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THE SCOTTISH GEOGRAPHICAL MAGAZINE.

A HUNDRED YEARS OF COMMERCE BETWEEN ENGLAND AND AMERICA¹

By GEO. G. CHISHOLM, M.A., B.Sc., Lecturer in Geography in
the University of Edinburgh.

WHEN the head of the geographical department of this great university did me the honour to invite me to deliver a lecture here, and I accepted that invitation, I had at once to bethink myself of the choice of a subject. From the first I considered that it ought to be one of some special interest to you, if not as citizens of Chicago at least as inhabitants of America, and that it would be most appropriate if at the same time it were such that that interest was connected with your relation to us on the other side of the Atlantic. The subject I have chosen seemed to me one well fitted to fulfil these conditions, and in the end I adopted it because it would give me an opportunity to express again some ideas that have rightly or wrongly possessed me for many years, and which become only the more obtrusive as I grow older. I have thus in this lecture nothing new to lay before you. I am merely repeating myself. I am proposing to say with greater fulness and explicitness things that are already found in the first edition of my *Handbook of Commercial Geography*, the book through which alone, I presume, I can be already known by name to a few of you.

Before entering on my subject, however, I had better give definitions of two terms in it which usage makes ambiguous. First, by America I want you to understand that I mean America, not the United States of America, for which that noun and the corresponding adjective have come to be so familiarly used in consequence of the cumbrousness of the name of your country and the resulting lack of any corresponding adjective.

¹ A lecture delivered in the University of Chicago on the 20th of August 1909.

But, secondly, I have to state that by England I do not mean England, but the United Kingdom, a term equally inconvenient with that of the United States of America.

By stating expressly that I mean to include in this brief survey a consideration of English trade for a century not merely with the United States but with the whole continent of America, I may seem to have made a subject already impracticably large only more obviously incapable of being dealt with in the time at my disposal, and I must accordingly point out the limitations that I mean to impose on myself in handling it. First, I purpose to treat it so far as possible solely from the geographical point of view. For the most part I am going to leave out of account the economic effects of tariff legislation. That is not my province. To enter upon it would inevitably lead me into an amount of detail that could not possibly be considered within an hour. Moreover, that aspect of my subject has already been reviewed by Professor Chapman, so far as the United States is concerned, and after all, English trade with the United States is and long has been by far the most important part of our trade with America.

But, secondly, I propose to consider only the broad features of English-American trade, and the subject would not have been chosen by me, had it not been that I believe there are certain broad features in the history of that trade during the last hundred years which are worthy of attention, as illustrating a process of evolution that has been going on within that time and is pregnant of suggestions with regard to the future.

The features to which I refer are so broad that even very imperfect statistical information may be relied on in some cases as indicating their nature, so that I am not deterred from beginning my examination of the nature of this evolution by making use of rather doubtful and otherwise unsatisfactory figures. These figures relate to the period 1806-10, a period which, in consequence of the disturbances due to war at that time, is ill fitted to illustrate normal commercial relations, but for all that should not be disregarded. I give here only the results of my calculations. The figures on which they are based are found on p. 99 of the second (1815) edition of Colquhoun's *Treatise on the Wealth, Power, and Resources of the British Empire*, but they agree with those given on p. 359 of Porter's *Progress of the Nation* so far as the tables correspond, although they differ considerably from those in another table given on p. 356 of Porter. In Colquhoun's tables the Irish trade with Great Britain is entered as a separate item both on the import and export side, and is included in the totals of the imports and exports, but for all that it would appear from the manner in which the tables are given both by Colquhoun and Porter that the figures are intended to include all the exports of Ireland to and all the imports into Ireland from foreign countries and British colonies and dependencies, and for that reason I have followed the procedure of Colquhoun in omitting the trade between Great Britain and Ireland from the totals.

After these explanations I now give some of my calculations. On the average of the years 1806-10, the annual value of the imports into

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England was £49·48 millions, of which 16 per cent. came from British North America and the United States (unfortunately in the case of imports these two parts of America are not distinguished by Colquhoun, and Porter gives no table of imports distinguishing origins), 26 per cent. from the remainder of America.¹ The average annual value of the general exports was £49·61 millions, of which 11·2 per cent. went to British North America, 19·3 per cent. to the United States (together 30·5 per cent. of the exports against only 16 per cent. of the imports from those two regions), and 20·6 per cent. to the rest of America. The exports of foreign and colonial origin are also of some interest. Their total average annual value was £9·67 millions—about the same proportion of the aggregate exports, roughly one-fifth, as at the present day. In American trade the share of these that went to the United States was the lowest, 2·7 per cent., that to the West Indies, etc., 10 per cent., that to British North America 5·2 per cent.

In the same period the imports from all the British tropical possessions in America into England¹ made up nearly 17 per cent. of the total value of the imports, that of British exports to those possessions² was equal to 10½ per cent. of the total British exports. These last figures are of peculiar interest as illustrating one essential difference between now and then, for in the first lustrum of the twentieth century the percentage value of British imports from the same source had sunk to less than one-half (0·5 per cent.), that of the British exports to those possessions had fallen to 0·9 per cent. of the total. At the same period the proportions of British trade with the other regions above-named were as given below :—

	Imports, per cent.		Exports, per cent.
British North America, .	4·5	} 27·6	3·4
United States, .	23·1		11·4
Remainder of America, .	7·0		8·7

Before considering the meaning of the changes expressed in these figures it will be well to make a brief survey of the nature of British-American trade in the early part of last century. Beginning with the British West Indies or rather the British tropical possessions, which were then so important, we find the main articles of export were for the most part what they still are. Raw sugar was by far the most important, followed by rum, coffee, raw cotton, mahogany (chiefly from British Honduras), logwood and other dye-woods, pimento (nearly all then as now from Jamaica), cacao (mainly then as now from Trinidad), ginger, and others.

From Mexico the precious metals, especially silver, made up then as now the great bulk of the value of the exports. The earliest year for which I have any information pretending to definiteness is 1842, and

¹ Colquhoun says the West Indies, but it is quite evident from the composition of his tables, and from figures given elsewhere in his book and by other authorities, that under that term he includes all America south of the United States.

² As given on p. 378 of vol. v. of MacGregor's *Commercial Statistics*, London, 1850.

then specie constituted more than 90 per cent. of the value of Mexican exports, the remainder being composed mainly of cochineal, jalap and other drugs, besides hides. At that time England had a decided lead in the shipping of that country.¹

Central America was in the early part of last century visited only by small vessels from the West Indies and the United States, and no statistical account of its trade at that time is possible.²

From New Grenada (Colombia) the principal exports to England about 1840 were specie (doubloons) and small quantities of platinum, dividivi, tobacco, maize, and beasts of burden. About three-fifths of the import trade was English.

Venezuelan coffee and cacao were both export products in the first half of the same century. In 1812 the production of coffee in Venezuela was estimated at 5,000,000 lbs.; in 1840-41 the export was upwards of 26,000,000 lbs. In 1838-9 England had only the second place in trade with that country, the United States coming first.

Already in the early forties of the nineteenth century Brazil was one of the greatest coffee-growing countries of the world, supplying the United States with half its requirements, but England had only a small share in this trade except as a carrier.

Guayaquil was known for its cacao even in Humboldt's time (early in the nineteenth century), but even in the early forties the total trade of Ecuador, from which cacao then as now was the chief export, was trifling.

In 1840 England furnished Peru with 60 per cent. of the value of her imports. The destination of the exports of that country is not mentioned by MacGregor, but he states their nature. Bullion and specie made up more than four-fifths of the value, nitrate of soda, alpaca and sheep's wool, cotton and copper coming next. Nitrate of soda, it may be mentioned, first came to England in 1820, but a regular trade in this article did not begin to develop till ten years later. Not till ten years after that did one see the beginnings of the trade in Peruvian guano. The first attempts to introduce that commodity into Europe, in 1832, failed, but in 1840 a cargo sent to London sold so advantageously that a trade rapidly grew up, though it soon met with severe competition from guano of African origin.

Bolivian trade in those times was too insignificant for notice. In 1837 British imports into Chile made up about 60 per cent. of the total. The exports consisted chiefly of silver and copper, but included also gold, wheat, flour, hides, cow-horns, nitrate of soda, and cinchona bark, as well as tallow from Mendoza in the Argentine Republic.

The direct trade with the Argentine Republic was all centred at Buenos Aires, which in 1836 was entered by 49 British ships of 9759 tons, out of a total of 213 ships of 36,117 tons, but carrying goods to the value of £675,000 (more than 95 per cent. from Liverpool) out of a total of £1,149,000. The return cargoes consisted mainly of ox-hides, horns and hoofs, tallow, nutria skins and wool. The wool was then a small item, but Mr. MacGregor notes that it is advancing both in quality and

¹ MacGregor, *Commercial Statistics*, pp. 1183, 1185.

² *Ibid.*, p. 1240.

quantity and must prove highly advantageous in the commercial relations of that country with England.¹ It is interesting, however, to note that already in 1843 the quantity of wool sent to France was greater than that sent to England, and that bones formed by far the most important commodity in the import of which England greatly predominated over France.

Turning now to the temperate parts of North America, I begin with the British possessions. MacGregor² gives a statement of the trade of Canada for 1808, distinguishing the origin of the imports but not the destination of the exports. The principal articles then exported were pot and pearl ashes (the largest item individually mentioned), timber and lumber, and furs. Wheat, biscuit and flour made up nearly one-sixth of the total value, which is given as £1,156,000. Of the total imports, valued at £610,000, the value imported from England was £330,000, of which, however, £130,000 represented West Indian produce. The remainder came from the United States. For later years MacGregor gives only a statement of the external trade of the different colonies by sea, which leaves out of account a very considerable trade carried on between Canada and the United States by inland navigation. It is enough therefore to say that of this sea-borne commerce in the case of Canada 90 per cent. or more of the value represented trade carried on with England, to which the principal Canadian exports were timber, ashes, and grain, the value of the grain always exceeding that of the ashes from 1840 onwards. The total quantity of wheat, including the wheat equivalent of flour³ (in which form the bulk of the export took place), exported to England in 1840 was 1.67 million bushels, in 1844 2.14 millions.

In the case of the maritime colonies the percentage of British trade was smaller owing to the large quantities of fish sent chiefly to the British West Indies. As all the external trade of Newfoundland is necessarily by sea it may be worth while, in that case, to be a little fuller and more definite. In 1835 the total value of the imports was £644,000, of which 52 per cent. came from England; in 1844 the total was £802,000, of which England furnished 48 per cent., the United States, British America, Germany, the non-British West Indies (not after 1838 the British West Indies) and Denmark each sharing largely in the remainder. The values of the exports in the corresponding years were £773,000 and £916,000, of which in 1835 40 per cent. went to the United Kingdom, 36 per cent. to the Iberian Peninsula, and 8 per cent. to the British (none to the non-British) West Indies. In 1844 the share of the Iberian Peninsula was only 30 per cent., but the proportions in the other cases were nearly the same.

Lastly I come to the United States. To give some idea of the proportion of British trade in the trade of that country in the early years of last century, I take from Pitkin's *Statistical View of the United States*⁴ (1817) the figures showing the exports for 1815 and 1816, the first two

¹ *Commercial Statistics*, vol. iii. p. 1381.

² *Ibid.*, vol. v. p. 255.

³ In making this calculation I am taking five bushels of wheat as equal to one barrel of flour, according to the statement (for the United States) in MacGregor's *Commercial Statistics*, vol. iii. p. 848.

⁴ Pp. 37, 202.

years of peace after the war of 1812-14. From these figures it would appear that on the average of these two years the value of the total exports from the United States was about £13,500,000 (67 million dollars), of which 35 per cent. went to England, that of the domestic exports about £11,000,000 (55 million dollars), of which 41½ per cent. went to England. There is no definite information as to the total imports, but the value of British goods imported into the United States at that time appears, from what is stated by Pitkin,¹ to have been at least twice as great as that of the exports from the United States to Great Britain.

"The principal articles exported to Great Britain and Ireland," says Pitkin, "are cotton, tobacco, rice, occasionally wheat and flour, flax seed, naval stores, such as pitch, tar, and turpentine, timber and plank staves and heading, pot and pearl ashes, whale and spermaceti oil."

To all the countries of America at this time the principal British exports were cottons, woollens, and other textiles, various other manufactured articles, besides coal and salt. Reviewing the particulars as to the exports to England given with reference to different countries, and making a similarly comprehensive statement under that head, one may say that they consisted mainly of the products of agriculture for which the climate of England is unsuited, together with mineral and forest products, and products of the sea. Agricultural produce of a kind suited to the English climate occupied a comparatively small place. The cost of transport was then too great a hindrance in the way of an extensive trade in such commodities.

Bearing that in mind, let us now return to the West Indian trade of 1806-10. The articles which England received from her West Indian possessions, and which made up so large a proportion of her total import trade, were almost entirely in a climatic sense tropical products, whether cultivated or uncultivated. All the costs of transport to a country in the temperate zone where they were wanted had to be borne in that country, however high those costs might be. Of the commodities which England then imported from the West Indies, sugar alone made up more than half the value. With the exception of rice, this is the bulkiest of all products of tropical agriculture in proportion to its value. The relative cost of carriage is consequently at all times high, and in those times was very high. The local cost of sugar in the West Indies was then also much higher than at present. On the average it was estimated in 1812 at 3½s. a cwt., to which freight, insurance and commissions were estimated to add 15s. 9d., making a total of 49s. 9d. on the British side of the Atlantic. In 1905 the Jamaican export price of raw sugar was about 10s. 8d., the British import price about 13s., so that 2s. 4d. in that year covered all these costs on the same quantity. Seeing that these reductions were brought about directly or indirectly to a very large extent by the increase in the size of vessels and the volume of their cargo space, an increase depending on bulkier cargoes than even sugar, and implying therefore a large growth of trade in bulky cargoes, the

¹ *Statistical View of the United States*, p. 208.

changes here noted go a considerable way in accounting for the diminished percentage of the trade of the West Indies. As late as 1845, MacGregor tells us,¹ the Liverpool and Glasgow trade with the West Indies was carried on by vessels of from 180 to 500 tons, that with South America by vessels of from 150 to 300 or 400 tons. The figures given above for English ships entering Buenos Aires in 1836 show an average of rather less than 200 tons per ship.

In the case of West Indian produce, however, the influence of tariffs on trade with England is too important to be ignored. Down to 1846 there was a high differential duty on foreign sugar (as much as 49s. per cwt.), but this was greatly reduced in that year and by progressive stages till it was abolished from the year 1854. In the case of coffee there was an even more remarkable differential duty on coffee grown in British possessions in the East. Until 1825 this discriminating duty amounted to 56s. per cwt., and it was continued at a lower rate till 1835, when it was so far modified that coffee imported from British India with a certificate that it was from British plantations was admitted at the same rate as West Indian coffee.

Finally, we may note as an important cause affecting the proportion of British West Indian trade with the mother country, the competition, largely bounty fed, of beet-sugar with the great staple of those possessions. The geographical element in this competition may be appropriately pointed out here, that the relatively bulky nature of that staple has caused freight to be a more important consideration in its case than it would have been in that of more valuable commodities, so that the vicinity of the beet-sugar countries has told in their favour.

Before leaving the West Indies I should like to call attention to a peculiar feature in the trade which has already been mentioned under Newfoundland, and may have created some surprise. In the years for which particulars of the trade of that colony were given it may be remembered that there was a considerable direct export trade to the British West Indies but none to the non-British; but, on the other hand, a considerable import from the non-British but little or none from the British islands. The explanation of this, I have little doubt, is to be found in the advantage we have just been considering, of carrying on trade in bulk, an advantage which will be found to explain some of the other peculiarities of the Newfoundland trade as compared with that of the rest of British North America and more particularly the Canada of that time. Fish is a commodity bulky enough to make up whole cargoes. There is accordingly an advantage in sending whole ship-loads direct to their destination, especially where return cargoes can be obtained. As the West Indies have always been great consumers of the products of the Newfoundland fisheries, this explains the large direct export trade to the British West Indies. The absence of a return trade from those islands was no doubt due to the advantage of being able to make that return trade part of the large volume of trade from the British West Indies to England, and then again of the larger volume of trade from England to British North America generally. It will be remembered

¹ *Commercial Statistics*, vol. iii. p. 897.

that in 1808 30 per cent. of the imports from England into Canada represented the produce of the British West Indies. The return cargoes for the vessels that carried fish to the British were probably obtained from the non-British islands. From the Iberian Peninsula, which came next to England in receiving the exports of Newfoundland, the main return cargo was salt. The supply of large quantities of bulky provisions of various kinds such as Canada could produce for herself accounts for the considerable share of direct import trade from Germany and Denmark. Of the fact that there was no direct export from Newfoundland to the non-British West Indies I am unable to suggest any explanation, and I have not thought it worth the trouble of research.

But to follow the evolution of Anglo-American trade in the past century it will be well now to consider it with special reference to the United States. We have seen that in the early years of the nineteenth century cotton, tobacco, and rice were the principal exports of the United States. In the first year of the nineteenth century the total export of raw cotton from that country was still under twenty-one million lbs., but from the year 1793, the date of the invention of Eli Whitney's cotton gin, the increase in that export had been steady and rapid, and it continued to be on the whole except in years of war, throughout the century. From 1832, when the quantity exported had come to exceed 320 million lbs., the value of this one article of export exceeded that of all other articles put together, at least down to 1844 inclusive, the last year for which figures are given in MacGregor.¹ As England has from the first been far the most important market for this commodity, this naturally had a very important effect in increasing the trade between the two countries. For the tobacco of the United States England also continued long to be the chief foreign market, but, unlike what it was in the old colonial days when nearly all American tobacco was first sent to England and Scotland, although the great bulk of it was afterwards re-exported, England had in this trade a close rival in Holland. A still smaller proportion of the rice went to England.

The export of wheat and flour from the United States was spoken of by Pitkin as only occasional, but from 1821 onwards there was regularly a considerable export of flour if not of wheat, always exceeding in value the export of rice and occasionally that of tobacco. The total wheat export was generally small, in some years very small. From 1821 to 1844 inclusive there was only one year (1840) in which the export to England exceeded half a million bushels. Of the total flour export the proportion that went to England varied greatly. Sometimes it was only a small fraction, never as much as one-half, the maximum, in 1831, 879 thousand barrels (equivalent to about 4,400,000 bushels of wheat) out of 1807 thousand. In 1837 none went to England at all. The years 1837 and 1838 were both years of very poor harvests in America, and in 1837 the imports of wheat from Europe into the United States amounted to much more than double the quantity ever exported thence in any one year.

¹ *Commercial Statistics*, vol. iii. p. 842.

It was long indeed before the possibilities of the United States as a grain exporter were realised. "I have the honor to inform you that this post should be abandoned, because the country surrounding it is such that it is impossible for a population to live here sufficient to justify the expense of keeping a fort at this place."¹ Such was the opinion conveyed in 1823 to the Secretary of War of the United States by the commander of Fort Dearborn. I need not tell you that fort was situated near where I now stand, and the country to which he referred was that which I have just passed through and seen exuberant in maize, and just divested of large crops of wheat and other grains. I would not, however, be understood to hint that all the early visitors to the West were so blind to the possibilities of the future. Still it is worth noting that MacGregor, to whom I have so often referred, quotes from a series of papers contributed to the *Philadelphia Commercial List* as late as 1842 the opinion that "to the north of 45° N. on this continent the length and severity of the winters will prevent the cultivation of wheat to any material extent," and that "to us [that is, the people of America] the interest constantly lessens in any European market for breadstuffs, as our rapidly increasing population affords a more certain market at home," the writer giving as his reason for that opinion that "it is evident from the experience of the last fifty years, that the increase in the cultivation of wheat merely extends in proportion to the wants of the home population, not giving any increase in the surplus for export, unless in years of over-production, or when the home consumption is lessened by high prices arising by unusual demands for other countries."²

The rapid growth in the wheat export from the United States did not take place till the sixties of last century. In 1849-50 the total export of wheat (including the wheat equivalent of flour) was little more than twelve million bushels, in 1859-60 upwards of seventeen millions, but in 1869-70 nearly fifty-four millions or twenty-nine millions of cwts. At these dates and at all times subsequently England was the chief market, generally if not always taking at least half the total. The first year in which England took more than ten millions of cwts. was 1861, when the amount which she imported from the United States suddenly rose from 9·3 to 15·6 million cwts. Her import fell greatly in the later years of the Civil War, and it did not again reach the amount of 1861 till 1871. There was a fall in the import to less than ten million cwts. in 1872, but in the year following a sudden rise to nearly twenty-two millions, a figure below which it never fell again till 1904. From 1872 indeed there was a rise, with fluctuations of course, to a maximum of nearly sixty-seven millions in 1901. This rapid expansion in the last third of the nineteenth century presents a remarkable contrast to the history of the wheat trade of the United States in the earlier part of the century, which brought forth the remarks above quoted from the *Philadelphia Commercial List*.

The explanation of the change is obvious. Even before 1860 an

¹ Quoted on p. 19, No. 287, of the Monthly Consular Reports of the U.S.A.

² *Commercial Statistics*, vol. iii. pp. 422, 425.

expansion of the wheat export had been taking place concurrently with the extension of railways in the prairie states. In 1850 Ohio, Michigan, Indiana, Illinois, and Wisconsin were the only states west of the Appalachians and north of the Ohio provided with railways, and the total length of those railways was under 1300 miles. In 1860 the railway mileage of the same states had increased to 9583, but Minnesota, Dakota, Nebraska and Kansas were still without a single mile of railway, and Iowa had only 655 miles. The Civil War then came to put a check on expansion, but in the latter years of the decade 1861-70 the increase of railway mileage in the west was very rapid, and by the end of the decade the mileage of the states first mentioned had risen from 9583 to 14,701, that of the second group of states from 655 to 6046. By this time also the great cheapening of ocean transport had begun through the extensive substitution of steamers for sailing vessels, and of iron for wood in the material for shipbuilding, this latter a change of great importance not merely because it afforded a larger volume of cargo space for the same size of vessel, but also because it facilitated the construction of large vessels. Both rail and sea-transport have been further greatly cheapened by the invention of Bessemer steel (1858) and the inventions that have followed in its train, and by the improvements in marine and locomotive engines. So-called mild steel was first made use of as a material for shipbuilding in 1881¹ (in the construction of the Cunard ss. *Servia*), and the practical introduction of triple and quadruple expansion engines dates from 1882-4.² The result of this latter improvement is seen in the fact that whereas "about 1875 a 3000 ton ship allowed 2200 of its tonnage for coal, and 800 for cargo; now [1899] the proportion is nearer 800 to 2200."³

The net result of such changes as affecting wheat may be seen by comparing the interior and seaboard prices of that commodity in the first half of the nineteenth century and at the present day. MacGregor⁴ gives the prices of a bushel of wheat in eastern Ohio and at Philadelphia in each year from 1820 to 1841. In 1820 the Ohio price of a bushel was as low as 20 cents, that of Philadelphia 92 cents or four and a-half times as great. The smallest difference between the two prices was in 1836, when the Ohio price was \$1.12½ cents, that of Philadelphia \$1.60 cents. In the middle of July 1909 the price of a bushel of wheat at Chicago was 126¾ cents or about 63½d., at Liverpool 69d. Between 1868 and 1904 the average cost of carriage of a bushel of wheat from Chicago to New York by lake and rail diminished from 29 to 5.02 cents, by all-rail route from 42.6 cents to 8.47 cents in the case of grain consigned or delivered to steamer.

A very instructive view of the effect of cheapened means of transport on wheat prices in England is to be found in Mr. R. H. Hooker's paper on the "Farm Prices of Wheat and Maize in America, 1870-99," in the

¹ Pollock's *Shipbuilding Industry*, p. 63.

² *Ibid.*, p. 78.

³ Chapman's *History of Trade between the United Kingdom and the United States*, p. 7, on the authority of Wells's *Economic Changes*, p. 36.

⁴ *Ubi supra*, vol. iii. p. 845.

Journal of the Royal Statistical Society for 1900, and it will, I think, be found worth while to compare some of the figures which he gives on p. 650 of that paper with those to which I have last referred as given by MacGregor. According to these latter figures, the average price of wheat in Ohio in the five years 1820-24 was never so high as 41 cents, that at Philadelphia never more than \$1.37 cents. In the last five years for which he gives particulars, 1837 to 1841, the lowest Ohio price was 50 cents, in 1840, when that of Philadelphia was one dollar. Such improvement as there had been meanwhile in the means of transport had had the usual effect of approximating the prices to one another, but entirely by levelling up. On the other hand, Mr. Hooker shows that in the five quinquennial periods between 1870 and 1899 inclusive there was, in all but the last, a lessening of the difference between the price of wheat in England and the farm price in Nebraska, but this was accompanied by a lowering of the price at both ends, a less rapid lowering, however, in Nebraska than in the United Kingdom. There can be little doubt that the facilities for railway transport afforded by the prairie states must be taken into account in explaining the diminution of the price in Nebraska also, in so far as they enabled the Nebraska wheat-growers to supply themselves at a cheaper rate with improved agricultural implements and other requirements brought from the east. It was railways that gave full significance to the self-binding harvesters introduced in the seventies.

It is also to the advantage of wheat as a subject of transport that it behaves in many respects like water. It can be sucked up like water and poured out like water. From Mr. Frank Norris's *Octopus* we learn that it will even drown a man like water. This last fact, however, is unimportant. But the steady multiplication of elevators on the prairies and the increasing use of suction dischargers for ships and barges shows the importance of the other two.

Much of what has been said about wheat applies also to other grains exported from the prairie states of North America, as well as in some cases from Canada, and to the bacon, hams, lard and other animal products, as well as to living animals from the same source, and as England is the chief market for all these they go also to swell the percentage of her imports from those parts of America which have a climate suited to products similar to her own.

The same result has been brought about by a similar development in the temperate parts of South America, and above all in Argentina. That country, it is true, still continues to send to England only a small proportion of her wool, but, on the other hand, England is the chief market for the wheat, maize, linseed, frozen mutton and chilled beef that have become such important Argentine exports since the days of the Argentine trade last referred to in the first half of last century. The total export of each of the first two of these, wheat and maize, now exceeds in ordinary years two millions of tons annually, and of the wheat England has taken in several years upwards of one million tons, and took last year upwards of one and a half million tons, that is to say, for the first time a greater quantity than she derived from the United States

—more than twice as much as she imported from the United States in 1905. It was mentioned above that in the period 1901-5 England derived from the West Indies and all the mainland of America south of the United States 7 per cent. of the total value of her imports as against about 21 per cent. in 1806-10. It was chiefly the growth of these imports from Argentina that caused that percentage to be so considerable, although the recent development of the rubber trade of Brazil has tended in the same direction, since England is the chief market outside of America for that commodity also.

But beside climatic products there has been a large increase in English imports, chiefly from the United States, of products of other kinds. It is only an accident that petroleum, the refined oil derived from which also finds its largest market in England, is derived from the same region that furnishes the chief agricultural exports of the United States apart from raw cotton. The local developments of the copper industry of the United States may also be referred largely to the local occurrence of the ores wherever they may happen to be found, but the vast development of the iron industry, which now furnishes a large export from the United States to England in the form of machinery and millwork, may be described as in a large measure the result of the trade in agricultural products stimulated chiefly by the English trade, or at least to a greater extent by English trade than trade with any other foreign country. The railways that served that trade and the farms which originated it formed a market for the products of that industry such as was not to be found elsewhere, and thus caused the industry to grow up where their requirements could be most easily met.

The general result of such developments has been that while cotton still retains unchallenged the first place among the exports of the United States, tobacco is no longer found among the first thirteen in value, and the exports next in value to cotton have come to be the agricultural, animal, and mineral products just indicated, besides timber and timber products, which have always been important.

The return trade from England to America still continues to be much of the same nature as it was in the early part of last century. It is, however, much smaller in amount and value, and in the case of the United States probably shows a greater disproportion between the value of the exports and the imports than in that of any other American country. Down to 1886-90 England received more than half the value of the exports of the United States, but the relative value of the imports into the United States was in the period mentioned less than one-fourth of the whole, and in the four successive quinquennial periods from 1871 to 1890 the proportion had sunk from 36 to 24 per cent. In 1901-5 the proportion of United States exports sent to England had declined to little more than 36 per cent., the imports from England to little more than 17 per cent. This of course is largely due to the protective barriers which the United States have erected against all competitive foreign commodities. Still, in spite of those barriers, British commodities not only enter the country, but penetrate far into the interior. Information on this latter point is hardly to be obtained from official reports, but as the

result of inquiries kindly made on my behalf by Miss Luella A. Owen, of St. Joseph, Mo., I am able to state that there is not a town of even the smallest size in the United States that is not a purchaser of British goods. There are heavy sales of dress goods from Manchester and of Nottingham laces everywhere. Irish laces also are in great demand. All kinds of other British woollen, cotton, and linen goods are distributed to all distances, stockings and household linens being especially favoured. English crockery goes to every village east of the Rocky Mountains. Kirkcaldy linoleum reaches St. Joseph and is distributed from there. English ale and stout and Scotch whisky go everywhere. I can myself vouch for the fact that Sunlight soap goes from seaboard to seaboard through America, but whether through the United States or not I cannot say.

Another interesting result of the development of a trade in bulky produce, more particularly of the large exports of such produce from the United States may be pointed out. It will be remembered that in 1806-10 the United States took only a small share of the British, foreign, and colonial exports. In 1901-5 it was by far the most important of the destinations of those exports. It took about two-sevenths of the total value of such goods exported from England, a value not very far short of that of the goods of British origin exported to the United States in the same period. This is not to be wondered at. The ships that carry to England the bulky produce of the United States inevitably find it difficult to obtain return cargoes, and hence are able to take to that country at the most advantageous rates tin, hides and skins, and jute manufactures from the Orient, Australian wool, raw cotton from Egypt, ornamental feathers, precious stones, lace, fans, and other valuable articles of various origin.

The trade which for the last fifty years or so has been the typical Anglo-American trade has gone on so steadily on the whole throughout that period that people have got into the way of thinking that it may go on for ever, or at least for a period so indefinitely long that we need not trouble our heads about the possibility of its coming to an end. And it may be admitted that the idea of an end being put to such trade may be dismissed from our minds for the present, but it does not follow that it is wise for us to go on in the unthinking expectation that that trade will go on expanding indefinitely in the future as it has done for some time past. To do so is to run counter to our experience of that past. For it is manifest that this constant expansion has been brought about by the steady development of new regions. To take the case of wheat in particular, it has been found in the United States that state after state has come to increase its production only in about the ratio of the demands of its own population, and the expanding export has been fed from states further and further to the west and north-west. And if other parts of America than the United States had not contributed to this expansion, the wants of England in recent years would have been very inadequately supplied. We have already seen that the maximum export of wheat from the United States to Great Britain was in 1901, but the deficiency of later years, so far as America is concerned, has been largely, or in some years wholly made good by rapidly growing exports from Canada and

still more from Argentina. But there also the increase has been largely brought about by the opening up of ever new lands. In the two provinces of Saskatchewan and Alberta alone the area added to the wheat acreage between 1898 and 1908 was 3,701,000 acres, or twice the present acreage under wheat in the United Kingdom. The average annual addition to the wheat area in those two provinces during that time has been about 580 square miles, an area considerably more than half that of Cook county, Illinois, and than the whole area of Monmouthshire, England. And it is misleading to point out ~~if~~ ^{how} many areas of like extent there are still left in these provinces. For, in the first place, the land of those provinces is required for something else than wheat, and, in the second place, experience has shown that other parts of America have ceased to furnish an expanding surplus for export long before their cultivable area was all taken up and brought under the plough. No doubt the regions suited to wheat in the United States, in Canada, and in Argentina may long continue to increase their wheat production, but we seem to be nearing the time when that increase will be quite unlike that of the past fifty years. It is free land that has been the chief factor in promoting the rapid expansion of exports, and if it was true sixteen years ago (and I do not question it) that "there is a limit, now almost in sight, to the virgin land which can be taken up,"¹ that is more obviously true now.

The result may be that that time is hastened on which is contemplated as a possibility by Mr. Bowley when other countries can be supplied by themselves more cheaply than by England, even with cottons, in which event, according to the same writer, "we must gradually divert our energy to trades that will pay, or to producing at home those things which we now obtain in exchange for cotton goods."²

What does England obtain in exchange for cotton goods? Among other things, plenty of raw cotton, but that she cannot grow for herself, and, besides, of that commodity in the case supposed she will want less. She also obtains plenty of food-stuffs, and of these no doubt England (and in this case I cannot but add expressly Ireland) will be able to produce a great deal more than she does at present, as Mr. Bowley also thinks.³ But if England is of necessity to produce more of her own food than she does at present, it seems to me that the sooner she begins to do so the better. I am glad indeed to think that the revival in British and Irish agriculture which M. Bowley anticipated in 1893 has already begun. And here, though I am no economist, and do ingenuously confess that when I try to follow out in thought all the possible actions and reactions of economic change I get hopelessly bewildered, I will venture to repeat what I had the hardihood to say in effect once before, that when the general effect of the United States tariffs is considered, England has no reason to think that the United States has thereby done her an ill turn. In 1890, in a paper which I read before the Royal Statistical Society,⁴ I used these words:—"Without wishing

¹ A. L. Bowley's *England's Foreign Trade in the Nineteenth Century* (1893), p. 138

² *Ibid.*, p. 111.

³ *Ibid.*, p. 138.

⁴ *An Examination of the Coal and Iron Production of the Principal Coal and Iron Producing Countries of the World, with reference to the English Coal Question.*

to utter one word against the soundness of the arguments for free trade from the point of view from which such arguments are adduced, I venture to doubt whether the protective barriers with which some countries have hedged themselves round, and which have certainly acted adversely to the expansion of British manufactures, are altogether a ground for lamentation in this country. If from the time when coal began to be used in mechanical industry, uninterrupted free play had been allowed to the prodigious advantages with which such industries were started in this country, I cannot think that the result at this moment would have been wholly satisfactory to Great Britain. No doubt the manufactures of the United Kingdom would have thriven, the commerce of the country would have expanded, its wealth accumulated, its population multiplied more rapidly than they have done. But suppose that in consequence of all this rapid development . . . the population of the United Kingdom since 1854 had increased, say, at the same rate as that of Great Britain between 1811 and 1821 . . . and now (1890) amounted in consequence to 47 instead of 38 millions, and suppose that these 47 millions of people imported 90 per cent. instead of 70 per cent. of the wheat they consume, could this result have been regarded with unmingled satisfaction and without apprehension? Would it not appear to be a misdistribution of industry even more alarming, if not shocking, than that which now exists?"¹

There is, it seems to me, at least one encouraging circumstance to keep in view in looking forward. The great American expansion to which I have already been calling attention is likely to make any change as regards the condition of the British food supply so gradual that England may find it easier to adapt herself to it. The amount of the agricultural supplies obtainable from America must be in a large measure regulated by the price. The keen and yet charmingly optimistic statistician, the late Mr. Edward Atkinson, in speaking in his usual hopeful or rather confident manner of the future of the wheat supply, was fond of quoting the phrase, "a dollar will fetch it." We have now got the dollar, and it is certainly helping to fetch it, and the area over which the dollar acts is now so wide that it may be trusted in the meantime at least to fetch it in abundance; and I should think it probable that any rise that may take place in agricultural prices will be much more gradual on the whole than the fall which had such a disastrous effect on English agriculture in the eighties and nineties of last century.

It may be that the adaptation to changed conditions of food supply may involve the necessity for a diminished rate of increase of population, but that is only a continuation of a process which has long been going on and is affecting all predominantly industrial communities—the industrial sections of the population of the United States and Germany as well as that of England. Professor Cannan showed many years ago that there was good reason for believing that the population of England would even come to be stationary in the course of the present century.²

¹ *Jour. Roy. Stat. Soc.*, vol. liii. p. 584.

² *Economic Journal*, vol. v. p. 505 (Dec. 1895).

Will this result, if it comes about, necessarily be wholly evil? I will not undertake to prophesy, but I may point out that the time when the population of England and Wales was increasing most rapidly, that is, in the earlier decades of last century, the time when the preponderance of England in manufacturing industry was greatest, was not that in which the general condition of the people was most to be envied. "The admirable inventions which are the boast and glory of civilised nations, are," says George Combe, writing in 1837, "supposed by many persons to be at this moment adding to the misery and degradation of the people," and so far as he admits that to be true he connects it with the fact that "ordinary observers appear to conceive man's chief end, in Britain at least, to be to manufacture hardware, broad-cloth, and cotton goods for the use of the whole world." "Has man," he goes on to ask, "been permitted to discover the steam-engine, and apply it in propelling ships on the ocean and carriages on railways, in spinning, weaving, and forging iron—and has he been gifted with intellect to discover the astonishing powers of physical agents, such as are revealed by chemistry and mechanics—only that he may be enabled to build more houses, weave more cloth, and forge more iron, without any direct regard to his moral and intellectual improvement?" Elsewhere he says, "The ultimate effect of mechanical inventions on human society appears to be scarcely yet divined [let us hope that that is still true]. . . . In proportion as mechanical inventions shall be generally diffused over the world, they will increase the powers of production to such an extent, as to supply, by moderate labour, every want of man; and then the great body of the people will find themselves in possession of reasonable leisure, in spite of every exertion to avoid it."¹

I am not blind to the difficulties of this view. In fact they are among those difficulties which are to me of a bewildering order. Yet I cannot repress the hope, which seems to me not altogether unjustified, that there is an essential soundness in it. But if so, I would conclude with a remark on one of Combe's queries. We can certainly now weave cloth enough, and forge iron enough, and no doubt we have houses of a sort for all the population. But I cannot help thinking that it would contribute largely to "moral and intellectual improvement" if we had a greater number of roomier, airier, and healthier houses than most of those which now exist, and that if in the future we are to gain more time for ourselves by weaving less cloth and forging less iron for other people, it would be no small advantage if, by any process of regular economic development, more labour came to be devoted to the construction of such houses even if less were bestowed on jewels and fine raiment.

¹ *Lectures on Education*, second edition, pp. 63-66.