be found to relieve the agriculture of Britain. I deny that any tax on colonial produce would prove a remedy, and even if it would, it would be a measure of doubtful policy to adopt it, if continued commercial intercourse is desirable.

From the peculiar circumstances of British America it will be for the interest of her people to apply themselves to the cultivation of her boundless wastes, and exchange the spare produce for what they may require of manufactures of other countries. If there is any part of this produce which they cannot dispose of profitably, and which they can manufacture

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to supply their own wants, then by all means it should be manufactured. But there are many manufactures produced by the power of machinery and capital in England which we can buy cheaper than we can make, and when we can exchange our own produce for these articles, it will be our profit to do so. Let us cultivate our waste lands, and we need not fear but we shall find customers to buy what we can spare, and when we cannot find foreign ones we must raise up customers of our own, by extending our cities, towns and villages, and employing the inhabitants in useful manufactures. Our neighbours of the United States will not in future be very likely to depreciate the value of our produce by introducing their own to any great extent, and I must confess I would sincerely rejoice at it. I would not presume to offer any objection to a free intercourse provided it was established on a footing of perfect reciprocity, but I am not one of those who would wish to allow any privileges to other countries, if those other countries would refuse the same privileges to mine. There cannot be much question that it would be for the mutual advantage of British America and the United States, to have perfect freedom of intercourse established between them, that there should not be one penny duty levied by either country from one extremity to the other of their immense boundary line, but if the United States will think it expedient for their own advantage to enforce restrictions and levy duties on our agricultural produce and every other article that crosses their frontiers, we certainly can do without their produce. The British provinces are fully as capable of producing every necessary article of consumption, and in abundance, as the United States, and if they have not hitherto done so, it was the sole fault of the inhabitants and may be remedied when they please.

I have perhaps entered more fully into this subject than the reader may think necessary. As I before observed, our interests are so linked and intimately connected with those of Britain, and I sincerely hope they may long continue so, that I wished to give a correct view of circumstances connected with agriculture, manufactures and commerce, which I thought would have a great influence on our intercourse with England. In discussing this subject, I considered British America as only a *detached* part of the Empire, not a *foreign* country, and took for granted that the interests of the people of these Provinces would be cared for and every protection and privilege afforded to them that would be extended to Ireland in the way of trade. These Provinces receive English goods, on the most favorable possible terms, and all they ask in return is that Britain shall receive their produce in payment on the same terms. It is useless to tell us of the *National Debt*, or the burdens of the people of England. We understand them perfectly well, but we are unable to pay any part of them, except what we contribute by purchasing the manufactures of Britain, that come to us charged with her taxes of course. These we will purchase, if England purchase from us, otherwise *we cannot*. I have candidly endeavored to show things as they are, and plainly to state the grounds on which the British American Provinces claim a freedom of commercial intercourse equal to that which is enjoyed by the people of Britain with the Provinces. It is on this principle alone that an advantageous intercourse can be carried on for both countries.

If British agriculture is depressed, I think I have proved that it is not by any means to be attributed to the intercourse with British America.

The remedy for the relief of the British farmer will not be found in any measures that could be adopted to interrupt or restrict a free intercourse with these Provinces. It is in England the causes of depression have occurred, and in England alone an effectual remedy can be found.

The trade of British America with the West Indies might be greatly extended. It is a trade that is suitable for the Provinces provided Rum did not form a large proportion of the return cargoes. This article will not be necessary for us to any great extent, considering our own circumstances. We may produce a large quantity of barley, rye and oats, which cannot be exported to profit; and if we do not convert it into spirits, we cannot make any other use of what we may have to spare of this grain. If we will use spirits, we ought surely to manufacture it from our own inferior grain which we cannot otherwise dispose of, in preference to importing spirits from abroad.

If the settlement of the forests was to go on as it would be desirable, we would find a greatly extended home market for our produce that would be much the most profitable. As the country becomes populous, and our cities, towns and villages increase, markets will also increase, and there is therefore not the slightest cause to apprehend over production, or that we shall not be able to dispose of our produce when it is greatly augmented. No country, however fertile, will produce more than is necessary to provide amply for the comfort and convenience of its inhabitants. If they do not produce for themselves all the articles necessary for their comfort and convenience, they can exchange what they find it more profitable to produce, for those articles which they may require from other countries. Hence it is that no country need have surplus produce if the industry of the people is properly directed. If they cannot produce for themselves all that they may require of every necessary, they will have to produce such articles as they can exchange with other countries that can supply them with what they want, and if they are unable to do this, they must themselves manufacture what they want, instead of producing what they do not want, and cannot sell.

Ireland exports a large quantity of corn and cattle, but would that continue to be the case were all her people to be clothed and fed as the people of England are? Certainly it would not. Though fertile the country, it is not in its *present state* more than able to furnish her people with a full supply of every necessary, comfort, and convenience that human beings ought to possess. There may of course be a surplus produce of corn and cattle, but these must be exchanged for manufactures and other necessaries which Ireland does not produce. I do anticipate that an improvement in the condition of the people of Ireland, will prove beneficial to the interests of these Provinces, and extend the markets for their produce.

A GOOD PROVIDENCE has given to every country and people the means of their own temporal happiness, if they only make a proper use of the advantages at their disposal, and British America possesses a full share of these natural advantages, and only wants people who have capital to take possession of, and enjoy them.

In concluding this subject I would observe that the people of British America can never enjoy the full advantages that belong to their situation and circumstances without a more general education of the people, and particularly the agricultural class. It is only by education and reading

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agricultural works that they can acquire a proper taste for improvement. I have endeavored to prove that to increase production will augment the means of happiness for every class. If this be admitted, it is our duty to learn ourselves and instruct others how labor and land will be most productive of what is necessary for the comfort and enjoyment of the human family. A useful education is perfectly attainable by almost every agriculturist. If the hours that are often wasted or spent unprofitably were devoted to reading books of instruction, and obtaining a knowledge of men and things in other countries, it would be found nearly sufficient time to acquire a very respectable portion of education. Like every thing else, a taste for useful knowledge is necessary, or a man may spend a good part of his youth at school, without being much benefitted by it; but those who wish to attain knowledge, from a sense of its usefulness and pleasure, will attain it, whatever difficulties may present themselves.

According to Dr. Johnson, "All knowledge is of itself of some value. There is nothing so minute or inconsiderable that I would not rather know it than not." He was of opinion that knowledge gave power, "and that all power of whatever sort was desirable." There can be no doubt but that useful knowledge, which will give us power to do what will be beneficial to ourselves and to society, is highly desirable in every point of view. The cultivation of letters draws men off from what is hurtful, and gives them other and more useful pursuits. It tends to explode absurd prejudices which have so seriously injured mankind, and which too often arm them against each other and their own interest. To the formation of enlightened legislators the improvement of the mind through books and observation is essential; and it is almost needless to observe that wise laws are indispensable to the profitable exercise of industry. Sir Joshua Reynolds says, "Perhaps there is no higher proof of the excellence of man than this—that to a mind properly cultivated, whatever is bounded is little. The mind is continually labouring to advance, step by step through successive gradations of excellence towards perfection, which is dimly seen at a great though not hopeless distance, and which we must always follow because we can never attain; but the pursuit rewards itself; one truth teaches another, and our store is always increasing though nature can never be exhausted."

Were *useful practical* knowledge more generally diffused, and every art, including that of agriculture in particular, uniformly directed by the principle of science, new and interesting plans would be formed, new improvements set on foot, new comforts enjoyed, and a new lustre would appear on the face of nature, and on the general state of society. We would soon observe the effects of this most desirable diffusion, in only traveling through the country or walking over the meadows and fields; we would see every farm in good order, producing largely, corn, fruits and vegetables, and abounding with well fed domestic animals; all hurtful weeds extirpated, and nothing suffered to grow but what was useful for man or his cattle. Ample proof of the skill and industry of the farmer exhibited in every field, ridge, furrow and drain. Houses, neat and commodious, furnished with every requisite accommodation for the inmates. Barns sufficiently air and water tight to secure the crops; stables and cattle-houses constructed in such a way as to afford comfortable shelter to domestic animals.

All on every side proving the knowledge, industry and good management of the agriculturists, by the fruits of it, abundance, comfort and happiness of the rural population. How delightful it would be to realize this picture, and in no country in the world is it possible if not in British America. It is not for others that the agriculturist has to labour and toil here, but for himself and his children. If his life is necessarily a laborious one, there are many enjoyments that are not to be had in any other mode of life. I know that without a reasonable degree of agricultural skill, and unremitting attention and industry, farming will often be found laborious without affording much profit or enjoyment; but in every profession and trade, attention and industry are requisite to attain independence, or even moderate compensation. We do not often see fortunes acquired by those who are not skilful and industrious in the business they are engaged in. In no business that man is employed in is it more necessary than in farming. Young agriculturists may acquire useful knowledge without becoming idle or neglecting their other duties. It cannot be a *useful* education, that would lead them to neglect the duties of their calling; on the contrary it is that which will teach them their duty and the way to perform it.

The instruction of the class not agricultural is equally necessary. "At Burges, there are six or seven hundred young men belonging to the poorer classes, who are educated gratuitously every evening during the week in drawing, and in the arts generally; and once a year prizes are given to the most deserving pupils in each department of art, an honour which is rendered more flattering by a public procession through the town on the prize-day. Burges is a manufacturing city, and the taste which is first formed in the drawing school is afterwards visible in the manufactured productions. And in other large towns of Belgium similar institutions are productive of the like advantages. At Antwerp, the Sunday-schools are attended by about 7000 children, who are not only instructed in reading and writing, but also in drawing; and if any of these children evince a natural taste for the latter pursuit, their talents are immediately cultivated, and are afterwards profitably directed in sustaining the reputation of the domestic manufactures; and the encouragement does not stop here, for if more than ordinary genius is evinced by the pupil, the opportunity is afforded at the public expense of pursuing a course of study calculated to develop and mature it. Thus fostered, talent has emerged into eminence from the poorest ranks of the people."—*(Parliamentary Report.)*

Dr. Bowring, in his Report on the commercial relations between France and Great Britain, mentions the school of St. Peter, at Lyons, where a course of instruction in the different departments of art is gratuitously given to about 200 students. The course lasts five years; the classes open at nine and continue till two o'clock. The students must be of French birth, and Lyonnese are to be preferred. The city of Lyons pays 20,000 francs annually for the support of the school, and the Government gives 3,000 francs from the budget of the Minister of Commerce. A library, a botanical garden, a hall of sculpture, a museum of natural history, and an anatomical theatre, belong to the establishment, and are accessible to the students. There are professors of

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the different branches of the fine arts, and one of whose particular business it is to teach their application to manufactures.

In March, 1834, there were 200 students, divided into seven classes, under the direction of seven professors. The classes are, 1st, The elementary class; 2nd, The bust-copying class, or that in which the study is solely devoted to inanimate objects; 3rd, The animate-object class, in which the studies are all of living models; 4th, The ornamental class; 5th, The architectural class; 6th, The botanical class, flower-drawing, painting, &c.; 7th. The *mise en carte* and sculpture class, in which the application of art to manufactures is the object of instruction. Since the Revolution of July, two additional classes have been instituted, to each of which a professor is attached. 1st, Engraving; 2nd, Anatomy, comparative and picturesque. The anatomical professor is also the keeper of the cabinet of natural history. The students are allowed to study in the gallery of the museum. In the centre of the school is a depôt of all the materials necessary for the students, from which they are supplied. The morning lessons last five hours, the evening lessons two hours. The whole of the studies are carried on under the same roof; but a separate building is being erected to serve for the exhibition of the works of Lyonnese artists. The works which have been recompensed with the first prizes are to be collected in a separate apartment, and so arranged as to exhibit the progress of the school from its first foundation. The botanical garden attached to the school furnishes a supply of plants and flowers to the students throughout the year. Great progress is making in the ornamental classes, and are applied to the preparation of new patterns, which is the great concern at Lyons.

The mode of instruction adopted in other countries may be some guide to us in our plan of general education. We may not require to adopt exactly the same system or courses of instruction for the present that is adopted at Lyons, but we may introduce such parts of the system as will be suitable to our situation and circumstances, and to the most profitable employment of our population.

I have no doubt but it will be found expedient always in granting public aid for the support of education, to oblige parents or guardians of children to contribute some portion of the expense, if their circumstances will admit of it. It would be well to provide a gratuitous education for the children of the poor, who would be unable to pay for it, but if it is provided gratuitously for every class, they will not be so particular about sending their children regularly to school if they are not obliged to pay any part of the cost, nor will the school master be so very anxious whether the children come to school or not, if his salary is fixed, and paid to him independently of the parents or guardians of his scholars. If education is generally provided for from public funds, it would, I believe, be found necessary that the law should at the same time oblige parents and guardians to send the children to school a given number of hours, days and years. It is a waste of public money to keep a school open and pay a school-master, if the children are not kept regularly at school. It is perfectly fair that if schools should be supported exclusively by public funds, the people for whose use they are so provided for should be obliged to make use of them for their children. However objectionable compulsory laws may be, I can-

not see how they can be reasonably dispensed with in this particular instance.

THE WHEAT FLY, OR CECIDOMYIA-TRITICI.

This insect has not been known in Lower Canada until the last year, and was not much known then, but only the ravages it committed. In the year 1834 partial injury was done to the wheat, and I found the maggot in the ear of wheat but could not conjecture what had produced it, as I had not then heard of the fly. Last year, however, about the 7th or 8th of July I discovered the fly on my wheat in myriads. The ear was then shot out in my first sown wheat, and there was scarcely an ear that had not many flies upon it. They appeared to me then to be depositing their eggs or *larvæ* in the glumes of the ear, and I found in six or eight days subsequently, live maggots produced, that subsisted on the milk or matter destined to form the grain. The fly disappeared entirely on the 11th or 12th of July. I could not find one after the 13th, though I sought carefully for them. My earliest wheat was nearly all destroyed, some ears not having one grain left. A part of my wheat, that was not fully in ear when the flies disappeared, was not so much injured. The tops of the ear had the maggots, but the lower part that was not shot out was uninjured. Though my wheat was on new land, and had a most luxuriant appearance, it did not on an average produce much over six bushels to the acre, which was not a fourth of what it should have yielded from the appearance of the crop standing. In the Spring of 1835 the seed was washed and steeped in strong lime water, and as well prepared as it was possible, previous to sowing.

When the wheat became nearly ripe the maggots disappeared from the ear, and I have cause to suppose they fell into the soil and remained there during the winter, and re-produced the fly this spring.

This year, 1836, I have barley, oats and potatoes where the wheat was last year. On the 29th of June I discovered the fly. For several days they remained close to the surface of the soil, in the grass and young clover, and could not be seen without separating the growing corn with the hands, they then fluttered about but did not rise more than a few inches above the ground. The first day I discovered them they appeared then in the act of copulating, and were not arrived at the full size. I examined them closely every day, several times, particularly in the evening. On Monday evening, the 4th of July, they commenced depositing their eggs or *larvæ* in the ears of barley which were then shot out. The grain on the ear of barley is so closely surrounded by the awns when it is first shot out that the fly finds some difficulty in getting at the grain. I have seen them work their way under and between the awns, and when they got to the grain immediately eject their eggs into it. Several of them might be seen together on one ear under the awns thus employed. They will not attempt to deposit their eggs unless they can get upon the grain of barley, or upon the glumes of the ear of wheat, hence there is no danger until the ears are uncovered. They are too delicate a fly to be able to penetrate through the covering of the ear until fully shot out.

I caught one fly, that had got under the awns of barley, and secured

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it by holding its feet and wings. I examined it with a microscope on the spot, and could distinctly see it move its body violently and cast its eggs or *larvæ* from it, and the *larvæ* were perfectly visible and distinct to the number of six or eight, and appeared to have life and motion. I could not distinguish the *larvæ* with the naked eye, but barely perceived my finger nail discoloured by the eggs.

Last year not many of my brother farmers would be convinced that the maggots in the ear of wheat were produced by the fly, because they had not themselves seen them. This year, I am sorry to say, may afford all who will take the trouble to examine, unquestionable proof of the existence of the fly, its habits, and the consequence. From the unusual lateness of the last spring, the wheat is not early in ear, and should the fly disappear at the same period it did last year, the wheat may escape much injury. But in ordinary seasons what remedy can be adopted? If the fly appears in the latter end of June, it is precisely at that time the wheat is in ear, and how are we to check its ravages? We must prevent the fly from depositing its *larvæ*, or the plague may be perpetuated. If we could obtain a species of wheat that would resist or be proof against their ravages we might hope to stop the plague, but otherwise I fear we shall have to give up the sowing of wheat until we banish the fly effectually by substituting grain that it cannot subsist upon.

From the observations I have made this year, I think that could the wheat be kept perfectly clean, it would be a means of checking the propagation of the fly. I know that clover and weeds of any description about the roots or stalk, is a kind of shelter for them while coming to maturity or before they deposit their eggs. I also find that in Britain, where drill culture and hoeing the wheat crop is practised, the fly is not much known. I fear, however, that it would be difficult to introduce the drilling or hoeing of spring crops of wheat in British America.

In Canada the fall wheat is too early for the fly, as it is usually some weeks in ear before they come into existence; and the eggs or *larvæ* must be deposited before the grain is formed, or the *larvæ* cannot subsist. It is only on the matter which is *destined to form the grain* that they can subsist, not on the grain *after* it is formed. I have no doubt but if fall wheat could be grown in Lower Canada it would escape the fly. The fall wheat is generally in ear the first week of June, and at that time there is no fly to injure it, and if they do not come into existence before the last week of June, which I believe to be the fact, the fall wheat would be then perfectly safe from them. The wheat is much later coming into ear in Scotland and the north of England, and it is from this cause it is so subject to be injured by the fly. In the middle and south of England it is not so liable to be damaged because it is in ear in the beginning of June. They have a species or variety of wheat in England that is said to be proof against the ravages of the fly. It is known as the *Turgid* or *cone* wheat. It has a tall and vigorous stem, is very productive, but the quality is coarse and inferior to other wheats. I believe it would be very proper to try it in Lower Canada as a fall wheat. From its strong stem and coarse and large grain, it might succeed better than other finer varieties, and there can be no question that though it should be coarse in quality, if it was productive and resisted the ravages of the fly, it would be many fold more profi-

able than finer wheat, that is subject to be three-fourths consumed by the *larvæ* of this vile gnat.

There have been some remedies suggested in the neighbouring States of the Union ; one is to scatter dry powdered lime on the growing wheat in the morning while the dew is upon it, so that the lime may remain upon the ear. It is said that this will prevent the fly from depositing its eggs in the ear of wheat. On the evening of the same day that lime was scattered over my wheat, the fly was actively engaged in depositing its eggs in the ear. In this particular case, however, the ear was not fully shot out, only a part was uncovered, and I found on the evenings of the 7th, 8th and 9th of July, many of the flies might be seen on almost every ear of which any of the glumes were exposed. I had the lime put on under very favourable circumstances, when the wheat was very wet, and the lime remained upon it so that in the evening when it had dried it appeared as if white-wash had been sprinkled over it, but did not in the least check the fly. If the ear had been fully shot out, and the lime had got more into, and upon the glumes, it perhaps might prove a better remedy. I shall persevere in the experiment in every stage, and shall in a note at the end of this work, acquaint the reader with the result. I have also tried snuff mixed with wood ashes at the rate of twelve or fifteen pounds to the acre, but found it equally unavailing, possibly from the same cause as the lime.

From all the observations I have been able to make, I have almost come to the conclusion that any remedies attempted after the fly is in existence, should the wheat come into ear at the usual time spring wheat does in Canada, will be utterly unavailing, unless a species or variety of wheat is found that will be proof against their ravages, or that fall wheat can be sown that will be in ear early in June. The best remedy will be I believe to discontinue sowing wheat until the fly is got rid of from having no suitable food for their *larvæ* to subsist upon when they come into existence.

DRY ROT IN SEED POTATOES.

In the year 1835, a very considerable loss was sustained in the potato crop in Lower Canada, in consequence of the rotting of the seed after being planted in soil that was perfectly dry. The potatoes immediately after being cut, and before they were planted, commenced rotting at the *cut* part, and large quantities of prepared seed were thus lost by many farmers, contrary to the experience of all former years. Another extraordinary circumstance was, that on farms, or in fields separated only by a fence, without any visible difference in the soil or cultivation, the seed rotted in one and remained sound in the other. In these cases, certainly the seed was taken from different cellars. It was also observed, that seed planted whole did not rot in any case. This year, I have found that potatoes raised last year, in fields where the dry rot prevailed, were very subject to decay, as I have never observed them to be before. In England, this disease in seed potatoes was very destructive to some crops last year, and is said to be a new disease that has not been known until the last three or four years. I have seen an excellent article from an English farmer at Leeds, on this subject, a few extracts from which I give below. He says, that from several experi-

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ments he has come to the conclusion, that the failure of the potatoe crops is principally, if not altogether, from the following causes, viz :—

1st. From over-ripeness of the potatoes made use of for seed.

2nd. The method of preserving through the winter.

3rd. Using all sizes of potatoes for sets, and cutting them into too small divisions.

4th. Exposing the sets to the atmosphere too long when cut.

5th. Covering too deep with rotted manure or heavy soil, especially in a wet season.

The remedy for the 1st. That the potatoe intended for seed should be taken up when at the full size, but while the tops are quite green, and the potatoes are not easily shaken off the stalks or stems. He states that while two out of three of the sets taken from potatoes that were quite ripe, failed, not one of those sets from the potatoes taken up while the tops were green, failed, and that the unripe seed produced double the quantity at each root that the roots from the ripe seed did.

For the 2nd. He recommends that potatoes for seed should be put into pits, in small quantities, where they would be preserved from sprouting. This could be readily done in British America, where there is dry soil. I have repeatedly kept them in this way perfectly safe, and the last winter, which was the most severe I have seen in Canada for many years, I kept potatoes perfectly safe in a pit. If the soil is dry and sandy, pits may be about four to five feet deep, and the same in width; the potatoes filled into them to within about a foot of the surface; this empty space filled closely with hay or straw, pieces of wood then placed across the pit over the hay in such a manner as to bear up the weight of the earth that would be put on as covering, of which there should be two or three feet, and so shaped as to throw off the rain, should any fall before the winter. At the approach of winter the pits might have a few loads of stable dung put over them. They will keep in this way better than in cellars however good. In cellars, they are much given to sprout, and hence greatly exhaust their vegetative power before planting. If the potatoes intended for seed should not be very ripe, it would be a good plan to allow a small quantity of dry earth or sand to mix with them in putting them into the pits. It is also essential that the pits be perfectly dry, and if necessary a drain may be made to secure their being so.

For the 3rd. He recommends to plant whole potatoes of good size, and if they should be cut, that large potatoes cut in two and planted immediately will be best. I last year had proof that this plan was a good one.

For the 4th. That the potatoes should not be taken out of the pit where they were preserved during the winter, until required for planting; that they should be planted whole and covered immediately. I have up to this last year constantly had my potatoes cut for seed a week or two, or perhaps longer, previous to planting, without ever losing any by the rot until last year. The English farmer states, when he gets new seed from seeds-men, he spreads them on the ground, waters them well, and covers them lightly with soil until they sprout; if any do not sprout they are thrown away, and the good seed only planted; the consequence was he seldom lost a crop.

For the 5th. It is not necessary to cover potatoes deeply, nor is it

necessary to use very rotten, or very wet, heavy manure, in a recent state. After the potatoe plants are over the soil, in their after-culture they may be carted up as high as possible, or as the plants will admit. I have remarked, both this year and the last, that the potatoes which were early planted, before the soil became very warm, were not so subject to the dry rot as those that were planted in June.

This spring the dry rot has not been so prevalent as last year, but nevertheless, there are considerable failures or blanks in potatoe fields from this cause. I changed my seed this year and got them from a person residing off the Island of Montreal, whose potatoes had not the dry rot last year, and I find scarcely any failures. Where I planted a few of my own, some of them have rotted, and I know this to be the case in other similar instances. The June Agricultural Report for the District of Quebec states that the dry rot has caused the failure of potatoes in many fields this spring. I believe it is imprudent to make use of seed from potatoes that have been subject to the disease, though they may appear perfectly sound when planting them. The change of seed is very necessary. I am convinced it will in most cases prove profitable, though only taken from the next farm, provided the potatoes are not diseased. To exclude the air, whether hot or cold, from potatoes, when in the cellar, is very necessary to preserve them in good perfection for the table or for seed.

To renew the seed by raising it from the apple must be necessary occasionally. If it was not so, I do not think the apple would be produced. I would most strongly recommend every farmer to endeavour to raise some new seed potatoes from the fruit called the "apple," which is produced on the halm or stem of the plant which comes into blossom. It is only the stems that do come into blossom that will produce the apple. The following article taken from the English Penny Magazine for last year, may be useful to the farmer. It gives very proper directions for raising new seed potatoes from the apple:—

"Every one is aware that the roots or tubers, which is the edible part, grown under-ground, of very irregular form and size, though when planted upon land of the same nature, always producing potatoes of similar quality when the seasons do not materially differ. It is, however, not generally known that varieties brought to our markets are so numerous, that one account has been lately presented to the Highland Society of experiments made upon 130 different sorts; another has been published by the Agricultural Society of Geneva, containing details by Professor De Candolle of the properties and produce of 154 species collected from various parts of Europe and America; and there are beside these the records of numberless trials in the County surveys of the United Kingdom, and the transactions of the London Horticultural Society. Now as the qualities of the root when grown in the usual way do not vary, it is evident that these varieties can only be produced by pursuing a different process of planting, as thus: the halm or stem of the plant, which springs from the tuber, carries a small fruit called the "apple," which is about the size and appearance of a green plum, but containing many seeds, which, when again sown, produce new plants, and, singular as it

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may appear, frequently bear roots of a kind nearly distinct from each other in weight, flavour, and those properties which constitute their chief value.

"It will be readily imagined that great advantages may be gained by the production of superior species; and accordingly trials are constantly made by farmers and gardeners with a view to obtain them; but the operation is slow. For this purpose a few large ripe apples should be chosen from a perfectly healthy plant of an approved kind, and preserved carefully throughout the winter in dry sand, so as to keep them apart from each other. In the beginning of April the seeds should be either picked out from the apples and sown in narrow drills or rows in a prepared bed of garden mould, or the apples and sand may be mashed up together, and sown in the drills without the trouble of separation.

"When the seed bring plants about an inch high, they should be raised carefully, with as much earth as possible adhering to their roots, and planted out in rich and well-pulverized ground, the rows being about fifteen inches wide, and the plants standing ten inches asunder, keeping them clear of weeds both by the hoe and hand-weeding; and when ripe the roots should be cautiously secured from frost, either in an out-house well covered with straw, or in a pit well guarded from the weather.

"Next season the roots should be planted out in the common farm, which, however, should be of a dry, sandy, and friable nature, and the cultivation should be carried on in the ordinary manner. The potatoes will then arrive at their full size, when their distinctive properties can be ascertained; and whether only those of the former quality or any new varieties of a better kind are thus procured, it will be found that those grown from seed will continue for several years to yield a larger return than those planted in the usual way, as well as to be more free from the destructive disorder called the "curl."

"Besides what we have here stated regarding the ignorance which prevails respecting the seed of the potatoe, among persons who only see the roots upon their table, it is not improbable that many of those who are conversant with rural affairs are yet unacquainted with the extensive uses to which it is applied when manufactured into flour; for the public are not aware that it is not only very generally mixed by bakers in our bread, as well as made into starch, but that the substances commonly sold in the shops as tapioca, arrow-root, and various other farinaceous compounds, are in many instances formed of that alone. The bakers are thus accused of adulteration; but the fact is, that when only a moderate quantity is employed, it improves the lightness of the bread, as well as that of all kinds of pastry; and in Paris where the bread is well known to be of superior quality, upwards of 40,000 tons of potatoe are annually converted into flour. When manufactured upon a large scale, means are necessarily resorted to for the reduction of labour, the process of which it is unnecessary that we should describe; but when prepared for family use, the mode may be described as simply pulling off the skin, together with the eyes or any spot by which the root may be discoloured, and then rubbing with a strong, rough-holed iron grater, by which means it will be converted into a soft, watery mass, and is to be thrown into a tub of cold water. It should be then well mixed with the

hand ; after which it should be poured through a drainer, to remove any coarse fragments of the potatoe which may be accidentally present. After being allowed to remain for some time, until the flour is completely fallen to the bottom, the water is to be carefully poured off, and the deposit in like manner subjected to repeated ablutions of cold water, which will gradually dissolve all the soluble matter of the root, and must be persisted in until the water, which was at first turbid, becomes quite clear and transparent, some time being of course allowed to elapse between these operations that the flour may subside completely to the bottom of the tub. It is completely insoluble in cold water, and when perfectly white and pure, forms a consistent mass, which is then spread out upon a cloth or other contrivance for drying it ; and by rubbing it with the hand as it dries, it falls down into a fine impalpable powder, constituting the potatoe-flour. If kept in a dry place, this may be preserved for any length of time ; and from the commencement until the termination of the process, the operation may perhaps occupy a week. When used in the manufacture of bread, it should be mixed with a considerable portion of rye, or wheaten flour ; but a very palatable loaf may be formed with about one-third potatoe-meal, and two-thirds of that of wheat. Thus it is stated in a late number of the '*Bulletin des Sciences Agricoles*,' that 4½ lbs. of the former and 10 lbs. of the latter produce, as nearly as possible, 28 lbs of bread, or six full weight quartern loaves. The leaven is prepared in the usual manner ; but the dough requires to be rather more kneaded in order to make it rise. The same account further says, that the dough is divided into portions not larger than 6 lbs., which are baked in small pans. The oven is left shut for a quarter of an hour, after which it is partially opened for some time ; and when the bread has had sufficient time to bake well, it is removed. In half an hour it is again placed in the oven, and allowed to remain an hour, the door being left open during the time ; this second baking, it is to be observed, being of great importance. The bread made in this manner is described as being of excellent quality, and may be kept for eight or ten days without any apparent alteration. Now, according to all common calculation, the proportion of household bread, made from any given quantity of wheaten flour, is as four to three, consequently 10 lbs. would only yield at the most 13½ lbs. of bread ; yet we here find that by the admixture of 4½ lbs. of good potatoe meal, an increase is obtained of 11½ lbs.

"Puddings made of potatoe flour closely resemble those formed of arrow-root ; and a very nutritious article of food for individuals of every age, but particularly for that of childhood, or persons of weak digestion, may be prepared in the same manner as *blanc mange*, in the proportion of one large cupful of the meal to eight of milk, the flour being well mixed up with a spoonful or two of cold milk before it is put on the fire to boil, and afterwards allowed to cool. If the juice of any acidulous fruit, such as raspberries, currants, or especially cranberries, be employed instead of milk, a jelly is also thus formed which will be found an elegant and agreeable appendage to the table. One word may also be added to notable house-wives upon the essential point of boiling potatoes ; they should be chosen as nearly as possible of the same size ; and, if very large, they should be cut into halves or quarters. They should be put

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into an iron pot, with a good handful of coarse salt; and the water which should be quite cold should not be allowed to quite cover them, nor should the lid be closed. When about half done, those at the bottom should be removed to the top; and when the whole appear completely done, the water should be instantly poured off, and the potatoes left in a napkin, within the pot, by the side of the fire. The boiling of those of a moderate size generally takes about three quarters of an hour; and their being done to the heart can only be ascertained by thrusting a fork through one of them. Cooks generally follow one rule; either peeling them or boiling them in their jackets; but this is wrong; for some sorts are better in their skins, and others peeled, and the difference can only be ascertained by experience."

Though I would be sorry to see potatoes come into that general use as *human* food in British America, which they have done in Ireland, yet the root is one of the most profitable that can be cultivated, and may constitute a considerable proportion of human food, properly prepared, and with other nutritive food. To the settler in the forest, the potatoe will be invaluable, and the very best vegetable or crop of any kind that he can cultivate for the first few years. He will derive a most certain and valuable product from them in every way, for his own use directly, and for manufacturing into butchers' meat, flour, &c.

MANUFACTURE OF CIDER, BEER, AND WINE.

It would be very desirable that farmers in the country parts of British America should be able to manufacture for their own use, if they can produce the materials, Cider, Beer, and Wine, or either of them. There is no man more averse to the slightest degree of intemperance than I am, but I cannot see any impropriety in the occasional and moderate use of these liquors; on the contrary, I think them given for our use, and that they are perfectly harmless when used as rational beings ought to do. A man may make a very immoderate use of food that will be hurtful to his health and constitution. It does not hence follow that we are to reject food altogether. I admit that intemperance does more injury to individuals and to families than almost any other vice that human beings are subject to on this continent. But why is it so? It is not the case in the wine countries of Europe. I have reason to believe that in those countries a drunken person is very seldom met with. If habitual drunkards were to know how *despicable* they appear to sober men, how very *low* they are estimated by them, they would be cured of this vice, if any thing could cure them. I hope the reader will pardon me for using strong language when I say, that I look upon drunkenness as one of the meanest, most beastly, and most ungentlemanly vices that some of our species are subject to in this life.

There is excellent cider made in British America, and there may be abundance of fine fruit raised for it. The process of cider-making in the West of England is to have the apple-trees shook gently at two or three different times, that only the ripest fruit may fall; the apples are then laid in heaps, which, if circumstances permit, should be under cover, with a free admission of air. They are suffered to remain ten days or a

fortnight, and some kinds even longer; and the good cider-maker takes care that the decayed apples and other impurities may be removed before they are taken to the cider-mill, where they are crushed by a large circular stone which is turned by a horse. When the apples are completely mashed, the must, as the crushed apples are then called, is placed in large square pieces of hair-cloth, each hair-cloth being folded over so that nothing but the juice can escape when they are put under the screw-press to which they are removed, and where they remain until the juice is all expressed. The juice is received into a large tub, from which it is conveyed to the casks. Those who do not rack the cider (about which there is a difference of opinion) cover the bung-hole of the cask with a tile, and let it stay until March or April, when to every cask of 100 gallons is put half a pound of hops, and a little colouring made of burnt sugar, and the cider is then stopped close, and is fit for drinking at the end of the year. It is doubtful whether the hops improve the cider, but they probably make it keep better. This method makes the strong cider, which is the principal beverage used in the cider countries; that consumed in London being prepared and sweetened by persons who purchase the cider from the maker.

In Devonshire the cider is racked (which is drawing the clear cider from the dregs, and putting it into clean casks) as often as the fermentation comes on, a brimstone match being burnt in each cask before the cider is put into it; this management preserves the sweetness, but in an equal proportion diminishes the strength. Seven or eight sacks of apples will afford about a hundred gallons of cider, the expense of making which does not exceed in all 10s. A cider-mill has been lately constructed in Gloucestershire, which is much superior to the old mill; it is driven by water and makes from 300 to 400 gallons a-day.

In this mill the apples are placed in a large box, with an aperture in the bottom, which drops the apples between two iron rollers; these break them in pieces, after which they fall between two stone rollers set so close to each other as to crush the kernels of the apples, which is essential to the flavour of the cider. The must is in this mill received in a large tub beneath the rollers, and from thence put into the press.

It is the general opinion that the pommage, or mashed apples, should be allowed to stand for 24 hours before they go to the press, though some say that half that time is amply sufficient. If hair-cloths are used in the press, particular care should be observed to wash and dry them frequently, or the ill-effects of their acidity will be communicated to the cider, and if straw or reeds are used, it should be perfectly clean, sweet, and free from fustiness, lest the cider be impregnated with it. The cake or cheese, as it is called, after standing awhile, a slight pressure is given, which must be gradually increased until all the juice is expressed, after which the juice must be strained through a coarse hair sieve to keep back its gross feculences, and be put into proper vessels. These vessels may be either open vats or close casks. It is after this that the great art of making good cider commences.

Fermentation soon begins, bubbles rise to the surface, and there forms a scum, or soft and spongy crust, over the whole liquor. The crust is frequently broken by the air as it disengages itself from the li-

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quor, and forces its way through it. This effect continues while the fermentation is brisk, but at last gradually ceases. The liquor now appears tolerably clear to the eye, and has a piquant vinous sharpness upon the tongue. If in this state the least hissing noise be heard in the fermenting liquor, the room is too warm, and atmospheric air must be let in at the doors and windows. Now all further sensible fermentation must be stopped. This is best done by racking off all the pure part into open vessels, which must be placed in a more cool situation for a day or two, after which it may again be bared and placed in some moderately cool situation for the winter. In racking off the cider, the receiving tub should be but a small depth below the cock, and the stream from the cock should be small, lest by exciting a violent motion of the parts of the liquor, another fermentation be brought up. The feculence of the cider may be strained through a filtering bag, and placed among the second-rate cider; but by no means should it be returned to the prime cider. The whole art of clearing cider depends upon attending to the first fermentation. When it has ceased fermenting, and the liquor appears clear and bright, it should be instantly drawn off, and not suffered on any account again to mingle with its lees; for these possess much the same property as yeast, and would inevitably bring on a second fermentation. If the cider after being racked off, remains bright and quiet, nothing more is to be done to it until the succeeding spring; but if a scum collects on the surface, it must immediately be racked off into another cask, as this would produce bad effects if suffered to sink. If a disposition to ferment with violence again appears, it will be necessary to rack off from one cask to another as often as a hissing noise is heard. The strength of cider is much reduced by being frequently racked off; but this arises from a larger portion of sugar remaining unchanged, which adds to the sweetness at the expense of the other quality. The produce of those fruits which produce very strong cider often remains muddy the whole winter, and much attention must frequently be paid to prevent an excess of fermentation. The casks into which the liquor is put whenever racked off, should always have been thoroughly scalded and dried again, and each should want several gallons of being full to expose a larger surface to the air. If a second fermentation is allowed to take place, the cider never can be again restored to its former richness and purity. To check a second fermentation, a bottle of French brandy, and a few gallons of old cider, poured into a hogshead may be useful, provided the cellar is not too warm and close. Those remedies are innocent, but to apply any preparation of lead to restore cider, is to convert it into a poisonous draught to those who may drink it.

The fuming a cask with burning sulphur is sometimes found advantageous; it is thus performed:—Take a strip of canvas cloth, about twelve inches long and two inches broad; let it be dipped into melted brimstone; when this match is dry, let it be lighted, and suspended from the bung of the cask (in which there are a few gallons of cider) until it be burned out. The cask must remain stopped for an hour or more, and be then rolled to and fro to incorporate the fumes of the match with the cider, after which it may be filled. If the fuming be designed only to suppress some slight improper fermentation, the brimstone match is suffi-

cient ; but if it be required to give any additional flavour to the cider, some powdered ginger, cloves, cinnamon, &c., may be strewed on the match when it is made. Cider is generally in the best state to put into bottles at two years old, where it will become rich and sparkling, and if it possesses much richness it will remain without any sensible change for twenty or thirty years, or so long as the cork duly performs its office.

The cider made for common use is seldom racked off, and though it may not be so clear or pleasant a liquor as cider managed in the way above described, it will keep for a year or two without getting sour, and is generally preferred by the farmers and working class in England. When it becomes extremely thin and harsh by excess of fermentation, the addition of a small quantity of bruised wheat, or slices of toasted bread, will much diminish its disposition to get sour.

TO MAKE MADEIRA CIDER.—Take new cider from the press ; mix it with honey till it bears an egg ; boil it gently for a quarter of an hour, but not in an iron pot ; take off the scum as it rises ; let it cool, then barrel it, without filling the vessel quite full ; bottle it off in March. In six weeks afterwards it will be ripe for use and as strong as madeira. The longer it is afterwards kept the better.

Perry is manufactured on exactly the same principles as cider. The pears should not be quite ripe, and the admixture of some wildings will add much to the sprightliness of the taste. If it is properly made it resembles champaign, and is nearly equal to it.

The quantity of cider or perry which orchards may produce is difficult to estimate, there is such a vast difference in the number of trees on an acre, and the fruit of each. In England, they estimate that each tree will on an average give 32 gallons of cider. In Canada trees produce more fruit. About 32 bushels of apples will produce 120 gallons of cider, and if the fruit is good they will produce more.

In preparing casks for cider, whether new or old, they require to be carefully scalded with hot water, into which some handfuls of salt has been thrown, or with water into which some of the pommage has been boiled. They should afterwards be washed with some of the cider. In using wine or brandy casks, the tartar adhering to their sides should be scraped off, and they should be well scalded. Beer casks are unfit for cider, as cider casks are equally so for beer.

BREWING BEER.

The following is said to be a good process for making malt for either beer or spirits :—

Barley is the grain generally used, but oats and other grain are sometimes used and malted for making spirits ; and the process commences with wetting or steeping the grain, of whatever kind, in an oblong or square vessel called a cistern. Sometimes the grain is first put into the cistern and then covered with water ; at other times the water is first put in and the grain added afterwards.

Very soon after the grain has been covered with water, it begins to swell and increase in bulk, and continues to do so pretty regularly until it reaches its maximum. The amount of the swell depends not only up-

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on the length of time the grain remains in steep covered with water (which by law in England can in no case be less than forty hours), but also upon its quality and state of dryness before put in steep, and must of course be expected to vary; but the law presumes that the swell will amount to a seventeen and a half for eighty-two and a half bushels before steeped, or more than a fifth part.

The grain, after being steeped and the water drawn, is thrown out of the cistern into a square or oblong utensil called a couch-frame, in which it is required by law to remain for the space of twenty-six or thirty hours, as the case may be; the grain in operation is said to be on the flour, and during the time it remains on the flour it undergoes a variety of changes.

1st. The grain at a certain period (which varies according to circumstances) becomes moist, and emits a rather agreeable smell, and soon after this period the roots begin to make their appearance.

2nd. The acrospire or future stem begins to swell, and gradually advances under the husk from the same end where the roots are observed to spring, till it nearly reaches the other extremity of the grain.

3rd. The kernel, as the acrospire advances through it, becomes friable and sweet-tasted, and the whole art of malting depends upon the proper regulation of these changes. In a day or two after the grain has been thrown out of the cistern, the roots begin to appear at the end of each kernel, in the shape of a small white protuberance, which soon divides itself into distinct fibres or rootlets. The grain about this time appears moist on the outside, which is called sweating, and which usually goes off in a day or two.

In about a day generally after the spreading of the roots, the rudiments of the future stem may, by splitting the grain, be seen to lengthen. It rises from the same extremity with the roots, and advancing within the husk, would at last issue from the opposite end of the grain and assume the form of a green blade of grass; but the process of malting is brought to a conclusion some time before the stem has made such progress as to burst the husk. As the germination proceeds, the grain is gradually spread thinner on the floor; and when the moisture has been in some degree evaporated, and the germination has thereby been checked, it is again gradually laid thinner to wither. Maltsters differ much in their manner of working, which is affected also by the state of the weather.

The grain having thus germinated to the extent required, is put upon the kiln, and heat applied by means of a fire, which is regulated according to circumstances; and when the malt has attained the requisite state of dryness it is thrown off the kiln, the process being then finished. The usual fuel is coke, or other charcoal.

I am not a brewer, nor can I pretend to give instructions for brewing, further than to assist persons who may wish to drink beer, and are too far away from a regular brewery to supply themselves with that wholesome liquor, after the manner of our fathers. I can very well recollect the time that every country farmer of moderate circumstances had his brewing utensils, and brewed his own beer regularly three or four times in the year, and their beer was not certainly *inferior* to that brewed at the public breweries of the present day.

After the malt is properly made and dried, it is to be prepared for the

mash-tun in two different ways; by crushing, or by grinding. In the former case the malt is made to pass between two cylindrical rollers, close enough to burst the skin and bruise the kernel. This answers the purpose very well, provided the malt is good, but if not there will be a loss of materials, which would be secured by grinding the malt. Grinding is best performed by mill-stones cut sharp for the purpose. Private families might use a steel mill, of a size proportioned to the wants of a family. They can be had at any price from three pounds to ten, currency.

There are several other utensils necessary for brewing, on however small a scale it is carried on, constantly or only occasionally. In a small brewery constantly worked, two coppers would be necessary, a liquor and wvert copper, one used for heating water for the mash-tun, and other purposes, and the other for boiling the wverts along with the hops for giving bitterness, flavour, and a preservative quality. For private families one copper would answer very well, and it need not be very expensive. Thin-bottomed coppers are much more easily heated, and are said to be much less liable to wear than thick ones. The inner surface of the copper can never be hotter than the fluid it contains; the outer surface is of course as hot as the fluid which envelopes it. In a liquor copper therefore, the inside can never exceed the heat of boiling water; and if the bottom be thin, the liquor it contains will be heated in a much less time than in a thick copper. In thick coppers the outer surface is submitted to the heat of the fire some time before it communicates with the liquor within; the metal becomes oxidated, and comes off in scales, or if the scales remain, they render it more impervious to the heat so as in some cases to take double the time of a thin bottom before the liquor can be brought to the requisite heat. The difference of wear is the obvious consequence. A brewer said he had made use of a boiler that held 20 barrels, or 720 gallons, which only weighed 300lbs., the discharge-cock included, and that at the end of 15 years it was perfectly sound, and did not need the slightest repair during all that period. The London allowance for a copper of that size would be 800 or 900lbs. The copper must be of a size proportioned to the quantity and quality of the beer to be brewed. In England, for strong ale, with small beer in succession, it is allowed that the copper should contain about 3 barrels, or 110 gallons, for every quarter or eight bushels of malt to be brewed, and where three mashes are made.

In setting the copper, a great advantage will be found in constructing the fire-place on a good principle, so that the heat can get round the sides as well as the bottom of the copper. This is done by supporting the bottom of the copper to the proper height above the furnace on three blocks built of the best fire-brick or fire-stone, and carrying up the surrounding wall at from eight to twelve inches from the sides of the copper, and for nine, twelve or more inches from the bottom upwards. It may then be covered by means of bricks leaning from the wall to the sides of the copper. In British America, where wood is almost exclusively used as fuel, there is no necessity to have iron bars or grating for the fire-place. The wood will burn perfectly well without bars, and will heat the liquor in much less time than by having a grating under the fire; the boiler may also be set much lower and more conveniently as there

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will be no space required between it and the level of the floor, but what will be sufficient for the wood that is burning. The chimney, &c., is the work of the mason, and does not require to be described here.

The mash-tun must be regulated by the quantity of malt that is to be mashed, and the sort of beer to be brewed. This can be easily ascertained. The mash-tun would require to be six or eight inches higher than the malt and liquor of the mash, so as to leave room for the agitation when mashing. A false bottom is now invariably used in mash-tuns, and about one inch is generally the height that is allowed between the bottoms. The false bottom is perforated with holes that should be burned rather than bored. The holes should be conical; the lower part from a quarter to three-eighths of an inch in diameter; but at the upper surface they should not exceed an eighth. The false bottom should fit the sides of the mash-tun closely, and not leave a chink. The liquor when let into the mash-tun is not poured on the malt, but is carried down the inside of the mash-tun by a trough, and made to enter between the bottoms, and rises upwards through the holes of the false bottom, and forces its way among the malt with which it is then mixed with mashing-bars. The liquor is let off the mash-tun by a hole or cock placed between the bottoms, and from thence falls into the under-back or vessel that is made to receive the liquor. The hop-back is another vessel that is generally required in breweries to receive the werts when sufficiently boiled with the hops. The hops are separated from the werts by means of a sifter fixed in one corner of the vessel. From this vessel the werts are conveyed to the coolers by a pump or other means.

It is of great importance that the werts when drawn from the coppers should be cooled as speedily as possible to the degree that fits them for fermenting in the tun. The coolers should be placed where there is the best succession of fresh air, and the werts if possible should not stand, nor ought ever to lie above two or three inches deep on the coolers. In brewing for private families, regular coolers are not always used, and they may perhaps be dispensed with. If only a few bushels of malt were to be brewed at one time, a few shallow vessels might answer the purpose. I have seen good home brewed ale cooled in this way. A small cooler of the regular make would not be expensive where timber is cheap. The greatest difficulty would be, that coolers made as they are in public breweries might be subject to dry up and open from not being constantly made use of.

When the werts are sufficiently cooled they are carried to the fermenting tun. These must be of a size to answer the quantity brewed, and must hold more, to give room for the head of yeast which rises during the fermentation.

When the beer has received its due portion of fermentation in the tun, it is cleansed, that is, drawn off into other vessels. These are usually barrels or casks of a similar shape, in which the fermentation is finished by causing the yeast to be discharged from the bung-holes into *tubs*, or *stillions*, over which the barrels are placed. In order to keep up the purgation until all the yeast is worked off, the casks are filled up from time to time with other beer. In some cases the purgation is finished in the tuns, by skimming off the yeast as it rises after the fermentation be-

comes languid. In private breweries good ale may be brewed without a great store of utensils. The mash-tun may answer extremely well for a fermenting, or gyle-tun. It is for the private brewer I offer these instructions. I do not pretend to instruct the public brewer, or in any way interfere with his trade.

The instruments called the thermometer and saccharometer are necessary to all public brewers. The private brewer may find the first sufficient. The thermometer is applicable and useful in every stage of the brewing process. It ascertains the heat of the mashing liquor, and of the werts when draining from the mash-tun. In the coolers, it shows when the werts are ready to let down for fermentation, and in the gyle-tun it marks the progress, as far as it is notified by the increase or diminution of the heat. For the latter purpose there are tun thermometers, from three to three and a half feet long, which can be immersed in the werts, while all that is necessary of the scale overtops the froth of the head.

The other instrument, the saccharometer, is nothing else but a hydrometer, whose scale is calculated so as to render it peculiarly fitted for measuring the specific gravities of werts, as compared with water. I do not think it necessary to describe it further. Those who know its use, and wish to use it, will not require any instruction here.

It is most essential to good ale that it should be made from good malt. It is the opinion of good judges, that if the malt after it is properly prepared for drying should be heated beyond that which simple preservation requires, the valuable qualities of the malt are lessened and injured. In pale malts, the extracting liquor produces a separation which cannot be effected in brown, where the parts are so incorporated that unless the brewer is very well acquainted with the several qualities and attachments, he will bring over with the burnt mixture of saccharine and mucilaginous principles, such an abundance of the scorched oils, as no fermentation can attenuate, no precipitants remove; for, being in themselves impediments to the action of fermentation, they lessen its efficacy, and being of the same specific gravity with the beer, they remain suspended in, and incorporated with the body of it, an offence to the eye, and a nausea to the palate to the latest period.

The quality of water to be employed, in brewing is a consideration. Soft water is universally allowed to be preferable to hard, both for the purposes of mashing and fermentation. Transparency is, however, more easily obtained by the use of hard than of soft water. Hard water is said not to be well adapted to the brewing of porter, or such beers as require a fullness of palate, and in consequence is not often used in London.

The purity of water is determined by its lightness; and in this, distilled water only can claim any material degree of perfection. Rain water is the clearest of all that is naturally produced; but by the perpetual exhalations of vegetables and other substances floating in the atmosphere, it does not come down to us entirely free from those qualities which pond and river water possess in a greater degree. These, especially of rivers running through fens and morasses, imbibe an abundance of vegetable solutions which occasion them to contain more fermentable matter, and consequently to yield a greater portion of spirit, but at the same time induces such a tendency to acidity as will not easily be conquered.

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This is more to be apprehended towards the latter end of the summer than at any other time, because these vegetable substances are then in a state of decay, and thence more readily impart their pernicious qualities to the water which passes over them.

Where there is a liberty of choice, water should be used which from natural purity is equally free of the austerity of imbibed earths, and the rankness of vegetable saturation, has a soft fulness upon the palate, is totally flavourless, inodorous and colourless, whence it is the better prepared for the reception and retention of such qualities as the process of brewing is to communicate and preserve.

The next thing to be considered is the proper degree of heat to be employed in making the infusion; and here it is evident that though this must be an object of the utmost importance to the success of the operation, it is extremely difficult, perhaps impossible, to fix upon a precise standard that shall at all times fully answer the purpose. Much might be said here to explain how a high or low degree of heat in the liquor acts on the malt, but I do not think it necessary for the reader. A rather low degree of heat is in general to be preferred, and is found to produce a wort replete with a rich, soft sweet, that is fully impregnated with its attendant mucilage, and in quantity much exceeding that obtained from increased heat, which by its more powerful insinuation into the body of the malt, acting upon all the parts together, extracts a considerable portion of the oleaginous and earthy principles, but falls short in softness, fulness, sweetness, and quantity. This is occasioned by the coagulating property of the mucilage, which partaking of the nature of flour, has a tendency to run into a paste, in proportion to the increase of heat applied, by which means it not only locks up a considerable part of the saccharum contained therein, but retains with it a proportionate quantity of the extracting liquor, which would otherwise have drawn out the imprisoned sweet, thence lessening both the quantity and quality of the worts. And this has sometimes been known to have had so powerful an effect as to have occasioned the setting of the *goods or malt in the mash-tun*, and uniting the whole in a pasty mass; for though heat increases the solvent powers of water in most instances, there are some in which it totally destroys them, and such is the presence of flour, which it converts into paste. From a knowledge of these effects alone can ideas be formed of the variations necessary in the heat of the extracting liquor, and as I am not a brewer, I will not pretend to lay down any degrees of heat, which vary in almost every treatise written on the subject of brewing, and indeed it could not be otherwise, as these heats depend upon so many circumstances, namely, the quality of the malt; of the water; the quantity of malt wetted; and the time of year it is brewed, as well as the time the beer is intended for use. Too low a heat is found sometimes to produce immediate acidity, an insipid flavour of the beer, and a want of early transparency. Too much heat, at the same time that it lessens the mucilage, has the effect of diminishing the saccharum also; whence the lean, thin, austere quality of some beer. The private brewer, by giving due attention to all these circumstances, will by a little practice know that a certain degree of heat will extract principles in a certain proportion, and without much difficulty he can fix upon another degree that

shall produce the required proportion of the remaining qualities; and effect then that equal distribution of parts in the extract which it is the business of fermentation to form into a consistent whole.

The principal use of boiling the werts is to separate the grosser parts of the extract, preparatory to the more minute separation which is to be effected in the gyle-tub. Strong worts require much less boiling than weak werts.

During the operation of boiling, the hops are added which are found to be necessary for preventing the too great tendency of beer to acidity. The fine essential of the hops being most volatile and soonest extracted, it will be found advantageous not to boil the first wert longer than is sufficient to form the extract, without exposing it to the action of the fire so long as to dissipate the finer parts of this most valuable principle, and defeat the purpose of obtaining it. To the subsequent werts a larger allowance can be afforded, and pursue the means of preservation so long as those of flavour are kept in vain, to which no rules can positively direct the process varying with every other variety of ale and beer. It is actually necessary to allow a sufficient time for the due separation of the parts of the wert and extraction of the requisite quantities of the hop. To proceed to the other extreme, there is every thing to apprehend from the introduction of too large a quantity of the grosser principles of the hop, which are very inimical to the fermentation, impairing greatly the fermentative qualities of the wert, by their too long exposure to the action of the fire upon them, whereby their parts are too intimately blended to yield to the separating force of fermentation with that ease the perfection of the product requires.

The last step in the process of brewing is to ferment the liquor properly, for if this is not done, whatever care and pains have been taken in the other parts, they will be found altogether insufficient to produce the desired liquor. The first thing to be done here is to produce a proper ferment. There are two kinds of artificial ferments procurable: viz: beer, yeast, and wine- lees. Brewers find some difficulty when commencing, to procure beer-yeast in sufficient quantity. Yeast may be preserved by freeing it from its moister parts. This is sometimes attempted to be done by the sun's heat, but slowly and imperfectly. The best method is by gently pressing it in canvass bags: thus the liquid part in which there is scarce any virtue will be thrown off, and the solid will remain behind in form of a cake, which if packed in a barrel or box, will it is said keep for a long time sweet and fragrant, and fit for the finest uses. The same method may be taken with wine- lees or the flowers of wine. The wine- lees are dissolved in water, and stirred about with a stick, the lighter, more moveable, and more active part of the lees will be thrown up to the top and may be taken off and preserved in the manner above mentioned in any quantity desired. By attention to these matters a regular supply of yeast may be always secured.

There is great circumspection necessary with regard to the quality of the yeast or ferment; it must be chosen perfectly sweet and fresh, free from musty or corrupt taste or smell, for if it is mixed with the fermentable liquor, when either musty or corrupt, it will communicate its flavour to it in such a manner as never to be got off. If the yeast is sour,

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it is not fit to be used for any liquor, for it will communicate its flavour to the whole, and even prevent its rising to a head, and give it an acetous instead of a vinous tendency. When the proper quantity is got ready it must be put to the liquor in a state scarcely lukewarm.

The best method of putting them together so as to make the fermentation strong and quick, is as follows. When the ferment is solid, it must be broken to pieces, and gently thinned with some of the warm liquor; but a complete or uniform solution of it is not to be expected or desired, as this would weaken its efficacy for the future business.

The whole intended quantity being thus loosely mixed in some of the lukewarm liquor, and kept near the fire or elsewhere in a tepid state, free from too rude commerce with the external air, more or less insensibly warm liquor ought at proper intervals to be brought in, till thus by degrees the whole quantity is set at work together. When the whole is thus set at work, secured in a proper degree of warmth, and kept from a too free intercourse with the external air, it becomes as it were the business of nature to finish the operation.

In the operation of fermentation, however, the degree of heat to be employed is of the utmost consequence. In forming the extracts of the malt, the variation of a few degrees of heat produces an important difference in the effect. In the heat of fermentation, similar consequences result from similar variety. Under a certain regulation of the process, we can retain in the beer, so far as art is capable, the finer mucilage, and thereby preserve that fulness upon the palate which is by many much admired; on the other hand by a slight alteration we can throw it off and produce that evenness and uniformity of flavour which has scarce any characteristic property, and is preferred by some only for want of that heaviness which they complain of in full beers. If a more vinous racy ale be required, it can, by collecting and confining the operation within the body of the wort, cause the separation and absorption of such an abundant portion of the oleaginous and earthy principles, as to produce a liquor in a perfect state at the earliest period, so highly flavoured as to create a suspicion of an adventitious quality. Though all this may be done, and often has been done, the proper management of fermenting liquors depends so much upon a multiplicity of slight and seemingly unimportant circumstances, that it hath never yet been laid down in an intelligible manner, and no rules drawn from any thing hitherto published on the subject of brewing, can be at all sufficient to direct any person in this matter, unless he had considerable opportunities of observing the practice of a brew-house. With the help of the directions I have given here, which I have taken from the best works on the subject that I had at my disposal, a farmer may contrive to make some very good "home-brewed ale," if he has no means of getting beer conveniently from a public brewery. In London they generally allow that four quarters, or 32 bushels, of malt, and 32 lbs. of hops, will make 15 barrels of good porter, of 36 gallons each, beer measure, equal to about 600 gallons wine measure of Canada. I believe that the same quantity of good malt will produce as many gallons of strong ale. The farmer who will brew for his own use will soon discover what quantity of malt he should use to make a few barrels of good ale or beer.

MANUFACTURE OF WINE FROM THE SMALL FRUITS OF VARIOUS DESCRIPTIONS THAT MAY BE PRODUCED IN BRITISH AMERICA.

In every part of the Provinces, white, black and red currants, gooseberries, raspberries, elder-berries and wild grapes may be produced to almost any extent, and with very little trouble. All these small fruits will yield more abundantly here than in England, and I have never known any failure. Every farmer might grow them. They would occupy very little space, much less than is now occupied by hurtful weeds. They might be planted in rows about the garden fences where they would be no injury whatever. If the farmer did not choose to drink the wine that might be manufactured from the fruit, he could sell it for a fair price if properly made. In England the gooseberries are brought to great perfection. I have seen it stated that in Derby there was in 1821 a bush planted 46 years, and the branches of which extended 36 feet in circumference. Sir Joseph Banks had in his garden at Overton Hall, near Chesterfield, two gooseberry plants trained against a wall, measuring each upwards of fifty feet in the full extent of their branches. A single fruit has been exhibited at horticultural shows in England that weighed 32 dwts. 13 grs., and seedling plants of reputation have produced, when sold in lots, no less than £32; and it is said that the distribution of a single bush, in rooted parcels, has frequently brought twenty guineas.

White, red and black currants grow in perfection in British America, and either of these make good wine. Raspberries grow wild and of excellent flavour. This fruit makes a most agreeable wine. Elder berries grow in many places. I cannot say that they are generally to be found, but they might certainly be cultivated every where. The process of making wine is very simple. The principal matter to be attended to is fermentation, to allow the wine to work off its grosser parts after it is made and put in casks.

RASPBERRY WINE. Take equal quantities of fruit and soft water; bruise the fruit well, and let it stand 48 hours; let it then be strained, and to every gallon of the liquor put from three to four pounds of good soft sugar, (though refined sugar would be better and a less quantity would do;) when perfectly dissolved put the liquor into a barrel, leaving the bung open or covered lightly while it is inclined to ferment. In three months it will be fit for bottling, and into each bottle put a large spoonful of good brandy; it will keep good as long as it is likely to be allowed to remain bottled in the farmer's cellar.

CURRENT WINE may be made of either white, red or black, but the black should not be mixed with either of the other kinds. The white and red do very well mixed. This wine is made much in the same way as raspberry wine; the same quantity of fruit to a like quantity of water. The currants should be well broken up, and after they are allowed to stand for 21 hours, the liquor should be strained off, and all the juice expressed from the fruit as well as it can be done. A certain portion, about a fourth, of raspberries added, is a great improvement. Sugar must then be added in the same proportion as in raspberry wine (from three to four pounds to the gallon of liquor) and after the sugar is dissolved, the liquor should again be strained and put into casks having the bungs open so long as it is inclined

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to ferment, and keeping the casks constantly full. When the fermentation has subsided, it will be well to put to each gallon a pint of brandy, or of whiskey of good flavour, but if the whiskey is not of good flavour it will spoil the wine. The casks should then be closely bunged up, and the following spring the wine may be bottled, but the longer it is allowed to remain in the cask the better it will be. It will also improve by age in the bottle.

GOOSEBERRY WINE may be made in the same way as currant wine, but is always best made with loaf sugar, and indeed loaf sugar is best for all kinds of wine, and I believe equally cheap, or nearly so. The fruit should not be perfectly ripe for this wine; they should be gathered before they are in that state which is understood as *dead ripe*. Cider wine, properly made, is very delicious, though perhaps it would not please the taste of all who are accustomed to use foreign wine, as they may think it has too much sweetness. Age will however greatly correct this defect. The same quantity of brandy should be put to this wine when put into casks, as is directed for currant wine.

ELDERBERRY WINE, is considered a very wholesome wine. To three gallons of ripe berries without stalks, put seven gallons of soft water. After standing forty-eight hours, put all into a copper and let them boil an hour; then press the juice through a coarse cloth; put the liquor into the copper again with twenty pounds of soft sugar, half a pound of Jamaica ginger, bruised, one ounce of cloves, and one ounce of allspice. Boil the whole together one hour, then put it into a tub, and when cold enough add some good barm, or yeast; spread on a toast, and in two days put all into a cask, and lay the bung lightly on for two months, then add one quart of brandy to this quantity of liquor and close the bung; this wine will keep for several years.

I have on page 240 given the method of making Cider Madeira, which is a very agreeable wine. In my Agricultural Treatise, I gave the receipt for making *potatoe wine*; but lest the reader should not see that work, I give the same receipt insertion here.

POTATOE WINE of a good quality may be made from frosted potatoes, if not so much frosted as to become soft and watery. The potatoes must be crushed or bruised, or put into a cider press. A bushel must have ten gallons of water, prepared by boiling it, mixed with half a pound of hops and half a pound of white ginger. This water after having boiled for half an hour must be poured upon the bruised potatoes, into a tub or vessel suitable to the quantity to be made. After standing in this mixed state for three days, yeast must be added to ferment the liquor; when the fermentation has subsided, the liquor must be drawn off as fine as possible, into a cask, adding half a pound of soft sugar for every gallon. After it has remained in the cask for three months, it will be ready for use.

I believe I have now given as many receipts for making cider, beer, and wines, as will be necessary for farmers. If they take a little trouble, they may at trifling expense provide themselves and their families with either, or all of these liquors, and keep a constant supply of them in their houses.

DISEASES OF THE HORSE.

I freely avow that I have no pretensions to know much of the veterinary art as applied to horses, and all I shall attempt to give under this head, will be a few remarks on the most common diseases that horses are subject to in British America, and the most simple remedies that are generally known. I would not attempt to meddle with this subject if I thought this work would only be read by persons who might reside in or near towns, where skilful farriers may perhaps always be had; but as it may fall into the hands of persons residing far in the woods, who would have no advice or medicine near, I think it proper to endeavour to assist persons so circumstanced. I shall commence with giving a list of medicines, which I believe to be all perfectly safe if given and applied according to the directions. A farmer going far into the wilderness, or indeed at any inconvenient distance from towns, would do well to lay in a small stock of the most simple of these medicines. It might perhaps save him many pounds in the cure of his stock should they be diseased. In treating of the several diseases and their cure, I shall refer to this table of medicines, which I have numbered for the purpose in such a way that I hope there will be no risk of making any mistake, by giving a little attention to the directions. With most of the medicines and their efficacy I am well acquainted.

VETERINARY PHARMACOPŒIA,

OR FARMERS' MEDICINE TABLE, FOR HORSES, NEAT CATTLE AND SHEEP.

ALTERNATIVES, No. 1. Blue Vitriol, in powder, of each 1

1st.

Levigated Antimony, 2 drachms,
Cream of Tartar,
Flour of Sulphur, each half an ounce.

2d.

Cream of Tartar,
Nitre, of each half an ounce.

3d.

Æthiops Mineral,
Levigated Antimony,
Powdered Rosin, each 3 drachms.
Give in a mash, or in oats and bran a little wetted, every night, or make into a ball with honey.

TONIC ALTERNATIVES. No. 2.

1st.

Gentian,
Aloes,
Ginger,

drachm,

Oak Bark in powder, 6 drachms.

2d.

Winters Bark in powder, 3 drachms,
Green Vitriol in powder, 1½ drachm,
Gentian in powder, 3 drachms.

Make either of these into a ball with honey, and give every morning.

3d.

White Vitriol, 1 drachm,
Ginger, ground, 2 drachms,
Powdered Quassia, half an ounce,
Ale, 8 ounces, mix and give as a drink.

ASTRIGENT MIXTURES FOR DIARRHŒA, LAX, OR SCOURING. No. 3.

1st.

Powdered Ipecacuanha, 1 drachm,
Powdered Opium, half a drachm,
Prepared Chalk, 2 ounces,
Boiled Starch, 1 pint.

Suet, 4
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Boiled
Powder

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Strong
1 pint

2d.
Suet, 4 ounces, boiled in 8 ounces
milk,
Boiled Starch, 6 ounces,
Powdered Alum, 1 drachm.

3d.
The following has been very strongly recommended in some cases for the Lax in horses and cattle :
Glauber's Salts, 2 ounces,
Epsom Salts, 1 ounce,
Green Vitriol, 4 grains,
Gruel, half a pint.

4th.
When the Lax or Scouring at all approaches to dysentery or molten grease, the following drink should be first given :
Castor Oil, 4 ounces,
Glauber's Salts, (dissolved) 2 ounces,
Powdered Rhubarb, half a drachm,
Powdered Opium, 4 grains,
Gruel, one pint.

ASTRINGENT BALLS FOR DIABETES,
OR PISSING EVIL. No. 4.
Catechu (Japan earth) half an ounce,
Alum, powdered, half a drachm,
Sugar of Lead, 10 grains,
Conserve of Roses to make a ball.

ASTRINGENT PASTE FOR THE
THRUSH, FOOT ROT, FOUL IN THE
FOOT, &c. No. 5.

Prepared Calamine,
Verdigris, of each half an ounce,
White Vitriol,
Alum, of each half a drachm,
Tar, 3 ounces : mix all.

ASTRINGENT WASHES FOR CRACKS
IN THE HEELS, WOUNDS, SPRAINS,
&c. No. 6.
1st.

Sugar of Lead, 2 drachms.
White Vitriol, 1 drachm,
Strong infusion of oak or elm bark,
1 pint : mix all.

2d.
Green Vitriol, 1 drachm,
Infusion of Galls, half a pint : mix,
and wash the part three times a
day.

POWDER FOR CRACKS, &c.

3d.
Prepared Calamine, 1 ounce.
Fullers Earth, powdered,
Pipe Clay powdered, of each 2 ounces:
mix all, and put within gauze and
dab the moist surface of the
sores frequently with it.

ASTRINGENT PASTE, FOR GREASE.

No. 7.

1st.
Prepared Calamine,
Tutty, powdered,
Charcoal, powdered, of each 2 ounces,
Yeast enough to make a paste.

2d.
To the above if more strength be required, add of Alum and Verdigris, each a drachm.

ASTRINGENT WASH FOR GREASE.

3d.
Corrosive Sublimate, 2 drachms,
Spirits of Wine or Brandy, 1 ounce,
Soft Water, 10 ounces :
Dissolve the Sublimate perfectly with
the spirit, then add the water. This
is a strong preparation, and is said
to have often proved successful in
very bad cases of grease, which
had resisted all the usual remedies.

BLISTERS. No. 8.

1st.

A general one.

Cantharides, (Spanish Flies,) powdered, 2 ounces,
Venice Turpentine, 2 ounces,
Rosin, 2 ounces,
Palm Oil, or Lard, 2 lbs. : Melt
the three latter articles together,
and when not too hot stir in the
first, which are the Spanish Flies.

2d.

A STRONG CHEAP BLISTER, BUT NOT PROPER TO BE USED IN FEVERS, OR INFLAMMATIONS, AS OF THE LUNGS, BOWELS, &c.

Euphorbium, powdered, 1 ounce,
Oil of Vitriol, 2 scruples,
Spanish Flies, 6 ounces,
Palm Oil, or Lard,
Rosin, of each 1 lb.,

Oil of Turpentine, 3 ounces : mix the rosin with the lard or palm oil. Having previously mixed the oil of vitriol with an ounce of water gradually, as gradually add this mixture to the melted mass: which again set on a very slow fire for ten minutes more ; afterwards remove the whole, and when beginning to cool, add the powders previously mixed together.

3d.

FOR SPLINTS, SPAVINS, AND RINGBONES—A *Mercurial Blister* may be made by adding to four ounces of either of the above blisters half a drachm of finely powdered Corrosive Sublimato.

4th.

STRONG LIQUID BLISTER.

Spanish Flies in gross powder, one ounce,
Oil of Origanum, 2 drachms,
Oil of Turpentine, 4 ounces,
Olive Oil, 2 ounces : steep the flies in the turpentine three weeks, strain off, and add the oil.

5th.

MILD LIQUID OR SWEATING BLISTER.

Take of the above blister when mixed, one ounce, and add to it of Olive Oil, or goose grease, 1½ ounce.

CLYSTERS, A LAXATIVE ONE. No. 9.

1st.

Thin Gruel, or Broth, 5 quarts,
Epsom or common Salts, 6 ounces.

2d.

CLYSTER FOR GRIPES.

Mash two moderate sized Onions, Pour over them Oil of Turpentine, 2 ounces,
Pepper, half an ounce,
Thin Gruel, 4 quarts : mix.

3d.

NUTRITIOUS CLYSTER.

Thick Gruel, 3 quarts,
Strong Ale, 1 quart.

4th.

Strong Broth, 2 quarts.
Thickened Milk, 2 quarts.

5th.

ASTRINGENT CLYSTER.

Tripe Liquor, or Suet boiled in milk, 3 pints.
Thick Starch, 2 pints.
Laudanum, half an ounce.

6th.

Alum Whey, 1 quart,
Boiled Starch, 2 quarts.

CORDIAL BALLS. No. 9.

Gentian, powdered, 4 ounces,
Ginger, powdered, 2 ounces,
Coriander Seeds, powdered, 4 ounces
Caraway Seeds, powdered, 4 ounces
Oil of Aniseed, a quarter of an ounce: make into a mass, with honey, treacle, or lard, and give one ounce and a half for a dose.

CHRONIC COUGH BALLS. No. 10.

1st.

Calomel, one scruple,
Gum Ammoniacum,
Horse Radish, of each 2 drachms,
Balsam of Tolu,
Squills, of each one drachm : beat all together, and make into a ball with honey, and give every morning, fasting.

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2d.

DRINK FOR THE SAME.

Tar Water,
Lime Water, of each half a pint,
Tincture of Squills, half an ounce.

3d.

POWDER FOR THE SAME.

Tarter Emetic, 2 drachms,
Powdered Foxglove, half a drachm,
Powdered Squills, half a drachm,
Calomel, one scruple,
Nitre, three drachms. Give every
night in a malt mash.

DIURETIC BALLS. No. 11.

Rosin, yellow, one pound,
Nitre, half a pound,
Horse Turpentine, half a pound,
Yellow Soap, a quarter of a pound :
Melt the rosin, soap, and turpen-
tine over a slow fire ; when cool-
ing, add the nitre. For a strong
dose, one ounce and a half, for a
mild one, one ounce. It should
be kept in mind that mild diuretics
are always equal to what is re-
quired ; and that strong diuretics
are always hurtful.

DIURETIC POWDERS. No. 12.

Yellow Rosin, powdered, 4 ounces,
Nitre, powdered, 8 ounces,
Cream of Tartar, powdered, 4 ounces.
Dose, 6, 8, or 10 drachms, night-
ly, which most horses will readily
eat in a mash.

URINE DRINK. No. 13.

Glauber's Salts, 2 ounces,
Nitre, 6 drachms, dissolved in a pint
of warm water.

EMBRICATIONS, COOLING FOR IN-
FLAMMATIONS. No. 14.

1st.

Goulard's Extract, half an ounce,
Spirits of Wine or Brandy, 1 ounce,
Soft Water, one quart.

2d.

Mindererus Spirits, 4 ounces,
Water, 12 ounces.

FOR STRAINS. No. 15.

Bay Salt, bruised, half a pound,
Crude Salammoniac, 2 ounces,
Sugar of Lead, quarter of an ounce,
Vinegar, one pint and a half,
Water, one pint.

FOR THE EYES. No. 16.

1st.

Sugar of Lead, one drachm.
White Vitriol, two scruples,
Water, one pint.

2d.

Brandy, one ounce.
Infusion of Green Tea, four ounces,
Tincture of Opium, two drachms,
Infusion of Red Roses, four ounces.

3d.

Rose Water, six ounces,
Mindererous Spirit, three ounces.

4th.

Corrosive Sublimate, four grains,
Alcohol, one ounce,
Lime Water, one pint.

5th.

Alum, powdered, one drachm,
Calomel, half a drachm : mix and
insert a little at one corner of the
eye. The custom of blowing it
in alarms the horse.

FEVER POWDERS. No. 17.

1st.

Tartar Emetic, two drachms,
Nitre, five drachms.

2d.

Antimonial Powder, two drachms,
Cream of Tartar,
Nitre, of each four drachms.

3d.

FEVER DRINK.

Sweet Spirit of Nitre, one ounce,
Mindererus Spirit, six ounces,
Water, four ounces.

4th.

EPIDEMIC FEVER DRINK.

Sweet Spirit of Nitre, one ounce,
Simple Oxymel, six ounces,
Tartar Emetic, three drachms.

5th.

MALIGNANT EPIDEMIC FEVER.

Simple Oxymel,
Mindererus Spirit,
Beer Yeast, of each four ounces,
Sweet Spirit of Nitre, one ounce.

FUMIGATIONS FOR PURIFYING IN-
FECTED STABLES, SHEDS, &c.

No. 18.

Manganese, two ounces,
Common Salt, two ounces,
Oil of Vitriol, three ounces,
Water, one ounce :

Put the mixture of manganese and salt into a basin ; then, having before mixed the vitriol and water very gradually, pour them by means of tongs, or any thing that will enable you to stand at a sufficient distance from the articles in the basin, gradually. As soon as the fumes rise, retire and shut up the doors and windows close.

HOOF LIQUID. No. 19.

Oil of Turpentine, four ounces,
Tar, four ounces.
Whale Oil, eight ounces.

This softens and toughens the hoofs extremely, when brushed over them night and morning.

PURGING MEDICINES. No. 20.

BALLS very mild.

Aloes, powdered, six drachms,
Oil of Turpentine, one drachm.

MILD.

Aloes, powdered, eight drachms.
Oil of Turpentine, one drachm.

STRONG.

Aloes, powdered, ten drachms.
Oil of Turpentine, one drachm.

The aloes may be beaten with treacle to a mass, adding during the beating, the oil of turpentine. Allspice, oil of tartar, cream of tartar, jalap, &c., are useless, and often hurtful additions.

LIQUID PURGE. No. 21.

Epsom Salts, dissolved, eight ounces,
Castor Oil, four ounces,
Watery Tincture of Aloes, 8 ounces.

Mix. The watery tincture of aloes is made by beating powdered aloes with the yolk of egg, adding water by degrees : by these means half an ounce of aloes may be suspended in eight ounces of water ; and such a purge is useful, when a ball cannot be got down, as in partial locked jaw.

SCALDING MIXTURE FOR POLE EVIL.

No. 22.

Corrosive Sublimate, finely powdered, one drachm,
Yellow Basilicon, four ounces.

FOOT STOPPINGS. No. 23.

Horse and Cow Dung each about 2lb.
Tar, half a pound.

WASH FOR CORING OUT, DESTROYING
FUNGUS, OR PROUD FLESH, &c.

No. 24.

Lunar Caustic, one drachm.
Water, two ounces.

WASH FOR MANGE. No. 25.

Corrosive Sublimate, two drachms.
Spirit of Wine or Brandy, one ounce,
Decoction of Tobacco,
Decoction of White Hellebore, of each a pint. Dissolve the mercury in the spirit, and then add the decoctions.

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OINTMENTS FOR HEALING. No. 26.

1st.
Turner's Cerate, four ounces,
White Vitriol, powdered, half a
drachm,
Lard, four ounces.

2d.

FOR DIGESTING.

Turner's Cerate, two ounces,
White Vitriol, one drachm,
Yellow Basilicon, five ounces.

FOR MANGE. No. 27.

Sulphur Vivum, eight ounces,
Arsenic, in powder, two drachms,
Mercurial Ointment, two ounces,
Turpentine, two ounces,
Lard, eight ounces : mix, and dress
with every morning.

FOR SCAB OR SHAB IN SHEEP, MAL-
LENDERS AND SELLENDERS IN
HORSES, AND FOUL BLATCHES AND
ERUPTIONS IN CATTLE IN GENE-
RAL. No. 28.

Camphor, one drachm,
Sugar of Lead, half a drachm,
Mercurial Ointment, one ounce.

In treating of diseases I will refer to the above table, which I hope will be understood by the reader, as I have numbered them. For example, in any particular disease that fever powder or drink may be required, I refer to No. 17, and the different powders and drinks are marked 1st., 2d., 3d., 4th., and 5th. If 2d. powder is the one ordered, I say No. 17, 2d., and so in all cases.

There are other simple and safe medicines that may be used for cattle, not in the above list. Linseed oil is very little if any inferior to castor oil, as a purgative, and is much cheaper. In Canada, I think it as safe and good a medicine as can be administered to an animal as a purgative. About a pint, or a little more, is sufficient for a dose for a full grown animal. Linseed, or flax-seed, is incomparably the best emollient poultice that can be applied. If to an ulcer that is foul, a little of the chloride of lime should be mixed with it. If the object of the poultice is to bring an ulcer into a proper state of suppuration, a little common turpentine may be added.

Linseed is an excellent mash in cases of sore-throat, or of any intestinal affection. A little bran may be added to the mash.

Sulphur is a very good aperient when the object is to evacuate the bowels. The dose varies from eight to twelve ounces. As an alterative for hide-bound, or a general unthrifty appearance, it is excellent, combined with nitre.

Epsom salts is an excellent purgative for cattle. It may be given in doses of from eight ounces to a pound, and to very large animals a pound and a half may be safely given.

Chalk is a useful ingredient in drinks given in dysentery, or looseness, for calves in particular; the dose varies from a drachm to an ounce. Chloride of lime is the best disinfectant that is known for infected horse and cow stables.

COMMON DISEASES OF THE HORSE.

The first and most common disease which horses are subject to, are brought on by colds. Catarrh, fever, epidemic catarrh, distemper, &c., are names that apply to one common disease, which often in cold varia-

blo seasons appears as an epidemic, and affects many horses at once. It is observed to be particularly prevalent in this form in some years more than others, about the months of February, March, and April. They are generally brought on by alternations of heat, cold, moisture, &c. In cities and towns it is more prevalent than in more open situations, and is more frequently found in the young than in aged horses. Where it does not exist as an epidemic, it is brought on by accidental cold taken. It is often mistaken for inflammation of the lungs, and as the treatment for both diseases ought to be different, it is essential to distinguish them. Inflammation of the lungs commences by a short cough, without much other disturbance of the health than the pain it gives the horse to cough. If a horse in the distemper coughs early, it is not a hollow, harsh-sounding, and distressing cough of this kind; if he expresses uneasiness, it is principally from a sore throat, which is very common in distemper. The sore throat in distemper gives a horse a disposition to refuse his food, or he sometimes chews it, but lets it fall from his mouth without swallowing it. He will also refuse water if placed on the ground. His eyes are heavy and moist, his breathing is quickened, and his ears and legs are alternately hot and cold. His nose on looking into it is redder than usual, and his jaw glands are tumified. On the third or fourth day there is generally a running at the nose, and the horse will often run off the disease by this suppuration.

The treatment, if immediately after the disease begins, may be cut short by giving the horse one ounce of sweet spirit of nitre, or if not at hand, the same quantity of spirit of hartshorn, in a pint of good ale. Exercise the horse briskly; then well hand-rub him, and cover him warmly, and this may probably cut short the disease. But should it proceed, begin by bleeding moderately, if the horse be not already weak, or the running matter from the nose commenced. If the fever be considerable, which may be ascertained by the quick full pulse, and redness of the inner surface of the nostrils and eyelids, bleeding should be resorted to, though there was matter running from the nose, and perhaps it would require to be repeated. A cool temperature is best in the stables. Before the discharge commences from the nose, give, night and morning, the fever powder, No. 17, 1st or 2d (medicine table) in a mash or drink; after the running has come on, or as soon as the weakness has become considerable, give night and morning either of the fever drinks, No. 17, 3d or 4th (in medicine table). Malt mashes, when the fever is great, are proper; at other times bran mashes with plenty of chilled water are best. To relieve the throat, rub the outside with mild liquor, or sweating blister, No. 8, 5th (in medicine table). Green food in the stable if it can be procured would be best.

If this disease assumes a character of uncommon malignance, as it sometimes does in the Canadas, it becomes highly contagious, attacking almost all the horses, as well as cattle that have any communication with each other. The throat is intensely sore, and the mouth and tongue ulcerated; great quantities of matter running from the nose which has a very offensive smell.

The treatment recommended by Blaine is, the early use of malt mashes; even ale is indispensable. A very cool stall is necessary, having a

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free communication with the open air, if not too cold. As medicine, three doses are necessary every day, of the malignant epidemic fever drink, No. 17, 5th (in medicine table). Half a pint of yeast with a pint of ale, given three times a day, has had a good effect. To prevent the infection from spreading, fumigate the stables and out-houses with the preventive fumigation, No. 18, (medicine table).

STAGGERS is caused by an accumulation of blood within the brain, or the translation of the inflammation of some organ to the brain. Too full feeding, without exercise, will bring it on, as will sudden cold, violence, &c. The treatment of the staggers should begin by abstracting a large quantity of blood promptly, by opening both jugulars, and letting the horse bleed to the amount of ten, and even twelve quarts, repeating the bleeding until the delirium ceases. The head is sometimes blistered. It is recommended after the bleeding to back-rake, and throw up a laxative clyster, No. 9, 1st (medicine table). The treatment may then be the same as in other fever affections. It is a dangerous disease, but fortunately not a very common one, and bleeding with judgment, blistering the head, and keeping the body open, is the only cure.

DISEASES OF THE EYES are not very prevalent in British America. It is generally a constitutional disease, brought on by artificial habits, or over-exertion, close unhealthy confinement, or heating food. It is therefore clear that the abstraction of all these is necessary to remove the complaint, or prevent its recurrence. The food should be mild and cooling, and the exercise moderate, but long continued. One quart of pure vinegar to three quarts of water, may be a useful application to wash the eyes and eyebrows, and keep them constantly wet with it. Bleeding is always proper, and if the horse be full and gross, it should be repeated until the disease lessens. Physic and alteratives assist the cure.

STRANGLES is a disease that most horses are subject to, when from two to five years old. If they happen to be at grass when they take it, it passes off mildly and seldom produces any ill effects to the horse. If it comes on when the horses are in the stable, the usual remedy is to poultice constantly until it produces suppuration. Bran, or malt mashes, with warm water, should be the horse's principal support while suffering under this disease in the stable. This disease is so well known I do not think it necessary to describe it minutely.

DISEASES OF THE MOUTH, OR LAMPAS, is an enlargement of the ridges of the palate. It is usual to burn this part with a hot iron, but a mild dose of physic, or gentle alterative, would prove a more certain remedy, rubbing at the same time the ridges of the palate with bay salt, or with vinegar.

INFLAMMATION OF THE LUNGS is a disease to which the horse is peculiarly liable. It is brought on by sudden cold acting on a heated surface, hard riding, and high feeding. It often commences slowly, by a hard dry cough, occasionally shivers, the ears and feet colder than the rest of the body, he heaves at the flanks, and the lining of his nose is found much more red than usual, and sometimes of a purplish hue; the insides of the eyelids are tinged with inflammation, and the appetite becomes affected. The pulse is usually small, but quick. If the horse

in this state be accidentally or erroneously taken out, and subjected to considerable exertion, it is almost always fatal to him.

The treatment is, early and large bleedings, as seven or eight quarts from a large horse, and which should be repeated in five or six hours if he be not relieved in his breathing. Immediately rub into his brisket, on the chest, and behind the fore legs, the blister No. 8, 1st (medicine table). Give half a dose of physic, and assist it by mashies and warm water, which if not taken readily, horn down. Back-rake also, and throw up the laxative clyster, No. 9, 1st (medicine table). Avoid all exercise, clothe moderately, allow a free circulation of air through the stable if not too cold, and rub the legs frequently, and when not under this process keep them bandaged up to the knees with hay bands, or woollen cloths. When the bowels are open give the fever drink, No. 17, 4th (medicine table) three times a day. Carrots are said to be excellent food for a horse recovering from this disease, when able to use them.

BROKEN WIND is brought on by many causes. It is generally occasioned by over-exertion after full meals, in which the lungs become permanently weakened, perhaps ruptured, in their air-cells.

CRITERIA OF BROKEN WIND. The cough which accompanies broken wind is a short, deep, hollow grunting noise, and the short expiration is peculiarly excited by turning a horse quickly round, striking him smartly with a stick at the same time, which often produces the deep sound without the cough, and which is so significant as never to be mistaken when once heard and attended to; but the principal peculiarity arises from the beating of the flanks, which operate rather by three efforts than by two as usual. In the first, the air is drawn in in the usual manner, and the flanks fill up as is common; but in the next, the falling of the flanks is by no means natural, for it is not done by a gradual sinking of the sides, but it takes place at once, with a kind of jerk, as though the horse was sighing; and then a third effort takes place, by a more slow drawing up of the muscles of the belly and flanks, to press out the remaining air. Broken wind usually destroys the fecundity of the mare, and hence argues permanent alteration of structure; it is also always incurable, but horses may be rendered very useful that have it, by feeding them very nutritiously, but with their food much condensed in bulk. Little hay should be allowed, and that little should be wetted; water in any other way should be given very sparingly, for which they are however very greedy; from which circumstance, as well as that they are peculiarly flatulent, it is said that the vitiation of the lungs is either aggravated by the deranged state of the digestive organs, or, which is more probable, that the digestive powers become weakened from the state of the lungs. In some few cases a partial rupture of the diaphragm, or midriff, has been observed in broken wind. Lime water is recommended.

INFLAMMATION OF THE BOWELS, OR RED COLIC, is a most dangerous disease, and not uncommon in Canada. The causes of it are various. Hard work, drinking cold water when heated, neglected gripes, or long continued costiveness will bring it on. It begins by restlessness, loss of appetite: the mouth is hot and dry, and the inner membranes of the mouth, nose and eyelids are redder than natural. As the disease advances, the pain forces the horse to lie down, rise again very frequently;

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and when the pain is violent he kicks at his belly, and looks round at his sides. The pulse is usually small and quick. Breathing is quickened, and the flanks heave; the extremities are alternately hot and cold, but continue longer cold than hot. The animal is costive, and if it passes any fæces, it is hard and dry.

The treatment must be active and immediate, or a fatal termination may be expected. Begin by abstracting a considerable quantity of blood. If the horse is large, seven or eight quarts may be taken. Back-rake, and throw up a large clyster of warm gruel. Give by the mouth one pint of castor oil mixed by means of the yolk of two eggs with half a pint of broth or gruel. If castor oil is not convenient, linseed oil will answer equally well, as will olive oil. In half an hour after giving the oil, give a gruel drink, in which six ounces of epsom salts have been dissolved. Rub the belly with a strong liquid blister, No. 8, 4th, (medicine table.) and apply to the belly after rubbing in the blister, a sheep skin immediately after it is removed from the sheep. In four hours repeat the bleeding, if a considerable improvement have not taken place, and if the bowels be not unloaded, give more oil, and clyster frequently, having first back-racked. Avoid exercise: first hard rub, and then wrap up the extremities to the knees. When a clear passage for the dung is found, the animal will recover slowly; but he should be sparingly fed for some time. In cases when the inner surface of the intestines are inflamed, which differs only from the former by being generally accompanied by purging; astringent drink, No. 3, 1st or 2d (medicine table) should be given with a pint of boiled starch every three hours, and give the same by clyster with two quarts of pot or tripe liquor, free from salt.

COLIC, FLATULENT OR SPASMODIC, called the GRIPES, is an important because a frequent disease, and is usually very sudden in its attack. Cold in its various forms, is a parent of colics. The distinguishing marks between colic and inflammation of the bowels are gained, according to Blaire, by attending to the following circumstances:—In the gripes the horse has violent fits of pain, but they remit, and he has intervals of ease. The pain in inflammation of the bowels, or red colic, is more uniform and less violent. In gripes, the pulse is, in general, natural; in red colic it is quicker than natural, and commonly small. The extremities are not usually cold in gripes; in red colic they usually are. In gripes, the horse attempts to roll on his back, which in red colic he seldom does; there are no marks of fever with gripes, as red eyelids, inflamed nostrils, &c., but in red colic they are always present. When spasmodic colic has continued some hours, it is always proper to bleed to prevent its ending in inflammation: bleeding in the mouth is quite useless. Back-rake, and throw up clysters of warm water, one after another, as fast as possible, which often overcome the irritation. La Fosse recommends a curious remedy, but as it can always be obtained, and has the sanction of long experience, it may be tried: an onion is pounded and mixed up with some powdered savin; in default of which use powdered ginger. This is to be introduced up the rectum as high as possible and the horse is to be then moved briskly about; an onion put up the fundament whole has long been a domestic remedy. The following is recommended by Blaine: spirit of vitriolic æther, an ounce; powdered opium, one drachm; oil of turpentine,

three ounces ; warm ale, a pint. He also recommends the following more simple remedy as always at hand :—The expressed juice of two or three large onions, common gin, common oil, of each half a pint ; mix and give. White recommends a pint of brandy, or gin, with water, as an excellent carminative. Clark, who has expressly written on gripes, extols the virtue of a mixture thus made ; which, if it have the qualities he attributes to it, and which there is no reason to doubt, no agriculturist, coach or post-master should be without it : pimento-berry, called also allspice, ground fine, half a pound ; spirits of wine, and of water, of each a pint and a half : infuse these together, and keep for use. Give a quarter of a pint every hour until full relief is obtained ; hand rubbing, wisping, or fomenting the bowels with hot water at the time.

WORMS OF HORSES are of several kinds : First, bots in the stomach ; but which, as they mostly attach themselves to the hard insensible part of the organ seldom do harm. Clark fancifully supposes they do good, and devises means for furnishing them when not in existence. The bot is the *larvæ* of the *æstrusequi*, a fly which deposits its eggs, it is supposed, on the grass on which the horse feeds, and probably on parts of the horse himself, from whence they pass into the stomach by the food or by being licked off. Certain it is they get there, are hatched, and there remain hanging to the roots of it by two *tentaculæ*, receiving the juices of the masticated food as nutriment. After a considerable time they make their way out by the anus, drop on the ground, and are first transformed into *chrysalids* and afterwards into parent flies. When bots fix themselves on the sensible portion of the stomach they may do harm ; but no medicine that I know of will destroy them. The *teres*, or large round worm, sometimes occasions mischief when it exists in great numbers, such as a staring coat, binding of the hide, irregular appetite and clammy mouth. The best remedy is the *Spigelia marylandica* or *Indian pink*, in daily doses of half an ounce. *Tænia* are not common in the horse ; now and then they exist, and are best combatted by weekly doses of oil of turpentine, three ounces at a time mixed by means of the yolk of an egg with half a pint of ale. The *Ascaris*, or thread worms, are best removed by mercurial purgatives. The existence of worms may be known by an appearance of yellow matter under the tail, and by the disposition the horse has to rub his fundament. Blain recommends the following vermifuge : powdered arsenic, eight grains ; pewter or tin finely scraped ; Venice turpentine, half an ounce ; make into a ball and give every morning. He also recommends salt to be given daily with the food, which agrees with my own experience as one of the best vermifuges known. It is a fact acknowledged by the residents along the sea-coasts, that horses troubled with worms will often voluntarily drink largely of sea-water, and thus cure themselves. I am persuaded that a free use of salt to the horses when they will take it, and more particularly by using salt in curing the hay they consume, will prevent worms.

THE DISEASES OF THE LIVER ARE ACUTE INFLAMMATION, OR CHRONIC INFLAMMATION OR YELLOWS. The acute inflammation of this organ, like the lungs, stomach and intestines, may spontaneously take on the affection. The symptoms are not unlike those which attend inflammation of the bowels or red colic, but with less violence. About the third

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day the whites of the eyes and the mouth turn yellow. Bleeding, blistering and purgatives form the methods of cure as in red colic.

CHRONIC INFLAMMATION OR YELLOWS, is an affection of the stomach rather than the liver, though that organ is also affected, and the bile becomes diseased, and is thrown out in that state by the blood over the body. If the fever be present, bleed, but if the symptoms present no token of active inflammation, give each night ten grains of calomel, and every ten days work it off with a mild dose of physic.

DISEASES OF THE URINARY ORGANS are not very common. The best remedies are to empty the bowels, and endeavour to open the arterial action by bleeding, but it is recommended carefully to abstain from irritating the kidneys by diuretics internally, or blistering externally. A newly stripped sheep-skin placed over the loins, or active fomentations of hot water, are the only sources of counter irritation that are proper; neither should diluting liquors be pressed on account of the distension they occasion. Warm, mild and frequent clystering must in these cases be very advisable.

STRANGUARY, OR SUPPRESSION OF URINE; INCONTINENCE OF URINE. Bloody urine, may arise from injury done to the kidneys by strains or by absorption of irritating matters. In these cases bleed if there be fever, and if not, merely give the horse absolute rest, mash him, give him gruel, and warm his water for drink. Bloody urine should be treated in the same way. Some horses have such a natural or acquired weakness of kidneys, as to stale blood with the urine on every occasion of over exertion, and to give diuretics in such cases rather aggravates the complaint than gives any relief. Strong diuretics injure horses more than strong physicks, and in cases of bloody urine are said to be absolutely improper.

DISEASES OF THE SKIN AND GLANDERS, are not often met with in British America; there is, therefore, no necessity to take up the reader's time in treating of them.

FARCY is not uncommon, and attacks under different and distinct forms one of which affects the lymphatics of the skin, and is called the bud or button farcy; the other is principally confined to the hind legs, which it affects by large indurations attended with heat and tenderness. Farcy is considered contagious.

The remedies recommended by Blaine, are the dividing the buds or buttons with a sharp firing iron; or if deeply seated opening each with a lancet, and touching the inner surface with *lapis infernalis*. The various mineral acids may any of them be tried as internal remedies with confidence, never losing sight of watching their effects narrowly, and as soon as any derangement of the health appears, to desist from their use. Corrosive sublimate may be given daily in doses of fifteen grains; oxide of arsenic may also be given in similar doses, watching, as before observed, their effects. The expressed juice of goose-grass, a strong decoction of hemp-seed, and of sassafras, of each six ounces, given occasionally after the mineral acids, is said by Blaine to have a good effect. Green meat is the best for horses afflicted with this disease. If that cannot be procured, carrots or boiled potatoes are good, or boiled or malted grain.

DISEASES OF THE EXTREMITIES. *Shoulder strains* are not common. When they do happen, it is commonly the consequence of some slip, by

which the arm is forced violently outwards. It may be discovered whether the lameness is in the shoulder or not, by lifting up the fore leg considerably, which if the evil be in the shoulder will give great pain.

If the hurt is recent, bleeding in the plate vein, roweling in the chest, and fomenting with hot water two or three times a day, are the best remedies. When the heat and tenderness have subsided, first bathe daily with the astringent wash for strains, No. 6. 1st. (Medicine table) and proceed to blister in the usual manner.

In strains in the back, sinews and ruptures in the tendons and ligaments of the legs, physic and bleeding are useful, and fomentations and poulticing to reduce the swelling are indispensable. When the heat and swelling are reduced, then use tonics, such as the astringent wash, No. 6, 1st or 2d. (medicine table) bandage and exercise carefully. In a rupture of the tendons or ligaments of the leg, a perfect cure is seldom obtained. The heel should be raised and a laced stocking or firm bandage is necessary.

SPLINTS AND BONE SPAVINS. The former is usually situated on the inner side of the canon or shank bone; and as they are situated so are they more or less injurious. When buried as it were, within the tendons or back sinews, they are very apt to lame the horse seriously; but when situated on the plain bone, unless they be very large, they seldom do much injury. If a splint be early attended to, it is seldom difficult to remove. Blaine recommends the swelling to be rubbed night and morning for five or six days with a drachm of mercurial ointment, rubbing it well in; after which to apply a blister, and at the end of a fortnight or three weeks to apply another. In very bad cases he recommends firing in the lozenge form.

BONE SPAVIN is to be treated in the same manner as a splint, but it is necessary to commence the treatment early, and continue it energetically. It will not be found so easy to remove as splint, and usually requires the application of firing.

RING-BONE is of the same nature, being a bony circle formed round the coronet. The treatment is the same with that of the splint or spavin. I must say, however, that either splint, spavin or ring bone, are difficult to cure, unless in the very commencement of their appearance.

BLOOD SPAVIN, partakes of the nature of wind-galls, and can only be removed by strengthening the sides of the tumours or bass, by stimulants or by pressure. The more active stimulant is the liquid blister, No. 8. 2d. (medicine table.) Milder tonics are found in the astringent wash, No. 6. 1st. (medicine table.) Bandages assist greatly when well applied to the part.

CURB is an inflammation of the ligaments at the back of the hock, and is usually removed by astringents if applied in time. No. 3, 1st (Medicine table.) When it does not give way to these, the sweating liquid blister may be applied, No. 8, 5th. (medicine table.)

CRACKS AND GREASE, are not frequent in these Provinces, and need not be very particularly described. When they do occur, to bleed, give a mild dose of physic, and wash, will have a good effect. It is generally the consequence of mismanagement in the horse's food or grooming that this unpleasant disease is produced, and this is the first matter that must be remedied. Poulticing with scraped carrots or turnips is good, and then to

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apply the astringent wash, No. 7. 1st or 2d (medicine table.) To dry the heels perfectly when the horse is put into the stable, is necessary to prevent the disease.

DISEASES OF THE FEET. Founders of the feet are of two kinds, acute and chronic. Acute founder is often produced by a severe days work, and when very much heated, if a horse get a sudden chill by standing in cold water, or on snow or ice. It is commonly the fore feet that are affected. This may be ascertained by the disinclination of the horse to remain firm on his feet. On feeling the feet they will be found intensely hot, and the pastern arterie will beat with great violence. At the commencement of the disease bleed largely, as well by the neck as from the toe of each foot, by paring until the blood flows freely. After which immerse each foot in a goulard poultice, made of bran and goulard water with a little linseed added, and give the fever powder or drink No. 17. 2d or 3d. (medicine table,) litter up to the belly, and if amendment do not take place, renew the bleeding, and blister round the posterns.

CHRONIC FOUNDER, OR CONTRACTION IN THE FEET. It is easier to prevent than to cure. As soon as it is at all suspected to be likely to occur, keep the hoofs pared low; never suffer the horse to stand on litter, and keep the stable cool; feed moderately, and exercise daily. Whatever increases the general fulness of habit flies to the feet. Above all keep the feet moist by means of wet cloths tied loosely round the coronet, falling over the whole hoof, but not extending beyond the edge, then moisten the feet repeatedly, and stop them with No. 23, (medicine table) every night. The most effectual method is to obviate all previous causes of contraction, and then to thin the hoofs around the heels from each quarter so thin as to be able to produce an impression by means of the thumb; in fact, to remove so much of the horn as is consistent with safety from the coronet downwards. It is also prudent to put in a score or two from above downwards, drawn a quarter of an inch deep on each side towards the front of the hoof; but whether this be done or not, the front of the hoof should be rasped thin, about an inch in width, by which means a hinge is formed, which operates most advantageously in opening the hoofs. After this is done, tips should be put on, and the horse should be turned out to grass, where he should remain three months, by which time the new formed hoofs will have reached the ground, and will bear a shoe. This is Blaine's plan, and the best I have known.

CORNS are troublesome ailments to which horses are liable, and which injure and ruin many. They are always brought on by some improper pressure of the shoe, or from something getting in between the shoe and the horney heel. A shoe too long worn is a very common cause, as also clubbing the heels of shoes. They are equally produced when the outer horn of the bars is the immediate offending part, rendered so by too luxuriant growth, by unequal wear, or by secondary pressure from the shoe, or by gravel working in.

It is the fleshy sole itself that is bruised, from which a speck of extravasated blood follows, and if not immediately relieved it gathers, or the part becomes habitually defective, and instead of forming a healthy horn, it always afterwards forms a spongy substance of extreme sensibility, and

thus is always liable to produce pain and lameness when exposed to pressure.

Treatment. Blaine recommends, that by means of a fine drawing knife every portion of diseased horn should be pared away, and the extravasation underneath likewise. Having done this he advises to introduce some butter of antimony into the opening, and place over this some tow, which should be kept in its place by means of a splint. If any contraction of the heels be present, it will materially assist the cure to lower them, and to thin the hoof a little round the quarters, and afterwards to put on a shoe without heels opposed to the corn, or a shoe chambered, opposed to the weak part, or a bar shoe may be applied so framed as completely to leave the heel untouched. Introduce the butter of antimony once or twice more, with the interval of two days between, and then turn the horse out to grass; in about six weeks time the horse will be sound. In all cases of corn, the diseased part must be carefully pared out at each shoeing, and such a shoe put on as will completely free the heel from pressure.

RUNNING THRUSH is always a dangerous disease. It is often produced by over-fullness, want of exercise, and over-warm stables. To cure it is necessary to correct this mismanagement, then begin by clearing out all the fissures of the frog from loose ragged horn, and then introduce to the bottom of the sinews, by means of a thin piece of wood, some of the *thrush-paste*, No. 5, (medicine table) smeared on tow, which will enable it to be held within the cleft, especially if it be guarded by splints of wood passed under the shoe; renew the dressing daily, and turning out to grass may be practised to great advantage for thrushes by this mode of dressing.

SAND CRACKS are *fissures of the hoof*, and it is recommended to file the fissure crossways so as to destroy the connection between the divided and undivided parts of the hoof, and to fill up the crack with melted pitch. A bandage is sometimes applied, but it is necessary to watch the foot lest inflammation succeed, and then the bandage and dressing should be removed.

PUNCTURES in the feet, are often serious evils, either when received by nails when shoeing, or picked up on the road, &c. The danger arises from inflammation, which, if it take place quickly, proceeds to suppuration; and the matter is apt to make its way upwards, unless it find a ready vent below. It often diseases the foot so as to produce quitter. It is seldom that a horse is pricked in shoeing but the smith is aware of it by the flinching of the animal. Were the nail immediately withdrawn and a little spirit introduced within the puncture nothing would occur; but on the contrary he sends the horse home to avoid trouble, and the following day the horse is lame. By removing the shoe, the matter that may have collected about the nail, may flow out at the nail hole; if not, the drawing knife must detect the injury. If the heat be great, and instead of matter, bloody dark icher flows out, wrap the foot in a poultice; but if healthy matter flows out this will not be necessary; sometimes it is necessary to detach all the horn that is underrun by the matter, but when the injury has not proceeded to this extent, apply over the part tow steeped in friar's balsam; tack on the shoe tightly, and retain the dressing by means of splints, which are thin pieces of tough wood passed under the shoe; repeat the dressing daily, and avoid

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moisture, which would encourage quitter. A nail picked up on the road, and which passes through the sole, is to be treated in the same way. If the nail should penetrate the coffin joint, it should be pared to the wounded joint, and then a heated budding iron applied; not to the capsular ligament itself, but to the skin immediately near it. If this be inconvenient, put a pledget, dipped in butter of antimony, just within the opening, but do not press it into the cavity of the coffin joint.

BRUISES IN THE SOLE, from whatever cause, may be treated as above, for punctures. Quitters and canker are the consequence of these injuries when neglected, and can be cured only by removing the diseased parts by the knife or by caustic.

THREADS, OVER-REACH, &c. A wound on the coronet is not uncommon from one foot being placed on the other, or the hinder foot may strike it, &c. First wipe away the dirt, and remove any loose edges that cannot unite; avoid washing unless stones or dirt have got in; bind up, having first placed over the wound a pledget of tow moistened with balsamic tincture, or tincture of myrrh, or of aloes, &c.

TREATMENT OF WOUNDS. A wound must be treated according to the part of the horse's body in which it happens. In most cases they should be carefully and smoothly brought together, and simply bound up in their own blood, without washing, unless dirt or foreign matter is suspected to lodge within. If the wound does not wholly unite at once, perhaps some portion of it may; and at all events its future progress will be more natural, and the disfiguration less than when stuffed with lints, tow, &c., or irritated with heating oils or spirits. When an extensively lacerated wound takes place, it is common and often necessary to insert stiches into the lips of the wound. As these stiches seldom remain firm after the third or fourth day, it is the more necessary in such cases, that the animal have perfect rest, and perhaps good bandages to secure the wound from distortion. Sticking plaster made with diachylon and pitch, may assist in keeping the lips of the wound together; but the wound must be guarded from these plasters by lint or tow first put over it. When in addition to laceration in a wound, there is a destruction of substance, then the caution of washing will not apply, as it will be necessary to bathe with some warming spirits, as tincture of myrrh, tincture of aloes, or friar's balsam, to assist in restoring the life of the part, and in preventing mortification. Bleeding must be stopped by pressure and astringents, as powdered alum. When great inflammation follows wounds or bruises, counteract it by bleeding, a cool temperature, opening medicines, and continual fomentation to the part itself.

MODE OF GIVING A BALL. Back the horse in his stall, and being elevated on a high stool, gently draw the tongue a little out of the mouth, so as to prevent its rising to resist the passage of the hand; the tongue should not, however, be laid hold of alone, but it should be held firmly by the fingers of the left hand against the jaw. The ball previously oiled, being taken into the right hand, and squeezed into as narrow a shape as possible, must be passed up close to the roof of the mouth, and the ball placed on the root of the tongue, when both hands being withdrawn it will readily pass down. This mode is much preferable if done properly, to using a balling

iron. There are, however, machines lately invented for this purpose that are perfectly safe.

FOMENTATIONS AND POULTICES. Fomentations of various herbs, as rue, chamomile, St. John's wort, wormwood, &c., are recommended; their principal virtue is in the warmth and moisture which unload the vessels; but the warmth ought not to be considerable except when the inflammation is within, as in inflamed bowels.

In this case fomentation should be as hot as the hand will bear. In other cases it ought not to exceed blood heat; and it should be continued long, and when removed the part should be covered, or cold may be taken, and the inflammation increased instead of diminished. Tobacco is sometimes used in fomentations. The method of applying fomentations is conveniently done by means of two large wollen cloths wrung out of the heated liquor; as one is cooling the other should be ready to be applied.

POULTICES act in the same way as fomentations in allaying irritation and inflammation; but are in some respects more convenient, because they act continually. It is an error to suppose that poultices to be beneficial should be very hot; however hot they may be applied they soon become of the temperature of the surrounding parts. When poultices are applied to the extremities a stocking is a convenient method of application. When it is drawn over the leg, and bound around the lower part of the hoof, or of the pastern, or otherwise, the matter of the poultice may be put within, and it may then be kept in its situation by means of tape fastened to one part of it and passed over the withers or back to the other side, and again fastened to the stocking. Cold poultices are often useful in the inflammation arising from strains, &c. In these cases bran and goulard water form a convenient medicine, but if the poultice require to be hot, a little linsed should be added. Bandages should be broad and not put on too tight.

SETONS AND ROWELS. Setons are useful in keeping up a drain to draw what are termed humors from parts, and to lessen inflammation in another part not very remote; they make a convenient orifice for the escape of lodged matter, and are easily attended to. Setons may be passed with a common packing needle and skein of thread, or piece of tape, or skein of silk, smeared over with digestive ointment. When the seton needle is removed, the ends of the thread or tape should be joined together to prevent the seton from coming out.

ROWELS act as setons, and when a general drain is required they act better; but in other cases, setons are more convenient. Any person may apply a rowel by making an incision in the loose skin about an inch, separating with the finger its adherences around, and then inserting in the opening a piece of round leather, with a hole in the middle, smeared with blistering ointment. Then plug the opening with tow, and in three days, when the suppuration has begun, remove it. The rowel leather is afterwards to be daily moved and cleaned.

BLISTERING answers the same purpose as setons, and is practiced by first cutting or shaving the hair from the part, where the blistering ointment, No. 8, 1st (medicine table) should be well rubbed in for ten minutes or a quarter of an hour. Some of the ointment after the rubbing may be smeared over the part. The head of the horse should be tied up for three

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days so as to prevent his gnawing or licking. On the fifth or sixth day after blistering it is well to rub the blistered part with oil to prevent the skin cracking.

Sweating or liquid blisters, No. 8, 5th (medicine table) are only more gentle stimulants which are daily applied to produce the same effects on a diseased part without removing the hair. Though less active they are often more beneficial in strains and stiffness than blistering itself.

CLYSTERING AND PHYSICING. Clystering should always be preceded by *back-raking* which consists in oiling one hand and arm and passing them up into the fundament, and by that means remove all the dung balls that can be reached. The pipe of the clystering bag should be oiled before using, and the liquor should be steadily pressed up, and when the pipe is removed, the tail should be held down over the fundament to prevent the return of the clyster. They are found extremely useful in many complaints.

Physicing process, as given by Blaine. The horse having fasted an hour or two in the morning without food, but having had his water as usual, give him his purge, and two hours after offer him a little chilled but not warm water. After the ball has been given two hours, a warm bran mash may be offered, and a very little hay. He should have walking exercise as usual. At noon mash again, and give a little hay, which should be repeated at night, giving him at intervals chilled water. On the following morning the physic may be expected to work, which if it do briskly, keep the horse quiet: but should it not move his bowels, or only relax them, walk him quietly half an hour, which will probably have the desired effect. Continue to give mashes and warm water, repeating every two or three hours to support him. When physic gripes a horse, give him a clyster of warm water, and hand-rub the belly as well as walk him out. If the griping prove severe, give him four ounces of gin in half a pint of sound ale, which will soon relieve him. On the next day the physic will probably set, but should it continue to work him severely, pour down some boiled starch, and if this fail, turn to the directions under diarrhœa. The horse should return to his usual habits of full feeding and full exercise by degrees; and if more than one dose is to be given, a week should intervene. It is often requisite to make the second dose rather stronger than the first. A very mild dose of physic is likewise often given to horses while at grass in very warm weather, and without any injury. When worms or skin foulness are present, and mercurial physic is deemed necessary, it is better to give two drachms of calomel in a mash the previous night, than to put it into the purging ball.

BLEEDING is a very common, and to the horse a very important operation, because his inflammatory diseases, on account of the great strength of his arterial system, run to a fatal termination very soon, and can only be checked in the rapidity of their progress, by abstracting blood, which diminishes the momentum of circulation. Bleeding is more particularly important in the inflammatory diseases of the horse; because the circulation cannot readily be lowered, as in the human frame, by nauseating the stomach. Bleeding also lessens irritation, particularly in the young, and those of full habit; hence to bleed in spasms of the bowels, lock-jaw, &c., has a good effect. Bleeding is general or topical. *General*, as

from the neck, to lessen the general momentum. *Topical*, when from a particular part, as the eye, the plate vein, the toe, &c. In common hands, the fleam, as the more general instrument, is best adapted to the usual cases requiring the agriculturists' notice. Care should however be taken not to strike it with vehemence; and the hair being first wetted and smoothed down, it should be pressed close between the hairs, so that its progress may not be impeded by them. A ligature is generally passed round the neck, unless the operator is very expert, when the use of the fingers will dispense with the ligature. The quantity of blood taken is usually too small. In inflammatory diseases, a large horse, particularly in the early stage of the complaint, will bear to lose eight or ten quarts; and half the quantity may be taken away two or three times afterwards, if the violence of the symptoms seems to require it; and the blood should be drawn in a large stream to do all the good it is capable of. After the bleeding is finished, introduce a sharp pin, and avoid drawing the skin away from the vein when pinning, which lets the blood escape between the vein and skin: wrap round a piece of tow or hemp, and next day remove the pin which might otherwise inflame the neck. In removing the pin, care should be taken not to open the vein. In drawing blood it should always be measured, in order to ascertain the quantity exactly, and to observe the state of the blood.

THE IMPROVED METHOD OF SHOEING HORSES, in England is found to unite all the perfections of modern English improvements, with some derived from their neighbours, the French. The improved shoe is of English make, but the mode of fastening it to the foot is French. This shoe presents a flat surface opposed to the ground, but a concave one towards the sole; but this concavity does not begin near the outer edge, but embraces only two-thirds of the web, leaving by this means a sufficient surface for the crust: but this levelling is not intended to reach to the heels; it stops short of them, leaving the web at this part plain for the heel to rest upon. The great advantages of this seating are, first, that as the crust rests upon a flat surface instead of an inclined plane, as most of the common forged shoes present, so its position is maintained entire, and the inclination to contraction is in a great degree avoided. The nailing on of this shoe should be the French method, which consists in conical nail holes, without any groove, punched with a square countersink, into which are received conical nails, which exactly fill up the countersink; by which means, so long as any part of the base of the nails remains, the shoe must be held firmly on, and which is not the only advantage gained; for the nail holes being obliquely formed, and at some distance from the outer rim, act less detrimentally on the crust of the foot. It is strongly recommended that shoes somewhat wider and thicker than the common one, be used for general purposes. In weak, tender, flexible feet it will be found particularly advantageous; and here the benefit of wide heels to the shoe will be most apparent. For very young, very light, and very firm feet, it may not be very necessary to have heavy shoes, but the shoes for working horses are generally too light in Canada.

To prepare the foot for the application of the shoe is also an important consideration. Avoid taking off more than one shoe at a time; otherwise the edges of the crust become broken away. Observe that the clinches

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are all carefully removed. Let the rough edges of the crust be rasped away; after which the sole should be pared throughout, until a strong pressure with the thumb can produce some yielding; too strong a sole tends to heat and contraction, too weak a one will not require paring. In this paring imitate the natural arch of the sole as much as possible. The line of concavity should not begin, as it usually is made to do, from the extreme margin of the foot, but should begin from the inner line of the crust only, by which means the crust, or outer wall of the hoof, will have a firm bearing on the flat surface of the shoe. Let no heated shoe be applied to correct the inequalities that may be left, unless it is for a moment, only to observe, but not to burn them; but still more carefully avoid putting a plain shoe on an uneven foot. The portion of the sole between the bars and quarters should be always pared out, as the surest preventive against corns. The heels should also be reduced to the general level of the foot, never allowing their hardness as an excuse for being left; neither suffering the inner heel to be lowered more than the outer. After all the rest has been done, the frog should be so trimmed as to remain on an exact level with the returns of the heels and no more. The custom of taking away the point or angle of the horny inflexions of the heels, under the false term of opening the heels, is to be carefully avoided. Let all the operations be performed with the drawing knife. The butteris, in so common use, should never be allowed to come near the foot of any horse but the largest and coarsest of the cart breed. The shoes for the hind feet should be a little squared at the toe for about an inch, to which squareness the hoof should be adapted by rasping, but not so as to injure it. By this means they are less liable to interfere with the fore shoes by clicking. When horses click or over-reach very much, the toe of the hinder shoe may be squared, or shortened, but not to do so by the horn; by which the hoof meets the middle of the fore shoe, instead of the shoe itself, and the unpleasant noise of the stroke or click of one foot against the other is avoided.

I have collected the foregoing remedies, &c., from authors who are considered the very best on the diseases of horses. I have not given place to, or recommended any remedies, that I do not believe to be efficacious and perfectly safe, and none of them are expensive.

DISEASES OF NEAT CATTLE.

It will be found much less difficult to preserve neat cattle from disease, than to cure them when they become diseased. Though it may not be possible always to prevent cattle from many diseases which they are subject to, yet, by proper care and management, they will be much less liable to sickness than they will be when not duly attended to. Abundant nutritive food at all seasons, a constant supply of good water, a due proportion of salt weekly during summer, and their food salted in winter, which will be best effected in putting up the hay for their use after it is cut, will be a great means to preserve stock in good health, horses, as well as neat cattle and sheep. I have frequently mixed saltpetre with the salt I gave to my horses and cattle, in the proportion of about one ounce of saltpetre to the pound of salt. To do this monthly will be found a

very good practice. It is also most essential to pay constant and daily attention to stock, and when any are observed to decline their food, lose the cud, or if milch cows, when they suddenly give much less than the usual quantity of milk, there is sure to be something amiss with the animal; and by observing the symptoms, the nature of the disease may be discovered, and the proper remedies applied immediately.

The following are the diseases to which neat cattle are most subject in British America.

Gloss Anthrax or Blain.—There is a disease of the tongue in cattle, which, from its sudden attack, its fearful progress, and its frequently fatal termination, requires particular notice. The animal is dull, refuses his food, and rumination ceases. A discharge of saliva appears from the mouth; it is at first limpid and inoffensive, but it soon becomes purulent, bloody, and exceedingly fœtid; the head and neck begin to swell; they become enormously enlarged; the respiratory passages are obstructed; the animal breathes with the greatest difficulty, and is, in some cases, literally suffocated. This is the Blain or Gloss Anthrax, inflammation of the tongue.

On examination of the mouth, the tongue is apparently enlarged; but it is in fact only elevated from its bed between the maxillary bones; and the cause of this being examined into, large vesicles or bladders, red, livid, or purple, are found running along the sides and base of the tongue, and particularly towards its anterior part. These bladders are strangely rapid in their growth: they become of a great size; they quickly break; and they form deep ulcerations. Other vesicles arise in their immediate neighbourhood, of a similar character, but of a still larger size. Sometimes the animal dies in twenty-four hours from the first attack; but at other times fever rapidly succeeds of a typhoid or malignant kind. In a few cases these bladders have been found on the upper part of the tongue, and even nearer to the top of it than to the frænum. The tongue soon becomes really enlarged, and particularly when the lateral or inferior parts of it are the seats of disease. General inflammation of it speedily follows, and that part of it on which the ulcers first appeared becomes mortified, and may be cut into, or cut away, without the animal expressing the least degree of pain. Incisions into the tongue are not followed by blood, but they bring to view tissues decomposed at some points, and black at others, and bearing the marks of incipient gangrene.

The primary seat of the disease is the membrane of the mouth, beneath or above the tongue. As the sublingual glands lie along the under part of the tongue, and their ducts open on the side of the membrane or ligament under the tongue, it is possible that this disease may proceed from, or be connected with, obstructions or inflammation of these ducts. Dissection, however, has not proved this, but the membrane at the base of the mouth seems to be the part primarily concerned.

Post mortem examination shews intense inflammation, or even gangrene of the part, and also inflammation and gangrene of the œsophagus, the paunch, and the fourth stomach. The food in the paunch has a most offensive smell; and that in the many-plus is hard and dry, inflammation reaches to the small intestines, which are highly inflamed, with red and black patches in the cœcum, colon, and rectum. I cannot speak with

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confidence as to the cause of this disease; indeed, I believe it is, in a great majority of cases, unknown. Some have said that it is more frequent in low marshy lands than in others; that it attacks beasts that have been in poor condition, and are suddenly changed to good keep; and that it oftener happens in spring and autumn than in the summer or winter.

While the blain sometimes assume an epidemic character, I fear that there can be no doubt of its being contagious, and especially under the malignant form. The disease, however, like glanders in the horse, is not communicated by the breath; but there must be actual contact. The beast must eat from the same manger, or drink from the same trough, or be in such a situation that the saliva, in which the virus seems to reside, shall be received on some abraded or mucous surface. The malady is readily and too frequently communicated when animals graze in the same pasture or feed in the same yard or stable. The farmer and the practitioner should be aware of this, and should adopt every necessary precaution.

The treatment of blain is very simple; and if adopted in an early period of the disease, effectual in a great majority of cases. It is inflammation of the membrane of the mouth along the sides of, and under the tongue, and characterized by the appearance of vesicles or bladders; perhaps pellucid at first, but becoming red or livid, as the disease advances. These vesicles must be freely lanced from end to end. If this operation is performed when the saliva first begins to run from the mouth, and before there is an unpleasant smell or gangrenous appearance, it will usually effect a perfect cure. If the mouth is examined four-and-twenty hours afterwards, the only vestige of the disease will be an incision, not looking very healthy at first, but that will soon become so and heal. Some rub a little salt well into the incision as soon as it is made, and others apply a solution of alum. Either may be done and the first is preferable.

The blain, suffered to take its course, speedily becomes connected with fever, and that fever is not long in taking on a typhoid form: even then blood should certainly be abstracted; four, five, or six quarts should be taken away according to the size of the beast, and the urgency of the case; or rather blood should be abstracted until the effect on the general circulation is perceived. In addition to this a purgative from a pound to a pound and a half of Epsom salts should be administered, and likewise throw up some laxative clysters.

When the stage of acute fever is past, physic should be given, one dose at least, whatever is the state of the bowels. A double dose of aromatic powder should accompany the physic; and after that might be given morning and evening for a few days, two drachms of gentian, the same of columbo, and one drachm of ginger, suspended in some gruel, and half a pint of strong ale to each dose. While the soreness of the mouth continues, the animal cannot eat its common food, and must be fed with some gruel or mashes it can eat, and it must be poured down with a horn, if it will not take it otherwise. Cattle that have had this disease once, are said to be free from it ever after.

Catarrh, or Influenza, or Felon, is nothing else than a *murrain*, in a mild form. Stormy, wet weather, or that is very changeable in its temperature, from heat to cold, will bring on this complaint. A change of pasture or food from good to bad, is another cause. The first appears by

a running of the nose, and a redness of the nostrils and eyelids; the animal heaves, is tucked up in the flanks, and loses the cud. There is sometimes a cough, and not unfrequently a sore throat, in which case the beast invariably holds down its head.

The treatment of this disease should commence by bleeding moderately, if the animal is not too weak, or has a very considerable running from the nose. The bleeding should always be in the commencement of the disease, not after the beast becomes very weak. Give night and morning the fever powder, No. 17, 1st or 2d, in a mash or drink. When the running at the nose has come, and weakness is considerable, give night and morning either of the fever drinks, No. 17, 3d or 4th. Malt mashes, when the weakness is great, are very proper: at other times bran mashes with plenty of chilled water are best. To relieve the sore throat, rub the outside with mild liquid blister, No. 8, 5th, and keep it from severe cold.

The malignant epidemic Influenza, or commonly called the *Murrain* or *Pest*, has at various times made great havoc among cattle in Europe, but I have not known it to be of this malignant character in Canada. The symptoms that first generally appear, are a difficulty of swallowing, shaking of the head, excessive weakness, and staggering gait, which occasioned a continued desire to lie down; an acrid discharge from the nose, purging after the first two days, but previous to which there is often costiveness. Great tenderness about the spine and withers, and a blowing up of the skin by air discharged underneath it.

According to *Sauvage's* dissections of animals that have died of this disease, they have shown marks of great inflammation, and of a great putrid tendency; but the solid parts, seldom ran into gangrene. The paunch, he says, was usually filled with indigested matter, and the other stomachs highly inflamed; and the gall bladder distended with acrid thick brown bile, and intolerably foetid. *Gozola* describes the murrain as accompanied with pustulous sores, and so great was the putrid tendency, that even the milk, before it dried up, which it usually did before the fourth day, become foetid.

Treatment of the murrain.—In the very early stages, all eminent authors recommend bleeding, but which should not only be confined to the early periods but to such subjects as by their previous health and condition can bear it. The animals should have air, and their litter frequently renewed; and the stable itself should be fumigated with the preventive fumigation, No. 18, (medicine table.)

Pitch may be burned on green boughs of pine as a substitute for the above in fumigating. In the early stages from ten to twenty ounces of epsom salts should invariably be used. If the scouring come on, still however purge, but with only half the quantity; an artificial purge will carry off the morbid bile, and if excessive weakness do not come on, the same may be advantageously repeated. Setons are recommended in the dewlap. When abscesses appear, they are opened, and their contents discharged, washing the wound with brandy and vinegar. The other essentials as detailed under the malignant epidemic in horses, are here applicable in every particular. When recovery takes place, it requires care to prevent other diseases supervening. The animal should continue to be

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housed, and neither exposed to sun or wind for some time, and the feeding should be nutritious. When this disease gets among cattle, it is most essential to separate those infected, and constantly to fumigate the stables and stalls; and those that may die of the disease should be buried with their skins on, with quick lime. Fortunately this disease is not common in British America.

Phrenzy Fever, or inflammation of the brain, sometimes attacks cattle. The symptoms are very similar to those in horses having the same disease, and the treatment may be exactly the same.

Inflammation of the Lungs occasionally occurs in cattle, in which also the symptoms, progress, and proper treatment, are similar to those in horse pathology.

Inflammation of the Stomach sometimes occurs from poisonous matters; and in such cases, when the nature of the poison is discovered, the treatment detailed under poison in horse pathology must be pursued. But there is a species of indigestion to which cattle are liable in the spring, from eating voraciously of the young sprouts of wood, to which some woods are more conducive than others. The symptoms are, heat, thirst, costiveness, lessened urine, quick and hard pulse, with heat and redness in the mouth and nose; the belly is hard and painful, and the stools, when they appear, are covered with glair. When the mouth and nose discharge a serous fluid, the animal usually dies.

Treatment.—Bleed at first, open the bowels with saline purgatives, No. 21, (medicine table.) After this give large quantities of nitrated water, and clyster largely.

The Hove or Bloom in cattle is also an inflammatory affection of the paunch, ending in paralysis, and rupture of its substance. From the frequency of its occurrence in England, it has become a subject of investigation with almost every rational grazier, and a particular matter of inquiry with every agricultural body; whence it is now very successfully treated by the usual attendants on cattle, when skilful, but when otherwise it usually proves fatal. It is observed to be more frequent in warm weather, and when the grass is wet. When either oxen, cows, or sheep meet with any food they are particularly fond of, or of which they have been long deprived, as potatoes, or other roots, the different grasses, particularly red clover, they eat greedily, and forget to lie down to ruminate, by which means the first stomach, or paunch, becomes so distended as to be incapable of expelling its contents. From this, inflammation follows, and fermentation begins to take place; a large quantity of air is let loose, which still adds to the distension, till the stomach either bursts or by its pressure on the diaphragm the animal is suffocated. The situation of the beast is known by the uneasiness, and general swelling of the abdomen; with the circumstance of the animal being found with such food, or the presumption that it has met with it. This inflammation is not very common in these provinces, partly from there being less moisture, and less of the food which particularly occasions the inflammation, or bloom, namely, turnips, and red clover. But as it may occasionally occur, I shall give the treatment.

Treatment.—There are three modes of relieving the complaint, which may be adverted to according to the degree of distension and length of time it has existed. These are internal medicines; the introduction of a *probing* of some kind into the paunch by the throat; and the puncturing it by the sides. Dr. Whyatt, of Edinburgh, is said to have cured eighteen out of twenty hove'd cows, by giving a pint of gin to each. Linseed oil, by condensing the air, has been successfully tried. Any other substance, also, that has a strong power of absorbing air, may be advantageously given. Common salt and water, made strongly saline, is a usual country remedy. New milk, with a portion of pure tar equal to one-sixth of the milk, is highly spoken of. A strong solution of prepared ammonia in water often brings off a great quantity of air and relieves the animal. Any of these remedies may be made use of when the hove has recently taken place, and is not in a violent degree. They will generally be found sufficient in British America. When the disease has existed a considerable time, and the stomach has become so distended with air that there is danger of immediate suffocation or bursting, in these instances the puncture of the maw must be instantly performed, which is called *paunching*. This may be done with the greatest ease, midway between the ilium, or haunch-bone, and the last rib of the left side, to which the paunch inclines; a sharp pen-knife is frequently used; and persons in veterinary practice should always keep a long trochar, which will be found the most efficacious, and by far the most safe, as it permits the air escaping certainly and quickly, at the same time that it prevents its entrance into the cavity of the abdomen, which would occasion an equal distension. As soon as the air is perfectly evacuated, and the paunch resumes its office, the trochar may be removed; and in whatever way it is done, the wound should be carefully closed with a sticking plaster, or other adhesive matter. It is necessary to observe that this operation is so safe, no farmer should hesitate a moment about doing it himself. After relief has been given by paunching, a stimulant drink may be given, such as half a pint of common gin, or one ounce of spirit of hartshorn in a pint of ale, or two ounces of spirits of turpentine in ale, may any of them be used as an assistant stimulant. The animal should be fed sparingly for a few days after the cure may be effected, and for a few mornings get a tonic, No. 2, 1st. (medicine table.)

Inflammatory Fever, is a disease that cattle are very subject to in the British isles. Young stock, and those that are thriving most rapidly are its chief victims. The symptoms are the following:—The animal is found with his neck extended; his head brought as much as he can effect it, into a horizontal position; the eyes protruding, and red; the muzzle dry; the nostrils expanded; the breath hot; the roots of the horns considerably so; the mouth partly open; the tongue enlarged, or apparently so; the pulse full, hard, and from 60 to 70 in a minute; the breathing quickened and laborious; the flanks violently heaving, and the animal moaning in a low and peculiar way. The animal appears to be unconscious of surrounding objects; and will stand for an hour together without the slightest change of posture; can scarcely be induced to move, or when compelled to do so, staggers, in the hind-quarters particularly; rumination has ceased, and the appetite quite gone. After a while he becomes

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more uneasy, lies down, and gets up almost immediately, is down again; and debility rapidly increasing, he is soon unable to rise, and generally dies in twelve or twenty-four hours.

This disease if not checked immediately, sometimes proceeds to assume that particular character that leaves no doubt of its being the *quarter-evil*, *joint murrain*, or *black-quarter*, when its cure is almost hopeless. The symptoms are tenderness on the loins and back. The animal will not bear even the slightest pressure on these parts. The case is worse if to these are added swellings about the shoulders, back, and loins, with a peculiar crackling noise, as if some gas were extricated in the cellular membrane, and the process of decomposition had commenced during the life of the animal. There is an appearance of sudden, hard, scurfy patches of what seems to be dead skin. It is a kind of *dry gangrene*, and is the commencement of a sloughing process, extensive and rapid to an almost inconceivable degree. The ulcers first appear about the belly, the quarter, and the teats, but they spread every where; and particularly about the mouth and muzzle. The mouth is almost invariably ulcerated, and the tongue is blistered and ulcerated too; and there is either a discharge of serous, offensive, or bloody fluid from the nose and mouth, or considerable hemorrhage from both of them. The urine becomes dark, or bloody; the dung likewise has streaks of blood over it, and both are exceedingly fetid. In this state the animal may continue two or three days, until it dies a mass of putridity. The chief appearance after death will be venous congestion every where. The larger and smaller trunks will be black, and distended almost to bursting. The congestion is every where. It affects both the pleurae, the intercostal and the pulmonary, and the whole substance of the lungs. It extends over the peritoneum, and more particularly over the mucous membrane of the intestines; and patches of inflammation and ulceration are found in every part of the colon. These are the appearances when the animal is carried off during the inflammatory stage of the disease.

If the complaint has assumed a putrid type, there are effusions, the smell of which can scarcely be borne, both in the chest and belly; with adhesion and agglutination of all the small intestines. Often vomicae in the lungs, and effusion in the pericardium; every stomach is inflamed, and the fourth ulcerated through. The substance of the liver is broken down. There are ulcerations generally of the smaller, and always of the larger intestines; and in every part of cellular membrane there are large patches of inflammation running fast into gangrene.

There cannot be a doubt respecting either the nature or treatment of such a disease. It is, at first, of a purely inflammatory character, but the inflammation is so intense as speedily to destroy the powers of nature. The capillary vessels must have been working with strange activity, in order to fill and to clog every venous canal. The congestion prevails in the cranium as well as in other parts, and the distended vessels press upon the substance of the brain, and that pressure is propagated to the commencement of the nerves; and hence debility, and staggering, and almost perfect insensibility. As the congestion early takes place, the coma, or stupor, is early in its appearance.

The nervous energy being thus impeded, the power of locomotion

seems first to fail; then general debility succeeds, and at length other parts of the vascular system are involved. The mouth of the excretory ducts can no longer contract on their contents, hence fluid is effused in the chest and in the belly, and in the cellular membrane; and hence, too, the rapid formation of ulcers. The vital powers generally are weakened, and in consequence of this, there is the speedy tendency of every excretion to putridity, and the actual commencement of decomposition while the animal is yet alive; the blood shares in this abstraction or deficiency of vitality, and hence the disposition to ulceration, gangrene, and dissolution, by which the latter stages of the disease are characterized.

The very name of this disease, *inflammation fever*, indicates the mode of treatment. As much blood must be taken as the animal will bear to lose; and the stream must flow until the beast staggers or threatens to fall. Here, more than in any disease, there must be no foolish direction about quantities, for it is only by the bold and persevering use of depletory measures that a malady can be subdued that runs its course so rapidly. Purging must immediately follow. The epsom salts are here, as in most inflammatory diseases the best purgative; about a pound or a pound and a half for a large animal, dissolved in water gruel, and poured down the throat as gently as possible, should be the first dose; and no aromatic should accompany it. If this does not operate in the course of six hours, another pound should be given; and, after that, half a pound doses every six hours until the effect is produced. At the expiration of the first six hours, the animal should be carefully examined. Is there any amendment? Is the pulse slow, softened? If not, he must be bled a second time, and until the circulation is once more affected. If the animal is somewhat better, yet not to the extent that could be wished, the practitioner would be warranted in bleeding again, provided the sinking and fluttering of the pulse does not indicate the commencement of debility.

If the pulse is a little quieted, and purging has taken place, and the animal is somewhat more himself, the treatment should be followed up by the diligent exhibition of sedative medicines. A drachm and a half of digitalis, and one drachm of emetic tartar, and half an ounce of nitre, should be given three times every day; and setons inserted in the dewlap. Those of black hellebore root are the best, as producing the quickest and most extensive inflammation. No trouble need be taken about removing the beast now, although he may be in the pasture which has been the cause of all the mischief, for he will not eat until he is very considerably better; and then he cannot be too quickly removed.

If the animal is not seen until nearly the inflammatory stage of the fever has passed, the skill of the farmer will be put to the test; but he will not find much difficulty in deciding how he ought to act. If the animal has not been bled, he must be bled now, except he is too much debilitated to bear bleeding, and perhaps even that should be no excuse, as bleeding is almost the only remedy that can be adopted. As a general rule in this stage of the disease, the effect of bleeding should certainly be tried, but very cautiously, and with strict attention to the state of the pulse; if it becomes much weaker and more indistinct, the orifice should be immediately closed.

Physic in this stage is indispensable. A pound of epsom salts for a large

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animal, and in proportion for smaller, should be the first dose, with two drachms of ginger, and six or eight ounces of salts, and two drachms of ginger, in the subsequent doses, until the bowels are opened, (clysters or injections of warm water and salt being given in the mean time.) If the bowels are opened, and the fever should still continue, more physic must be given, but in moderate doses. When the fever is abated, tonics may be given, one drachm of gentian, the same quantity of colombo, and half a drachm of ginger three times a day, in gruel, with a pint of ale added.

In very bad cases of the inflammatory fever, ulcers may break out, and the joints of the legs may become enlarged. In such cases the ulcers should be carefully and thoroughly washed several times a day, with a solution of the chloride of lime, of the following strength:—half an ounce of the powder dissolved in a gallon of water. If there should be ulcers about the muzzle, mouth and throat, they should be treated in a similar manner; and it is recommended to give the animal by the mouth a pint of the solution twice on the first day. Mashies, and plenty of thick gruel should be offered to the animal, and if it will not take them voluntarily, the latter should be horned down. When the disease is subdued, medicine should be discontinued, and nature will do the rest.

It is the opinion of some farmers in England that this disease is brought on by cattle feeding on buds of trees, or shrubs, in copses and hedge rows, and in other cases in young cattle by over-feeding. I have given a full description of the symptoms, &c., as I believe that we have occasionally this disease in Canada, or one very similar to it. Indeed, I think that *inflammatory fever*, and *inflammation of the bowels*, or *red colic*, are the most fatal diseases cattle are subject to in Canada, and must necessarily be so, from the heat of the summers particularly, and often the want of abundance of pure water.

The Pulse.—Every farmer ought to know the importance of the indications to be obtained by the pulse in cattle. The heat of the blood may be felt at the roots of the horn; and the rallying of the blood around some important, but inflamed part, may be guessed at by means of the coldness of the ear, or the extremities; but here we ascertain the state of the general system, and the increased force or debility of that central machine on which every secretion and every function depends.

The temporal artery will generally be sufficiently distinct; but, on the whole, it will be most convenient to ascertain the beating of the heart itself, by placing the hand on the left side, a little within and behind the elbow. The average pulse of a full grown healthy ox is about forty. From this it may be ascertained by the pulse the degree of fever that is present in an animal at any time he becomes diseased.

In a state of health the heart beats in the farmer's horse about thirty-six times in a minute. In the smaller and thorough-bred horse, the pulsations are 40 or 42. This is said to be the *standard pulse*—the pulse of health. It varies singularly little in horses of the same size and breed, and where it is found there can be little materially wrong. The most convenient place to feel the pulse in a horse is at the lower jaw, a little behind the spot where the submaxillary artery and vein, and the parotid duct, come from under the jaw. The *character* of the pulse, as well as the number of pulsations may be ascertained there. To put the hand on the side to as-

certain the number of the pulsations is also a very common practice. When the pulse reaches fifty or fifty-five, some fever may be apprehended. Seventy or seventy-five will indicate a somewhat dangerous state. Few horses can long survive a pulse of one hundred. A *quick* pulse indicates irritation and fever. A *hard* pulse is the sure indicator of considerable fever, and calls for the immediate and free use of the lancet. Sometimes the pulse may be hard and jerking, and yet *small*. This shows a dangerous state of disease. It is an almost invariable accompaniment of inflammation of the bowels. A very *weak* pulse, is expressive of debility. The *oppressed* pulse, is when the arteries seem to be fully distended with blood; and there is obstruction somewhere, and the action of the heart can hardly force the stream along, or communicate pulsation to the current. This is the case in sudden inflammation of the lungs. They are gorged with blood which cannot find its way through their minute vessels. This will account for the well known fact of a copious bleeding increasing a pulse previously oppressed. A portion being removed from the distended and choked vessels, the remainder is able to flow on.

The horse is bled for some particular purpose. The change in the pulse can alone indicate when the object of bleeding is accomplished. The operator should have his finger on the artery during the act of bleeding, and comparatively regardless of the quantity, continue to take blood until, in inflammation of the lungs, the oppressed pulse becomes fuller and more distinct, or the strong pulse of considerable fever is evidently softer, or the animal exhibits symptoms of faintness.

Inflammation of the bowels, or red colic, is a disease not uncommon in British America. The symptoms do not differ from those common to the horse, and the treatment in every respect may be the same. See under this head, in diseases of the horse, page 258.

Under this head I will give some extracts from a work lately published in England, on the symptoms and treatment of this disease. The skilful farmer may be able to judge from what shall be submitted, the most prudent course to adopt in the treatment of this most dangerous disease. This disease is more frequent in hot weather, and after long continued drought. The beast that on the preceding day seemed to be in perfect health, is observed to be dull, depressed, his muzzle dry, his hair rough; he shrinks when his loins are pressed upon, and his belly seems to be enlarged on the left side. To these symptoms speedily succeed disinclination to move, weakness of the hind limbs, trembling of them, staggering, heaving of the flanks, protusion of the head, redness of the eyes, heat of the mouth and ears and roots of the horns, and a small but rapid pulse, generally varying from 60 to 80 beats in a minute. Rumination has now ceased; the appetite is lost; the feces are rarely voided, and are hard and covered with a glazy mucus, and that mucus is sometimes streaked with blood; the animal also moans with intensity of pain. These symptoms rapidly increase; the patient becomes more depressed; the pulse more feeble; the moaning incessant, and the beast is continually down. He becomes half unconscious, and is evidently half blind; the mouth is filled with foam, and the tongue is covered with a brownish yellow deposit. There is grinding of the teeth, and difficulty in the swallowing of liquids; a tucked up appearance of the belly, mingled

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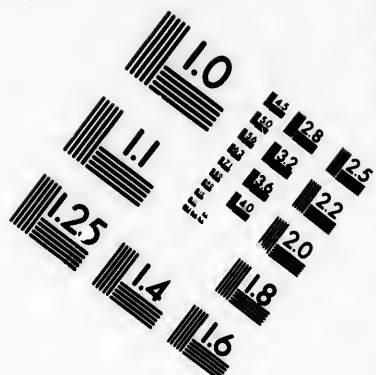
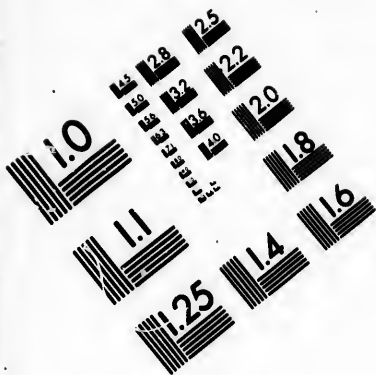
with the enlargement of the left flank, and the whole of the belly is exceedingly tender. Until he is too weak to raise himself, he is exceedingly restless, lying down, and immediately getting up again, and with convulsive movements of the muscles of the neck and extremities. The evacuation of feces is entirely suppressed, or a little stream of liquid excrement forces a passage through the hardened mass by which the rectum is distended, and that which is voided has an exceedingly fœtid and putrid smell. This symptom is characteristic. The urine becomes thick, oily, and brown, and has a peculiarly disagreeable and penetrating smell. As the disease proceeds, the weakness and suffering increase, until the animal dies, sometimes exhausted, but mostly in convulsions, and frequently discharging a bloody fœtid fluid from the mouth, the nose, and the anus.

On examination after death, the first thing that presents itself is, the engorgement of the subcutaneous vessels with black and coagulated blood, and the discoloration of the muscles softened in their consistency, and becoming putrid. The abdomen exhibits the effusion of a great quantity of bloody fluid; the peritoneum is inflamed, almost universally so; there are black gangrenous patches in various parts, and on others there are deposits of flaky matter, and often spotted. The liver is enlarged, and its substance easily torn; the *paunch* is distended with food, generally dry, and its lining membrane inflamed and injected, and of a purple or blue tint; the *honey-comb*, or second stomach, does not escape the inflammatory action; the *manyplus*, or third stomach, is filled with dry and hard layers; the fourth stomach is highly inflamed, with patches of a more intense character, and its contents are liquid and bloody, particularly towards the pyloric orifice. The small intestines contain many spots of ulceration; the lining membrane is everywhere inflamed, and they are all filled with bloody mucous fluid; the larger intestines are even more inflamed; they exhibit more extensive ulceration, and contain many clots of effused blood. The rectum is ulcerated, and gangrenous from end to end. There is usually considerable effusion in the chest; the coverings of the lungs are sometimes gorged with blood, and the heart is marked with black spots. The lining membrane of all the air passages is of a red brown colour, and so is the membrane of the gullet.

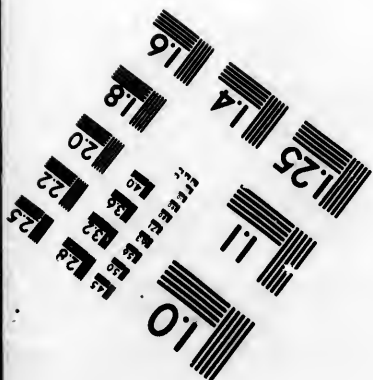
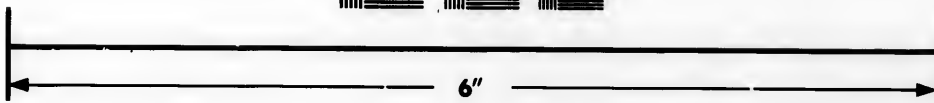
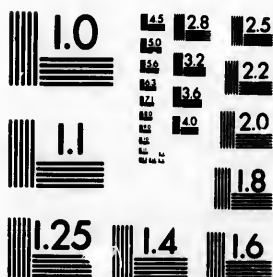
This disease seems occasionally to be epidemic, for several instances of it occur in the same district. In hot summers it is more prevalent than in those that are more moderate. When the upland pastures are burned up, or what remains of them rendered unusually stimulating, and the acrid plants of the marshes or low grounds acquired additional deleterious agency. The use of stagnant, impure water, or that containing a considerable quantity of metallic salts, and the use of mildewed and unwholesome food, are all fruitful sources of this disease, particularly in British America. I have known it to be very fatal to cattle in dry summers on some lands, particularly where there was not abundance of water.

The description that has been given of this disease will leave little doubt respecting the course of treatment that should be pursued. A malady of so intensely an inflammatory character should be met by prompt and decisive measures, and to them it will in its early stages generally yield;





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but quickness of breath, heat of the mouth, and evident fever being once established, the danger is great. The animal should be bled. If it is simple costiveness without fever, six quarts of blood may suffice; but if the symptoms of inflammation cannot be misunderstood, the measure of the bleeding will be the quantity that the animal will lose before he staggers or falls. Purgatives should follow, the first dose being of the full usual strength and assisted by quickly repeated moderate doses, until brisk purging is produced. Hot water, or blisters should be applied to the belly, and the food of the beast should be restricted to gruel and mash. Aromatics or tonics should not be given until the state of the fever had passed over, and circumstances indicate the approach of debility, and of typhus fever, which sometimes may succeed. Such are the symptoms and treatment of this disease given by very experienced authors. The symptoms I know to be correct, and I have successfully practiced the treatment.

Inflammation of the liver, or hot yellows, sometimes occurs, in which case in addition to the symptoms of the diseases which are described in the horse, there is from the presence of cystic bile in the ox a more determined yellowness of the eyelids, mouth and nostrils. The treatment must be similar to that directed for the horse in the same disease, page 261.

Thrust in the mouth, is a disease sometimes epidemic, especially in the winter and spring. It consists in the appearance of pustules, not merely along the side and the root of the tongue, but all over the mouth, and occasionally on the outside of the lips. These pustules break, and minute ulcers succeed, which may run a little into each other, but they oftener speedily heal. This disease is harmless, and though it may continue a few days, it will yield to a few mild doses of physic.

Inflammation of the kidneys, called red water, is not uncommon among cattle. The animal to other symptoms adds stiffness behind, and often straddles; but always shrinks on being pinched across the loins, where frequently increased heat is felt; the urine is sometimes scanty, and again increased in quantity, but is always first red, then purple, and afterwards becomes brown or black, when a fatal termination may be the consequence. The treatment consists in plentifully bleeding and opening the bowels, carefully abstaining from the use of diuretics.

Colics in cattle arise from different causes; costiveness brings on colic, which often ends in the red colic, or inflammation of the bowels, which is described in diseases of the horse, page 259, and may be treated exactly in the same way. It is a dangerous and common complaint in Canada. The common or spasmodic colic, or gripes, is not so dangerous. Bleeding is always proper; also, to back-rake and throw up clysters of warm water. The following simple remedy is recommended. The expressed juice of two or three large onions, common gin, and common oil, of each half a pint, mix and give. Another remedy is allspice, ground fine, half a pound; spirits of wine and of water of each a pint and a half; infuse them together and keep them for use; give a quarter of a pint of the mixture every hour until relief is obtained. Rubbing and fomenting the belly with hot water is recommended.

Diarrhœa or *Scouring*. The best cure is to keep the animal warm and dry; give them nutritious food. Buck-wheat will often check scouring.

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To give the astringent mixture, No. 3, 2d. (medicine table,) three times a day, will generally cure. The animal should have water a little warm.

Dysentery, or brazy, bloody ray, and slimy flux, differs from a simple scouring, in a great degree of fever attending it, and its being an inflammation of a particular kind, and part of the intestines. It is frequently dependent on a vitiated putrid state of the bile brought on by over driving or hot weather. The discharge is characterised by its bad smell and by the mucous stringy patches in it, and also by the heat and smoking when voided, all which are different from the discharge of the aliments in a state of solution in diarrhœa, and which difference should be carefully marked to distinguish one from the other.

Treatment. In the first stages it is well to bleed, and give six ounces of castor oil; afterwards administer the following: powdered ipecacuanha, a drachm; powdered opium, a scruple; liquid arrow-root, eight ounces. Should this not check the evacuation, and should it continue as mucous as at first, again give castor oil, and then follow it up by either of the drinks directed for the cure of scouring or looseness, No. 3, 1st or 2d (medicine table.)

Yellows. When active fever is not present, and yet cattle are very dull, with great yellowness of the eyelids, nostrils, &c., it arises from biliary obstructions, to which cows and oxen are more liable than horses, from their being furnished with a gall bladder. The treatment, if there is much fever, is to bleed, but if there is not much appearance of inflammation, give each night ten grains of calomel, and every week work it off with a mild dose of physic. There is a cure recommended in England which is said never to fail, and a simple one. Flower of mustard mixed with any liquid, and in doses of two ounces repeated two or three times in the course of twenty-four hours. To subdue the inflammation or fever by bleeding and physic, to keep the bowels afterwards open by mild purgative medicine, adding tonics occasionally, such as gentian root in particular, and when the disease is subdued to give a few tonic drinks, will restore the animal to perfect health in most cases.

Loss of the cud. This is less a disease, than a symptom of some other affection. Any attack sufficient to destroy the appetite, will generally occasion the loss of the cud. It is possible that taking into the paunch, substances such as acorns or the tops of some woody shrubs, &c., may occasion the loss of the cud. The treatment in this case would be to stimulate the stomach by tonics, as aloes, pepper and gin mixed. There cannot in general be a more certain indication of the presence of disease in neat cattle than the loss of the cud. I would strongly recommend every farmer to look well to this, morning and evening if possible.

Staggers, or Turning, is not common, and when it does occur, it is produced from over-feeding, particularly when from low keeping, cattle are suddenly moved to better pasturage. The treatment is bleeding and purging.

Cattle Surgery is in no respect different from that practised among horses; the wounds are treated in the same manner. Goring with the horns will sometimes penetrate the cavity of the belly, and let out the intestines; the treatment of which is the same as for the horse, page 265. Strains, bruises, &c., are also to be treated like those in horses.

Foul in the foot occasionally comes on of itself, but is more often the effect of accident. Clean it well, and keep it from dirt; apply the foot paste, No. 5, (mediciné table.)

Wornals, Warbles, or Puckeridge, are tumours on the backs of cattle, occasioned by an insect, the gad-fly, which punctures their skin and deposits its eggs in each puncture. When the eggs are hatched, and the *larvæ* or maggots are arrived at their full size, they make their way out, and leave a large hole in the hide, to prevent which, the destruction of the eggs should be attempted by nipping the tumour, or thrusting in a hot wire.

The process of Calving is usually performed without difficulty; sometimes, however, cross presentations take place, and sometimes a construction of parts prevents the natural passage of the calf. To act properly on these occasions, great patience is required, and much mildness; many cows have been lost by brutal pulling. A steady, moderate pull during the throes of the animal, will assist much; having first directed the attention to the situation of the calf, that the presentation is such as not to obstruct its progress; if it does, the calf must be forced back, and turned or placed aright.

Whethering, or retention of the After-birth, Placenta or Burden.—It sometimes happens that this is retained; for which I believe no better remedy has been hitherto discovered than keeping the animal warm, and giving it an aperient drink consisting of from ten to twelve ounces of epsom salts, (or one pound for a large animal,) and two drachms of ginger, with the addition of a pint of good ale to it; this is the best and safest assistant that can be given. Should the cleansing or after-birth, continue to be retained for several days, the hand should be introduced into the passage, and the separation accomplished as gently as possible, and the cleansing removed.

To a cow after calving, it is always well to give a warm mash, if she will take it; and an aperient drink, the same as ordered for a cow retaining the after-birth, will be very proper to give in most cases, particularly to cows that calve before they are let out to pasture.

Inversion of the Womb.—In the convulsive efforts in order to accomplish the expulsion of the fœtus, the womb itself sometimes closely follows the calf, and hangs from the bear as low or lower than the locks, in the form of a large red or violet coloured bag. This is called "the downfall of the calf-bag." It should be returned as soon as possible, for there is usually great pressure on the neck of the womb, which impedes the circulation of the blood, and the protruded part quickly grows livid and black, and is covered with ulcerated spots, and becomes gangrenous and mortified; and this is rapidly increased by the injury which the womb sustains in the continual getting up and down of the cow in these cases.

The womb must first be cleansed from all the dirt which it may have gathered. If much swelling has taken place, and the bag looks thickened and gorged with blood, it should be lightly scarified, and the bleeding encouraged by warm fomentation. Two persons should now support the calf-bag by means of a strong, yet soft, cloth, while if the pla-

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centa, or cleansing, yet remains attached to it, a third person gently separates it at every point, and takes it away. The little collection of blood-vessels which belong to the placenta, should also be carefully removed. If much bleeding attends this process, the parts should be washed with a weak mixture of spirit and water. The bleeding being a little stayed, and everything that may have gathered round the calf-bag being removed, the womb should be raised with the cloth on a level with the bearing, while the operator, standing behind, and having his hand and arm well oiled, and a little oil having been smeared over the womb, generally, places his right hand, with the fingers bent or clinched against the bottom, and forces it through the passage, and as far as he can into the belly, and there he retains it, while, with the other hand, he endeavours likewise to force up the smaller horn, and the mouth of the womb. There is sometimes considerable difficulty in effecting this operation, for the strainings against it will be immense, and often when the bag is returned, it will be again suddenly and violently expelled. A bleeding from the jugular, and administration of two drachms of opium, will materially lessen these spasmodic efforts. In performing this operation it would be well to have the cow's hinder parts considerably elevated. Care should be given that the parts are returned as nearly as possible into their natural situation; the retention of the womb will depend a good deal upon this.

To prevent the womb from being again expelled, stitching the bearing is often but improperly resorted to. The best mode of prevention is, to pass a collar of web over the neck of the cow immediately before the shoulders; a girth of the same material put round the body behind the shoulders, and this is connected with the collar, under the bricket and over the shoulder, and on each side a second girth is passed behind the first, and a little anterior to the udder, and connected with the first in the same way. To this, on one side, and level with the bearing, a piece of strong wrapping cloth, or other strong material, twelve or fifteen inches wide, is sowed or fastened, and brought over the bearing and attached to the girth on the other side in the same manner. This will effectually prevent the womb from again protruding. If it cannot be kept in its proper position, another piece may be carried from below the bearing over the udder to the second girth, and a corresponding one, slit in order to pass on each side of the tail, may reach from above the bearing to the upper part of the second bandage or girth.

The cow should be kept as quiet as possible; warm mashes and warm gruel should be allowed; bleeding should again be resorted to, and small doses of opium administered if she should be restless. The bandage may be removed so soon as the cow appears free from pain and straining, but it is better to allow it to remain two or three days, or perhaps more, than run the hazard of the calf-bag being again expelled.

If stitching is resorted to, the stitches should be through the hide, not through the lips of the bearing. A few stitches with a strong waxed-thread passed through the hide and crossing the bearing three or four times, will prevent the calf-bag from obtruding, provided the stitching is properly executed, which is very easy to accomplish.

Sore Teates, or cracks or chops on the teates, are very troublesome.

The cow suffers much pain from these cracks in milking, and the discharge from the cracks mingles with the milk. The treatment is simple. Foment the teates with warm water in order to clean them, and get rid of a portion of the hardened scabiness about them, the continuance of which is the cause of the greatest pain in the act of milking; and after the milking the teates should be dressed with the following ointment:—Take one ounce of yellow wax and three of lard, melt them together, and when they begin to get cool, mix well a quarter of an ounce of sugar-of-lead and a drachm of alum finely powdered.

Garget, is an inflammation that attacks the internal substance of the udder; one of the teates or the quarters of the udder becomes enlarged, hot, and tender, and soon begins to feel hard and knotty, and contains within it little distinct hardened tumours or kernels. The milk has coagulated in the bag to a certain degree, and it has caused local inflammation where it lodges. In the early stage of the complaint, the calf allowed to suck the mother and knock about the udder at pleasure, will disperse the lumps and effect a perfect cure in many cases.

If the inflammation should continue to increase, and the milk become discoloured with matter or with blood, the cow should be bled; a dose of physic administered; the udder well fomented; the milk drawn gently, but completely off; at least twice in the day, and an ointment composed of the following ingredients, as thoroughly rubbed in as the cow will permit:—Rub down an ounce of camphor, having poured a teaspoonful of spirit of wine upon it; and an ounce of mercurial ointment, and half a pound of elder ointment, and incorporate them well together. Let this be applied after every milking, and the remains of the ointment washed off before the next milking.

In some cases, tumours will break out in the bag, and ulcers be formed. The chloride of lime is an invaluable application here. The wound should be well cleaned with warm water, and then a diluted solution of the chloride of lime freely applied to every part of it. This will arrest the destructive progress of the ulcer, and the wound will speedily take on a healthy character. When this is effected, recourse may be had to the Friars' balsam, but the occasional use of the chloride will be advantageous until the bag is perfectly healed.

The causes of garget are various. High condition; imperfect milking, leaving a portion, and the best portion of milk in the bag, which gradually becomes a source of irritation and inflammation in the part; and the hasty drying of the cow, are the principal and general causes. When this is known, prevention is possible, by due care and attention to the animals.

It may be necessary to state, that when referring to the medicine table, the remedies prescribed are for moderate sized horses, and when administered to other animals they will require about the following proportions:—A large ox will bear the proportion of a moderate sized horse; a moderate sized cow something less; a calf about a third of the quantity; and a sheep about a quarter, or at most a third of the proportion directed for the cow. The degrees in strength in the different recipes are usually regulated by their numbers, the mildest standing first.

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vulsion which now and then attacks them, and which sometimes arises from worms, and at others from cold. When the first cause operates, it is relieved by a mild dose of oil of turpentine, half an ounce night and morning. In the second, wrap up the animal warm, and drench with ale and a drachm of laudanum. Calves are also subject to diarrhœa, or *scouring* which will readily yield to the usual medicines, No. 3, 1st or 2d (medicine table) given in proper proportion, about one-third of what is ordered for a full grown animal.

Diseases of Sheep.—In the British Isles the diseases of sheep are numerous; principally from their high cultivation. They may now in some respects be regarded as artificial machines; and as a natural consequence, they are subjected to a variety of artificial defects and maladies.

In British America sheep are exempt from the most destructive diseases they are subject to in Britain; namely, the rot, and scab. Both these diseases are almost unknown in these provinces.

Inflammation of the bowels, or the red water, is a disease that sheep are liable to, and is not often observed until there is no hope of cure. It generally attacks the best conditioned sheep in the flock; indeed it is seldom known to attack a sheep that is not fat. When a sheep is observed to be restless, lying down and rising up frequently, and at intervals standing with its head down and its back raised, and when it appears to move with pain, inflammation may be suspected. The progress of inflammation excites great pain, but when mortification comes on the pain ceases; and thus we may sometimes account for an animal dying suddenly while apparently well. The causes of inflammation are various. Costiveness, however produced, is the principal one that brings on this destructive malady. The constant use of salt is the best preventive.

If the sheep affected can be discovered before the malady has proceeded too far, a cure may be possible. From two to two and a half ounces of Epsom salts, according to the size of the animal, dissolved in warm water, and given from a teapot to the sheep, will be the best medicine that can be administered; and if Epsom or Glauber salts are not convenient, a handful of common salt will answer the purpose. At the same time the veins of the tail should be well opened, by being cut across, so that blood shall flow freely. If nitre happens to be at hand, it would be well to substitute half an ounce for a part of the salts, or salt, giving about one-third less of either when the nitre is administered with them. Should it be found necessary to repeat the dose, not more than half the quantity should be given; but it will not probably be required. Oatmeal and water might be given from a teapot after the salts operate. A gill of linseed oil, mixed with some warm thin gruel, may be tried in place of the salts, or in case the salts do not operate. Bleeding, and physic, are the only remedies that are yet known to be effectual in this disease.

Inflammation of the lungs, rising of the lights, glanderous rot, &c. These terms are all modifications of an inflamed state of the viscera of the chest, caught by undue exposure, bad pasture, and often from overheating. The cough, the redness of the eyes and nostrils, and the distillation of fluid from them, with the heavings and hot breath, are all similar to those which characterise the pneumonia, or rising of the lights in

oxen. The treatment is bleeding and drenching, with drenches composed of nitre and tartar emetic. Nitre, two drachms, and tartar emetic, half a drachm, will be sufficient for one dose, mixed with thin gruel. This dose should be repeated if found necessary. The sheep should have shelter from sun, wind, and rain, for some time, and have nutritious feeding. As I before observed, it is exposure to sun, wind, and rain, and the want of nutritious food, which produces this disease.

Diarrhæa, or scouring, is not often hurtful to sheep; should it continue too long it may be proper to check it. Change of pasture will often effect this. If this is not convenient, a quarter of an ounce of prepared chalk may be given in a pint of new milk a little warmed. In two days the dose may be repeated, if symptoms of amendment have not appeared. If the purging be violent, the first dose may be a drachm of rhubarb, and the next the prepared chalk. Diarrhæa, or scouring, seldom occurs except in the spring, and chiefly attacks young sheep.

Dysentery is a more violent kind of looseness; occurs at a more advanced period of the summer; is a dangerous disease and highly contagious. A sheep affected by it lies down frequently, and rises up at short intervals. It voids fæces very often, which consists of hard lumps passed with blood and slime. It eats little, and does not ruminate or chew the cud. As dysentery is generally attended by inflammation, bleeding and physic will be proper. The same physic as that given for inflammation of the bowels, or red-water, will answer. The day after bleeding and purging, half an ounce of chalk mixed up in warm milk should be given. Two hours afterwards, give a gill of warm water, into which has been put half a table-spoonful of terra japonica, and thirty drops of laudanum. The diet should consist of hay sprinkled with salt. Another cure recommended is, first, to give an ounce and a half of castor oil, or linseed oil, and follow it up by giving every day a fourth part of the mixture for lax or scouring, No. 3, 1st or 2d, (medicine table) until the disease is checked.

Inflammation of the stomach arises from various causes; a common one, is eating noxious vegetables. It will yield to half an ounce of oil of turpentine beaten up with the yolk of an egg, and given to the sheep in a little thin gruel, or warm water.

Foot-rot is a troublesome and injurious malady, and generally proves contagious. Sheep have a secretory outlet between the claws peculiar to them, which is liable to become obstructed, for which soaking in warm water, and afterwards wrapping up the foot, having first dressed it with tar, is sufficient. But the most serious foot-rot is that which in most instances is first produced by long continuance of humid weather, which predisposes the feet to this injury. At other times it appears to be both epidemic and endemical. The treatment is to remove all diseased portions of the hoofs, to clean effectually from dirt, and dress with the thrush paste or foot-rot application, No. 5, (medicine table.) Another application is recommended: two parts of tar and one of oil of turpentine, which having mixed with one part of muriatic acid, known as spirit of salt, is to be added slowly, to which afterwards add four parts blue vitriol, with which dress the affected feet. There is a mode of treating this troublesome malady, communicated to the society of arts, and for which they gave their

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silver medal. Of the sheep affected the hoofs are to be pared, leaving no hollow to hold dirt; if matter be formed, it must be carefully discharged, after which the feet must be washed clean from dirt with some urine, and wiped with a sponge. The sheep are next to be put into a house or shed the floor of which has been previously spread about two inches thick with quick-lime, reduced to powder by a small quantity of water. The sheep are to stand for six or seven hours on this lime and the cure will be effected.

Staggers, water in the head, &c., are all popular terms for *hydatids*, or an animal now known as the *Tæ-nias globulous*, which by some unaccountable means, finds its way to the brain and settles itself there either in some of its ventricles, or more frequently on its substance. Their size varies from the smallest speck to that of a pigeon's egg, and the sheep it attacks are usually under two years old. These animals are likewise occasionally found in all the natural cavities of the body. The appearances of cerebral hydatids are, stupidity, a disposition to turn to one side, and to incline the head to the same while at rest. The eyes glare, and from oval pupils become round. An accurate examination will now usually discover some softness at a particular part of the skull, generally on the contrary side to that on which the animal hangs the head; when no softness of the head is discernable, the hydatid usually exists in some of the ventricles, and the destruction of the sheep is certain and quick, from the greater disturbance to the functions of the brain; but when it is situated on the surface, it sometimes requires many months to destroy; an absorption of the bone taking place as the hydatid increases, which produces the thinness in the skull opposite to the affected part.

The disease is not incurable, as it was long supposed, but it can only be relieved by a manual operation. In France it has been successfully treated by the application of the actual cautery; a pointed iron, heated red-hot, is forced through the skin and skull to the surface of the brain; the principal nicety of which is penetrating the hydatid with the hot iron without wounding the brain itself. In England, shepherds are dexterous at *wiring*, which they do by thrusting a wire up the nostrils till it rests against the skull. In the passage of the wire the hydatid is usually ruptured: others elevate the skull (by means of a trephine, or even a knife) opposite to the softened portion, and extract the hydatid, if possible, whole, which a little care will effect, by drawing it away with a blunt pincer, gently moving it from side to side. Tapping is merely letting out the fluid contents of the hydatid by an awl, which is also practiced by some successfully; and if the instrument is not thrust in too far, the sheep is not injured, to avoid which, it is passed obliquely. A well hardened gimlet is a proper instrument with which the skull is easily penetrated, and an opening by the twisting of the instrument sufficiently large in the hydatid itself to discharge its contents, which is all that is sufficient to ensure its destruction, and which if no other exists, is followed by immediate recovery. I would however recommend that any sheep that would be affected by this malady, should in its very commencement, if in good condition, be disposed of to the butcher rather than try any experiments to effect its cure. The flesh is not injured in the smallest degree in the early stages of staggers; but if allowed to continue many days, there will not

be much flesh to dispose of, as the animal will not feed as usual, and consequently will soon lose flesh.

The constant use of salt and occasionally of nitre will be the best preventive of diseases in sheep, provided always they have abundant and nutritive food at all seasons of the year.

The operation of bleeding is most conveniently performed on a large vein, the branches of which are spread over the face of the sheep. The vein may be distinctly felt passing over the angle of the jaw, about two inches from it, or opposite to the third of the grinding teeth, into the neck. When the operation is to be performed the sheep is held between the legs of the operator, and the croup placed against a wall to prevent the animal from recoiling, the left hand is placed in such a manner that the fingers come upon the right side of the jaw, so as to press upon the vein a little below where it is to be opened. By thus pressing on the vein, the flow of the blood to the heart is interrupted, and the opening made by the lancet admits of its flowing out. The opening should be made obliquely across the vein, where it is largest and most distinctly felt, through the skin. The point of the lancet should be introduced steadily and carried a little forward, that it may not go through both sides of the vein, and that the wound may be sufficiently large to allow the blood to flow freely. While introducing the lancet, the vein should be prevented from rolling under the skin and so escaping the point, and this is best accomplished by making the incision close to the point of the finger which presses on the vein. The incision should be made as low down as possible. In cases of inflammation of the bowels, &c., blood may be better procured from a large vein that runs along the fore leg. This vein passes from the foot along the back part of the leg to the ham, and then goes obliquely over to the fore part of the limb. It is nearest the surface, and sufficiently large a little above the knee, and may be easily opened at that place in the same way the cheek vein is opened, first grasping the limb above the place where the incision is to be made and cause the vein to swell. Under the tail is also a good and safe place to bleed sheep.

DISEASES OF SWINE.

Swine are subject to a few diseases that are not very easy of remedy. The best preventive is to keep them clean and cool in summer, and to allow no carrion, or filth whatever, to remain in or near their sties. This rule would require to be more attended to in these provinces. The diseases they are most subject to are, pox or measles, blood-striking, staggers, quincy, indigestion, catarrh, peripneumonia and inflammation of the lungs called heavings. When pigs are sick, if they will eat they will take medicine in their food; but if they will not eat there is scarcely any help for them. As aperients, cleansers, and alteratives, sulphur, antimony and madder are the grand specifics, and are truly useful. As cordials and tonics, treacle and strong beer in warm wash, and good peas, and pollard. In the measles, sulphur, &c., and if the animal require it, give cordials occasionally. In staggers, bleeding, fresh air and nitre; in catarrh a warm bed and warm cordial wash; and the same in quincy, or inflammation of the glands in the throat. If external suppuration appear like-

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ly, discharge the matter when ripe, and dress with tar and brandy, or balsam. The heavings or unsoundness of the lungs in pigs, like the unsoundness of the liver in lambs, is sometimes found to be hereditary; there is no remedy. This disease in pigs is often the consequence of colds from wet lodging, or of hasty feeding in a poor state; in a certain state it is highly inflammatory, and without remedy. Unction with train oil, and the internal use of it, have been thought beneficial. Salt, nitre and sulphur, occasionally given in the food of swine, will be found a good preventive of disease in these useful animals.

**INSTRUMENTS FOR GRUBBING UP THE ROOTS OF SMALL TREES
AND SHRUBS.**

A simple and powerful instrument for this purpose has been invented. It is a very strong iron three-pronged fork, having the prong twenty inches long, and of proportionate strength, and a strong ash handle, twenty feet long, fixed firmly into it, to the end of which a rope is fastened; this is driven obliquely under the roots, and by means of a log as a fulcrum it forms a lever when pulled down by the ropes. With this instrument, properly made, the roots of small trees and shrubs may be taken out with great ease and facility, by two or three men. The three prongs will not allow the instrument to slip off the root, and the long handle gives it great power. In soft land, roots of considerable size might be removed with it. I can strongly recommend the instrument. In all cases where it is found necessary to grub up large trees, the best means to adopt in order to save labour will be to cut the roots all round, below the surface, and draw the tree over by means of strong ropes fixed to the top. By this method the stem becomes a lever by which the roots are much more easily drawn out. The standing trees may be made useful in this work, and give great additional power to the ropes applied to the tops of the tree that is to be grubbed. The Bern machine was invented also for this purpose. I have not seen it, nor am I perfectly aware of its utility. It acts by pushing the tree over and lifts it at the same time. I do not believe that any machine yet invented can be generally useful in clearing wild land. It is only in making new roads, rail-roads or canals, where it would be necessary to take out all trees, roots and stems, that they can be brought into operation. The usual method of clearing land in North America, will be found the most effectual, and the only one practicable.

**CONSTRUCTION OF THE FLUES OF CHIMNEYS, SO AS TO PREVENT THAT
MOST DISAGREEABLE OF ALL CIRCUMSTANCES IN DWELLING
HOUSES, SMOKY CHIMNEYS.**

The following directions for the proper construction of flues of chimneys, may be interesting to all who would desire to be free of this very great nuisance, a smoky house. I have taken it from an excellent work by Dick, "On the improvement of Society, by the Diffusion of Knowledge." I believe the directions given will be found an effectual preventive to smoky chimneys.

"To all who are acquainted with the nature and properties of elastic fluids, it must be obvious that the whole mystery of curing smoky chim-

neys consists in finding out and removing the accidental causes which prevent the heated smoke from being forced up the chimney by the pressure of the cool or heavier air of the room. These causes are various; but that which will be found most commonly to operate is the bad construction of the chimney in the neighborhood of the fire-place. "The great fault," says Count Rumford, "of all the open fire-places now in common use, is that they are much too large, or rather it is the throat of the chimney, in the lower part of its open canal, in the neighbourhood of the mouth and immediately over the fire which is too large." The following is a condensed view of some of the rules given on this subject, by this ingenious practical philosopher, and which are founded on the principles of science and on numerous experiments: 1. The throat of the chimney should be perpendicularly over the fire: as the smoke and vapour which rise from a fire naturally tend upwards. By the throat of a chimney is meant the lower extremity of its canal, where it unites with the upper part of its open fire-place. 2. The nearer the throat of a chimney is to the fire, the stronger will be its draught, and the less danger of its smoking, since smoke rises in consequence of its rarification by heat, and the heat is greater nearer the fire than at a greater distance from it. But the draught of a chimney may be too strong so as to consume the fuel too rapidly; and, therefore, a due medium must be fixed upon according to circumstances. 3. That four inches is the proper width to be given to the throat of a chimney, reckoning across from the top of the breast of a chimney, or the inside of the mantle to the back of the chimney, and even in large halls, where great fires are kept up, this width should never be increased beyond $4\frac{1}{2}$ or 5 inches. 4. The width given to the back of the chimney should be about one third of the width of the opening of the fire place in front. In a room of a middling size, thirteen inches is a good size for the width of the back, and three times 13, or 39 inches, for the width of the opening of the fire-place in front. 5. The angle made by the back of the fire place and the sides of it, or covings, should be 135 degrees, which is the best position they can have for throwing heat into the room. 6. The back of the chimney should always be built perfectly upright. 7. Where the throat of a chimney has an end, that is to say, where it enters into the lower part of the open canal of the chimney, there the three walls which form the covings and the back of the fire-place should all end abruptly, without any slope, which will render it more difficult for any wind from above to force its way through the narrow passage of the throat of the chimney. The back and covings should rise 5 or 6 inches higher than the breast of the chimney. 8. The current of air which passing under the mantle gets into the chimney, should be made gradually to bend its course upwards; by which means it will unite quietly with the ascending current of smoke. This is effected with the greatest ease and certainty, merely by rounding off the breast of the chimney, or back part of the mantle, instead of leaving it flat or full of holes and corners.

Count Rumford's directions have seldom been attended to by those who have pretended to improve chimneys on the principles he has laid down, partly from carelessness, and partly from ignorance of the elements of science. When the grate is not set in its proper place, when its sloping iron back is retained, when no pains have been taken to make its ends

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coincide with the coverings of the fire place, when the mantle instead of having its back rounded off is a verticle plane of iron, cutting a column of smoke which rises beneath it; and above all, when the throat of the chimney, instead of four is made as we often see fourteen inches wide, not one of the Count's directions have been attended to, and his principles have as little to do with the construction of such a chimney, as with the building of the dikes of Holland, or the pyramids of Egypt.

It is from ignorance of the effects of heat; of the experiments that have been made on rarified air, and their relations to our common fires; of the proper dimensions of funnels; of the effects of winds and currents of air; of the proper height and width of chimneys; of the method of promoting a good draught, and making the air pass as near the fire as possible, and various other particulars requisite to be attended to in the construction of fire places and their flues, many dwelling houses have been bungled and rendered almost uninhabitable. The workmen in such operations, without any rational principle to guide them, carry up funnels in the easiest way they can, according to the practice of "use and wont," and leave the tenants or proprietors of the houses they erect to get rid of their smoke in the best way their fancy can contrive. Whereas were chimneys and their flues constructed according to the principles of science, they might be rendered, almost with certainty, completely efficient for the purpose intended."

I am sorry I could not conveniently give drawings or plans explanatory of the above directions, but I think they may be readily understood, and I am persuaded they are well worthy the attention of builders.

Wheat Fly and the injury produced by its ravages.—From reports, it appears that the fly has produced much more general injury to the wheat crop this year than last. Last year the wheat on many farms on the island of Montreal had escaped injury, but this year I believe the whole of the wheat on the island has been more or less damaged; and it appears that the ravages of the fly have extended *westward* and *north-west* many miles this year where no injury was done by them last year. I do not think that on farms where the fly was known last summer, the damage to wheat is more extensive this season, but the fly this year has been much more general, and occupied a much wider range of country; and I fear that next year they will extend still further.

Both the spring of 1835 and the last have been later than ordinary, and the crops of wheat more backward in coming into ear; the consequence was that some late crops of wheat escaped the fly, that probably would not escape in ordinary years. The same circumstance may have been the cause of retarding fall sown wheat, and prevented it from coming into ear so early in June as it would do in a more favourable spring. This may have subjected the fall wheat to injury that it might not have sustained in ordinary seasons, and would encourage the hope that fall wheat might escape in common years, and favourable springs.

I am convinced that the fly cannot deposit its eggs in the ear, except immediately after it is shot out, and if the wheat was in ear early in June, I have very little doubt, but it would escape uninjured, as the fly is not then in existence. Those whose crops of wheat have not hitherto suffered will expect that the ravages of the fly are only local and tempora

ry, and that they will continue to be free from it. They will find, however, that the plague, if it continue in any district, will inevitably spread by degrees, unless it is altogether removed by a good Providence, or some means discovered to check or stop it. I believe the fly may be produced from some natural cause, and that natural means may be discovered to stop or check it. Farmers who have suffered much by the fly will find it their interest to desist from sowing wheat, until it is clearly ascertained that the fly has disappeared from their neighbourhood. Any field of wheat that the fly attacks will generally be so much injured as to make it an unprofitable crop for the farmer; indeed, the most so that he can cultivate. Fortunately we may grow other crops that will be safe and productive, and though not a *good* substitute for *good* wheat, they will be found a *profitable* substitute for *bad* wheat, or wheat that is one half or more destroyed.

I have been told that thirty or forty years back, the Hessian fly had been so destructive to wheat in some parts of Lower Canada, that the sowing of that grain was discontinued for some years, in those parts. Latterly, however, for several years the Hessian fly has scarcely been known in the province. By adopting the same *natural* means of getting rid of the wheat fly, we may be able to accomplish our object, if no artificial remedy is discovered. It is possible that as the fly has come to the country unaccountably, it may leave us in the same manner in a short time, and I think we may reasonably hope that such will be the case. There is, therefore, no particular cause for discouragement for the present, until we see what another year or two will bring forth. I believe we will always possess natural means to put an end to the evil by discontinuing the cultivating of wheat generally for a few years. If the fly is deprived of the means of subsistence for its *larvæ*, it must disappear. Though it may do some injury to barley crops, it is certain that grain is not the most suitable for them, and that the awns protects the grain in a great measure until too far advanced, and too hard for to allow them to deposit their eggs or feed their *larvæ*. I have remarked that the grains near the bottom of the ear of the barley, that were most exposed and uncovered by the awns, were the most injured by the fly. The oat crop is perfectly safe from them. If then they have not the wheat crop to receive their eggs and feed their *larvæ*, they must I am sure inevitably perish.

Notwithstanding the injury we are exposed to by this vile gnat, and occasionally by late springs, on an average of many years the farmer's expectations are not more subject to disappointments and casualties here than in Europe. This last spring was as uncongenial and unfavourable in the finest countries of Europe as here, and it appears by the latest accounts, they have suffered more during the summer from excessive drought, than in the greater portion of British America. We could not expect to be favoured greatly above all other countries, without being subject to any drawback. By judicious management in agriculture and a proper application of the industry of the people of every class, we have no cause whatever of discouragement or dissatisfaction in the natural circumstances of our country. If our spring is sometimes late, we are favoured subsequently with a delightful summer, so extremely congenial to vegetation that crops will advance more in a week here, than in double

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that time in the British isles. We generally have a much better season for harvesting crops than in Britain. This year the hay crop has been secured with scarcely any trouble, interruption, or injury by rain. The disappointment in wheat the last two years, may help to cure an evil long complained of in Canada, namely, the constant cultivation of wheat on the same soil, and on lands not properly prepared or sufficiently fertile to grow an average crop of wheat.

Farmers will now find out the utility and profit of occasionally substituting other grain, and increasing the stock of cattle. They will also find that the produce of other grain may be substituted to a certain extent for the flour of wheat, as human food. It would be highly desirable to extend the cultivation of beans of almost every variety. The French bean grows in great perfection here. It might be much more generally used as food in various ways than at present. They are well adapted for new settlers. Windsor and horse beans are profitable crops, good for many uses. Barley, oats, rye and pease, grow in perfection, as do most other kinds of vegetables, and are not *very* liable to the ravages of vermin of any kind. By cultivating these crops, and applying the produce to the supplying of our own wants, so far as they can be made to answer that purpose in a raw and manufactured state, our condition will not be worse than previous to the wheat fly appearing in the province. Should we be able by natural means to starve the fly out of the country by discontinuing to grow the only food its *larvæ* can subsist upon, we may perhaps at the expiration of a few years resume the cultivation of wheat, and not be again subject to the ravages of this vile gnat. There is therefore no cause for discouragement that I am aware of. We are not subject to any evil that is not, I am persuaded, capable of remedy, by adopting the means that are reasonable and easy.

The following notices from the offices of Crown Lands in Upper and Lower Canada in 1836, will show the mode of sale, upset price, and terms of payment in different parts of the provinces.

LOWER CANADA.

Office of Crown Lands,
Quebec, 27th July, 1836.

SALE OF CROWN LANDS AND CLERGY RESERVES.

At Argenteuil, on Thursday, 1st September, at ten o'clock in the forenoon.

The crown lands and clergy reserves in the newly surveyed Township of Wentworth, at the upset price of 2s. 6d. per acre.

The remaining crown lands and clergy reserves in the Township of Chatham, at the upset price of 2s. 6d. per acre.

At Grenville, on Thursday, 1st September, at ten o'clock in the forenoon.

The crown lands and clergy reserves in the newly surveyed Township of Carrington, at the upset price of 2s. 6d. per acre.

The remaining crown lands and clergy reserves in the Township of Grenville, at the upset price of 2s. 6d. per acre.

At the Village of Hull, on Thursday, 1st September, at ten o'clock in the forenoon.

The crown lands and clergy reserves in the newly surveyed Township of Wakefield, at the upset price of 5s. per acre.

The remaining crown lands and clergy reserves in the Townships of Clarendon, Eardley, Onslow, Templeton and Hull, at the upset price of 6s. per acre.

In the Township of Bristol, on Thursday, 1st September, at ten o'clock in the forenoon.

The crown lands and clergy reserves in Bristol, at the upset price of 5s. 3d. per acre.

In the Township of Litchfield, on Thursday, 1st September, at ten o'clock in the forenoon.

The crown lands and clergy reserves in Litchfield, at the upset price of 5s. per acre.

In the Township of Buckingham, on Thursday, 1st September, at ten o'clock in the forenoon.

The crown lands and clergy reserves in the eighth, ninth, tenth, eleventh and twelfth ranges of Buckingham, at the upset price of 3s. 9d. per acre.

In the Township of Lochaber, on Thursday, 1st September, at ten o'clock in the forenoon.

The crown lands and clergy reserves in Lochaber, at the upset price of 5s. 3d. per acre.

Sale of crown lands and clergy reserves at Dunham Flat, 23d August. Lands in the Townships of Dunham and Stanbridge, upset price 10s. per acre, and in Sutton, 5s. per acre.

At Froste Village, in Shefford, 25th August.

Lands in the Townships of Shefford, Stukeley, Ely, Brome, Granby, and Milton, upset price, 5s. per acre; and in Farnham, 7s. 6d. per acre.

At Stanstead Plains, 27th August.

Lands in the Township of Stanstead, upset price 7s. 6d. per acre; and in Bolton, 4s. per acre.

At Sherbrooke, 29th August.

Lands in the Townships of Hereford, Melbourne, Stoke, Windsor, and Shipton, upset price 5s. per acre. In Compton and Ascot, 7s. 6d. per acre; and in Brompton, and Oxford, 4s. per acre.

At Drummondville, 1st September.

Lands in the Townships of Durham, Acton, Upton, and Kinsey, upset price 5s. per acre. In Wickham, 4s., and in Grantham, 3s. per acre.

At Three-Rivers, Court-House, 3d. September.

Lands in the Townships of Warwick, Horton, Middington, Blandford, Stanfold, Summerset, and Aston, upset price 4s. per acre.

His Excellency the Governor in Chief has been pleased to direct, that for the convenience of actual settlers, public sales of the remaining crown lands and clergy reserves in the above-mentioned townships, be held at the same places on the first Monday of every month succeeding the present sale, until further notice.

Diagram of the townships may be seen, and information obtained respecting the lands for sale, on application to the agents of the land department, in the respective townships, and at the office at Quebec, without fees or charges of any kind.

Conditions of sale are already given in this work, page 145.

} *Department of Crown Lands, and Woods and Forests,*
 Quebec, July 27, 1836.

Public notice hereby given, that a sale of *licences to cut timber*, on the waste and ungranted lands of the crown, will take place at Quebec, at the Exchange, on Wednesday, the thirty-first day of August next, at ten o'clock in the forenoon.

WILLIAM B. FELTON, *Commissioner of Crown Lands.*

UPPER CANADA.

} *Commissioner for Crown Lands Office,*
 Toronto, 10th May, 1836.

NOTICE.—The times and places for the sale of crown land and clergy reserves during the present year, will be as follows :

In the Western District.—For crown land and clergy reserves in the County of Kent, and town lots in Chatham and Erroll at *Chatham*, on the first Tuesday in June, and on the first Tuesday in July, August, September and October following.

For clergy reserves in the County of Essex, and town lots in Sandwich and Amherstburgh, at *Sandwich*, on the third Wednesday in June, and on the third Wednesday in July, August, September and October following.

Reference may be made to the agent for the crown for this district, Mr. Henry Jones, residing in Chatham, for further information.

In the London District.—For clergy reserves, in the County of Norfolk, at *Simcoe*, on the first of June, and on the second of July, second of August, first of September, first of October and first of November following.

For clergy reserves in the County of Oxford, at *Blandford* on the fourth of June, and on the fifth of July, fifth of August, fifth September, fourth of October and fourth of November following.

For clergy reserves in the County of Middlesex, and town lots in London, at *London* on the eighth of June, and on the eighth of July, ninth of August, seventh of September, seventh of October and on the eighth of November following.

Reference may be made to the agent for the crown, for this district, John B. Askin, Esquire, residing in London, for further information.

In the Home District.—For town lots in Port Credit, and Bronti; in this City on the 23d May instant.

And for such crown lands, and clergy reserves, as are for sale; at this City, on the second Tuesday in June, and on the second Tuesday in July, August, September, and October following.

In the Newcastle District.—For crown lands, clergy reserves, and town lots in Peterborough and Lindsay, at *Peterborough*, on the first Tuesday in June, and on the first Tuesday in July, August, September, and October following.

For town lots in the Village lately surveyed at the mouth of the Trent, in that Town, on the fifteenth of June, and on the second Wednesday in July, August, September and October following.

Reference may be made to the agent for the crown, for this district,

Alexander McDonnell, Esquire, residing at Peterborough, for further information.

In the Bathurst District.—For clergy reserves in the Counties of Lanark and Carlton, at Bytown, on the second Wednesday in July, August, September, and October following.

For town lots in Richmond, at that Town on the same days.

In the Ottawa District.—For clergy reserves in the Counties of Prescott and Russell, at Bytown on the second Wednesday in June; and on the second Wednesday in July, August, September and October following.

Reference may be made to the agent for the crown for these districts, John McNaughton, Esquire, residing at Bytown, for further information.

Schedules of the particular lots to be sold in each township, specifying also the terms of sale, have been printed and will be put up at the Court House, at the offices of clerk of the peace, and sheriff, and in other conspicuous places in each district, which schedules may be had on application to the commissioners for crown lands, or any of the above named agents.

Schedules are preparing for the Midland and other districts, in which there are crown lands or clergy reserves for sale, and notices of these sales will be speedily given.

PETER ROBINSON.

SALE OF CLERGY RESERVES IN THE MIDLAND DISTRICT.

The undermentioned clergy reserves, in the Midland District, will be offered for sale, by auction, at the Court House in the Town of Kingston, on Tuesday the 30th of June, 1836, and afterwards, on the 28th July, 29th August, 29th September, 28th October, and 29th November following.

The terms of payment will be one-tenth of the purchase money down, and the remainder in nine equal annual instalments, with interest upon each instalment as it becomes due.

Township of Portland.—At the upset price of 10s. per acre.

Township of Pittsburgh.—At the upset price of 10s. per acre.

Township of Hinchinbrook.—At the upset price of 5s. per acre.

Township of Bedford.—At the upset price of 5s. per acre.

Township of Loughborough.—At the upset price of 10s. per acre.

Wolf Island.—At the upset price of 15s. per acre.

The undermentioned clergy reserves, in the Townships of Huntingdon, Madoc, Hungerford, Rawdon, Sidney, Thurlow, Marmora, and Elziver, in the Midland District, will be offered for sale, by auction, at the Town of Belleville, on Monday, the 20th June, 1836, and adjourned sales will afterwards be held at the same place, on the 20th July, 20th August, 20th September, 20th October, and 21st November following.

Township of Huntingdon.—At the upset price of 10s. per acre.

Township of Hungerford.—At the upset price of 7s. 6d. per acre.

Township of Madoc.—At the upset price of 5s. per acre.

Township of Rawdon.—At the upset price of 10s. per acre.

Township of Sidney.—At the upset price of 15s. per acre.

Township of Thurlow.—At the upset price of 15s. per acre.

Township of Marmora.—At the upset price of 5s. per acre.

Township of Elziver.—At the upset price of 5s. per acre.

Commissioner of Crown Lands' Office.

Toronto, 10th May, 1836.

NOTICE.—The times and places for the sale of crown and clergy reserves, during the present year, will be as follows :

MIDLAND DISTRICT.

At Belleville, for crown lands, in the County of Hastings, on the 20th June, 20th July, 20th August, 20th September, 20th October, and 21st November.

At Napanee, for crown lands, in the Counties of Lennox & Addington, on the 24th June, 25th July, 24th August, 24th September, 24th October, and 25th November.

At Kingston, for crown lands, in the County of Frontenac, on the 30th June, 28th July, 29th August, 29th September, 28th October, and 29th November.

At Belleville, for clergy reserves, in the County of Hastings, on the 20th June, 20th July, 20th August, 20th September, 20th October, and 21st November.

At Napanee, for clergy reserves, in the Counties of Lennox & Addington, on the 24th June, 25th July, 24th August, 24th September, 24th October, and 25th November.

At Kingston, for clergy reserves, in the County of Frontenac, on the 30th June, 28th July, 29th August, 29th September, 28th October, and 29th November.

Schedules of the particular lots to be sold in each Township, and specifying also the terms of sale, have been printed, and will be put up at the Court House, at the office of the Clerk of the peace, and Sheriff, and at other places in the District, which schedules can be had on application to the Commissioner of crown lands, or to Samuel S. Wilmot, Esquire, Deputy Surveyor, who will reside in the District, and superintend the several sales.

SALE OF TOWN LOTS, RIVER TRENT.

Notice is hereby given, that certain lots, in the town lately surveyed at the mouth of the Trent, in the District of Newcastle, will be offered for sale, by auction, in that town, on Wednesday the 15th day of June next, and afterwards on the second Wednesday in July, August, September, and October following, at the upset price of £10, currency, each, and upon the usual conditions of building.

The terms of payment will be one quarter down, and the remainder in three equal annual instalments, with interest on each instalment as it becomes due.

Commissioner for Crown Lands' Office.

Toronto, April 30th, 1836.

NOTICE TO EMIGRANTS.—The undermentioned Government Agents will, on application, afford Emigrants information relative to the Crown Lands for sale in their respective districts, and the conditions upon which they may be obtained.

Mr. W. J. Scott, Emigrant Agent, Prescott, Johnstown District.

Mr. John McNaughton, Agent to the Commissioner for Crown Lands, Bytown, Bathurst District.

Mr. Anthony Manahan, Emigrant Agent, Kingston, Midland District.

Mr. Alexander McDonell, Agent to the Commissioner for Crown Lands, Peterborough, Newcastle District.

Mr. John B. Askin, Agent for the Commissioner for Crown Lands, London, London District.

Mr. Henry J. Jones, Agent to the Commissioner for Crown Lands, Chatham, Western District.

They will also give information as to the routes, distances, and rates of conveyance, to those parts of the Province to which emigrants may be desirous of proceeding, and direct those in want of work, to places where they can obtain it.

The undermentioned Gentlemen have been furnished with Maps of the Townships open for location, and will give Emigrants information, relative to the lands for sale in their respective neighbourhoods.

Mr. Pringle,	Cornwall,	Mr. Frazer,	Brockville,
" McKenzie,	Bath,	" Baldwin,	Belleville,
" Fairfield,	Hallowell,	" Brown,	Cobourg,
" Kingsmill,	Port Hope,	" Elliot,	Sandwich,
" Bostwick,	Port Stanley,	" Ironside,	Amherstburgh,

Emigrants in want of information, or employment, on their arrival at Toronto, are directed to apply at the Emigrant Office in the Public Buildings.

A. B. HAWKE, *Chief Emigrant Agent for Upper Canada.*
Emigrant Office, Toronto, May 24, 1836.

NOVA-SCOTIA, NEW-BRUNSWICK, ISLAND OF PRINCE EDWARD, &c.

I have not very full information of the mode of sale or crown lands, in all the above Provinces. The following advertisements will however show the emigrant the upset prices, and terms of payment in New Brunswick. I cannot say that the prices given below for Nova-Scotia may be considered as applying generally, but the advertisement I copy is the only one I have seen lately, for the sale of land in Nova-Scotia. In the Island of Prince Edward the wild lands are generally in the hands of absent owners. I give one advertisement that will show the terms on which some of these proprietors are disposed to concede these wild lands. I cannot say that this is the mode of concession and terms of sale generally, but it must be something near it.

NOVA-SCOTIA.

HALIFAX, June 29, 1836.

The following lots of land will be sold at public auction, on Wednesday, the 27th of July next, at 12 o'clock, in the Commissioner of Crown Lands' Office, Province Building. The lots are then described.

Upset prices from 2s. 3d. to 3s. per acre.

JOHN SPRY MORRIS, *Commissioner of Crown Lands.*

NEW-BRUNSWICK.

Department for Crown Lands and Forests, }
Fredericton, June 1st, 1836. *}*

By authority of His Excellency the Lieutenant Governor, under instructions from His Majesty's Government, public notice is hereby given, that for the future all crown lands will be sold by public auction, and that monthly sales will take place at the crown land office on the first Monday

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in every month; the lowest upset price will be six shillings per acre, by four annual instalments, with a discount of fifteen per cent. if all paid at the time of sale; and in order to afford the public every reasonable facility in the acquisition of land, any person who may be desirous that any particular lot should be submitted to sale, will send a description of the same to the crown land office at least six weeks prior to the day of sale, that it may be introduced into the notice of such sale.

Purchasers paying by instalments will be required to pay the first instalment at the time of sale, and give bonds to the King for the balance due; upon which a grant will be prepared with the least possible delay.

Persons who may have taken possession of land without authority, and who have been settled more than a year, are allowed until the 31st of December next to make a payment on the land they occupy, at such price as his Excellency shall direct, and will be admitted to the same advantages as persons purchasing by auction.

So many repeated notices respecting Squatters having already been published, such of that description of settlers as may neglect to avail themselves of the last notice, are hereby warned, that in making sales of crown land after the first of January, 1837, no attention will be paid to their occupancies.

All deputy surveyors are hereby required to report to me immediately, any case of a person taking possession of crown lands after this notice, without proper authority for so doing, in order that he may be proceeded against by His Majesty's Attorney General for trespass and intrusion.

THOMAS BAILLIE, *Commissioner and Surveyor General.*

SALE OF CROWN LANDS BY PUBLIC AUCTION.—A sale of vacant and unsurveyed crown lands will be held at the crown lands office, on Monday the 1st day of August next, in the several counties in this Province.

Upset price, six shillings per acre and upwards, according to the quality and locality of the land.

QUIT RENTS.—Public notice is hereby given, that all persons who have paid quit rents to His Majesty agreeably to the notices formerly published to that effect, are required to transmit on or before the 15th July next, to the clerks of the peace for the several counties where those rents were paid, the receipts or true copies thereof, which were given to them for the sums so paid as above in order that the clerks of the peace may make a return of the same, to be compared with the entries of the receiver general, after which the several amounts will be transmitted to the clerks respectively, to be returned to the parties who have so paid them. By command of His Excellency the Lieutenant Governor.

THOMAS BAILLIE and J. S. SAUNDERS, *Commissioners.*

Fredericton, 1st June, 1836.

The following advertisement is for the sale of land in the Island of Prince Edward, or St. Johns.

NOTICE.—Large tracts of land to be disposed of in several townships, on the following conditions:

The rents to be in sterling—the tenants to pay taxes, and restricted from cutting timber for any person but for their own use, or the proprietor's.

Terms of letting lands on Townships numbers 4, 5, and 6, for nine hundred and ninety-nine years.

1st and 2d year, free;

3d year, three pence per acre;

4th year, six pence per acre;

5th year, one shilling per acre;

6th year, one shilling and six pence and so to remain.

If fifteen chains water front, an addition of three pence per acre, and so in proportion for an extension of water front; but not more than twenty chains of water front to be leased.

One vacant space, fifteen chains in front, to be left between every new farm. No lease to be granted on Hillstown point, or on any part of the peninsula to the southward of the south line of lot number four, nor on Fox Island, Pitt's Island, or any other island or peninsula. Any settler taking a farm on which buildings have been erected or improvements made, to account or pay for the same. Further particulars may be known on application to William Forgan, Esq., Charlottetown; Charles Craswell, Esq., Cascumpec, or Patrick Cody, Esq., Kildare.

Charlottetown, April 20th, 1836.

MEANS OF INTERNAL COMMUNICATION ESTABLISHED IN BRITISH AMERICA, BY STAGES, RAIL-ROADS, STEAMBOATS, &c.—RATE OF PASSAGE AND FREIGHT FROM QUEBEC, MONTREAL, AND VARIOUS CITIES AND TOWNS IN BOTH CANADAS, AND THE OTHER PROVINCES.

In order to afford as much information as possible to emigrants and strangers coming to British America, I shall give under this head all that I think interesting for them to be made acquainted with. The rates of passage, &c., to different places in Upper and Lower Canada, has been kindly furnished me by the owners and agents of steam boats, and by forwarders. I regret that it is not in my power to give as full information respecting the other provinces. However it is not so necessary as there is not so much inland travelling in Nova-Scotia or New Brunswick as in the Canadas. The only information I have in my power of the means of internal communication and rates of passage in Nova-Scotia and New Brunswick, is from newspaper advertisements, and these do not give the rates by steam boats on the rivers, or packet boats on the canals. I believe the means of communication are ample in both those provinces.

NEW-BRUNSWICK.—STAGES.—The subscribers being desirous of rendering every accommodation to the public, purpose for the future to have stages to start for Richibucto and Bathurst, every Saturday morning, immediately after the arrival of the steamer *Cape Breton*, from Pictou and Prince Edward's Island, which will return in sufficient time to enable persons to take passage in that boat on her return to the last named places, on Monday morning.

They have in addition to the above, a stage running daily between Miramichi and Bathurst, and another which leaves with the mails for Richibucto, Peticodiac, and Dorchester, every Wednesday morning at ten o'clock, which returns with the mails to Miramichi on the morning of Saturday. This stage meets at Dorchester, the couriers for Halifax and Saint John.

FARES.—To and from Bathurst, twelve shillings; Richibucto, twelve shillings and six pence; Peticodiac, thirty shillings; Dorchester, twenty-five shillings. Way passengers, four pence per mile, &c. &c.

BETWEEN FREDERICTON AND MIRAMICHI.—The subscriber returns thanks for past favors and begs leave to intimate to his friends and the public that he intends running a stage from Newcastle to Fredericton weekly—to start from Newcastle to Fredericton every Wednesday morning at twelve o'clock, and from Fredericton for Newcastle the following Wednesday, at the same hour precisely. Every attention will be paid to such passengers as he may be favoured with, and he requests that such persons as may require to engage their passage will leave their names at Mr. McLeod's, at Fredericton, and at Mr. Hamill's, at Newcastle, on each Tuesday evening previous to starting, and pay the usual passage money of forty-five shillings. A reasonable quantity of baggage will be admitted, &c. &c.

A steamboat plies from St. John to Fredericton on the River St. John.

NOVA-SCOTIA.—EASTERN STAGE COACH.—The subscriber begs leave to notify the public, that from and after Monday, the second of May next, the coaches will as usual, leave Halifax and Pictou three times in each week. The Pictou coach will start at six o'clock on the mornings of Monday, Wednesday and Friday, in each week, and arrive in Halifax the following days at two o'clock in the afternoon. The Halifax coach will start on the mornings of Monday and Friday at six o'clock, and arrive in Pictou next day, at two o'clock in the afternoon. On Wednesdays the coach will leave at the usual hour (three o'clock in the afternoon), and stop all night at Hill's Inn.

FARES.—From Halifax to Truro twenty shillings.

From Halifax to Pictou thirty shillings.

From Pictou to Truro twelve shillings and six pence.

From Pictou to Halifax thirty shillings.

Way passengers, five pence per mile.

Infants in arms, free; five years and under, quarter fare; between five and fourteen years, half fare. Passengers paying full fare, allowed to carry twenty-eight pounds weight; half fare, fourteen pounds; quarter fare seven pounds. Large and light articles to be paid in proportion to their bulk without reference to weight. Rate of carriage by weight, viz., from Truro to Halifax, one penny half-penny per pound; from Pictou to Halifax, two pence half-penny per pound. And vice versa, &c. &c.

There is a chain of navigable water between Halifax and Truro, the Shabenaadin Canal.

RATE OF PASSAGE BY STEAM BOATS FROM QUEBEC TO MONTREAL, AND INTERMEDIATE PLACES, 1836.

	Cabin.	Steerage.
From Montréal to Quebec, - - - - -	25/	7/6
“ “ to Sorel, - - - - -	6/3	2/6
“ “ to Port St. Francis, - - - - -	12/6	5/
“ “ to Three Rivers, - - - - -	12/6	5/
From Quebec to Three Rivers, and } to Port St. Francis, }	15/	5/
“ “ to Sorel, - - - - -	22/6	7/6
“ “ to Montreal, - - - - -	30/	7/6

Cabin passengers are found at the above rates.

THE CHAMPLAIN AND SAINT LAWRENCE RAILROAD COMPANY,
 In connection with the steamer Princess Victoria, will be prepared to
 convey passengers between Montreal and St. Johns on Monday, the 25th
 instant, as follows :

STEAMER.
From Montreal.
 Eight o'clock, A. M.
 Two o'clock, P. M.
 Five o'clock, P. M.

CARS.
From Laprairie.
 Nine o'clock, A. M.
 Six o'clock, P. M.

CARS.
From St. Johns.
 Seven o'clock, A. M.
 Two o'clock, P. M.

STEAMER.
From Laprairie.
 Six o'clock, A. M.
 Nine o'clock, A. M.
 Four o'clock, P. M.

Fare to St. Johns, five shillings, including baggage not exceeding sixty
 pounds. From Montreal to St. Johns and back, 7s. 6d.

Passengers leaving Montreal at eight o'clock, will be in time for the
 Lake Champlain boats at ten.

Ashes, two shillings per barrel ; Beef and Pork, one shilling per barrel ;
 Flour and Meal, six pence per barrel ; Boards and Planks, five shillings
 per thousand feet board measure.

Flour, meal, boards, planks, &c., coming down the river and intended
 for transport by the railroad, will save ferriage and cartage by being land-
 ed at the company's wharf, Laprairie.

W. D. LINDSAY, *Commissioner,*

July, 1836.

The following are the rates charged for passengers and goods from
 Montreal upwards to the principal places in Upper Canada :

UPPER CANADA LINE OF STEAM BOATS AND STAGES—Leave Mon-
 treal every day except Sunday, at half-past ten o'clock, A. M., and ar-
 rive in Prescott the following day, with the exception of Saturday's stage,
 which will remain over the Sabbath at Cornwall,—as follows :—

	MILES.	CABIN		DECK	
		PASSAGE		PASSAGE	
		£	s. d.	£	s. d.
Montreal to Lachine, by land, - - - -	9	0	3 9	0	3 9
Lachine to Cascades, by steam boat, - - -	24	0	8 9	0	6 9
Cascades to Coteau du Lac, by land, - - -	16	0	15 0	0	10 0
Coteau du Lac to Cornwall, via St. Regis, } Indian Village, by steam boat, - - }	41	1	5 0	0	17 6
Cornwall to Dickinson's Landing, by land,	12	1	10 0	1	5 0
Dickinson's Landing to Prescott, by steamboat	38	2	0 0	1	10 0
	104				

DOWNWARDS.—Leave Prescott every morning except Sunday, at four
 o'clock, and arrive in Montreal the same evening.

A. WHIPPLE, *Agent.*

Montreal, June 22, 1836.

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OTTAWA LINE OF STEAM BOATS AND BARGES, FROM MONTREAL TO KINGSTON, BY WAY OF THE RIDEAU CANAL.

The Ottawa and Rideau Forwarding Company will have covered barges leaving Montreal every day, (Sundays excepted,) and will undertake to convey passengers and luggage at the following rates and prices, viz:—

- Every full grown person, 10s.
- Children between the age of seven and fourteen, half price.
- Between two and seven, one-third of the above rate.
- Luggage, 2/6 per cwt.

At Lachine, Passengers are allowed the privilege of embarking on board the steam boats by which these barges are towed the whole route to Kingston.

At Kingston, passengers may embark on board of steam boats for the Bay of Quinte, Toronto, or any port on Lake Ontario.

THE STAGES AND STEAM BOATS.

Cabin fare from Montreal to Bytown,	-	-	-	-	£1	5	0
Deck do. do. do.,	-	-	-	-	0	15	0
Cabin fare from Montreal to Kingston,	-	-	-	-	2	0	0
Dock do. do. do.,	-	-	-	-	1	5	0

E. CUSHING, Agent.

Office, Lachine Canal, }
 Montreal, 1836. }

LAKE ONTARIO.

ARRANGEMENTS FOR 1836.

THE STEAMERS GREAT BRITAIN AND THE UNITED STATES,

Will, after the 1st June ply as follows:—

THE GREAT BRITAIN,

GOING UP, LEAVES

Prescott	Tuesday	Evening.
Brockville	do	do
Kingston	Wednesday	Forenoon.
Oswego	do	Evening.
Cobourg	Thursday	Morning.
Port Hope	do	do
Toronto	Friday	do

And arrives at Niagara, Queenston and Lewiston, the same forenoon.

COMING DOWN, LEAVES

Lewiston	Saturday at 2	Afternoon.
Niagara	do	3 do
Toronto	do	10 Night.
Port Hope	Sunday	Morning
Cobourg	do	do
Oswego	do	Night.
Kingston	Monday	Morning.
Brockville	do	Noon.

And arrives at Prescott same afternoon.

THE UNITED STATES,

GOING UP, LEAVES

Ogdensburgh	Sunday	Afternoon.
Kingston	Monday	Morning.
Sackett's Harbour	do	Noon.
Oswego	do	Evening.
Rochester	Tuesday	Morning.
Toronto	do	Evening.

And arrive at Youngstown and Lewiston early on Wednesday morning.

COMING DOWN, LEAVES

Lewiston	Wednesday at 7	Evening.
Youngstown	do	do
Rochester	Thursday	Morning.
Oswego	do	Evening.
Sackett's Harbour	do	Night.
Kingston	Friday	Morning.

And arrive at Ogdensburgh same afternoon.

Passengers leaving Montreal on Monday, will arrive at Prescott in time to take the *Great Britain* on Tuesday evening; and Passengers leaving Montreal on Friday, will be enabled to take the *United States* on Sunday.

The steam boat *Dolphin* leaves Prescott every Morning (Sundays excepted) for the head of the Loug Sault Rapids, and Passengers arrive in Montreal the same evening.

Every information respecting the above boats can be obtained by applying as follows:—

Messrs. Macpherson & Crane, Montreal; Lake Ontario Steam Boat Office, at Prescott; Messrs. Truax & Phillips, Commercial Wharf, Kingston; Mr. Robert Cooley, Steam Boat Agent, Oswego; and Mr. James Browne, Toronto.

May 25, 1836.

The mail stage leaves Toronto daily at twelve o'clock for Hamilton and during the summer several steamers ply between those places daily. The fare by stage is 12s. 6d.; by steamers, in the cabin, I believe, 10s. A stage also leaves Toronto at nine o'clock in the morning every day excepting Sundays, for "Holland Landing."

LAKE SIMCOE.

From Lake Simcoe the means of conveyance can be obtained to any part of the Huron country as far as St. Joseph's Island at the upper extremity of Lake Huron.

There is a line of steam boats and stages in operation between Detroit and Queenston. The distance, about two hundred and sixty miles, is travelled through in three days and a half.

The *Cynthia* steamer, J. McCrae, master, leaves Sandwich, opposite Detroit, for Chatham, three times a week, every Tuesday, Thursday and Saturday morning, at eight o'clock, and arrives at Chatham same evening. Returning, leaves Chatham for Sandwich, Mondays, Wednesdays and Fridays at eight o'clock in the morning, and arrives there the same evenings. Fare, ten shillings, cabin, and seven shillings and six pence, deck.

The stage leaves Chatham for London, Mondays, Wednesdays and Fridays, and London, daily for Queenston via Oxford, Burford, Brantford, Ancaster, Dundas, Hamilton and St. Catherines. From Queenston to London, the same route, daily, and from London to Chatham, Sundays, Tuesdays and Thursday via Westminster, Delaware and Howard's Bridge.

FARES.—From Chatham to London,	-	£0 18 9
From London to Brantford,	-	0 15 0
From Brantford to Hamilton,	-	0 6 3
From Hamilton to Queenston,	-	0 12 6

Vice versa, the same.

The above mentioned lines afford the best means of conveyance from Michigan eastward, and from New York, &c. westward. It intersects the Ridge Road Stage Line at Lewiston, which leads to Rochester, and also the Lake Ontario Steam Boats, at Hamilton. It also intersects, at Detroit, four different Stage Lines, viz., to Pontiac; to the mouth of St. Joseph River, to Chicago, and to Monroe.

Rates of Passage by Steam Boats to Kingston and the Bay of Quinte, 1886.

CARRYING PLACE.	Deck.	Cabin.
	To TRENT.	Deck, 10-0 Cabin, 2-50	10-0 2-50
To AMELIASBURG.	Deck, 10-0 Cabin, 2-50	10-0 2-50
To BELLEVILLE.	Deck, 10-0 Cabin, 2-50	10-0 2-50
To SOPHIASBURG.	Deck, 10-0 Cabin, 2-50	10-0 2-50
To PORTTS.	Deck, 8-50 Cabin, 2-15	8-50 2-15
To SCANLANS.	Deck, 8-50 Cabin, 2-15	8-50 2-15
To HALLOWELL.	Deck, 8-50 Cabin, 2-15	8-50 2-15
To ADOLPHUSTOWN.	Deck, 7-50 Cabin, 1-75	7-50 1-75
To FREDERICKBURG.	Deck, 6-50 Cabin, 1-65	6-50 1-65
To BATH.	Deck, 6-50 Cabin, 1-50	6-50 1-50
To KINGSTON.	Deck, 5-00 Cabin, 1-25	5-00 1-25
To GANANOQUE.	Deck, 3-50 Cabin, 1-05	3-50 1-05
To BROCKVILLE.	Deck, 1-50 Cabin, 2-50	1-50 2-50
From PRES-COTT	.....	.....
" BROCKVILLE	.....	.....
" GANANOQUE	.....	.....
" KINGSTON	.....	.....
" BATH	.....	.....
" FREDERICKSBURG	.....	.....
" ADOLPHUSTOWN	.....	.....
" HALLOWELL	.....	.....
" SCANLANS	.....	.....
" PORTTS	.....	.....
" SOPHIASBURG	.....	.....
" BELLEVILLE	.....	.....
" AMELIASBURG	.....	.....
" TRENT	.....	.....

Children under twelve years of age half price.

Rates of Freight per Cwt. to and from the undermentioned Places, viz.

From Prescott - - -	To Carrying Place.	d.	10	10	10	9	7½	6	6	6	6	6	6	6	4	4	4	4	4
" Brockville - - -	To Trent.	d.	10	10	10	9	7½	6	6	6	6	6	6	6	4	4	4	4	4
" Gananoque - - -	To Ameliasburg.	d.	10	10	10	9	7½	6	6	6	6	6	6	6	4	4	4	4	4
" Kingston - - -	To Belleville.	d.	9	9	9	8	7½	6	6	6	6	6	6	6	4	4	4	4	4
" Bath - - -	To Sophiasburg.	d.	9	9	9	8	7½	6	6	6	6	6	6	6	4	4	4	4	4
" Fredericksburg	To Portts.	d.	9	9	9	8	7½	6	6	6	6	6	6	6	4	4	4	4	4
" Adolphustown	To Scanlans.	d.	9	9	9	8	7½	6	6	6	6	6	6	6	4	4	4	4	4
" Hollowell - - -	To Hollowell.	d.	8	8	8	7½	6	6	6	6	6	6	6	6	4	4	4	4	4
" Scanlans - - -	To Adolphustown.	d.	8	8	8	7½	6	6	6	6	6	6	6	6	4	4	4	4	4
" Portts - - -	To Fredericksburg.	d.	8	8	8	7½	6	6	6	6	6	6	6	6	4	4	4	4	4
" Sophiasburg - -	To Bath.	d.	7½	7½	7½	6	6	6	6	6	6	6	6	6	4	4	4	4	4
" Belleville - - -	To Kingston.	d.	6	6	6	4	4	4	4	4	4	4	4	4	4	4	4	4	4
" Ameliasburg - -	To Gananoque.	d.	6	6	6	4	4	4	4	4	4	4	4	4	4	4	4	4	4
" Trent - - -	To Brockville.	d.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4

From Prescott - - - 10s. 7s6 5s. 5s. 15s. 11s3 7s6 5s. 5s. 20s. 15s. 12s6 10s. 7s6 25s. 20s. 15s. 12s6 7s6

Rates of Passage by Steam Boats to different Ports on Lake Ontario.

	TO BROCKVILLE.			TO KINGSTON.			TO OSWEGO, STATE OF N. Y.			TO COBOURG AND PORT HOPE.			TO TORONTO.			TO NIAGARA AND QUEENSTON.		
	1st Cab.	2d Cab.	Dec.	1st Cab.	2d Cab.	Dec.	1st Cab.	2d Cab.	Dec.	1st Cab.	2d Cab.	Dec.	1st Cab.	2d Cab.	Dec.	1st Cab.	2d Cab.	Dec.
From Prescott	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
" Brockville	2 6	2 0	1 3	12 6	8 9	5 0	25 0	15 0	7 6	30 0	18 9	7 6	40 0	20 0	10 0	40 0	25 0	10 0
" Kingston				12 6	8 9	5 0	12 6	8 9	5 0	20 0	10 0	5 0	30 0	17 6	7 6	30 0	18 9	7 6
" Oswego, State of New York																		
" Cobourg and Port Hope																		
" Toronto																		

Every Child between three and twelve years half price. One hundred weight of Luggage allowed to each Passenger. All Luggage over or above charged 1s. per cwt. Every Goat and Sheep five shillings. Every Dog two shillings and six pence.

RATES FOR HORSES, OXEN, COWS, DOUBLE AND SINGLE WAGONS, PLEASURE AND LUMBER SLEIGHS.

From Prescott	TO KINGSTON, and vice versa.				TO OSWEGO, STATE OF N. Y. and vice versa.				TO COBOURG & PORT HOPE, and vice versa.				TO TORONTO & NIAGARA, and vice versa.					
	Horses. each	Oxen and Cows. each	Double Wagons each	Single Wagons each	Horses. each	Oxen and Cows. each	Double Wagons each	Single Wagons each	Horses. each	Oxen and Cows. each	Double Wagons each	Single Wagons each	Horses. each	Oxen and Cows. each	Double Wagons each	Single Wagons each		
	10s.	7s6	5s.	5s.	15s	11s3	7s6	5s.	20s.	15s	12s6	10s.	7s6	25s.	20s.	15s.	12s6	7s6

ABOVE QUEENSTON.

RATES OF PASSAGE, &c., to Places on and bordering on LAKE ERIE ;
means of conveyance, &c., for Emigrants proceeding to that quarter.

PASSENGERS.	WAGONS.		STEAMERS.		REMARKS.
	NO. OF MILES	RATE PER LOAD	NO. OF MILES	RATE PER HEAD	
Queenston to Chippewa, - - -	10	10s.			<p>On the arrival of steam boats at Queenston, teams are always in readiness to convey passengers and baggage to Chippewa. Two boats ply daily between those places.</p> <p>A daily line of stages. Steamers leave Buffalo twice a day, and call at the intermediate Ports on the American side.</p> <p>Steamer "Thomas," twice a week. Emigrants for the townships of Walpole, Townsend, Charlotteville, Woodhouse, and Houghton, should ship for Ryerson's Creek.</p> <p>Steamer "Thomas," twice a week. Emigrants for the townships of Malahide, Bayham, and Durham, should ship for Port Burwell.</p> <p>Steamer "Thomas," twice a week. Emigrants for the townships of Yarmouth, Southwold, London, Delaware, Lobo, Westminster, Ekfrid, Dunwick, Aldboro', and Oxford, should ship for Port Stanley.</p> <p>Steamer "Thomas," twice a week. Emigrants for the townships of Howard, Harwick, Raleigh, and Tilbury, East & West, should ship for Round Dean.</p> <p>Steamer Adelaide is expected to be ready to commence her trips about the end of June. Emigrants for the townships of Romney, Mersea, Gosfield, Colchester, and Malden, should ship for Amhurstburg.</p> <p>By River and Lake St. Clair, and the River Thames, steam boat every second day.</p> <p>Steam boat once every week.</p> <p>Steam boat twice each month.</p>
Chippewa to Buffalo, - - -			18	3s9d	
Niagara to Buffalo, Buffalo to Detroit,	21				
Chippewa to Ryerson's Creek, -					
Chippewa to Port Burwell, - -					
Chippewa to Port Stanley, - Buffalo to ditto, }			160	10s.	
Chippewa to the Round Dean, -					
Chippewa to Amhurstburg, - -					
Sandwich to Chatham, - - -			50	5s.	
Sandwich to Goderich on Lake Huron, - - -					
Buffalo to Chicago on Lake Michigan, - - -					

The average passage across Lake Erie is about three days,
The average passage to Port Stanley is about thirty-six hours.
May, 1836.

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WILLIAM IV.—Propelled by a low pressure engine, of one hundred horse power, the only boat that runs between Prescott and Toronto without crossing the Lake to or from Oswego, will on the opening of the navigation, commence her regular weekly trips, running as follows, viz :

Upwards.—Will leave Prescott for Niagara every Saturday evening after the arrival of the Montreal stages or steam boats, touching at Brockville and Gananoque. Kingston, Sunday morning. Cobourg and Port-Hope, Sunday evening. City of Toronto, Monday morning. Hamilton, Monday afternoon ; and arrive at Niagara on the same evening.

Downwards.—Will leave Niagara for Prescott, every Tuesday afternoon, at seven o'clock. City of Toronto, Wednesday morning at ten o'clock. Cobourg and Port-Hope, Wednesday evening. Kingston, Thursday morning, touching at Gananoque and Brockville ; and arrive at Prescott in the afternoon.

Passengers leaving Niagara on Tuesday evening, and the City of Toronto Wednesday forenoon, by the William IV., will arrive in Montreal on Friday evening, passing the "*Thousand Islands*."

CANADA.—Propelled by a low pressure engine of fifty horse power, the only steam boat which plies regularly between Kingston and Oswego ; will leave Kingston every Monday, Wednesday and Friday morning, at half-past eight o'clock, and Oswego every Tuesday, Thursday and Saturday, at the same hour, until further notice ; and on Sundays will make an extra trip, leaving Kingston at six o'clock in the morning, and returning the same evening.

For freight or passage, apply to Messrs. Trobridge & Grant, Oswego ; Messrs. Truax & Phillips, Kingston, or to the Captain on board.

Rochester, Toronto, Hamilton, Cobourg, Port-Hope, and Presqu'isle.

TRAVELLER, will, on the first July, commence making two trips a week, between the above mentioned places, and leave as follows :—On Monday and Thursday mornings, at eight o'clock, leave Rochester for Presqu'isle, Cobourg, Port Hope, Toronto, and Hamilton.

On Wednesdays and Fridays, at twelve o'clock noon, leave Hamilton for Toronto, Port-Hope, Cobourg, Presqu'isle and Rochester.

HAMILTON, will, during the present season, (Sundays excepted) ply regularly between the above ports, leaving as follows :

Hamilton, at seven o'clock, in the forenoon,

Toronto, at two o'clock, in the afternoon.

Touching at Port-Credit, Oakville, and Burlington Bay Canal, on the way up and down.

All baggage and small parcels at the risk of the owners, unless booked and paid for.

It is requested that bills of lading will at all times be sent with property.

Cabin passage ten shillings, Deck passage five shillings.

Passengers are requested to be on board in due time, as the boat will leave H. Vallance's Wharf, at Hamilton, and A. McDonald's, at Toronto, precisely at the hours above stated.

BROCKVILLE, will leave Prescott for the head of Bay of Quinte on Tuesdays and Fridays, on the arrival of the steamer **DOLPHIN**, touching at Brockville and Gananoque. She will leave Kingston on her upward

trips on Wednesdays and Saturdays, at half-past eight o'clock, in the morning, and will call at the following places :

Bath, Fredericksburgh, Adolphustown, Hallowell, Scanlan's, Roblin's Mills, Mohawk Village, Sophiasburgh, Belleville, Ameliasburgh, and arrive at the Trent and Carrying Place the same evenings.

She will leave the Trent and Carrying Place on the evenings of Wednesday and Sunday, for Belleville, and leave Belleville for Prescott on Mondays and Thursdays, at half-past six o'clock in the morning, calling at all the intermediate places.

ONEIDA, (propelled by two powerful low pressure engines,) will until the 15th of September next, ply between Ogdensburgh and Niagara, touching at the intermediate ports, as follows :

Upwards.—Leaves Ogdensburgh, Wednesday evening,
Kingston, (U. C.), Thursday morning,
Sackett's Harbor, Thursday noon,
Oswego, Thursday evening,
Genesee River, Friday morning,
Toronto, (U. C.), Friday evening, touching at

Youngstown, and reaching Lewiston early Saturday morning,

Downwards.—Leaves Lewiston, Sunday evening,
Genesee River, Monday morning,
Oswego, Monday afternoon,
Sackett's Harbor, Monday evening,
Kingston, (U. C.), Tuesday morning, touching at
French-Creek, Morristown, Alexandria, and Brockville, and arriving at Ogdensburgh Tuesday afternoon.

OSWEGO, will ply on Lake Ontario and St. Lawrence River, between Ogdensburgh and Niagara, as follows, commencing April 29th, 1836.

Upwards.—Leaves Ogdensburgh, on Friday evening,
Kingston, (U. C.), on Saturday morning,
Sackett's Harbor, on Saturday noon,
Oswego, on Saturday evening,
Rochester, on Sunday morning,
Toronto, (U. C.), for Niagara and Lewiston, on

Monday morning, where she arrives early, giving passengers all the day to visit the Falls of Niagara, and return by the boat.

Downwards.—Leaves Lewiston, on Monday evening,
Rochester, on Tuesday morning,
Oswego, on Tuesday afternoon,
Sackett's Harbor, on Tuesday night,
Kingston, (U. C.), on Wednesday morning, and
arrives at Ogdensburgh the same evening touching at French-Creek, Morristown, Alexandria, and Brockville.

Parties intending visiting the Falls of Niagara, Buffalo, or the different ports on Lake Ontario, will find the route *via* Oswego to Rochester to be the cheapest and most expeditious.

Passengers Leaving Niagara in this boat on Monday evening, will arrive at Montreal on Thursday evening, passing the most interesting part of the St. Lawrence River by day light.

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LAKE SIMCOE.

THE STEAM BOAT PETER ROBINSON will leave the Holland Landing during this season on Mondays, Wednesdays, and Fridays, at eight o'clock in the morning.—Will leave Roache's Point, for the town of Barrie, on Mondays and Fridays, at eleven o'clock in the morning.—Will leave Barrie on Mondays and Fridays, at three o'clock in the afternoon, touching at Kempenfeldt, E. O'Brien's, Esq., Hodge's Landing, and Captain Davis's.—Will leave the Narrows on Tuesday, Thursdays, and Saturdays, at eight o'clock in the morning, touching at Parker's Wharf, and Roache's Point, arriving at the Holland Landing at six o'clock, P. M.

On Wednesdays will go by the way of Georgina and Thorah; and on Thursdays, by the route as above stated.

N. B.—The utmost punctuality will be observed in leaving the above places at the specified hours.

There are several other steam boats on the navigable waters of Upper Canada, but I think it is not necessary that I should notice every one of them.

THE WATERLOO CÆSARIAN EVERGREEN COW CABBAGE.

The above is the name given to an extraordinary species of cabbage of recent discovery, introduced into England three years since, by a Mr. Fullard. It is described as growing to the height of NINE to TWELVE feet, and from FIFTEEN to TWENTY feet in circumference. It is said that FIVE of these cabbages by proper management will be found an ample allowance of food for ONE HUNDRED sheep, or TEN cows for a day. They are said to produce a most surprising improvement in the growth and utility of every description of cattle, particularly sheep. The wool of sheep fed on this cabbage is said to grow to twenty-five inches long, of the finest silken texture, and to be superior to every other kind of wool for the manufacturer. I do not know if they would prosper in our climate. I believe from the notice I have seen, that in England they are transplanted from the seed bed in September and remain out during the winter. The following is part of the notice taken from the Agriculturist. "The plants of this seed, unlike other vegetables produced for cattle, never fail, and after two months growth, (being sown in July,) they may be transplanted, even upon waste ground, a small portion of good mould only being sufficient for raising them to perfection." The seed is to be had of Mr. Brown, 46, Cheap-side, London. It would be interesting to make further enquiry about this vegetable in order to ascertain if it could be cultivated in British America.

ROUGH COMFREY, (or *Symphytum asperinum* L.)

I have already noticed this plant in the Agricultural Treatise, page 206. It is said to be a perennial from Siberia. I find by late reports that it is cultivated in Ireland with great success, and found to answer the highest expectations. The Reverend H. Moor, of Carnew Castle, County Wicklow had a crop last year which at three cuttings produced eighty-two tons of green food for cattle to the Irish acre, equal to about one arpent and three quarters. This plant, I have no doubt, might be cultivated in Canada successfully, and would be likely to prove a valuable acquisition as an herbage plant.

ASSOCIATION IN BRITAIN FOR THE ENCOURAGEMENT OF AGRICULTURE.

It may be interesting again to allude to the exertions that are now making in the British Isles to improve the condition of the agricultural interest. By a report of a meeting of the proprietors of the Provincial Bank of Ireland, held in May last, it appears that the affairs of the Bank are in a most prosperous state. That it has now 33 branch banks open in the principal towns in Ireland, besides which, the managers of the nearest branch banks visit several other towns and transact business on market days. The report goes on to state that the operations of the banks have had a very beneficial effect on the price of Irish produce and manufactures. That prior to 1825 the Bank of Ireland had no bank out of Dublin; that in Dublin there were only four private banks, and that there were no other banks in Ireland then, but in Cork, Belfast, Wexford, and Mallow; that from 1825 to 1834, the Provincial Bank, Bank of Ireland, the Northern and Belfast Banks, had gradually established in the chief cities about fifty banking offices; that within the last two years the number of branch banks, &c., has increased to upwards of 120, and appears to be daily augmenting in number; besides which, there are a great number of stations attended on market days by non-resident agents on behalf of one or other of these banks; and in addition to all these, several establishments on a large scale have been announced lately in Dublin, as in connection with some of the joint stock banks in the Provinces.

The nett profits of the Provincial Bank for the year ending 26th March, 1836, after deducting all expenses, and providing for all bad and doubtful debts, was £61,791 sterling. The balance of profits on hand from the previous year was £102,500. The capital £500,000; £40,000 of this profit was added to the capital stock, and a dividend of 8 per cent is now made annually to the stock-holders.

There are other companies about to be established in England; one is the "British Agricultural Loan Company," capital £2,100,000 in 20,000 shares of £105 each. This company is instituted expressly for the relief of agriculture, and to place agriculturists on a footing with the trading community, to increase the currency and to relieve those with loans who have no access to banks in the ordinary way. This institution has not yet, I believe, gone into operation. Another company, is "The United Kingdom Beet-Root Sugar Association," capital £250,000 sterling. The object of this association is to manufacture sugar from beet-root, by a patented apparatus and process imported from France, where they have been in full and successful operation. It is said that the produce of a crop of beet-root will yield a much greater remuneration to the farmer than any other crop he can raise; and that the residue of the beet-root, after the saccharine matter has been extracted, affords to animals a most nutritious food. The company offer to contract for the produce of beet-root of many hundred acres of land. It is said to promise the most ample profits for the capital invested in this manufacture.

The measures adopted in other countries for the encouragement of agriculture, may be some guide to our proceedings to accomplish the same object, I cannot forego this opportunity of offering a few

remarks, though I have no pretensions to be able to do justice to the subject.

The amount of gold, silver, and copper coin, and paper-money in circulation in the British Isles, cannot at this moment be less than £80,000,000 to £100,000,000 sterling. It is the opinion of most writers of repute, that the requisite circulating specie and paper money of any country should be equal in amount to about one-fifth of the produce annually created in that country. In the British Isles I believe it is now equal to one-fourth.

I have endeavoured to prove that the produce annually created in every way in Lower Canada was about £11,000,000, and in all the British American Provinces £25,000,000. The amount of specie and paper money now in circulation in Lower Canada, (I cannot estimate accurately for the other provinces,) does not, I suppose, exceed in all £700,000 or £800,000 currency. But I will admit that it should even amount to £1,000,000; that would be only equal to one-eleventh of the annual produce created, and not more than half what is considered requisite for the convenience of trade and due improvement of a country. The circulating medium in the United States is more than twice as great in proportion to the annual produce as it is in Canada, and it is admitted by all, that in no country is improvement making more rapid progress.

I do not think that an *over* issue of paper money would be useful to these provinces, but I am convinced that our present circulation of money in every shape, is *under* what is requisite for the due improvement of the natural and other circumstances of British America. I do not pretend to suggest how this want is to be supplied, I merely state that there is a want of circulating capital, and a very great one, more particularly among the agricultural class, that constitute nine-tenths of our population, and who create by their labour and industry three fourths of the annual produce of the country.

The British Agricultural Loan Company which I have mentioned above, is instituted lately in the British Isles, with the professed object of placing the agricultural interest on an equal footing with manufacturing and commercial classes in regard to banking accommodation. From the fact of instituting such a company, for such an object, it may be reasonably inferred that heretofore they have not been on an equal footing in this respect. It may be well to inquire whether in British America the same want is not felt by the agricultural class.

I believe that up to a very recent period the chartered banks in these provinces did not afford scarcely any accommodation to the agricultural class. Indeed I believe it was considered that they were instituted expressly and solely for the convenience of the commercial class, without reference to any other. I will not take upon me to say whether this exclusive system of banking is or is not the best for these provinces. If banking operations were confined to the discounting of regular bills of exchange given in *every* instance for *value received*, it would naturally be confined almost entirely to the commercial class. But while in every country where there are banks, they do not confine their discounts to paper of this description, it would appear that reasonable accommodation to the agricultural class would be fully as useful as to any other class, and I cannot

help thinking that where chartered banks are established, the agricultural interest are not upon an equal footing with the commercial classes, if they have no part or share in banking accommodation. I am well aware that unlimited accommodation might be very hurtful, but there are circumstances where accommodation might be granted with the greatest safety, and where it would most unquestionably greatly augment annual production.

There are no privileged debts, such as rents and taxes, in these provinces, to take all, or most, of the farm produce, and therefore the security that farmers could offer here would be infinitely better than that of farmers in the British Isles, who might by one year's bad crops, or a great fall in stock, find themselves deprived of all their capital. Far be it from me to offer any objection to banks. I only wish to see the class to which I belong able to participate in their advantages. Banking, though it may be chiefly confined to the commercial class, must be useful, because it increases the circulating capital. I believe however it has very little if any effect on the price of agricultural produce for exportation. For example; if wheat, flour, potashes, or lumber, are wanted in England, the prices here of those commodities will be governed by the prices there, and our banks will not much increase that price. If these commodities are required in Britain, they will be purchased here for that market at a proportionate price, whether we have a bank or not. Speculation, with a fair prospect of remunerating profit, will always insure us purchasers. I may form an erroneous opinion on this subject, but the grounds on which I found this opinion are, that while the farmer when he has produce, and is obliged to sell, because he cannot obtain an accommodation to allow him to keep his goods for a better market, the banking accommodation to the merchant is not productive of much benefit to the farmer. To be on an equal footing in regard to the facility of obtaining a moderate money accommodation, appears to me to be essentially necessary to the interest of the agricultural class, or the usefulness of banks must in a great degree be confined to those who transact business with them. Were the accommodation afforded by our banks to be the means of establishing and supporting useful manufactures, they might then be indirectly beneficial to agriculture, by increasing the number of the consumers of agricultural produce; but while banking accommodation is solely limited to the discounting of bills circulating between merchants, they are, and must be the principal gainers by the banks, under the present circumstances of British America.

Were the Scotch system of banking introduced in British America, it is the only one that in my humble judgment would be suitable to afford a judicious accommodation to agriculturists. It has been found to work well in Scotland for all parties, and I am not aware of any circumstance that would prevent it from working equally well here.

Lest some readers might be unacquainted with the principle of the Scotch banking system, I shall give it insertion here.

The plan of granting credit on cash accounts, which now forms a principal feature of the Scotch banking, was introduced so far back as in the year 1729. The nature of these cash accounts consists in the banks giving credit on loan to the extent of a sum agreed upon, to any individual or house of business that can procure two or more persons of undoubt-

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ed credit and property to become surety for the repayment on demand of the sum credited, with interest. When a person has obtained this credit, he may employ the amount in his business, paying interest only upon the sum which he actually uses, and having interest allowed to him from the day of repaying any part of the loan. These loans are advanced. The notes of the bank, and causes a large issue of their paper. These cash accounts are found to be very advantageous, by supplying capital, for which interest is paid only in proportion to the amount which is employed, and persons accommodated are not confined to a particular day for repayment. At present I believe the interest charged by the banks does not exceed 4 or 5 per cent, but the banks do not allow for the deposits more than 2 or 2½ per cent. There are at present in Scotland 32 banks, which have 133 branch banks established. I do not know the amount of notes in circulation. The Provincial Bank of Ireland has adopted the Scotch system of banking, and has by this means produced more benefit than by any former system of banking known in Ireland. I would earnestly recommend this subject to the consideration of those who may have it in their power to give effect to measures calculated to advance the prosperity of these fine provinces. If a judicious system of banking could be established, that would on a fair and secure principle afford a reasonable accommodation to the agricultural, as well as the commercial class, I am persuaded it would greatly augment annual production from land and labour, and hence would be the means of advancing the general prosperity of British America.

I submit these remarks, as an agriculturist, with great deference. I may have taken a wrong view of the subject, but it may lead more competent persons to consider the matter, than which there are not many of greater importance to the community.

I have now brought my work to a conclusion. I find that there is much want of a proper arrangement. Should I be encouraged to publish another edition, I would expect to improve the treatise on agriculture, and this supplementary volume very considerably, both in matter and arrangement. Circumstances did not admit of my preparing the entire of the copy until the spring, and even the summer was advanced. This was one cause that prevented better arrangement. Indeed I found it very difficult to give due attention to the preparation of the copy for publication, from my other engagements, and I hope this will in some degree excuse me to the reader, for the errors which will doubtless be discovered in the work.

THE END.

The following is a table of distances from Halifax, Nova Scotia, to Quebec, and from the latter City to Fort Erie, Upper Canada.

Halifax.																				
700	Quebec.																			
790	90	Three Rivers.																		
835	135	45	Sorel and Berthier.																	
880	180	90	45	Montreal.																
962	262	172	127	82	Cornwall.															
984	284	194	149	104	22	Williamsburg.														
1011	311	221	176	131	49	27	Prescott.													
1023	323	233	188	143	61	39	12	Brockville.												
1079	379	389	244	199	117	95	68	56	Kingston.											
1138	438	343	303	258	176	154	127	115	59	Belleville.										
1184	484	394	349	304	222	200	173	161	105	46	Cobourg.									
1256	556	466	421	376	294	272	245	233	177	118	72	York.								
1270	570	480	435	390	408	286	259	247	191	132	86	14	Toronto.							
1288	588	498	453	408	326	304	277	265	209	150	104	32	18	Nelson.						
1304	604	514	469	424	342	320	293	281	225	166	120	48	34	16	Ancaster.					
1328	628	538	493	448	386	344	317	305	249	190	144	72	48	40	24	Grimsby.				
1355	655	565	520	475	393	371	344	332	276	217	171	99	85	67	51	27	Niagara.			
1362	662	572	527	482	400	378	351	339	283	224	178	106	92	74	58	34	7	Queenston.		
1372	672	582	537	492	410	388	361	349	293	234	188	116	102	84	68	44	17	10	Chippewa.	
1388	688	598	553	508	426	404	377	365	309	250	204	132	118	100	84	60	33	26	16	Fort Erie.

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The following is a table of distances from Halifax, Nova Scotia, to Quebec, and from the latter City to Fort Erie, Upper Canada.

