CANADIAN TARIFF
AND
TARIFF MAKING
SINCE 1918

SOME ASPECTS OF THE CANADIAN TARIFF AND TARIFF-MAKING SINCE 1918.

PROTECTION; AND THE CANADIAN COTTON YARN AND CLOTH AND WOOLLEN CLOTH INDUSTRIES.

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PROTECTION: AND THE CANADIAN COTTON YARN AND
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CHAPTER 1.

THE DOCTRINE OF PROTECTION TO INFANT INDUSTRIES.

Perhaps more than any other phase of economic questions, the theories dealing with international trade and its component parts are in greatest part deductive. General principles are expanded and from these the economists try and have tried to advance arguments for protection, for free trade or against protection and free trade. The relations of:imports to exports; invisible and visible balances of international debts or payments; the doctrine of comparative costs---all these and more are arrived at mainly through reasoning from general postulates.[1] By means of this reasoning from general principles, arguments have been advanced which are in turn invalidated by similar and perhaps faultier reasoning. To attempt the proof of various arguments from either side of the question would lead to conclusions with hardly any greater foundation than the mere reasoning. But to show the various influences of each policy, protection and free trade, would help greatly to indicate the real effectiveness and comparative value of each. Insofar as the question touches Canada, the policy of protection is our main interest and the policy which deserves our

1. See comments; F.W. Taussig, "Some Aspects of the Tariff Question", p. 27.

particular attention. Further, free trade suggests the negative, a do-nothing, laissez-faire policy; protection, on the other hand, is a positive theory and should bear the onus of proof or vindication.

After all, simply put, the validity of the numerous arguments for protection, dependsupon the success with which protection has brought about the desired ends; namely, greater progress and development of industries and of national wealth.

The famous 'infant industries' argument, still holds a place of prominence in those countries where protection exists and where the industrialists still desire to maintain its existence. Consciously, or unwittingly, this argument is invoked more than any others. Perhaps the best statement os this argument is to be found in the writings of J.S.Mill, one of the foremost exponents of free trade.

> "The only case in which, on mere principles of political economy, protecting duties can be defensible, is when they are imposed temporarily (especially in a young and rising nation) in hopes of naturalizing a foreign industry, in itself perfectly suited to the circumstances of the country. The superiority of one country over another in a branch of production often arises only from having begun it sooner. There may be no inherent advantage on one part, or disadvantage on the other, but only a present

superiority of acquired skill and experience. A countrywhich has this skill and experience yet to acquire, may in other respects be better adapted to the production than those which were earlier in the field: and besides, it is a just remark of Mr. Rae, that nothing has a greater tendency to promote improvements in any branch of production, than its trial under a new set of conditions. But it cannot be expected that individuals should, at their own risk, or rather to their certain loss, introduce a new manufacture, and bear the burden of carrying it on, until the producers have been educated up to the level of those with whom the processes are traditional. A protecting duty, continued for a reasonable time, will sometimes be the least inconvenient mode in which the nation can tax itself for the support of such an experiment. But the protection should be confined to cases in which there is good ground of assurance that the industry which it fosters will after a time be able to dispense with it; nor should the domestic producers ever be allowed to expect that it will be confined to them beyond the time necessary for a fair trial of what they are capable of accomplishing."[1].

1. J.S.Mill, Principles of Political Economy, Book V. Ch. X.

The argument is thus based evidently on the fact that an industry takes time to develop into maturity, and that competition on even terms with older foreign manufactures is not practicable immediately upon the innovation of a business enterprise. Protection, under these circumstances, is in the nature of an investment which is expected to yield future returns, or, as most commonly stated, a rise in prices at the time of imposition of protection, counteracted by ultimately lower prices. The acceptance of this is seen in the following sentences of Pigou, one of the best known of the present generation of British economists.

> "Of the formal validity of List's argument (the infant industries argument) there is no longer any dispute among economists. Granted that protection involves an immediate detriment to the national dividend, nobody supposes that it must, therefore involve a detriment on the whole. On the contrary, the argument would now be stripped of the special reference to infant industries which List had chiefly in view, and be given a wider application. In its modern form, it would be stated somewhat in this wise. By stimulating the development or hindering the atrophy of productive powers, protection may lead to an ultimate gain more than commensurate

> with the immediate loss. In short, a nation, like an individual, may well be advised, at certain stages in its history, to dispense with present wealth for the sake either of education or of insurance."[1]

Yet, as simple and as valid as the argument is accepted to be, controversies still exist over the separate parts that make up the complete principle. Mill,himself, modifies his statement of the argument, as shown in the following extract.

> "New England and Pennsylvania---have carried on manufactures on a large scale, and with the benefit of high protecting duties, for at least two generations; their operatives have had full time to acquire the manufacturing skill in which those of England have preceded them; there has been ample experience to prove that the alleged inability of their manufactures to compete in the American market with those of Great Britain does not arise merely from the more recent date of

1. A.C.Pigou, "Protective and Preferential Import Duties". pp.13-14. Adam Smith touched on the infant industries argument, but evidently had little faith in it. He said, "By means of such regulations, indeed, a particular manufacture may sometimes be acquired sooner than it could have been otherwise, and after a certain time may be made at home as cheap or cheaper than in a foreign country", But after this statement he went on in an endeavour to prove that it was unprofitable for the country. Wealth of Nations, Book 1V. Ch. 11.

their establishment, (but from the fact that American labor and capital can, in the present circumstances of America, be employed with greater return, and greater advantage to the national wealth, as the production of other articles.)[1] I have never for a moment recommended or countenanced any protecting industry except for the purpose of enabling the protected branch of industry, in a very moderate time to become independent of protection. That moderate time in the United States has been exceeded, and if the cotton and iron of America still need protection against those of the other hemisphere, it is in my eyes a complete proof that they ought not to have it, and that the longer it is continued the greater the injustice and the waste of national resources will be."[2]

Friedrich List, with Hamilton, the most famousof protectionists, and who attacked strongly the classical school, was nevertheless convinced of the validity of the principles underlying the free trade doctrine. Further, he believed that free trade, at some time in the future, would he universally adopted. Nevertheless, he felt that for some time to come, the United States, Germany, and other countries in the same state of development should have protection for their

1. The brackets are my own.
2. J.S. Mill, op. cit., pp. 614-615. It isprecisely this sort of modification and condemnation that the treatment afforded below to Canadian textiles, attempts to portray and prove. The Canadian textile industry has had its chance. Whether or no it made good remains to be seen.

manufacturing industries. He realized that only England was then fitted for free trade and that she had such a commanding lead, by 1840 the time of his writing, that other nations must foster their industries in order to overcome that great lead.

As has already been stated above, most eminent economists have, in varying degrees, supported the infant industries argument, and have admitted that is justifies the imposition, for a time, of protective import duties. But they have concluded at the same time that the industries of such countries as the United States, France and Germany, could no longer be classed as infants.[1] In short, the answer to the infant industries argument has been that it is logical and convincing, but no longer applicable to the industries of such countries as the United States, where manufacturing has gone on for a hundred years or more. Now all this leads to a further asking of questions. How long does it take to establish a new industry? Are two generations enough? When do infants reach maturity or even adolescence? These questions and others have to be answered when surveying the Canadian textile industries. To vindicate the protection it has received, the industry must show amongst other things, that

1. As Taussig says, "The United States is no longer a young country. Its industries are on a great scale, often a gigantic scale. To call them 'infant' invites ridicule." The contention of the economists can be extended to include the textiles industries of Canada, as well. It must be understood that within this statement relating to 'overgrown' 'infants', there might be included an industry which actually has had a short career, such as the rayon industry in Canada and the tinplate industry in the United States; but the author finds no fault with these and is not treating these.

that is has; caught up to foreign industries; arrived at a complete development; become well-established; and is able to survive without protection, or will soon be able to dispense with it. Even the industrialists, grudgingly enough, admit that protection at first must be costly and that, in most cases, the immediate effect of the imposition of customs duties, is to raise the price of the articles involved.

Assuming, then, that up to the present, protection has cost Canada a certain unascertainable amount, it should be worth our while to see whether or no the industries concerned have profited by the protection granted them and are in turn ready to permit Canada to profit, by having granted them protection. The first step in such any inquiry would be to trace the growth of the industries and to show the extent to which a fair and efficient protection has been given them.

CHAPTER 11.

GROWTH OF THE CANADIAN YARN AND CLOTH INDUSTRY.

The value of cotton as a textile fibre was appreciated many years ago, when cotton cloth, made entirely by hand, and universally considered a luxury, was nevertheless quite widely used. As a result of the industrial revolution in England and later in the United States, and the adaption of cotton manufacture to machine process, it has now become one of the most widely used and inexpensive of the textiles.

Canadian manufacture of cotton goods may be said to date from 1844, when the first mill was erected in Sherbrooke, Quebec. The mill had a capacity of 1,200 spindles and manufactured, largely, grey sheetings. The next mill was established in 1847 and operated 15 to 20 looms. The capacity in spindles is unrecorded. A third mill founded in 1853 had a capacity of 1,500 spindles and 46 looms. Two years after its establishment, a batting and wadding mill was added. The cost of the machinery was £6,500, and the mill employed 70 hands, mostly women and children. In 1861, 2 new mills were added to those already in existence---one of which at St. John, N.B., remains as the oldest existing cotton mill of the

Dominion. With the Civil War disorganizing United States Cotton industries, the number of mills in Canada increased, and a tremendous impetus was given to the industry.

The tabular statement of figures below, summarizes the story of the development and growth of the cotton yarn and cloth, since 1870. This branch of the cotton textiles is used for reference and portrayal because it forms in bulk and value the largest single industry within the group and best exemplifies the peculiarities and various aspects of the industry as a whole.[1]

	1870	1880	1890	1900	1910	1920	1929
No. of Establishments.	9	19	22	20	26	31	36
Employees: Male.	265	1517	3993	6195	6803	9573	11369
Female.	480	2012	4509	5688	6060	8051	8159
Capital Invested.	$(000)	(000)	(000)	(000)	(000)	(000)	(000)
			13208	18298	33091	76413	95542
Wages & Salaries.	129	714	2102	3352	4561	13860	15085
Cost of Materials.	462	1979	4208	5827	13979	53402	43133
Selling Value of Product.	781	3759	8451	12033	24585	92490	78241
Value Added By Man.	319	1779	4234	6205	10605	39087	35108

The number of establishments increasing from 9 in 1870 to 36 in 1929, at first thought does not seem to show any great development, but these figures are quite in keeping with growth and expansion. In the earlier periods of the industry, numerous custom mills added to the total number of

1. The table is constructed from the census reports of the separate earlier years and the census of industry publication, "The Textile Industries of Canada", for the later years.

establishments, but were not indicative of the size of the industry, insofar as they were very small and catered only to a small community market. With the passing of time and increased efficiency these mills were forced to abandon the field and leave it open to larger units. The figures indicate not only a growth in number of mills but also in size and capacity. This is in general accord with the trend of modern industry, in which the individual establishments produce on a larger scale and the total number of establishments does not keep pace with the growing volume of production.

Capital invested, is perhaps the best source for information as to the healthiness of an industry, profitableness of investment and degree of expansion. Here it shows clearly, again, the rapid and strong development of the industry. From a mere $13 millions in 1890 the amount doubled and redoubled itself until it reached the sum of $95 millions in 1929. The impression is readily formed that the industry must have been a safe one to invest in and that dangers to the industry were practically negligible. The greatest threat to the safety of the establishments, was that of loss of tariff protection. A drastic lowering of the tariff rates might have been instrumental in wiping out the industries at one fell blow. But the picture is coloured entirely different.

Under a protecting tariff the industry has gone directly onwards until it reached its present efficient condition.

To emphasize and to prove definitely that protection has caused a great industry to grow up, and that the protection has been efficient, further figures are included. The number of employees increasing from 265 males and 480 females in 1870 to 11,369 males and 8,159 females in 1929, shows the development to be about three-fold. Compared with the four-fold increase in the number of establishments and the seven-fold increase in capital invested, this growth is seen to be also in accordance with modern industrial trends, indicating a growing effectiveness of labour. The seven-fold increase in capital follows the same plan and explains the effectiveness of labour. Wages and salaries follow naturally from increased employment and show an increase from $129,000 in 1870 to $15,085,940 in 1929.[1] The cost of materials is generally an important indicator to the production capacity of a plant, and here indicates the same growth.

From the sum of $462,000 in 1870 the cost of the material used mounted up to $63,402,723 in 1920 and $43,133,575 in 1929. The same tremendous increase is seen in "Selling Value of Product" and "Value Added by Manufacture". These figures increased respectively, from $781,000 to $92,490,002, and $78,241,765; and $319,000

1. The tabulation changes slightly here. The true figures show a greater increase. In recent years, the'salaried employees' and 'wage-earners', have been separated. For greater accuracy 695 salaried employees should be added to the humber of employed, and $1,612,847, added to 'wages and salaries". This does not make any real difference.

to $39,087,279 and $35,108,190 in 1870, 1920 and 1928. The increases in these items seem to be far larger than in any of the other items and an explanation is worth while. The possibility of duplication may be considered but the real increase is to be found in the increase of prices, particularly the prices of 1920.[1] The differences in "Selling Value of Product" and "Value added by Manufacture", between 1920 and 1929, is a very interesting one. It is true that the extraordinary, high values in 1920 were due to the prevailing inflation of the time, but it is worth noticing that the difference in figures between 1920 and 1929 is largest in the former. It is far greater than even the difference shown in "Cost of Materials". This seems to point to the conclusion that the margin between costs and selling value was a considerable one and left room for high profits.

Further evidence of growth may be found in the number of spindles employed. This is one of the best single indications of the extended growth of such an industry as the cotton manufacture.[2]

1. The methods of industry having undergone changes in the direction of specialization, it is possible that separate establishments carrying on some process,(spinning or carding) which was formerly combined with other processes, may reckon as its raw material the product of another mill. The tabulation used seems to be about the best possible and one most apt to avoid such duplication.
2. The figures used in the table, are taken from:-'The Dominion Dry Goods Reports', 1883 and 1899, quoted in the 'Textile Manual', 1928; and the Dominion Bureau of Statistics publication, 'The Textile Industries of Canada', 1927 to 1930.

	1883	1899	1917	1927	1929
Spindles.	531350	479700	1010724	1316748	1346160
Mule.			367075	201794	187602
Frame.			643649	1114954	1158458

From 531,350 spindles in 1883, including both mule and frame spindles, the number increased to totals of 1,010,724 in 1917 ; 1,316,748 in 1927; and 1,346,160 in 1929. The increase is seen to be largely in frame-spinning spindles, away from mule-spinning. The face value increase of about two-fold is in reality much greater when other factors are taken into consideration. It is fair to believe that the figures given for the earlier periods were all inclusive; while the figures for the later periods are for the cotton yarn and cloth mills exclusively. Other branches, such as, cotton thread, batting and wadding are not included. The extent of the increase may be further stretched by taking into account the fact that new equipment suggests greater efficiency, more speed and greater productivity.

The information so far studied, and the figures represented have shown throughout a steady growth with no setbacks, It has been the contention of Canadian cotton textile manufacturers that before the general tariff rates were reduced in 1897, the industry was progressing and expanding and that these and subsequent reductions in duties through preference

or treaty rates have caused a steady decline in cotton manufacturing. The first part of the statement is quite in keeping with the facts indicated by the above tabular statements. The second, on the contrary, is not in similar accord and may be said to be utterly unfounded. What brought about the prosperity of the industry before 1897 is not, at the moment, under discussion. The main issue is whether or no the reductions of 1897 brought about any such decline as claimed by the manufacturers. Again the statements already made, point to the negative, but a few more experiments may be undertaken.

In 1887 when the National Policy was still in operation, the total cotton imports were approximately 4.4 per cent of the value of the import into Canada. In 1896, when the British preference was granted, that percentage fell to 3.0 per cent of total imports. And finally, in 1931 it reached a percentage of 3.8. Another test which follows from this last, is to measure exports against imports. In 1887 it took 5.6 per cent of our total exports to pay for the imports of cotton goods. By 1896 this percentage had fallen to 3.7 per cent; and in 1931 it is still at the low figure of 4.3 per cent.[1] These tests, are perhaps of greater importance and use, than any of the other examinations which have been made above. Not only do they show certain phases of the cotton textile industry, but they link up that industry with the total

1. These percentages are derived from import and export figures taken from 'The Canadian Statistical Record', 1887 -1898; and the 'Canada Year Book', 1932.

enterprise of the country and indicate a certain relative proportion. It is obvious that the protection given to the Canadian cotton industries has been at least efficient in keeping down the imports from foreign countries. Thus, if the Canadian cotton textile industry is in any difficulties or trouble, it is not because of heavy imports or excess competition from foreign countries. The causes for their difficulties must be sought for in other directions.[1]

1. I have not attempted to give any ad valorem rates of duty, nor specific duties, existing at any period, since a mere quoting of such figures does not in any way indicate that the percentage, whatever it may be, is sufficient to act as a protective duty. It has already been made evident that insofar as protection is concerned the industry has had a long period in which to develop itself---it has developed; and came out at the end of that period, an industry of considerable size. The figures used have shown that growth to be a steady one.

What better evidence of the extraordinary growth of the cotton industry is there than the following advertisement put out by one of the leading cotton companies in Canada.

"From a modest beginning in 1908, The Wabasso Cotton Company, Limited, of Three Rivers, Quebec, has developed steadily until to-day, it is one of Canada's outstanding organizations. The Company operates an enormous daylight 'factory of a thousand windows', with every modern mechanical equipment, with 2,300 looms, 110,000 spindles, and no less than 2,400 skilled workmen.

This phenomenal growth is the natural outcome of a policy of rigid and constant adherence to the highest ideals applied to every branch of the industry.----------."

CHAPTER 111.

CHARACTERISTICS OF THE CANADIAN YARN AND CLOTH INDUSTRY.

We have seen how the cotton yarn and cloth industry progressed rapidly and grew to its present comparatively large dimensions. Not only has the industry developed in relation to the home market, but in certain commodities, has gone farther afield to foreign markets. Although this export trade is not of a considerably large size, it is still conclusive proof that in certain phases, in any case, the infant industries argument is not applicable to the cotton cloth industry.[1] It is apparent, then, that there has been no lack of protection, but on the contrary, sufficient protection to allow such growth. Not only has the tariff protection served to aid the growth of the industry but fortuitous events have also lent a good hand to the development. The American Civil War, and the years following the World's War, both aided the industry and gave a decided impetus to progress. Disrupted industrial organizations and abnormal demands, in each case, saw a determined march forward by the Dominion industry.

1. See "Canada Year Book",p. 424, 1932; also "The Textile Industries of Canada",p. 65, 1929-1930. The exports listed, are:- cotton fabrics; cotton underwear; cotton clothing, etc.

The Canadian producers claim that they can produce any grade or count of cotton goods---it is hardly possible to refute that statement but it can be shown that their advantage and ability to compete, that is, to what degree they do, lies in the coarser counts or cheaper grades. It is possible that they can produce any grade but hardly possible that they can do so on a sound economic basis. Again, the coarser or lower and medium counts of goods make up the greater bulk of Canadian cotton goods products. Information of actual counts are not available, but goods listed, are such as:- prints and shirtings, denims, ducks and drills, towels, cottonades and others. An official of one of the largest cotton cloth companies in Canada, admitted that their largest and most stable demand was for textiles used in the electrical and other such industries. These textiles are essentially of a very coarse weave, best suited to the production methods of Canadian producers, and of a particular quality to fulfill the requirements for which they are used. The peculiar climate of Canada creates, too, a demand for classes of commodities different to demands elsewhere and thus more or less gives the Canadian producer a decided advantage in those fields. Winter seasons bring out, windbreakers, heavy rompers, and flannels, which are not exposed to competition of mass production nor of finer qualities. Another very important market, women's

dress goods, lends itself to Canadian methods because of the nature of the cloth used and designs called for. In this field the Canadians might be open to competition from the United States whose styles we usually follow, but they are practically excluded by the general tariff. Great Britain on the other hand, although having easier access to our market, is not able to compete favourably in this field, since the United States and Canadian demands are peculiar ones. The American producers have full possession of their market and our market is not sufficiently large for mass production on Great Britain's part, nor is the quality demanded so fine that they are able to best us in that respect.

This ability to compete favourably in the coarser and medium counts does not arise out of the special advantage held by one or several mills which produce such goods over other mills which attempt the production of finer goods of higher counts. No such division has taken place in the Canadian industries. On the contrary, each mill endeavours to produce all types ofcommodities and all grades or counts. It is the technical development of the cotton manufacture which explains that ability. Both the changes which took place and those which did not are instructive. It was chiefly in the manufacture of cheaper goods that the greatest number of methods were remodelled

and the greatest divergence made from the methods employed in Great Britain. In reference to the finer goods, very little change was made from the practices employed abroad. In either respect, the Canadian producers can make no claim to originality or inventive initiative. Whatever changes were made from the British methods, were copied from the methods developed by the American producers or others.[1]

A decidedly important change, was the replacement of mule spinning by frame spinning.[2] The following figures for later years show the tendency of this transition:-

	1917	1927	1929
Mule.	367075	201794	187602
Frame.	643649	1114954	1158458

It is seen that the number of mule spindles not only failed to make any forward increases in keeping with the growth of the industry, but actually declined rapidly. Within a short time of twelve years the number decreased by about half. The frame spindles, on the other hand, were part and parcel of the growth, doubling their number within the same period. Whereas the number of frame spindles were, approximately, twice the number of mule spindles in 1917, in 1929 they were nearly ten times as numerous.

1. The technical descriptions have their source in several articles by James. W. Cox Jr., a textile consultant and engineer; and other sources mentioned below.
2. Spinning constitutes the last process in the manufacture of cotton yarn, whether it is carded, double corded or combed or whether the yarn is intended for weaving, knitting or braiding.

The mule spindle owes its creation to the early English inventors who made possible the industrial revolution of the eighteenth century and the subsequent greatness of the textile industry. Simply stated, the principle of the mule, involves 'drafting' and 'drawing'. The fórmer is the first part of the journey of the carriage, supporting a number of spindles, consisting of the delivery of a certain amount of roving. The latter, refers to the second part of the journey of the carriage consisting of the drawing or stretching out of the given roving. The 'draw' or 'stretch' indicates the length of travel of the carriage, usually 72 inches. The action of spinning is therefore an intermittent one.[1] The frame allows continuous spinning. The main partsof the frame are the ring rails fastened to the top of a lifting rod by which they are traversed up and down for winding the yarn in the form on the bobbin. The traveler receives its motion by being dragged by the yarn around the ring and in the passage of the yarn from the front rail to the bobbin. mThe roving, passing through the ring,is given the twist which turns the finely stranded slivers into yarn. Invented in the United States (there called ring-spinning) and used there widely, it later came to be used in the Canadian mills.

It is not necessary to enter into complicated

1. The mule is used more extensively in England and produces an evener, softer yarn of higher quality and cost,as well as fineness.

mechanical details to point out where the economic or industrial differences lie, between the two methods of spinning. As already suggested, ring spinning is better suited to:the production of coarser counts or the utilization of coarser yarns; the Canadian system of organization, whereby all the separate operations, such as, spinning and weaving, are carried on within the same plant; and also permits the employ of more or less unskilled labour. Although holding the advantage of spinning continuously as opposed to the intermittent spinning of the mule, the ring cannot be used as extensively for all number of counts, as it places a greater strain on the yarns. For this reason, only the coarser or medium yarns can be worked on it.[1]

Another important phase of the industry, was the changes and improvements made in weaving.[2] The power loom invented in England, did not see any notable changes, even with its introduction into the United States, for some time. Even when a change was made, it did not involve a change of principle, but rather an improvement and addition to the older method. Namely, the automatic loom---perfected in the

1.It must be understood, at the same time, that the steady improvements made in ring spinning, have enabled the spinning of yarns less coarse than in the earlier stages of use. But it is acknowledged that ring spinning cannot be expected to spin finer yarns.
2. This operation constitutes the actual production of the woven cloth. Weaving has been defined as the process of interlacing at right angles two sets of yarns, one running lengthwise in the loom called 'warp', the other running crosswise in the loom called 'filling'. This is true of any woven fabric, irrespective of material, composition, class or any other factors. Weaving is one of the oldest trades and originally practised on the hand loom.

United States and adopted almost universally for cheap and medium goods. The ordinary power loom can be said to be automatic, but not to the same degree as in the case of the automatic loom. In the first case, as also in the second, the weaver is really only an attendant who sees that the machine is running as it should. But the degree of attention required increases with the quality and nature of the material being made. On the extremely fine goods, the power loom weaver has time to operate only one loom and, further, that operator must have considerable qualities as a weaver. But on plain cotton goods, the power loom has been developed to the point where it takes care, largely, of itself and requires very little attention from the weaver, who can attend six or eight looms.

One operation, still had to be carried out by the weaver, which thus set a measurable limitation on the continuous operation and speed of the machine. Namely, the supplying of new welts as the old were used up.

"The yarn is wound on bobbins; as one bobbin is emptied by the loom, another must be put in its place in the shuttle, and the thread from this other must be attached to the shuttle which moves to and fro in the loom. The chief business of the weaver on the ordinary power loom is to replace bobbins as they are

emptied, and to attach the thread of the fresh bobbin to the shuttle. On the average the loom has to be stopped once in eight minutes to accomplish these two closely-related steps. The automatic loom achieved the crowning triumph of carrying out both without the use of the human hand. A magazine is attached to the loom, containing a supply of filled bobbins, which are automatically transferred to the loom shuttle. The shuttle itself is automatically threaded by the motion of the loom; and this takes place whether the bobbin is completely emptied or whether its thread is by accident broken before emptying. In either case the shuttle automatically catches up a thread from a fresh bobbin, and the loom continues to work without interruption."[1]

1. Quoted by Taussig: "Some Aspects of the Tariff Question", p. 272: "In simple terms, these inventions cover a shuttle change device, a filling hopper from which the bobbins or cop spindles containing filling yarn are automatically transferred to the loom shuttle,---a peculiar shuttle which can be threaded automatically by the motion of the loom,---devices that act to stop the loom, or prevent damage in case the shuttle is not in proper position to receive new filling or the hopper is exhausted, and a warp stop motion to prevent the loom from making poor cloth when not watched by the weaver." George O. Draper, "Development of the Northrop Loom", in 'Transaction of the New England Cotton Manufacturers' Association' no. 59,p. 91. See also Dr. Copeland, 'Progress of the Automatic Loom', Quarterly Journal of Economics. vol. xxv. p. 746. (August 19th).

The use of these devices has relegated any active participation or care on the part of the weaver, to the background, and has made him more than ever a mere attendant. His whole duty now is to keep an eye on the looms and to see what is wrong when they come to a stop because of the automatic action. Perhaps the most frequent cause of stoppage is the breaking of a thread, which the weaver has merely to tie. Following the introduction of the automatic loom, improvements were also made in the direction of greater speed, wider looms, fewer breakages and more varied patterns. Better yarns and better looms cut down the frequency of broken warps and filling, making it possible for one operator to tend more looms. It is quite common for one weaver to look after as many as thirty looms and sometimes in the weaving of certain plain goods, fifty automatic looms may be attended by only one weaver.

Many other changes in process, not radical, but making the best possible use out of the equipment, enabled greater efficiency in production. Practically every operation in the long line followed by the raw material to the finished product, has undergone certain adaptations, modifications or improvements. The tendency in developing the opening and picking machine has been to achieve greater production and more thorough picking at less cost. A new single-process-picker for cotton takes the place of the

breaker, intermediate and finisher pickers, and does the work of all three operations. Besides saving considerable floor space, it lessens the labour cost and permits of considerable saving in power. In feeding, a new machine has been devised which eliminates, to a large extent, laborious and expensive hand feeding, permitting complete automatic control of the feeding operation. In carding, greater speed and greater production, with more even card sliver, have been attained. Referring to spinning again, the new high or long draft spinning frame, may be included in the list of improvements although it is not used to any great extent as yet. It is claimed that the high draft system produces a stronger yarn, higher speeds and more production. The system also reduces the number of drawing frames necessary and economizes in power, maintenance, lighting, outlay of capital, waste and floor space. Similar improvements, in addition, have been made in other machines--- winding and spooling, warping and sizing, twisting-in and drawing-out, finishing machinery and others. Hand in hand with improvements in technique went more efficient management. Even in those mills where traditional modes of operation existed, the intense post-war competition forced changes in policy and reorganization in management.

CHAPTER 1V.

COMPARISON OF THE CANADIAN INDUSTRY WITH THAT OF GREAT BRITAIN.

From the technical and managerial improvements and progress, described in the preceding chapter, along with other sources to be mentioned, spring whatever advantages the Canadian manufacturers hold in their competition with Great Britain. In contrast with the widespread modernization of equipment in the cotton yarn and cloth industry in the Dominion, witness first the rapid increase in automatic looms here, and the slow, half-hearted progress in England:

> "The experiment of allocating eight looms (instead of four) to a weaver, which has been carried out at Burnley, has now run its allotted time, with the somewhat disappointing result that the operatives have declared against the continuance of the system, while the employers desire its extension. The operatives complain that wages offered by employers to eight-loom weavers were unsatisfactory. They further contend that the

that the employers could give no guarantee and no well founded assurances that the system would enable them to recover an appreciable volume of their lost trade; and that they could not countenance a system which would result in the displacement of a large number of weavers, many of whom would never obtain employment again in the cotton trade. The operatives also state that if the complete modernization of the whole of the industry were assured, their attitude would be appropriately different."[1]

The manifestation of labour problems within the English industry, suggest further advantages held by Canada. These will be looked into soon. At the present moment it would be best to strengthen and bring out in full force, the above impression. The following statement by a special British government committee appointed to survey the British Textile industries, is significant.

> "As has been shown above, the Lancashire cotton industry has substantially the same equipment of spindles and looms as it had immediately before the war. There are rather more spindles and rather fewer looms. The marked change seems to have taken place

1. The Textile Recorder (England) April 15, 1930.

in the efficiency of the machinery, which was raised to a high degree of perfection many years ago. Against slight improvements which may have been made in the more recently introduced models, there may, perhaps, be set the fact that mills have in many cases been unable to replace their equipment on account of the high cost and the economic depression of the industry."[1]

No further proof or evidence is required to show that English cotton manufacturers are considerably behind Canadian manufacturers, in reference to mechanical equipment and efficiency.

Now, the outstanding, and frequently, the sole argument advanced by Canadian manufacturers when asking for more protection, is that of "labour costs". This argument has played no small part in the number of briefs which have been presented to the Tariff Board during its existence and to other official bodies before and since the Tariff Board. The wage difference must be given its full value of consideration, but at the same time other factors must be included. The method employed by the Canadian manufacturers, is to say that; "English labour costs are much lower than ours, hence they have a distinct and unfair advantage over us and we are unable to compete favourably and on even grounds".

1. 'Survey of Textile Industries, 1928, p. 30; Committee On Industry and Trade, London. The figures referred to by the statement are not given since they themselves, are of less importance than the conclusions arrived at from them.

The wage difference, as already stated, must be granted, but not given an over-large part in determining total advantages of one country over the other. Labour does not, by a wide margin, constitute the total cost of the product.[1] Other factors make up a greater percentage than does labour. With this in mind, it is essential to show how other component parts affect the balance of total absolute advantage. The development and improvement of equipment and managerial efficiency, in Canada, has been traced and contrasted with conditions in England; conclusions can be reached from these suggestions. Perhaps the most important difference made by the employment of different equipment, is in the kind of labour force required to handle the machines. Mule spinning is a trade requiring a highly skilled workman or artisan. In Great Britain the trade is often hereditary and only by long apprenticeship and a certain amount of ability can a man expect to be a good mule spinner.[2] These mule spinners

1. I do not attempt to contrast wage rates in Canada and England, as information available is unreliable and not strictly comparable. The British system of piece-rates and the Canadian system of time rates; and the large number of different wage rates paid in each country, all together tend to make such a comparison impracticable. It is amusing to note that there have been as many variations of wage rates in the two countries, as there have been briefs placed before the Tariff Advisory Board during its existence.

It is interesting and essential to know, at any rate, the percentage of salaries and wages to the total value added by manufacture.

1929.

Value added by manufacture	Salaries and Wages	Per-Cent
$35,108,190	$16,671,787	46 (approx)

2. For a detailed account of the methods employed to attain this skill, see below, chapter on woollen cloth industry.

are also well organized into unions and cannot be readily replaced when they strike. The quotation already cited shows the important part these men play in the industry and what influence they can bring to bear.[1] Professor Taussig presents them clearly.

> "They are often accused by the manufacturers of being a turbulent and unruly set, of clannishly opposing the entrance of recruits into the trade, of having a trade-union monopoly; all of which are indications that, though the degree of skill may be exaggerated, the men must have some of the qualities of the skilled handicraftsman."[2]

Compared with the conditions in Canada, it seems that the British industries have, to start off with, this labour disadvantage. The frame, employed here, is more automatic, needs less continuous and alert watching, and can be operated with little need either of strength or skill. The result of this, has been the employment of women and children, who can easily be taught the simple manipulations, and can easily be replaced.[3]

1. See above, pp. 27, 28.
2. Taussig, op. cit., p. 272.
3. The following figures show the numbers employed:

	1928	1929	1930
Male.	12,139	11,369	9,479
Female.	8,756	8,159	7,013

It is evident that women are used as much as possible and are gradually replacing more men. Whereas the number of men dropped some 3,000 in the period of two years, the number of women dropped only about 1,000. In 1930 we find the women forming approximately 45 per cent of the total employed.

Weaving on the modern power loom, whether of the automatic or the ordinary type, likewise, calls for no strength or special skill. It is, however, not as simple in routine as frame spinning and requires some alertness and attention. But women can be used, as well as men, with the same efficiency. More important, as far as the automatic loom is concerned, is the possibility of a more highly developed division of labour. The English weaver must take care of every thing himself---he cleans, oils, gets yarn for filling, mends and inspects. The Canadian methods, on the other hand, enable these various tasks to be done by separate and different people. Among the staff can be included, the weaver, battery-hand, cloth-man, loom-oiler, loom-cleaner, department-sweepers, inspectors, smash-piecers and pick-out girls. The weaver is thus relieved of many routine, simple tasks and can devote himself (or herself) solely to the looms, usually amounting to about twenty, situated in several "alleys", and producing from 100 to 500 ends of cloth.

Of course, some skilled labour remains indispensable --- on the automatic loom perhaps more than on the ordinary loom. The loom fixer, an expert mechanic, must be in attendance to correct and adjust any defect in the working of the complicated mechanism. To cite an opinion:-

> The skilled artisan is by no means dispensed with in the modern development of machinery.

His sphere of action is merely shifted, and his skill is turned where it is most needed. This is one of the reasons why machinery which is dubbed 'automatic' can never be transported to regions where there is abundance of cheap and unskilled labor,, but labor of that kind only. It calls for more than mere tending and feeding. It must be supervised and kept in order; there must be intelligent and experienced foremen and superintendents, and a staff of skilled mechanics, such as these very loom fixers. However perfected the machine,---nay, the more it is perfected,---the human hand and the human brain are still indispensable."[1]

But the most important thing, in this connection, is that a division and specialization of labour are effected, allowing economics and reduction of production costs. It is obvious then, that the inventions and improvements described, insofar as the cotton goods to which they are applicable are concerned, enable the Canadian manufacturer to hold a decided advantage over the English producer. The greater effectiveness of labour combined with new machinery is bound to diminish, if not to efface entirely, the wage difference between the two

1. Taussig. op. cit., p. 275-276.

countries. Witness the following statement:

> "Ring spindles were found to run a trifle faster in the United States than in Europe--- 10,000 revolutions per minute compared to 9,000. A spinner in the United States commonly had in charge 750 to 1,000 spindles; in England 400 to 800;----------. In England they were $3.75 to $5.50---------. Money wages thus seemed to vary almost precisely in proportion to the effectiveness of labor (i.e.) to the comparative advantage; the "labor cost" was virtually the same in all three[1] countries".[2]

Granted that our Canadian labour cannot have the same effectiveness as American labour because of less mass production; but it must be acknowledged too, that wage rates are not as high here as in the United States. This would tend to even out the differences and permit a parallel between the two.[3]

1. Germany is left out of the comparison.
2. See Copeland, Op. cit., pp. 289,299. The figures given in this statement are rather old---the book was written before the war---but if anything, bringing the figures up to date, would strengthen my case. The equipment employed here, has gone far ahead of the equipment in England, since the war and thus the effectiveness would be further increased. As to wages, the advances may be said to be about the same.
3. An interesting set of figures have been arrived at from several sources. See: Taussig, Op. cit., p. 448;'The Canada Year Book', 1930, pp. 431-432; 'The Textile Industries of Canada', 1929, p. 18.
Canadian figures:-

Average annual wage.	$702.00
" no. of days per year.	282.
" no. of hours " week.	50.2
" no. of days " " .	5.42

(Continue, over. p. 35)

It would perhaps be advisable to state that the comparisons are not made with the view of establishing absolute conclusions. But generally speaking, it seems as if in comparing frame spinning and mule spinning costs, and productive capacity, the effectiveness of Canadian labour was so much greater as to offset the difference in money wages.

For weaving, and for the manufacturing processes as a whole, it is possible to say definitely that the effectiveness of the Canadian industry in weaving is much greater than that of the English industry. The greater effectiveness would, here too, tend to offset almost entirely, if not wholly, the difference in weaver's wages. In fact, it is quite possible that a margin of superiority may be held which could serve to offset any other minor items, if existent. The superiority in weaving is due largely to the

(Continued, from p. 34)

Average no. of hours per day.	9.26
" earnings per day.	$2.48
" " " hour.	$ .267

Hourly Average Earnings in Cotton Industry, 1926.

	Male.	Female.	Average.
Georgia.	$ .268	$ .220	$ .244
North Carolina.	.308	.252	.280
South Carolina.	.272	.219	.245
Massachusetts.	.450	.374	.412
Rhode Island.	.440	.370	.405
Connecticut.	.419	.348	.383
Canada.	----	----	.267

Taussig, adding to his figures, states: "The southern mills often provide many of their workers with housing and recreations at less than cost."

These figures are not presented to be compared strictly, but rather in a general way, for what they may be worth. Absolute accuracy cannot be claimed for the Canadian figure.

growing, extensive use of the automatic loom. It will be recalled that whereas the weaver in England seldom tends more than four looms, the Canadian weaver may tend as many as twenty or thirty.

At this stage, it might be worth while to dispel any ideas that "labour wages" are high in the Canadian cotton industry. On the contrary, they are comparatively low.[1]

Industry.	Employees on Wages			Average Wages	
	Male	Female	Total	1929	1928
Pulp and Paper.	29595	869	30464	1341	1282
Electrical Apparatus and Supplies.	12352	3564	15916	1120	1084
Rubber Goods, including footwear.	11415	4122	15537	1028	1029
Printing and Publishing.	8626	1564	10190	1465	1397
Cotton Yarn and Cloth.	11369	8157	19526	771	763

In all, there are only six industries in the Dominion with a lower average wage than the cotton yarn and cloth industry. Of these, two belong to the textile group. It is to be recognized that a major reason for the low wages is in the employment of a large number of women. Another important factor, is the method of plant organization used. Instead of establishing huge plants concentrated in or near large labour centres, the policy is to set up numerous units. Thus the plants are situated in separate small rural com-

1. 'The Canada Year Book', 1932, p. 359.

-munities usually free from excessive competition for labour by other plants. The mills, under the control of one company, thereby secure the advantages of low "labour costs". Moreover, each unit specializes in a particular type of product, thus increasing efficiency and standardization.[1]

1. To these advantages may be added others, such as; nominal taxes and cheaper power rates.

CHAPTER V.

PROTECTION AND THE CANADIAN COTTON YARN AND CLOTH INDUSTRY.

Considering the question in its entirety, it is quite plain that the cost of production, insofar as "labour wages" are concerned, would tend to be the same in Canada and England. In all probabilities Canadian mills have a slight advantage. Higher wages are paid here, but in the production of coarse and medium counts the effectiveness of the labour within the industry as a whole, is such that the Canadian manufacturer should be able to turn out the goods at about the same prices as in England. As a matter of fact, an official in a large cotton company in Canada, made the claim that on many types of goods the prices in the two countries were very much the same and that the qualities were the same, but that importers continued to ask for English goods since they found a readier buying market, because of the mere fact that it was made in England and bore an English label.[1] A second reason advanced, was that the importer made his living by bringing in foreign goods

1. Although I say here that, "the Canadian manufacturer should be able to turn out the goods at about the same prices as in England", it must be recognized that that is not likely to be the case. But it can be said that a greater equality exists between Canadian prices and the prices of English goods, including duty paid. As a matter of fact, I have found, from conversations with the proper people, that in most cases the English duty-paid prices are slightly higher than Canadian prices.

and was therefore naturally inclined to refuse Canadian products in favour of English commodities.

It goes without saying, that the reasons put forward, explaining the demand for English commodities, are rather feeble and ridiculous when the whole field is studied. Some fragment of truth is contained in both utterances, but the real meaning is befogged. Yes! people want goods with English labels---not solely because it bears the label, but because it is an indication and guarantee of good quality and high grade workmanship. Canadian goods are placed second in choice to English goods, simply because they are of inferior quality and make. It is not possible to prove such declarations, within the paper, by actual demonstration; but it is a fact that the statements are backed by experts who have been consulted.[1]

I cannot resist quoting the following passage:[2]

> "--------it must be borne in mind that the effectiveness of the industry depends not mainly, perhaps not at all, on the skill and vigor of the individual workers; not even on those personal qualities in combination with the tools and machines on which the operatives are put to work; it depends on the whole industrial outfit, in which ability for general organization is the greatest factor."

1. It is considered judicial not to mention the names of those people consulted; but I would like to reiterate that they are experts within their line and their opinions carry authority.
2. See below, chapter on woollen cloth industry, for a description of methods employed in the test of fabrics.

(Continue,over.p. 40)

And as part of the"ability for general organization", or at least, complementary with it is the enterprise and initiative necessary to further an industry and to place it on equal grounds or beyond a competitor or number of competitors. It is in this respect that Canadian cotton manufacturers have failed utterly and show no early promise.

If the accounts given, of the development and growth of the industry, have in any way suggested the qualities of enterprise and initiative to be within the cotton industry, this would be a good time to change that impression. It must he honestly admitted that a certain amount of ability has been shown. But that ability is to be found in the copying of methods, and not in the invention of new methods. The history of the American cotton industry is replete with inventions, adaptations, enterprise and unflagging improvement. The history of the Canadian cotton industry, is utterly devoid of such initiative and striving. It is well worth the space and time, to quote an extract typifying the American endeavours.

> "The Northrop automatic loom,---so named from one among the inventors by whom it was worked out,---illustrates several matters noteworthy in the history of modern inventions. In the first place

(Continued, from p. 39)
2. Taussig, op. cit., p. 281.

it was deliberately planned, and brought to the point of success after prolonged and expensive experimenting. A number of inventors were kept at work on it for years. Some sixty patents were taken out or applied for in the course of the experiments,----------. When finally ready to be put on the market, a demonstration of its efficiency had to be given; and the firm which developed it had to shoulder the additional experiment and investment of equipping a large cotton mill in which the loom was first used in manufacturing on a considerable scale. It required this kind of proof, highly effective, but necessitating a still further commitment of funds, to bring the automatic loom into wider use.---------. An instructive aspect of this development is that it has by no means stood alone. The Draper Company had competitors and imitators. A host of inventors and mechanics were vying with them.----------. So it is, indeed, with every forward movement, whether in literature, in the fine arts, in science,

in the mechanic arts. The genius who reaches the crowning achievement is not isolated; he is borne forward by the sweep of a large movement. And every such movement has a character of its own,---the impress of the influences, little understood as regards their relative strength or their channels of operation, of environment, historic growth, the inborn and inherited qualities of a people. So it has been with the various inventions and changes which have marked the industrial growth of the United States throughout its history."[1]

Perhaps the picture is slightly too bright, but at any rate it serves its purpose of illustrating just how dull has been the picture of improvement and invention in the Canadian industry.

Referring, again, to the technical progress made in the Canadian cotton industry, it is urged that the true value and significance of the progress, depends upon the source of supply for the machinery. Is it made within the country, or is it imported? The answer to this question is almost the answer to the whole question as to the

1. Taussig, op. cit., pp. 276,277.
   Footnote. Taussig, op. cit., p. 476. "The Northrop loom is associated with the name of the Draper Company, whose works are at Hopedale, Mass. The experiments that led to it were spread over a period of seven years. The first loom was ready for trial in 1889. A number were run experimentally at Hopedale in 1893; the demonstration mill referred to in the text was constructed at Burlington, Vt., in 1894."

position of the industry. If the machinery is made within the country with native advances and improvements, then it speaks well for the industry. There is, in that event, strong evidence of superiority. But the Canadian cotton industry cannot lay claim to the fact that the necessary machinery is made in Canada. On the contrary, nearly all of the machinery used here, is imported. Examine the following table.

Importations of Textile Machinery into Canada.

Fiscal Year.	From United States. ($000)	From United Kingdom. ($000)	From Germany. ($000)
1921	4,757	1,240	14
1922	1,799	647	13
1923	2,666	347	11
1924	2,049	1,283	5
1925	2,098	692	22
1926	2,396	864	45
1927	2,791	599	360
1928	3,298	1,270	271
1929	3,825	753	402
1930	4,900	911	524
	30,584	8,610	1,672

Figures, indicating the proportion of foreign machines to Canadian machines employed, are not available, but Canadian manufacturers readily admit that practically all their machinery is imported. The table shows the distributions of importations; by far the greatest amount coming

from the United States. Unfortunately, the trade returns do not disclose the different classes of machinery imported, but it is fair to assume that all types are included. The implications, that follow the recognition of such importations, are obvious. Though machinery imported from elsewhere may be operated as skilfully as in the country of origin, the probability is that they would be less effectively utilized. Further, no matter how fast or great the growth of an industry, if it depends upon foreign sources for its machinery, that industry confesses an inferiority of technical skill and advantage. It is still under the tutelage of another country or other countries. The Canadian cotton industry may thus be said to be under foreign tutelage, and shows no promise of becoming independent. The industry depends upon outside help to further its technique and skill. Unless another country shows the way, the cotton industry here cannot go on ahead. Obviously, then, the Canadian industry is bound to be, always, one step behind. The industry is thus not independent.

Other factors in evidence of the lack of independence, are to be seen in an hypothetical experiment. What would happen if the duties on cotton goods were removed? For reasons of quality, already discussed, and the likelihood of slightly lower prices English goods

would most likely be imported in larger quantities.[1] It is impossible, however, to make a general conclusive statement in that respect; the existing duties so veil the situation that it is difficult to secure satisfactory information. It is quite probable that certain staple commodities would still be under the control of Canadian producers. In that event, complete independence would be evinced. But such independence cannot be attributed to many phases of the industry. In the finer grades, there is no doubt but that the abolition of duties would lead to the importation of foreign or English goods, for all our needs; in other grades the situation is rather hazy.

Our survey of the cotton yarn and cloth industry, has raised many questions as well as answered many. It appears that protection has caused or helped a great industry to grow up; perhaps, in this way, illustrating the validity of the argument for protection to infant industries. But the protection has long ago done its work.....now, so to speak, in the time for reckoning. As we claimed, protection has cost and still costs Canada a certain unascertainable amount. To quote from the opening chapter.[2]

> " To vindicate the protection it has received, the industry must show amongst

1. See footnote page 38. The same conversations disclosed the fact that without such duties, the English prices would be lower.
2. See above, Chapter 1, pp. 7, 8.

> other things that is has; caught up to foreign industries; arrived at a complete development; become well-established; and is able to survive without protection, or will soon be able to dispense with it."

Frankly, the industry has not vindicated itself. Given sufficient time and protection, the Canadian industry has not utilized that time and protection to the utmost. It has progressed enough to enable certain advantages to accrue to itself---but not to the community or to Canada as a whole. Further, it shows no early promise of reaching a position where the advantages may be gained by all. As conditions are, the benefits of the duties are secured only by the small proportion of cotton cloth producers; while the burden,which quite outweighs the benefits, is shared by almost the entire Canadian population.[1]

1. Yet, we have to recognize that the Canadian Cotton Yarn and Cloth Industry is a considerable one. It offers,employment to many; investments for capital,and other factors, which cannot be dismissed with a wave of the hand. Consideration of this is made below. See chapter on'vested interests'.

CHAPTER V1.

GROWTH OF THE CANADIAN WOOLLEN CLOTH INDUSTRY.

The development of textile manufacture in Canada, as in other countries, followed the invention and development of the carding, spinning and other equipment in England, during the early years of the nineteenth century. The story of Arkwright, Crompton, Watt, and others linked up with the industrial revolution, is too well known to be repeated here. It was natural too, that the immigration of English and Scotch and Irish settlers into Canada, on a comparatively large scale, brought with it the knowledge and equipment---part and parcel, of the settlers' native training. Moreover, many districts, especially in Ontario, were settled, during the period 1800 to 1850, by Scotch and English from the districts in which the textile industry had been developed. It was thus only a matter of time before they put their knowledge to practical use in their new country, and with them the manufacture of wool clothing became a part of every community.

The woollen industry is perhaps the oldest branch of the textile industries in Canada and to all appearances, it seems to have been, as in the United States, and in England,

the earliest of these industries to be reorganized and changed from home manufacture to power operated machinery and the modern factory system. The size of the market being a comparatively small one, it is to be expected that startling increases and progress were not manifested. The mills were intended to supply a normal community market and perhaps in time, with improvements in distribution and transportation the mills increased in size and number in order to supply a growing market. It is not surprising, too, that, as in England, each branch of the industry developed best in those districts where experience, population, natural conditions, and perhaps some early impetus of a planned or fortuitous character, showed them to be best suited to the purpose. Thus we find, the majority of woollen mills situated in Ontario and to some extent in Nova Scotia; cotton mills located chiefly in Quebec; and knitting mills scattered throughout central and eastern Canada, but largely in Ontario and Quebec.

Lack of historical data, makes it difficult to point out various causes, if any existed, which brought about the erection and operation of plants. It seems that it was simply a natural growth, fulfilling the needs of the slowly growing population.

The first census of the woollen industry in Canada in 1827, showed the existence of 91 carding and 79 fulling mills

in lower Canada, (Quebec) and in Upper Canada, (Ontario) in 1842 there were 186 carding and 144 fulling mills. These formed the nucleus around which the growth took place. Steady gains were made from then on and in 1851, we find in Upper and Lower Canada and the Maritime Provinces, about 385 carding and fulling mills, and about 250 establishments, where weaving was carried on. In addition to products from these mills, were those from the hand-loom weaving, done in the homes of the people--- which showed an evident, greater field for the mill products. The introduction into Canada of the first power machinery for the carding and spinning of any kind of textile fibres is not accurately known, but placed arbitrarily at the year 1826. The first power loom was erected in 1840, and most of the machinery employed at the time, was of American make. By 1850, many of the mills were installing spinning machines and looms, and it might be said that that date marks the beginning of the factory system on a fair scale, in the woollen manufacturing in Canada. According to a census of that same year, there were in existence about 400 custom carding and fulling mills, and about 60,000 hand looms.

The main product of the woollen manufacture is the woollen cloth industry, and to this attention will be given in the present chapter. Older than the cotton manufacture,

this industry nevertheless presents difficulties as great, if not greater, than the cotton industry. But the difficulties and phenomena are different, and deserve separate consideration.

	1870	1880	1890	1900	1910	1920	1929
1 Establishments.	270	1281	377	157	87	66	44
Salaried Employees.				407	245	299	308
	(000)	(000)	(000)	(000)	(000)	(000)	(000)
Capital Invested.	2776	5272	9357	10486	7657	22783	20016
Salaries.				341	247	782	706
Wage Earners.	4	6	7	6	4	5	3
Wages.	917	1382	1884	1724	1374	4604	3217
Cost of Materials.	3217	4756	4037	3799	3154	14720	9231
Selling Value of Products.	5507	8113	8087	7359	5738	28018	16241
Value added by Man.	2290	3356	4050	3560	2584	13298	7009

This summarization may serve as a general survey of the growth and peculiarities of the industry, since 1870. The figures, generally, do not indicate a decided nor great development, but the growth is nevertheless shown and a certain amount of steadiness can be seen. The number of establishments has fallen from 270 in 1870 and 1,281 in 1880 to 44 in 1929. Part of this tremendous fall can be eliminated when other factors than figures are taken into account. The development of modern industry brought with it fewer establishments, each on a larger scale than before. This can be seen

1. The table is made up of figures taken from the censuses for the various earlier years; and 'The Textile Industries of Canada' p. 79 (1927), pp. 113-114 (1929-1930).

by the increased amount of capital invested; from $2,776,814 in 1870 the figure increased to $20,016,292 in 1929. This ten-fold increase is greater than the six-fold (approx.) decrease in the number of establishments. Further, the differences in the method of tabulation or enumeration, should be considered. Whereas the old method was to make a figure all inclusive, the present method is to separate different branches and list the figures separately. Changing the figures and employing the old system of enumeration the decrease would not be nearly as great. It is possible to go further and claim that every column in the above table, is affected in the same manner.[1]

The figures in the columns as "Salaried Employees", "Salaries", "Wage Earners", and "Wages", are not very illustrative. The first may be taken to show a new form of organization within the industry, calling for such employees; the development, centralization and increased size of the establishments made such help imperative. The number of wage earners has decreased slightly, but is well in accord with modern business trends and methods, where greater efficiency per unit of labour is to be found. Wages, following the increased and greater efficiency of labour, have increased from $917,827 in 1870 to $3,217,407 in 1929. The increase, of course, is much larger than is

1. To illustrate this statement and to bring the 1929 figure nearer to a comparative basis with 1870, other industries, such as the Woollen Yarn Industry and Goods n.e.s., should be added. This is done below in comparing the number of cards employed. This difference in method must be borne in mind at all times, and serve to show a greater balance.

(Continue, over. p.52)

shown on the face of it, when the fact that the number of wage earners has decreased from 4,453 in 1870 to 837 in 1929, is taken into account.[1]

The "Cost of Materials Used" shows a practically constant figure from 1880 to 1910; but 1920 and 1929 show a decided increase. This constant figure is not indicative of progress or growth but is well in keeping with increased efficiency---a smaller number of plants and operatives producing commodities equal in value to a period of more plants and operatives. With hardly any change in the intervening years, we find a four-fold increase in 1920 and a three-fold increase by 1929. The same story is true for the other columns. With only a slight variation from 1870 to 1910, the "Selling Value of Products", increases almost six-fold by 1920 and three-fold by 1929. Similarly, "Value

(Continued, from p. 51)

A large proportion of the establishments enumerated, were smallcustoms one-set carding and fulling mills, which were scattered throughout the country. By 1880, the woollen manufacturing industry was firmly established, and included some fairly large mills. The passing of the small carding and fulling mills was inevitable during the progress of the industry, but even by 1900, it must be admitted that many of the mills were small and uneconomic producers. Many of these should have been closed or rebuilt and re-equipped.

1. The figures lend themselves to another very interesting observation. Although a decrease is to be found when the two extremes of the column, "Wage Earners", and the other figures in the column show an actual steady upward trend, with the peak reached in 1890, but the decline from the peak is not very steep. Also the figures for 1880, 1890, 1900, 1910 and 1920 are each greater than the figure for 1870. The same increase over the 1870 figure is seen in all the columns to the right of "Wage Earners"---in varying degrees, of course.

Added by Manufacture", increased approximately six-fold by 1920 and three-fold by 1929. The highest peak, of these last three items reached in 1920 may be explained, as in the case of cottons, by the inflated prices of the time, and the abnormal demands due to disorganized production in foreign countries.

Continuing the inquiry into the development and growth of the woollen cloth industry, it is advisable to trace the growth of equipment. The best unit of productive capacity is the set of cards employed; the numbers of these are shown as follows:-

Cards.[1]

1880	1899	1910	1924	1930
490	477	224	268	219

The trend, in the sets of cards used, is obviously a downward one---a drastic curtailment of equipment employed. But the figures may be modified greatly by certain other considerations. The same modifier as used elsewhere may be employed here too, namely the differences in the method of tabulation. In the earlier years the figures are all inclusive while the later figures include definitely only the woollen cloth mills. To present a truer picture, other classifications such as, "Woollen Yarn" and "Goods n.e.s." should be added. This would bring the 1930 figure to 378

1. The table is made up of figures taken from the 'Canadian Textile Directory' for the years 1885 and 1899; and 'The Textile Industries of Canada', 1926-1927 and 1929-1930.

sets of cards. Other factors, such as, employment of cards of greater width; and the far greater efficiency of modern machinery, tend to do away with any large difference in the number of cards used as between 1880 and 1930.

Yet, employing all these modifications and explanations does not do full justice to the practical conditions of the woollen cloth industry. No amount of such modification can soften the lights and shades of the picture. It still presents us with the facts that something is radically wrong and that the growth of the industry was not a very healthy and robust one. "Capital" has increased ten-fold; "Cost of Materials Used", three-fold and six-fold; and other items to the same extent, but the years between 1870 and 1910 formed a period of industrial stagnation and lack of growth. In the amount of equipment used, the same atrophy is evident, Admittedly, causes are to be looked for. The woollen cloth manufacturers, attribute the whole of the blame to the lack of tariff protection; the Preference of 1897; the tariff schedule of 1907 and subsequent reductions. It is impossible to honestly deny the difficulties, but it requires only an observance of actual facts to give the lie to the lack of protection claims held by the producers. The greater part of these facts are dealt with elsewhere. At present, it will suffice to show that imports from foreign countries, have not been instrumental in causing the decline or stagnation of the Canadian industry---simply because those imports have relatively declined; to have caused damage, an increase would be necessary.

To begin with a period of industrial progress and vitality; in 1887, with the National policy protecting the woollen textile industries in Canada, the total woollen imports were approximately 9.8 per cent of the value of total imports. In 1898, after the introduction of the British preference, that percentage fell to 5.3 per cent. A rather sharp decline. By 1930 the 9.8 per cent had fallen still lower, to 3.6 per cent, which is obviously, almost a negligible quantity. In comparison or relation to total exports, the same decided fall is evidenced. In 1887, 12.3 per cent of our total exports, was required to pay for our imported woollen goods. In 1896 only 7.4 per cent of our exports paid for our woollens; and by 1931 the 12.3 per cent had reached the low figure of 4.3 per cent.[1] The tabulated summary of the industry, used above, brings up a number of uncertainties and necessitates careful considerations, but these last percentages are obvious and the trends they indicate hardly need further clarifications.

As already stated, numerous uncertainties manifest themselves in relation to the woollen cloth industry. As the phrase goes, "there is something wrong somewhere". But as has been shown in part and will be shown, later, in full, the condition of the industry has not been brought about by lack of protection, nor tariff schedules, nor imports.

1. The percentages are obtained from figures in the 'Canadian Statistical Record' for the several years and the 'Canada Year Book', 1931.

CHAPTER V11.

CHARACTERISTICS OF THE CANADIAN WOOLLEN CLOTH INDUSTRY.

While in the cotton yarn and cloth industry there is sufficient evidence to show that protection has enabled the growth of a considerable enterprise, the same definiteness is not to be found in the woollen cloth industry. Nevertheless, the industry has made several steps forward as shown by the increased capital invested---approximately ten-fold. It is safe to say that shrewd investors are unlikely to have invested such amounts of money in a stagnant enterprise. Yet, the growth is not startlingly large or rapid. Some phases of the industry seem to have progressed favourably until they have reached a position where they can export commodities. That field is not large, but a certain amounts of wool fabrics and clothing are exported.[1] Unlike the cotton yarn and cloth industry survey, this industry does not lend itself to study as an individual whole. Linked up with, and affected by, other industries it is difficult and almost impossible to present a real picture of the woollen cloth industry, without dealing with these other manufactures. The woollen cloth industry, unfortunately

1. See 'The Textile Industries of Canada', 1929-1930, pp/ 109, 110. Dominion Bureau of Statistics.

perhaps, is affected tremendously by changes in custom and style. Whereas in the cotton cloth industry the greater part of changes really amount to changes in the types and and qualities of cotton goods demanded; in the woollen cloth industry, such changes usually mean a shift away from wo ollens to a demand for different commodities altogether. Perhaps the most outstanding of these commodities, which have affected the demands for woollen cloths, are knitted goods and worsteds.

The changes that have taken place in customs and styles have, perhaps, more than any other single factor, been largely responsible for whatever difficulties the woollen cloth industry may find itself in. Insofar as protection is concerned, the industry has had numerous obstacles to overcome, which it succeeded in doing because of the protection under which it operated. Without that saving feature, it is hardly likely that the industry would have reached its present position. Like the cotton industry, the woollen manufacture has had fortuitous events which have aided considerably in the development of the industry and which have served as a further impetus to progress.[1] To-day the industry may be said to be very much alive and on a foundation of strength and stability. The period of strife, 1890 to 1910, has been left behind and a new era of comparative prosperity has been attained since.

1. I refer, here, to the Civil and World's Wars. See Chapter 111. p. 17.

So active is the woollen cloth industry, that the producers claim that they can produce any grade or quality of woollen goods; and that, at a price comparative with foreign prices. That statement, needless to say, is made to show that the Canadian manufacture is efficient, well-equipped, well-managed and at par with any other foreign industry. The veracity of that statement is to be doubted. As an indication of arrival at maturity and full growth, the statement contains a great deal of truth. But that the industry is at par with foreign industries, is rather doubtful and its exactness remains to be seen. The Canadian products include a wide range of commodities, but the greatest bulk consists of coarse grades or counts. The woollen and worsted goods include: suitings, dress goods, overcoatings, and cloakings. The finer counts are to be found in these products, but they form only a small proportion of the total production. Other products such as: blankets, auto cloths and rugs, mackinaw, and velours and plushes, forming a large percentage of the total products, are of the coarser counts and grades.[1] Further evidence as to the grades of cloth produced, is to be found in the kind of materials used. Here we find a certain amount of substitution or adulteration. Chief among these substitutes are: shoddy, noils of wool, tops of wool, wool waste, silk waste, cotton and others.[2] These grades of woollen

1. 'The Textile Industries of Canada', p. 115.
2. Ibid, . 1929-1930. p. 116

goods, thus form the bulk of Canadian manufacture and seem to supply a rather stable market. Most of the commodities are suited to the peculiar demands of the Canadian market and are consequently unlikely to suffer from foreign competition. Mackinaw, for example, is part of Canadian climatic peculiarities and the supply is solely in the hands of Canadian producers. Another important commodity,--- blankets, because of the grade demanded by the Canadian market is largely in the hands of native manufacturers.[1] Thus, because of the peculiarities of the Canadian market, different from markets supplied by Great Britain, that country is not to be considered as a competitor. On the other hand, the American producers although supplying a somewhat similar market, are unable to reach the Canadian field because of the high tariff barrier.

In the case of woollen and worsted coatings, serges and suitings, the Canadian producers are open to keen competition from Great Britain. The reason for this is not that the tariff protection is insufficient. On the contrary, it is sufficient enough to bring duty-paid prices of English goods above the prices, for the same grade of commodity, laid down by the Canadian producers. Yet, the English goods still find a market. A local importer pointed out that on goods priced at $2.00 per yard, the English price would be $ .10 to $ .15 higher than the Canadian, but he went on to

1. For exact proportions of imports to Canadian manufacture, see 'Canada Year Book', 1932, p. 458; 'The Textile Industries of Canada', p. 115.

to say, that the English goods is still preferred because of its quality. A fuller treatment of differences in quality between the two products, is left until later--- suffice to say, at this point, that English goods do compete with Canadian products of woollen and worsted coatings, serges and suitings. Another line of commodities which finds its way into the Canadian market, is that of particularly well-known, or "branded" cloths. Such cloths, as Harris tweeds and Donegals, are known throughout the world, even to the ordinary man in the street. As a matter of fact, as these names connote quality and the highest standard of goods to the ordinary man, so do many of the other woollens and worsteds from certain English mills connote quality to the expert woollens man. These cloths are in demand everywhere and even in the United States, where the tariff duties are practically prohibitory, they are to be found in the better clothing establishments, where the customers recognize the quality of the materials. Thus there are certain qualities and goods of cloths which would come into Canada, no matter how high the tariff protection. Then again, there are within that group of quality goods, certain grades which could possibly be excluded, but not by greater protection. Even if the Canadian quality is not quite up to the mark of the English quality in these last named goods, the inducement of a

lower price would perhaps make the Canadian goods more acceptable. But it seems hardly likely that the Canadian producer can lay down a much lower price than the English manufacturer. The reasons for this remain to be seen.

Now that a, more or less, general survey has been made of the market conditions in Canada, it is best to carry on with a description of the woollen cloth industry itself. It will be recalled that although the Canadian cotton cloth industry, has grown to a considerable size and has increased its efficiency, fault was found with it because it still relied on foreign tutelage and external industries to show it the way to improvement. The same fault, is to be found in the woollen cloth industry. Only in this industry, events acted contrary to the good fortune of the enterprise. It is not difficult to imagine that, the greater the number of changes in the production technique of an industry, the greater is the difficulty for a copying industry to keep up with such changes. The difficulties become greater or less; depending upon the extent of change. The growth and development of cotton industries throughout the world, was more or less a gradual and even one. The woollen industry, unfortunately for Canadian enterprise, saw a drastic and far-reaching change, which made it extremely difficult, for a country without considerable capital and initiative to follow. The demand

for, and naturally the production of worsteds, in preference to woollens, saw extensive changes within the woollen textiles industries, in England, the United States and elsewhere. In Canada, too, such changes were undertaken, but not as extensively nor as rapidly as in the other countries. The natural result was that Canada found itself far behind in the methods of production and in the quality of the goods produced.

The essential difference between woollens and worsteds, is that in general, woollens are made from short staple wools, and worsteds from long staple wool. The features of woollens and worsted yarns do not originate so much with the difference in the type of raw materials used, as from the difference in process of manufacture. The wool or woollen yarn is only carded, the fibres being mixed thorougly in every direction, so as to give as large a number as possible, of fibre ends projecting from the body of the yarn. In spinning, this end is still farther developed by spindle-drawing the yarn on the mule. In preparing the wool for worsted yarn, the short fibres are combed out as "noil", while the long, straight fibres forming the "top" alone, enter into the yarn. In spinning, the worsted yarn is drawn to the requisite fineness between two pairs of rollers revolving at different speeds. The object in worsted manufacture is to keep the wool fibres,

in the yarns, as straight and as parallel as possible, and free from lumps and irregularities. To achieve this, the wools have to be thoroughly classified and sorted. Because of the difference in texture, worsted yarns can be spun to much finer counts than woollen yarns, and are in that event more expensive. Further, they are ordinarily used in fabrics of lighter weight than woollen goods. In woollen yarn manufacture, as already suggested, cheaper and shorter wools, as well as wastes are often employed; not as great care is exercised to make the yarn uniform; and the raw material is never combed, as in the case of worsted yarn.[1]

The causes for the trend from woollens to worsteds, are to be found in the vagaries of fashion and the changes in the technique of production. Towards the end of the nineteenth century, and during part of the first quarter of the present century, styles or fashions changes from the comparatively heavy woollens to the less-compact, lighter and smoother worsteds. Naturally, the direction of production followed the course of demand, More fundamental, however, were the actual changes in the technique of production. These changes in the worsted branch of the industry enabled it to attain, to a greater degree, the advantages of machine processes.

The combing machine, used in the production of worsteds and developed by a number of inventors about 1850,

1. The technical descriptions have their source in several articles by J.Cox, Jr., and other general readings and conversations.

brought about a considerable change in the worsted industry. The range of the industry was widened, as regards the quality of the wools which could be used and the quality of the fabrics which could be turned out. The worsted industry, thus, having at its disposal a wider variety of raw materials and improvements in the combing machine, could produce softer and finer goods than before. A quotation from Taussig is presented to show briefly the chief characteristics of the worsted industry:[1]

> "The combing machine greatly changed the worsted industry in two respects. In the first place, it served to standardize the conditions of manufacture and so to stimulate a tendency to large-scale operation. The tops turned out by the comb are a homogeneous material; so much so that they have been systematically dealt with on exchanges and are often the occasion of contracts for future delivery. ----------. The very possession of a homogeneous material facilitates the use of highly-perfected and quasi-automatic mchinery in the later manufacturing stages. In all countries the worsted branch of the industry is conducted on a larger scale than the woollen branch;

1. Taussig, op. cit., p. 339.

it is more capitalistic, more in line with the general trend of modern industry."

Nearly all of the inventors connected with the "comb" were Englishmen and it was in England that the worsted industry, in its new form, had its early beginnings. At the very earliest time, of the industry's inception in England, as well as to-day, Bradford was, and is, the main seat and centre of the manufacture. The woollen manufacturing centres of the United States, were perhaps the second in taking up the production of worsteds. As far as Canada is concerned, it seems that some time elapsed before a worsted industry was developed and at no period was it of any considerable size.[1] The following table, summarizes the exports of woollen and worsted yarns and tissues from the United Kingdom to Canada.[2]

Year	Woollen Yarns 1000 lbs.	Worsted Yarns. 1000 lbs.	Woollen Tissues. 1000 lin.Yds.	Worsted Tissue 1000 lin.yds.
1899	132	292	2998	7752
1900	71	499	3750	7621
1901	83	404	3911	9362
1902	78	571	4930	10726
1903	167	1008	5224	12175
1907	331	1766	9550	12958
1909	434	2247	7880	15268
1910	459	3216	8675	16888
1919	34	1811	3164	4547

(Continue over, p. 66)

1. Information as to the worsted industry in Canada, is extremely scarce. The existing records of the woollen cloth industry do not differentiate between woollens and worsteds. Further, evidence as: equipment, value of production and such, for the separate manufactures are not available in any form. Those indications available, will be used to substantiate any statements made about the worsted industry. As far as the vogue of worsteds is concerned, its acceptance in Canada was part of a world-wide movement and is further substantiated by recollections of several persons interviewed.
2. Record of Public Sittings, References 19 and 42, 'Wool and ~~XXXXXXX~~ Wool Products'. Advisory Board and Tariff and Taxation, p. 66. (June 1927)

(Continued from, p. 65)

Year.	Woollen Yarns. 1000 lbs.	Worsted Yarns. 1000 lbs.	Woollen Tissues. 1000 Sq. yds.	Worsted Tissu 1000 sq.yds.
1920	1736	1606	12502	16030
1921	822	714	3854	9218
1922	1648	1382	9519	17496
1923	1135	1834	13484	15351
1924	989	1650	15098	15094
1925	1411	1048	12485	12189

These figures form, perhaps, the only source of statistical information as to the relative positions of woollen and worsted manufacture. Yarns, going into the construction of a particular cloth, woollen or worsted, are indicative of the extent of production carried on in each case. By far the greatest amount of yarns used in the Canadian manufacture, are imported from Great Britain. The table, starting with the year 1899, indicates that woollen yarns were already being displaced slightly by worsted yarns. In the case of tissues, the difference is quite noticeable even at that early period. Without too great a stretch of the imagination, it is possible to believe that the worsted manufacture began to compete with the woollen, some time about 1890. The worsted industry in England, would thus have had a lead of, close to, forty years. The increased usage of worsted yarns and tissues, and the relative and sometimes absolute decline in woollens, seems to point to the fact that changes were being made in the industry. In England the change from woollen to worsted manufacture was a rapid one, involving huge capital investments. The tabulation of Canadian "Capital Invested",[1] shows that the figure nearly doubled itself in the period between 1890 and 1900, and

1. See Above, p. 50

continued to mount, with only one setback, up to its present large sum.

The reason for that early phenomena, may be found in the replacement of woollen cloth production by worsted manufacture, which would involve heavy capital outlays. At the same time the decided decline of the woollen manufacture would mean a falling off in the other statistics of: wage earners, cost of materials and others. But counteracting this falling off, were increases in the same statistics, because of the growing worsted manufacture. The result was, the balancing of losses and gains, as it were, and the statistics showing the combined position of woollens and worsteds tended to remain the same.[1]

To turn now, to another factor which played an extremely important part in effecting the position of the woollen cloth industry. Namely, the hosiery and knit goods

1. The present trend, in the United States, seems to be a shift from worsteds back to woollens. (a) The same shift is to be seen in Great Britain. (b) In Canada, where customs, styles and production methods follow these two countries, the trend is not as yet clear. If any definite direction is to be indicated, it would be that of the other countries; namely, towards woollens.(c)

(a) See Taussig, op. cit., p. 474. "The industry was forced by fashion to shift toward woollens more, towards worsteds less---"

(b) There are no British figures for production of worsteds and woollens, but exports, which constitute a large proportion of domestic production, indicate the movement toward woollens.

	1927.
Woollens.	130,000,000 sq. yds.
Worsteds.	40,000,000 " "

See: 'Survey of Textile Industries', Committee on Industry and Trade, Great Britain.

(c) Production of woollen cloth mills in Canada. All woollen woven goods.

	1929		
All wool woollen	3,194,370 yds.	woollen yarn	1,533,883 lbs.
All wool worsted	1,854,217 yds.	worsted Yarn	733,921 lbs.

manufacture. It is unnecessary to indicate the differences in methods of production, between these two parts of the textile industry. Suffice it to show the bearing of one upon the other. A review of products listed under the hosiery and knit goods industry shows definitely that a relation to the woollen industry, is existent. The commodities in many cases indicate either competition between the two or replacement of one by the other.[1] Perhaps of greater bearing than the commonness of products, is the replacement of certain woollen cloth goods by various commodities, brought in by new fashions and customs.

The growth of the separate industries, indicate that same situation of gain by one at the expense of loss by the other. While the growth of the woollen cloth industry was arrested for some time and has, on the whole, not been very extensive. The development of the hosiery and knit goods manufacture, has been comparatively phenomenal.

1. 'The Textile Industries of Canada', 1929-1930, pp. 115, 156. Several of the important commodities are common to both industries. Among these are: underwear, mackinaw, blankets, and others.

1.

Establishments.	52	63	68	102	128	154	159
	(000)						
Capital.	3723	6671	11938	19073	42113	48230	64874
Wage Earners.	3687	4515	8050	11479	13011	13244	17824
				(000)			
Cost of Materials Used.				19443	34238	26741	30438
				(000)			
Selling Value of Products.				33770	56736	47512	59500
				(000)			
Value Added by Man.				14327	22497	20771	29061

The figures are obvious enough in themselves. No further comments are necessary to indicate the rapidity of growth and size of development of this smmewhat prodigious industry. Further, the close relation between the hosiery and knit goods industry and the woollen cloth industry, indicated by the sameness of products and materials used,[2] makes it rather evident that the growth of the hosiery and knit goods manufacture caused considerable repercussions in the woollen cloth industry.

It is pertinent and interesting, too, to notice that the growth of the hosiery and knit goods industry took place under practically the same tariff duties, a protection, which were extended to the woollen cloth industry. This observation alone, is almost conclusive proof that the argument of "Lack

1. 'The Textile Industries of Canada', 1917-1926. p. 89: ibid, 1929-1930. p. 155: and Tariff reference. op. cit., p. 56.
2. Ibid, 1929-1930. pp. 116, 158: and footnote above, p. 67,no.1.

of sufficient protection" cannot be advanced to explain away the difficulties found in the woollen cloth manufacture. It is perhaps possible to claim that protection has affected each industry in a different manner. One, under the safety of protection, showing progress and initiative; the other stagnation. But that is not open to treatment here, although it is surely part of the whole question. It is sufficient to draw the conclusion that opportunity was granted, through protection, but that, while one was able to take full advantage of that opportunity, the other because of circumstances, was unable to do so.

Now, to sum up. It seems evident, from what has come under observation, that it is utterly ridiculous to claim that the difficulties which exist in the woollen cloth industry are due entirely to the inefficient protection granted it. The growth of the hosiery and knit goods industry,---- indicative of the effectiveness of the Canadian protective tariff,----is an important factor in consideration of its effects upon the woollen cloth industry. It has been shown, that the hosiery and knit goods industry and the change from woollens to worsteds, have both been largely responsible in determining the conditions of the woollen cloth industry.[1]

1. The growth of other industries closely akin to the woollen cloth industry, and their inevitable encroachment upon that industry, should be also taken into account. To examine the "Men's Furnishing Goods Industry". In the earlier statistics, no mention was made of this industry and it is thus logical to presume that it was included, perhaps only in part, with the woollen cloth manufacture. Now, it is listed separately and is of a considerable size---larger in fact than the woollen cloth industry.(a) Further, a large number of the products of this industry are similar to those of the woollen cloth industry; and other commodities peculiar to it, have supplanted products

(Continued from, p. 70)
of the woollen cloth branch.(b)
(a) 'Textile Industries of Canada', 1929-1930. pp.114,187.
(b) Ibid, 1929-1930. pp. 115,188.

CHAPTER V111.

THE CANADIAN WOOLLEN CLOTH INDUSTRY CONTRASTED WITH THAT OF GREAT BRITAIN AND ITS CASE FOR PROTECTION.

In the previous chapter, several factors, which have affected and still affect the woollen cloth industry, have been introduced with the aim of counteracting the cry of "lack of protection". It is intended , in this chapter, to contrast the Canadian woollen cloth industry with that of Great Britain, with the purpose of determining its relative advantages or disadvantages.

As in the cotton textile industries, the wage difference between the Canadian and English woollen cloth industries, must be recognized, but not exaggerated as it is in this country by various claimants. In the cotton cloth branch, it was shown that the wage difference was made up by the comparative effectiveness of labour here. In treating the woollen cloth industries, the attempt will be made to show that the English superiority or advantage in competition is not wholly due to this wage advantage----but to methods employed and the general organization of the industry in England. The typical Canadian organization is well known. Here, practically the entire conversion is carried on under

one roof----from the wool in the grease to the finished fabric.[1] The industry in the United Kingdom is organized differently.

The English concerns, to begin with, are on the average much larger than Canadian plants. Dealing with the inside of the mill with its various operations, the organization of labour and the layout of the plants differ entirely. Perhaps there is no set rule for the organization of a plant, and such conditions as climate may necessitate a different type of building and layout----as is the case. But it appears that certain handicaps or disadvantages exist in the Canadian industry. Disadvantages outside of the wage difference. The Canadian producers seem to think, at any rate they express protests over it, that because they are forced, for climatic reasons, to install expensive heating plants, they suffer from unfair competition from British plants which do not require such heating. Needless to say that claims of this sort are preposterous. Such conditions allow natural advantages and if the Canadian conditions are not conducive to natural aids, the industry can hardly have grounds for argument. As a matter of fact, to admit such unqualifications should be akin to admission of inability to operate efficiently, compared to industries elsewhere, and should mean that the industry has no right to its existence. Further disadvantages peculiar to the Canadian

1. Since considerable time and space has already been spent in describing the typical cotton yarn and cloth plant which is similar to the woollen cloth mill, it is deemed unnecessary to repeat that description here. See Chapters 111 and 1V.

industry----these are artificial ones----may be summed up briefly. One, the various mills are not situated closely together, but are scattered. Two, the type of labour employed for the various processes.

To describe the English industry. The Huddersfield district, for the purposes of the industrial organization, is the largest wool producing centre of the United Kingdom. Within a limited range of 10 miles; there are about 300 mills----several of which are the largest in the world---- which employ, normally, about 35,000 operatives. These mills, with few exceptions, make such materials as, tweeds, overcoatings and women's wear cloths. As an important part of the group, are , yarn-spinning mills, which account for the large number of firms. Most of these woollen manufacturers start with the raw material and end with the finished product, as in the Canadian mills. But where the organization differs, is at the beginning. Some do not do their own rag pulling and therefore buy their shoddies. That, generally, is the form of concern and the type of competition in England. Practically everyone is in strict, close competition with the other; going into the same market, making practically the same weights of cloth and the same price of cloth.

This last, the specializing on cloths at a certain price, is perhaps the most important advantage held, because

of the English method of organization. Generally speaking, the woollen trade is run on cloth to a price. A firm's range would include four or five prices, while another might specialize in a lower or higher price, including within its range, perhaps two or three of the prices sought for by the first mill. Competition is thus developed within definite ranges.[1] And the expert buyer, therefore, buys the best cloth that he can at a certain fixed price.

In different parts of the district, different types of products are to be found. Fine worsted cloths instead of woollen cloths or perhaps woollens of a very high grade. Thus within the district the production of nearly all ranges and values of cloth, is carried on.[2]

Insofar as labour is concerned, the organization lends additional advantages. It tends to keep trained and skilled operatives within the industry. If an operator is forced out of work in one mill, his knowledge of the material, the machine and everything concerning that particular job, is readily available to the other nearby mills, should they require it. There is, because of this, less likelihood of permanent unemployment in any particular

1. It is perhaps safe to say, that owing to the large number of concerns, in the group, the competition would exist at every price throughout a whole range. But it must be remembered that their specializing is on the type of cloth to be produced at a fixed price. The demand market does not ask for a particular cloth at an undetermined price, but asks for cloth at a laid down price.
2. There are quite a number of these districts, each specializing in a particular type of goods. For instance, the Saddleworth district is noted for flannels; Morley for plain goods; Mirfield for blankets and so on.

branch of the work, and the workers are not driven to seek work in other occupations. As for the industry, it is always sure of an abundant supply of skilled, well-trained labour. This is oddly in contrast with the Canadian conditions. A Canadian mill usually locates itself in a rural town away from other plants.[1] The result is that the labour employed is, for the most part, unskilled and in need of training. Further, as the only source of such employment, once out of a job, an operator is forced to turn to something else. The consequent result is that new labour must be continually trained. Even in the methods of training the English manufacturers hold a superior advantage.

The Canadian operator learns whatever he does of the woollen trade entirely within the mill. While he is a spinner, he knows practically nothing of the technique in the other parts of the mill, except those jobs leading up to the position of spinner. Theory is unknown to him. In England the possibilities of gaining a knowledge of the woollen industry, are much greater. Nearly all of the large centres mentioned, have what are known as textile schools, which are open all the time and have regular, complete courses of study. In addition to these, are the schools situated in small towns. These too, are completely equipped with the different machines. Various arrangements are made for operators to attend the schools; some

1. See above, pp. 36,37.

take part-time courses, improving their knowledge of their own particular job, or learning the technique of a different operation; others devote all their time to the studies. Every phase of the industry is taught; mending, weaving, designing, combing and spinning. In addition to the practical training, the theoretical side of the operations are also treated. The natural result of such training and shooling, is that the English operator is far more skilled than the Canadian. The products of their labour are bound to differ in quality.

The list of factors, tending to give advantages to the English producer, may be added to by others, such as: the differences in quality of the competing goods; greater familiarity with the machinery, since it is an indigenous product, whereas Canadian machinery is imported;[1] and perhaps many more. But those already cited have served the purpose of this chapter; namely, to show that the wage difference is not the only advantage held by the English manufacturer. It seems evident then, that that argument, when advanced by the Canadian producer, should be modified greatly and that other factors must be taken into account. Any claim for protection must be all inclusive. Insofar as the Canadian claim is considered----it seems to be an utterly inadequate and false one. The advantages treated, natural and artificial, seem to prove more or less conclusively that

1.See above, p. 43.

Great Britain is more suited to the production of woollen cloth, than is Canada. However, as stated, the purpose of the treatment afforded the Canadian woollen cloth industry, is not to reach a conclusive decision. It is treated with an aim to suggest a means of approach in determining the value of the Canadian industry's claim for protection, in order to determine whether or no such protection is deserved.[1]

1. The descriptions and information concerning the English organization of the woolen cloth industry, were taken from general readings and conversations----too numerous to be listed here. See bibliography.

CHAPTER IX.

"VESTED INTERESTS".

While it has been the aim of this thesis to test the claim of protection put forward by the cotton yarn and cloth industry, and to suggest an approach for the examination of the claim held by the woollen cloth manufacture, it has been realized throughout, that both industries have factual existences and could not be wiped out by contrary conclusions.

The argument of "vested interests" must be acknowledged by both free traders and protectionists. Adam Smith, perhaps the most famous of free traders, believed that vested interests must be protected.[1] The argument, is to the effect that manufactures having been established as a result of government legislation, it is the duty of the government not to withdraw its support too suddenly or to such an extent as to bring disaster to those who have invested their capitals in the industries concerned. This is sound reasoning; far apart from all consideration of the fact that the government has, in a sense, an obligation to protect the industries it has fostered, it is perfectly clear that any

1. See Adam Smith, op. cit., Book IV, Chapter II.

drastic and sudden withdrawal of government support might, and almost certainly, would result in serious disasters. Financial disturbances and closed mills, would affect not only those in protected industries, including the thousands of industrial wage-earners depending upon them, but also every related business within the country.

It is obvious, that no government can afford to sit by and look on at industrial ruins without attempting to mitigate that disaster, and alleviate distress. The protective tariff offers the possibilities of accomplishing this. Whenever "vested interests" seem subject to collapse without sufficient protection, there is a presumption in favour of the application of such protection.

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