

THE
QUARTERLY JOURNAL
OF
ECONOMICS

OCTOBER, 1893

THE DUTIES ON WOOL AND WOOLLENS.*

IN the quarter of a century which has now elapsed since the passage of the wool and woollens tariff act of 1867, the system of duties then established, and since maintained in its essential features, has gradually come to be the crucial part of the protective policy. At the beginning of this period the iron duties were more important in their economic effects, and perhaps in their political weight. But the extraordinary development of the iron industry, in some degree stimulated by the tariff, and greatly aided by other more potent causes, has made the question of protection much less vital than it seemed to be twenty years ago; while the maintenance of the wool

* In this paper I have avoided as much as possible the repetition of what has been given to the public in my volume on the *Tariff History of the United States*. More particularly, I have passed over the changes made from time to time in the rates of duty, and venture to refer to the *Tariff History* the reader curious as to these details and their significance.

I have to acknowledge my indebtedness to Mr. Henry G. Kittredge, of the *Boston Journal of Commerce*, for many valuable suggestions, based on his intimate knowledge of the wool and woollens trades.

and woollens duties is steadily asserted to be as essential as it ever was. At the same time the mode in which the duty on wool has been made to do service in Ohio and other States of doubtful politics, as assuring the farmer his share of the benefits of protection, has given it a foremost place in election years, and has finally made it the point of specific difference between the great political parties. The Democrats, after years of half-hearted attack on the policy of high protection, were finally spurred to an unequivocal statement of their intentions by the courageous message which President Cleveland sent to Congress at the opening of the session 1887-88. In the tariff bill prepared in the course of that session by the committee of which Senator Mills was chairman, they proposed to put wool on the free list and to reduce correspondingly the duties on woollens. The Republicans, by way of answer to this declaration, proposed, in the bill elaborated by their Senate committee during the same session, a slight increase in the wool duty and a more than corresponding increase in the rates on woollens,—changes which were finally accomplished when the elections of 1888 gave the Republicans a working majority in both Houses, and enabled them to pass the tariff act of 1890. The overwhelming victory of the Democrats in 1892 gives them now the opportunity to carry out in turn their policy. Whatever uncertainty there may be as to the disposition of other parts of the protective system at the hands of the present Congress, it may be assumed as settled that the wool duty will go, and that the system of 1867 will be replaced by a fundamentally different *régime*. The time is opportune, therefore, for a consideration of the effects of the policy followed during the last twenty-five years and the probable effects of the policy which is to come.

In such an examination it will be best to separate the duties on wool from those on woollens, leaving for final

discussion the mode in which the effects of the two have become entangled. We may begin with those on wool.

I.

The tariff act of 1867 divided wool into three classes,—clothing wool, combing wool, and carpet wool. The names indicate that the divisions were meant to correspond to the uses made of the different classes. Clothing wool was that whose fibres were to be interlaced by carding machinery. It was used in making the textiles denoted by the language of other parts of the tariff acts as “woollen cloths.” Combing wool was that whose fibres were to be brought parallel to each other by combing machinery, and used in the manufacture of “worsted.” Carpet wool was of coarser quality, and expected to be used for carpets. But the expected use could not be the test for distinguishing the wools at the custom-house, and there the distinction went by blood. The wools of sheep bred from certain described stocks were defined as clothing, combing, or carpet wools, respectively.

In considering the effects of the duties assessed under these three heads, carpet wool may for the moment be set aside. Very little carpet wool is grown in the United States or has ever been grown here, and the questions which arise concerning the duties on this quality are much more simple than those brought up by the other two classes of wool. In current discussions of the wool duties it is those on clothing and combing wool which are chiefly had in mind; and this with reason, since they alone present the intricate and disputed problems as to the working of the protection given to wool. We may proceed, then, to examine these by themselves, leaving for a later place what little is to be said in regard to the duties on carpet wool.

The duties on clothing and combing wool, as it happens,

may be treated virtually as one. On the face of the statutes the two classes have been charged, sometimes with the same duties, sometimes with duties slightly divergent. The rates, too, have shifted somewhat, being slightly reduced in 1872, raised to the old rate in 1875, again reduced slightly in 1883, and once more raised a trifle in 1890. All these changes, however, were inconsiderable, as were the divergences in the rates on the two classes. We may treat the duties on clothing and combing wool as having been virtually maintained during the whole period at a roughly uniform rate of between ten and twelve cents a pound. In the earlier years this was equivalent to thirty or forty per cent. on the foreign prices. As prices went down, the percentage rose to fifty and more. The protection has been substantial, and has been continued long enough to work out all its effects.

The difference between the rates on clothing and combing wool may be disregarded, not only because it has been small in amount, but because for many years it has corresponded to nothing of essential importance in the wool trade. The distinction according to breeds between the two classes of wool, as made in 1867, denoted real differences in the way in which the material was used; but it soon became unmeaning and unimportant.

In 1867 the wool which it was possible to put through the combing machine was strictly limited; only that having a long staple, yielded by certain breeds of sheep mentioned in the tariff act, was available. As time went on, combing machinery steadily improved; and a larger and larger quantity of wool of the merino sheep, classed in the act of 1867 as clothing wool, passed through the combs, and was manufactured into worsteds. This was the case with both imported and domestic wool; and it is difficult to see why in 1883, and still more in 1890, when the lines of distinction drawn in 1867 were known on all hands to be obsolete, they were yet retained on the statute book.

The explanation doubtless is that the system of wool and woollens duties had been so often lauded as perfect in plan that it was feared to touch it in any prominent place. At all events, for our purposes, we may disregard the distinction between clothing and combing wools. While almost all of the wool grown in the United States would be classed under our tariff system as clothing wool, a good part of it for many years has passed through the combs; and similarly much of the wool imported and dutiable as clothing wool has also been combed. For practical purposes these two may be taken as one mass of wool, the greater part of which may be turned at will to the manufacture, by one or the other sort of machinery, into woollen or worsted cloths.

The first questions to be asked in considering the effects of a given duty are as to the domestic production and the imports, and the relative importance of these two sources of supply. The facts here are ascertainable with all needed accuracy, and have lately been collected in convenient and accessible form.*

Looking first at the domestic supply, we find three distinct stages in the course of production. First, from 1867 to 1873, the product remains stationary at about 170 million pounds. Next, in the years 1873-83, there is a very rapid advance. The annual output increases rapidly and steadily, and by the close of the ten years has passed 300 millions. Since 1883 there has been again a stationary product, with indeed some tendency to an actual decline in very recent years. Taking the twenty-five years as a whole, there has been an increase from between 160 and 170 millions of pounds to about 300 millions; but this advance was achieved entirely in one decade,—between 1873 and 1883.

The stagnation of the years immediately following the

* In the *Wool Book*, compiled in 1891 by Mr. S. N. D. North, Secretary of the Association of Wool Manufacturers, and published by the Association.

passage of the act of 1867 has sometimes been referred to as proof of the failure of that measure. The situation in 1867-73 was, indeed, even more unsatisfactory to the wool-growers of the heart of the country than the figures of total production indicate. During that period the number of sheep and the product of wool in States like Ohio and Pennsylvania declined greatly; and the total product of the United States was maintained only by the gain in other regions, which is presently to receive our attention more fully. The slaughter of sheep and the losses of wool-growers in Ohio were ascribed by the opponents of the act of 1867 to the disastrous working of that measure. But they were due mainly, if not entirely, to other causes. The demand for wool was declining. During the Civil War the stoppage of the cotton supply had led to a much greater demand for wool. As cotton reappeared on the market, this unusual demand ceased. The price of wool fell, and its production tended to shrink. As it happened, one of the freaks of fashion intensified the depression which the wool-growers of Ohio and neighboring States had to meet. Certain woollen goods, or rather worsteds, made from combed wool, came into demand; and at that time combing machinery could be applied to very little American wool. A heavy importation of combing wool took place during the years 1871-73, and the usual grades of domestic wool went begging. The crash of 1873 marks the end of this period, abnormal for the wool trade as it was in many respects for the industry of the country as a whole. Those who favored the system of duties established in 1867 might well say that it was not fairly on trial until the last direct effects of the Civil War had disappeared and the wool trade had fairly settled down to a trial of the new *régime*.

Beginning roughly with 1873, the production of wool, as we have seen, rose steadily and rapidly. Here, it might be alleged, the fruits of the legislation of 1867 were

at last appearing. To understand the development after 1873, however, and measure the extent to which it was promoted by the protection of wool, we must consider not only the advance in the total volume of production, but the marked change in its geographical distribution. Here the salient fact is the westward movement of wool-growing, and the steadily declining importance of the more thickly settled Eastern and Central States. The region east of the Mississippi has produced a smaller and smaller part of the total supply of domestic wool, and that west of the Missouri a larger and larger part. In the decade of rapid advance, from 1873 to 1883, the gain was made chiefly in Texas, California, and the Territories. A small part of it only came from those parts of the country which are the political strongholds of wool-growing. Since 1883, again, these Eastern and Central States have shown a marked loss; and the total product has been kept stationary only by the increased yield at the frontier, as in Montana, Oregon, Wyoming, New Mexico.

This phenomenon is an old one in the United States. The newer parts of the country have always been the most important producers of wool. Sixty years ago New York and Pennsylvania formed the great wool-growing region; thirty years ago, Ohio and Michigan; at present, Texas, New Mexico, California, Oregon. In the earlier stage of settlement, sheep are kept for their wool on the thinly occupied lands; and wool-growing is a primary and independent industry. As agriculture reaches a more developed stage, sheep are kept as an incident in the general cultivation of the soil. A certain number can be maintained to advantage at very slight cost, but the use of the land simply for their pasture no longer pays. The commercial mode of stating this is that the land becomes too dear for sheep-raising; and the testimony which has been given on behalf of wool-growers before tariff committees and commissions has a plentiful sprinkling of

calculations of the cost of raising wool, in which the rent of the land figures as a heavy item. The simple fact of the situation is that the rent of land, or, what is the same thing, its price, is high, because the greater density of population has made it advantageous to use the soil for other purposes. Wool-growing naturally shifts to regions so thinly settled and so far from the centre of population that tillage has not yet begun.

This westward movement has been promoted in the last twenty years by the rapid pushing of railways into the new country west of the Missouri, and the consequent ease with which the Indians have been subdued and the wild beasts exterminated. The Union and Central Pacific Railways were completed across the continent in 1869, opening a new region to exploitation. Other important lines penetrated the country to the north and south. That process of building great lines far ahead of population into new and unsettled regions, which marks the history of railway operations in the United States since 1850, strengthens the tendency to pastoral use as the pioneer stage in the occupation of the soil. Vast stretches of land become accessible, and can be most quickly and profitably utilized by pasturing sheep and cattle. Beef and wool have been the products first brought to market, and both have been yielded in quantities so large as to make inevitable the decline in their prices. If the land is of the sort that can be used for tillage, this is but a temporary stage. Settlers throng in, wheat and corn succeed cattle and sheep, and the wool clip diminishes; the transition being sometimes accompanied by a struggle between the large holders, who wish to retain the use of the land for droves and flocks, and the poorer settlers, who seek to found new homes on permanent farms. Sometimes, indeed, the obstacles of climate prevent the transition from taking place at all. As the arid region of the West is approached, the rainfall becomes too small

for agriculture; and "ranching," in one form or another, is the only possible use of the land. Herdsmen, with sheep or cattle, then become the permanent occupants.

The details of this process can be easily traced in the development of some of the Western States during the last twenty years. Thus in the decade 1870-80 California became a great sheep-raising State. Since 1880 the number of sheep has declined to one-half the former number: agriculture is succeeding pasture. In Texas the number of sheep increased with extraordinary rapidity until 1885: then the decline set in. Montana, Oregon, Utah, Wyoming, have increased their number of sheep and their wool clip until the present time. They are still in the pioneer stage of pastoral occupation. Some portions of these States, and large stretches in New Mexico and Colorado, are in the region of deficient rainfall, and will remain permanently pastoral. But, as time goes on, the available lands will be taken into tillage, and will have a smaller number of sheep and a smaller product of wool.

The counterpart of this process has been going on in other parts of the world. Australia, the Cape of Good Hope, and the Argentine Republic, stand in the same relation to European countries as the ranching parts of the West to the settled regions of the East. The enormous cheapening of transportation has made them available for supplying England and the Continent with wool. The slower progress of settlement in the Argentine Republic has kept this region of supply in the pastoral stage longer than would be the case with a similar tract in the United States; while Australia and the Cape of Good Hope present climatic conditions similar to those of the more arid districts of our West, and so bid fair to remain great wool-producers permanently. How far these countries may become sources of supply for the United States also is another question, to which attention will presently be given.

It is clear that the increase in wool-raising in the United States has been due, in large part at least, to causes of general operation. We have the case, familiar in economic history, where several causes have united to bring about a given result; and no one of them can be ascertained to have contributed specifically more or less. The higher duties of 1867 may have stimulated the increased production of wool in 1873-83: the general course of economic development in the West might conceivably have resulted in the same increase without any duties. Certain it is that any effect which the duties may have had, exhausted itself before long. The stationary production of the last ten years, and the fluctuations in the individual States, show how signal is the effect of other forces than the tariff, and gives color to the opinion that things would not have been greatly different even if there had been no changes of duty in 1867. This view gets some confirmation from another quarter,—from an examination of the relation of the domestic supply of wool to the imports, and the course of prices at home and abroad.

The figures as to the imports of clothing and combing wool since 1867 show that these continue steadily and in considerable volume, though with great fluctuations from year to year. In periods of activity, as in 1871-73 and 1880-81, they rise rapidly. The very large imports of the earlier years of our period, in 1871-73, are due largely to the unusual conditions referred to a few pages above,—the change in fashion and the consequent great demand for combing wool, then not obtainable within the country. During this abnormal period the maximum imports of any one fiscal year, 57 million pounds, were reached in 1872. Then there came a tendency to declining imports, in the years of depression, after the crash of 1873,—the period during which domestic production was advancing most rapidly. The minimum imports were those of 1879, less than 7 millions. The revival of industry brought a sudden in-

crease in 1880 and 1881; and in the years since 1883 and 1884 there has been a very distinct tendency to an increase. The imports of the last decade have been between 20 and 30 million pounds annually, and nearer the second figure in its later years. They were unmistakably larger in the nine years, 1884-92, than in the nine years preceding; and the increase has been distributed over the individual years with a steadiness indicating that the change is not sporadic. While the domestic production has been slackening during the last decade, the imports have been gaining.

The steady continuance of large imports, and the tendency in late years to an increase rather than a decline in their volume, might seem to prove that the price of domestic wool has been higher than that of foreign by the full amount of the duty. So much can be inferred whenever imports flow in over the barrier of a duty. In the case of wool the inference would be that the domestic product has had the full benefit of the duty; and thence, again, that the increase of domestic production has been very effectively stimulated by it. But, in so reasoning, we must first be sure that the article imported is really the same as that made at home, and that no differences in quality or use affect the extent to which the two compete. And with wool it happens that great differences exist, and make it impossible to reach any such simple conclusions in regard to the meaning of the imports as the figures on their face seem to warrant.

No raw material presents such differences in quality as wool, varying as it does in fineness, length, and lustre of fibre, in cleanness, and in availability for constantly changing machinery and for the varying goods demanded by the caprices of fashion. At the same time climate, soil, the breeding and care of sheep, affect the character of the fleece, and bring about insensible gradations in quality and commercial value which only those active in the trade

can follow. But, in the confusion with which the layman finds the situation obscured, some things stand out clearly. The bulk of domestic wool is different from the imported wool. It has a comparatively short fibre, is strong, but not fine, and is adapted for making cloths of good quality, but not of the best. With no considerable exception, it is "clothing" wool under the tariff system of classification by blood. Twenty years ago most of it was really clothing wool, being too short in fibre for the combing machinery of the day. At present, what with the changes in the quality of the fleece and the improvements in machinery, a very large part of it passes through the combs. The imported wool (always setting aside the carpet wool) is of finer quality, has a longer staple, and is used — generally in admixture with domestic fleece — in making finer and more expensive goods, chiefly worsteds. It does not compete directly with the bulk of the domestic wool.

Under these circumstances the effect of the duty is not easy to make out. The price of much the largest part of the domestic wool is not directly affected by foreign competition, and certainly is not higher than that of similar wool abroad by the full extent of the duty. It may be higher in price by some amount less than the duty: it may not be higher at all. What the exact situation is cannot be stated with any sort of precision. Probably the wool that might compete most directly with the bulk of the domestic product is that of the Argentine Republic, whence large supplies were imported in the years immediately preceding the Civil War. All of this now goes to Europe, chiefly to the Continent: the duty prohibits its importation into the United States. So long has it been prohibited that the trade has lost that one infallible means of comparison which is given by sale in a common market. With the lapse of time, both American and Argentine wools have changed in quality: the tastes of consumers, the details of machinery, have changed. No one can say

exactly in what relation the two articles now stand. The indications are, on the whole, that average American wool is somewhat higher in price than similar wool is abroad. Ten or fifteen years ago the difference, though not so great as the amount of the duty, was considerable. Of late years it has been less. The price of American wool seems to have gone down as compared with wool prices abroad, and at present there is probably a variation of not more than a few cents between the foreign and domestic prices of the qualities to which the bulk of the domestic product belongs. The duty keeps up the domestic price, but probably not by a large amount. The test of sale in a free market alone can show what has been the exact situation and what the degree of effect exercised by the duty.

Some part of the domestic product, it is true, is in a different case. From Ohio, Pennsylvania, and other more Eastern States a considerable amount of fleece comes to market whose fibre and staple bring it into competition with the imported wool. Its price must be higher than that of the similar article abroad by the full amount of the duty: here the tariff exercises its full effect. But this part of the domestic supply comes mainly from the States which we have seen to be stationary or declining as wool-producers. The Territories and the West send little of the finer wool to market, though it should be said that the proportion coming from this region is now larger than it was in former years. How much of the total product belongs in this exceptional class can only be guessed. The quality of the wool which might be put in it shades imperceptibly, from that equal to the finest foreign to that used only at a pinch in substitution for the imported material. Moreover, the varying quality of that coming from the same region in different seasons, and the veerings of trade and of fashion, make the proportion different from year to year. As an approximate statement, it is

probably safe to say that some 20 million pounds of domestic wool compete directly with the foreign in every year, while not more than 50 million pounds are in that position in any one year. At the best, the proportion of the domestic product so placed is not large.

The imported wool comes, practically all of it, from Australia. In that country the physical conditions concur to give the wool-grower advantages of an unusual sort. Vast stretches of land have not enough rainfall for tillage, yet yield succulent grasses, which make admirable food for sheep and cattle. In bad years drought makes havoc with the patient beasts; but, year in and year out, they thrive and multiply. The docile weakness of the original inhabitants and the peculiar fauna of Australia, in which few mammals and no dangerous carnivora appear, obviate the need of protection to domestic animals, and enable them to be cared for by the smallest number of herdsmen. Winter there is none; and little fodder, if any, needs be provided. Not least, the climate and soil are favorable to the growth of fine wool. Why this should be is hard to say. The covering of the sheep is sensitive to every change in its habitat; and the same animal, shifted to new food and new air, will yield a different fleece. Nature has her way, and will not accommodate herself to the designs of legislators. Thus Australian wool has become the natural supply, especially for fine wool, in England and in the Continent of Europe; and, as we have seen, it is making its way into the United States in increasing quantities. Here is a region which Nature has made a well-nigh perfect pasture; and, in attempting to shut out its yield, the United States seem to deny themselves the benefit of Nature's providence.

The prices of wool have shown a declining tendency for the last ten or fifteen years. During 1871-73 there was a sharp rise; and in the next period of activity, in

1880-81, another advance. Since 1880 the price has tended downward the world over. The decline in the United States has sometimes been ascribed to the reduction of duty by the tariff act of 1883. But the reduction was too trifling to account for the change in price. The duty fell by perhaps two cents, and the price by nearly ten cents. The cause is to be found in the great increase in the volume of production, which was marked in the United States between 1873 and 1883, and, though checked with us since 1883, has continued in other parts of the world. The improvements in transportation, opening as they do new sources of supply, constitute the main force at work. The pertinent thing, however, is not so much that prices have risen or fallen, as that prices in the United States, whether rising or falling, have been from year to year higher than they were abroad. Since 1880 the fall in prices in the United States has been greater than the fall abroad, and the margin of difference has tended to become less. How far the price of ordinary domestic fleece has still kept above that of the same article in foreign countries is, to repeat what has already been said, very hard to state with any certainty.

So much as to the main features of the general situation, from which we may proceed to a review of the effects of the wool duties and the probable immediate effects of their repeal. In the first part of the period in which the duties of 1867 fairly exercised their effects,—the decade 1873-83,—they probably stimulated the rapid advance of wool-growing in the West. The opening of the country by railways contributed greatly to the growth, and doubtless would have brought about some growth in any event; but the comparatively high price which the duty helped to maintain had its share. These years were profitable to the wool-growers of the western ranches, as the rapid increase of production proves beyond question; and the increase of itself did much to bring the lower prices of

the period since 1883.* In that later period the first effects of the tariff seem to have exhausted themselves, and the price of ordinary wool has been at a more normal level, being, indeed, probably somewhat higher than the price of the same article in foreign countries, but not so much higher as in the earlier decade, and at times very little higher. The decline in price has checked the further increase of production. The advance of agriculture into the tillable lands has acted in the same direction.

If wool were admitted free, the price of the finer grades would fall at once to the foreign price of Australian wool. That foreign price might rise somewhat for a time, under the effect of an additional American demand, with a strong probability of soon going down to the former level as production in Australia and kindred regions met the new demand. The American grower would have to submit to a lower price at once, and a still lower price as time went on. Growers of fine wool on a considerable scale would find the fall hard, and might be compelled to slaughter their sheep and quit the field. But, as it happens, there are not many such. Much of the fine wool comes from the more thickly settled region, where farmers keep a few sheep as an incident to general tillage. Here sheep for wool already tend to give way to sheep kept mainly for mutton, and the result of lower prices for fine wool would be chiefly to hasten and complete this change. In the regions west of the Mississippi and Missouri, from which of late years an increasing supply of wool of good quality has been derived, the consequences would be less easily met by the growers. It is in this part—probably not very considerable—of the domestic industry that the tariff changes would be most likely to have serious economic effects.

*On the high profits of wool-growing in this period, see the instructive testimony of Mr. E. H. Ammidown before the Tariff Commission of 1882, in the *Report* of that Commission, pp. 1782-1785. Mr. Ammidown predicted the fall in the price of domestic wool which has since taken place.

As to the more common quality of wool, which forms the bulk of the domestic product, the effects of the repeal of the duty are less easy to foresee. The same reasons which made it impossible to speak with precision of the effects of the duty on price make it impossible to predict the effects of its repeal. But, certainly, they would not be of any catastrophic sort. Some decline in price would probably set in, discounted in advance, more or less, in expectation of the repeal. The decline would not be great. It has been often urged that no decline at all would appear, since the free admission of foreign wool would so stimulate the manufacture of woollens as to cause a more active demand for domestic material, and so a higher price for it. But this is too optimistic a view of the situation; while, on the other hand, the view which foresees ruin to the American growers is as much too pessimistic. The fall in price—probably moderate, possibly very slight—would increase the tendency to substitute tillage for pasture in those regions where tillage is possible, and to keep sheep for mutton rather than for wool. In the regions of deficient rainfall and permanent pasture some gradual change from sheep to cattle might take place; and perhaps the profits of the average wool-grower would be so little affected as to leave matters much as they were. In the long run the progress of settlement would probably lead, in any event, to a decline in wool production; and this change might be expected to be quickened in some degree by a lower price of wool. It would be rash to attempt a more definite statement: the event alone can tell how things will go, as indeed this alone will enable us to tell with certainty how they have been going.

So far as the arguments for and against protective duties on other grounds than their direct effects are concerned, the situation as to wool presents no complications. The political arguments have little play. It is difficult

to see how any gain accrues to the political or social spirit of the commonwealth from the growth of ranching and the evolution of the herdsman and cowboy; while the farmer's sheep are not a mainstay of agriculture. Protection to young industries, again, has no favorable field. It has, indeed, been asserted that, given time, the duties will result in the domestic production, at low prices, of every possible grade of wool,—a contention which rests, more or less unconsciously, on the reasoning of the young industries argument. But this is mere rhetoric. Though choice of breed can modify the character of the sheep and the wool, nature, not man, determines mainly what the fibre shall be. The sort of development which public aid can sometimes promote in industries fettered by tradition, yet presenting possibilities of mechanical progress, is here subject to the limitations of soil and climate. On the whole, it is hard to see that anything in the situation presents a case for exception to the general reasoning by which it is concluded that free trade secures the most advantageous adjustment of the forces of production.

Before leaving this part of the subject, the third class of wool on which duties are levied may be briefly considered,—carpet wool. The situation here is very simple. Practically all the carpet wool is imported. Practically none competes with a domestic supply. There are slight exceptions to be made to these general statements. Some domestic wool is used in making carpets, and those who produce it gain by the duty; but their clip is an insignificant part of the total production. Again, some part of the wool imported as carpet wool is used in making cheaper woollens, and so meets a demand by which the domestic growers might possibly profit; but this, too, is a small amount.

Carpet wool is a coarse material, coming to the United States mainly from China, the Argentine Republic, Rus-

sia, and Asia Minor. The list suggests the conditions under which it is grown. It comes from countries backward in civilization, where the sheep run half-wild. No choice of breed is made, and the wool on the animal is accepted as it grows. The wool-producer of advanced countries, like the United States, England, and Australia, secures a better fleece, commanding a higher price, by forethought and intelligence in choice of breed and care of the sheep, and without additional labor at all in proportion to the higher price. He confines his wool-growing, naturally, to the better qualities, so far as soil and climate bring them within his reach. Hence the coarser wool is supplied exclusively by importation from countries where commercial intelligence is as yet hardly awakened. This division of labor is a striking case of trade carried on under the conditions of different comparative cost; resting, however, not so much on the physical causes of difference, which Ricardo and his followers had chiefly in mind when they set forth the doctrine of comparative costs, as on differences in the intelligence and industrial quality of different races of men.

The imports of carpet wool are much the largest, in quantity and in value, of the three classes. They increase, too, with the steadiness characteristic of those parts of our foreign trade which are not affected by protective duties. Twenty years ago they were about 30 million pounds a year. Now they range near 90 millions. Their rapid growth is a sign and a measure of the growth of the carpet manufacture, which in turn reflects the extraordinary gain in material comfort secured by the American people in the last generation. The duty has made this source of comfort a trifle dearer than it would otherwise have been. It has been a simple revenue tax, not complicated by the existence of a competing domestic product. As a moderate tax on an article used largely by strata of the population which are not subject to excessive

taxation in other ways, it might be defended. As a matter of industrial policy, it is indefensible.

The retention of the duty on cheap wool after it had been imposed during the Civil War was probably due to the circumstance that, in the adjustment of 1867, the duty on carpet wool gave the manufacturers an opportunity of securing, under the guise of compensating duties, higher rates on imported carpets than they would have ventured to ask directly. In later years the framework of the act of 1867 has been retained, for fear that any break in it might endanger the whole structure. Notwithstanding the absence of any appreciable effect on the domestic wool-growers from the heavy importations of carpet wool, the eager champions of the growers have been restive under them, especially from the suspicion that wool imported in that class might be used for making cloths, as, in fact, some small fraction of it was. The wrangle between this element, on the one hand, and the carpet manufacturers, on the other hand, was particularly bitter in 1888-90, when the Republican policy on the tariff was crystallizing. The result in the act of 1890 was a compromise. The duty on carpet wool was made *ad valorem* instead of specific, being expected so to adjust itself automatically to the character and value of the fibre imported. The desire to placate the supposed representatives of the farmers, however, was so strong that the compromise was accompanied by various provisions intended to prevent evasion, and, in fact, serving to give importers and manufacturers unreasonable annoyance. As it stands in the act of 1890, the carpet wool duty is an ill-devised and ill-directed piece of legislation, unsuccessful in attaining its object of placating the farmers and indefensible on any of the grounds commonly taken in defence of the protective system.

II.

We pass now to the tariff on woollen manufactures. The variety in the duties is here much greater than with wool, and the complications of the industrial conditions are even more perplexing to the layman. Yet some of the more important aspects of the situation can be made out with clearness. It will suffice for their elucidation if we concentrate attention on the largest and most important branch of the industry,—the making of woollen goods for clothing.

As with wool, so with woollens, the framework of the act of 1867 has been retained intact. But the details have been changed more than has been the case with the raw material. And in the two revisions of 1883 and 1890 important advances in duty were made. It will be remembered that in the system adopted in 1867 a specific duty was imposed on all woollen goods, whose declared object was merely to make good to the domestic manufacturer the disadvantage of having his material taxed. Over and above this came the *ad valorem* duty, which was alone to protect him. The rate of protection stated in 1867 to be adequate was 25 per cent. The actual rate imposed was 35 per cent., the additional 10 per cent. being intended to offset the internal taxes then levied on the manufactures in various stages. Since 1867 this method of mixed duties, in which the specific rate is supposed to be simply compensating and the *ad valorem* alone to yield protection, has been maintained for every sort and quality of woollen article. But the specific duty has been shifted, upward and downward, in real or supposed correspondence with the variations in the wool duty. The *ad valorem* duty has also been moved, but always in the upward direction. Not only has the extra 10 per cent. been retained, notwithstanding the disap-

pearance of the internal taxes, but the rate has gone up to 40, 50, and even to 60 per cent. No part of the tariff system shows so plainly the change in temper between the Civil War and the present time among those asking protection. In 1867 it was thought necessary to minimize the apparent protection, and to demand but a moderate amount of "net" aid. Even in 1882-83 the advances in duty were not made prominent, and were combined with reductions to which attention was called emphatically. Not till 1888-90 was the doctrine of high and increasing protection openly and unflinchingly preached. The advances, both in 1883 and 1890, were made chiefly by splitting the duties; that is, by imposing a higher rate on the dearer qualities of goods than on the cheaper.

In considering the effects of this heavy and increasing protection, we may begin again by examining first the growth of production at home. On the progress of this there can be no such figures as to the annual variations of domestic production as were available in regard to wool-growing. We must rely mainly on the census figures, coming at intervals of ten years. These figures show, on the whole, a steady advance, but not a remarkable one, in the volume of the industry.

The opponents of the protective system have indeed sometimes found in them evidence of a positive decline of the manufacture, and have referred to this supposed loss, as they have to the decline in wool-growing immediately after 1867, in proof of the evil effect of the high duties on the very industries they were meant to help. The census figures as to the value of "woollen goods" of domestic make, for example, show a very slight gain from 1870 to 1880, and a positive loss from 1880 to 1890. But these figures indicate, in reality, not a decline in the industry as a whole, but a change in the methods of manufacture.

The discussion of wool duties and imports has already

involved some reference to this important change: the improvements in combing machinery and the larger and larger part which goods made from combed wool have taken in the woollen manufacture. Twenty years ago, when only wool of long staple could be combed, the "worsted" goods so made were commercially distinct from woollens, as they were kept distinct in the tariff classification. When combing machinery was applied successfully to wool of shorter and shorter staple, and much wool became available for the comb or the card at will, the distinction between woollens and worsteds became comparatively unimportant. In the United States the worsted manufacture, or rather the manufacture of woollen goods from combed wool, has gained what the manufacture from carded wool has lost. The former may indeed be said in one sense to be a creation of the tariff system. Before the Civil War there was virtually no combing machinery and no manufacture of worsted goods in the United States; and even in 1870 the industry was insignificant. It has developed with great rapidity in the last twenty years.

To get a fair test of the growth of the domestic manufacture of woollen goods as a whole, we must therefore take woollen cloths and worsteds together. Some general figures from the census returns may be grouped as follows: * —

<i>Value of Product, in Millions of Dollars.</i>	<i>Number of Employees.</i>
1870 { Woollens, 151.0 } { Worsteds, 22.0 } . . . 173.0	{ Woollens, 77,870 } { Worsteds, 12,900 } . . . 90,770
1880 { Woollens, 160.1 } { Worsteds, 33.5 } . . . 193.6	{ Woollens, 86,504 } { Worsteds, 18,800 } . . . 105,304
1890 { Woollens, 133.6 } { Worsteds, 79.2 } . . . 212.8	{ Woollens, 79,394 } { Worsteds, 43,600 } . . . 122,994

It will be seen that there has been a steady growth, but not a remarkable one. Worsteds, taken alone, have indeed advanced at a very rapid rate, especially from 1880 to 1890; but the loss in woollens has reduced the rate of

* A comparison of the number of spindles and looms would have been more satisfactory; but the census returns, so far as published for 1890, make no separate enumeration of these for woollens and worsteds.

progress for the two combined. The increase in the stated money value of the output must be corrected somewhat for the depreciated paper money of 1870, when gold was at a premium of about 20 per cent. But the better test of the number of persons employed indicates that the correction on this score would not seriously affect the result, so far as the general rate of progress goes.

There is another indication of the development of the manufacture, in some ways more significant than the census returns,—in the quantity of raw material consumed. The domestic production and the imports (setting aside the carpet wool) give the total quantity of wool used in making woollens.

It will be remembered from what was said in the first part of this paper that the rapid growth of the domestic wool product swelled this total rapidly until about 1883; while of late years the growth has been slower, the increase in imports barely making up for the decline in the domestic supply. In interpreting these facts, regard must be had to the rapid growth of other branches of the wool manufacture, such as the making of felt goods, hats and hosiery and knit goods, of which the last mentioned more particularly has grown with very great rapidity since 1880. But the great bulk of the wool used goes into the making of woollens and worsteds, and the total consumption is a sufficiently good measure of the growth of these main industries.* For obvious reasons, it is a better measure

*The total quantity of the principal materials used in the making of woollen and worsted goods, in the census years 1880 and 1890, was as follows, in millions of pounds:—

	1880.	1890.
Wool, foreign	45.2	54.7
domestic	202.5	228.3
Total	247.7	283.0
Shoddy	46.8	54.5
Cotton	26.5	41.0
Total	321.0	378.5

Some consideration of these figures, and of the qualifications with which

than the money value of the goods turned out, since this has been lowered, for the same quantity of goods, by the decline in the price of wool and the improvements in machinery. Taking one test and another, the evidence shows a growth in the industry more rapid in the earlier part of our period than in the later, and, for the quarter-century as a whole, not more than moderate. The advance has not been so great as that in the most nearly related textile industry,—the cotton manufacture; and it is not to be compared with that in two other great protected industries,—the manufacture of silk goods and that of iron and steel. It cannot be said to give proof either of any striking gain, such as might be cited to show the stimulating effect of the tariff, or of any marked failure, such as might be supposed to show its harmful effect.

With the volume and rate of gain in the domestic product of woollens, we may compare the volume of the imports. In the custom returns, three important classes of goods are enumerated which need to be considered in making such a comparison,—woollen cloths, worsteds, and dress goods. The first two are mainly for men, the last for women. But, as it was most in accord with the essentials of the situation to class together the domestic woollens and worsteds as one, so it is best to attempt no separation between the imported cloths designated by these names. As to imported woollens and worsteds, the impossibility of maintaining a real distinction has been made the greater by an episode in the history of the woollens tariff which shows what pitfalls beset the framer of intricate systems of duties, and which may receive some brief consideration.

In the act of 1867 “worsted” had been put in the same class with a number of other manufactures of wool,

they must be used, will be found on pp. 10, 11, of *Census Bulletin*, No. 169, from which they are taken. The census figures tell the same story of moderate growth as is given in the text.

—flannels, blankets, yarns, and others. On these there had been not a uniform duty, but one graded by value. If the value of the goods was not more than 40 cents per pound, the duty was 20 cents specific plus 35 per cent. ad valorem; if between 40 and 60 cents, the duty was 30 cents specific, with the same ad valorem addition; and so on, the specific duty rising as the value rose, until finally worsteds worth more than 80 cents a pound were subjected to the same duty as woollens. This gradation of the compensating duty was introduced because of the common use of cotton as warp in making the cheaper qualities of these goods. A specific duty on the basis of the use of wool alone in all cases would have been admittedly excessive. In 1867, when worsteds, with other goods, were subjected to this system, the distinction between them and woollens was still clear. Moreover, worsted cloths for men's wear were not then made in the United States. In 1883, when the woollens schedule was overhauled, the distinction had been largely done away by the changes in machinery already described; at the same time, the domestic manufacture by the new methods had begun. Nevertheless, the tariff act of that year still enumerated worsteds in the paragraph with blankets, flannels, yarns; and the graded duties were maintained.

The consequence was unexpected. While worsteds worth over 80 cents a pound were dutiable at the same rate as woollen cloths, those worth less were subject to lower rates. The fall in the price of wool and the improvements in machinery enabled them to be put on the market at lower and lower prices; and a large importation ensued of worsteds valued at less than 80 cents, and so subject to a lower duty than that on woollen cloths. It was asserted that the goods, moreover, were fraudulently undervalued, so as to bring them within the lower class; and probably this cause contributed to increase the quantity that slipped in at the reduced duties. Certain it is

that there was a large inflow of cloths classed as "worsted" because made from combed wool, yet competing as effectually with domestic cloths as if they had been called "woollens." The manufacturers naturally were exasperated at this breach in the elaborate barrier which they had erected against their foreign competitors, and endeavored to secure a ruling at the custom-house by which these articles should be rated as cloths and subject to a higher duty. The Democratic administration of 1885-89 refused to make such a ruling. The Republican administration which succeeded in 1889 was more complaisant, and caused these goods to be classed as woollen cloths, and so charged with a higher duty. Consequently, for a year the customs returns show a sudden increase in the imports of cloths and a sudden decline in those of worsteds. An appeal to the courts, however, soon brought a judicial decision that "worsted" was used in the tariff acts in a specific technical sense, meaning cloths made from combed wool. Thereupon Congress, in 1890, passed a special act, in advance of the general tariff act of that year, by which "worsted" were made dutiable at the same rates as "woollen cloths"; and so the tariff was at last brought into accord with the industrial conditions.*

It may not be amiss to remark that this episode brings out not only the incongruities of this part of the woollens schedule, but a very serious defect in method,—the gradation of duties by the value of the article. The same practice was followed in other parts of the schedule, and especially in the duties on dress goods, where the finer qualities, distinguished by their value above a certain figure, were subjected to especially high duties. In the act of 1890 the method was applied in many other direc-

*The columns of the *Bulletin of the Wool Manufacturers* for 1886-90 are full of discussions of this subject, and print various arguments presented to the Treasury Department to show that worsteds ought to be classified as woollens. They contain, too, some curious inquiries as to the responsibility for the slip made in the act of 1883.

tions. Unquestionably, it offers temptations to the undervaluation of goods which are demoralizing to the importer's trade. A slight change in the custom-house value of the goods may bring a sharp change in the duties; and what between intentional fraud, the difficulty of appraising the value of such articles, and the inevitable tendency to manufacture foreign goods in such a way and at such a cost as just to escape high duties, the system of gradation in practice works like a game of chance in which the unscrupulous are sure to win.

To return from this digression to the subject in hand,—the imports of woollen manufactures and their relation to the domestic production. The greater part of the domestic product is of goods for men, with which the imported woollens and worsteds compete. There is also a considerable and growing manufacture of fabrics for women, which is met by the imported dress goods. Whether we look at woollens and worsteds as one group, or at these two and dress goods taken together, we find a steady stream of imports, and little indication of any decline in the inflow. The stated value of the imports rises in years of activity, and falls in years of depression; but over long periods it remains at very nearly the same level. That of woollens and worsteds varies between 10 and 15 million dollars a year; that of dress goods, between 15 and 20 millions a year. In these times of falling prices for the raw material and diminishing cost of manufacture, the maintenance of the money value of the imports at about the same figure indicates, of course, a considerable increase in quantity. Comparing the imports with the domestic product of woollens, we find the latter to be much the greater, and to supply much the larger part of the total consumption. Making allowance for the duties and other charges on imports, it may be said roughly that what the consumers paid in recent years for imported cloths, worsteds, and dress goods, taken to-

gether, was about thirty-five per cent. of what they paid for imported goods.* Relatively, the domestic product has gained on the imports in the twenty-five years, and now supplies a larger part of the total consumption than at the beginning of the period. But the gain has not been very great; and the unabated volume of the imports, in face of high and increasing duties, shows that, in large part at least, protection has here failed to secure the end immediately in view,—the substitution of the domestic for the imported supply.

So much as to the relative volume of domestic product and of imports. More significant for our purpose is the character of the goods which the community obtains in the one and the other of these two ways. If the domestic and imported woollens were of much the same sort, and were sold side by side in the market, we should have an important clew as to the effect on the public of the whole system of wool and woollen duties. But, in fact, the two are very different; and the differences are such as to leave us little satisfactory evidence on the real working of the protection given the woollen manufacture. Much the largest part of the supply of woollen cloths furnished by the American manufacturers is of the cheaper sort, worn chiefly by the less well-to-do, and bought by them commonly in the form of astonishing bargains in ready-made suits.† No such goods are imported. The foreign wool-

*The total imports of these goods in 1890 were valued at the custom-house at about 40 millions of dollars. Duties on them ranged from 70 to 90 per cent., and some allowance must be made for undervaluation and for shipping charges. The total money value which the imports stood for when they reached the first American hands was hardly much less than 80 millions. With this sum may be compared the census return of 212 millions as the value of the domestic product of such goods.

† In 1884 Mr. John L. Hayes, then secretary of the Wool Manufacturers' Association, wrote in their *Bulletin* (vol. xiv. p. 116): "The woollen manufacture of this country, although capable of producing commodities of the highest luxury, . . . is almost wholly absorbed in production for the masses. Nineteenths of our card-wool fabrics are made directly for the ready-made clothing

lens are of finer quality, bought mainly by those in easy circumstances, and more likely to be made into garments to order. The higher duties which were imposed on the more expensive qualities of woollens in 1883 and again in 1890 have indeed brought about of late years some isolated ventures in the domestic manufacture of finer cloths; but the competition with the importer is not yet very serious, and the line of demarcation between domestic and imported goods is still distinct. The same is the case with women's dress goods, which are the largest single item in the imports of manufactures of wool. There is a growing domestic manufacture of the cheaper and less attractive sorts. The dearer and finer continue to be imported, notwithstanding very high duties.

Thus, as to the bulk of American woollens, we have no certain test of the direct effect of the duties or the extent to which they operate as taxes on the consumers. The material of the clothes worn by the great majority of the community may be considerably dearer than the foreign article of the same quality, and yet be shielded from competition by the barrier of the high duty; or it may be no dearer at all. That the latter is the case has been often asserted by the advocates of protection.* But it is

establishments. The manufacture of flannels, blankets, ordinary knit goods, occupies most of the other mills engaged in working up carded wool. The dress goods manufactured are made almost exclusively for the million, the women of the fashionable classes supplying themselves by French importations." The quality of American wool and woollens has been improved since this was written; but that the situation remains in essentials as it was, see an article in the well-informed *Boston Journal of Commerce*, January 18, 1890.

*Thus, in a public statement addressed to the Secretary of the Treasury (Mr. Manning) in 1885, the Wool Manufacturers' Association said that the cheaper grades of woollens which supplied nine-tenths of the clothing of the male population were "sound goods," made of staple American wool, and, "considering their more serviceable character, practically as cheap as foreign cloths to their buyers abroad." This assertion of the more serviceable quality of the American goods is common, and leaves it clear that their price is higher, at least in appearance. As to quality, it is probably not true that they are a whit better. American cotton goods are usually better than foreign goods described under the same name; but woollens are not.

more than doubtful whether the duties are so innocuous and unimportant. The material of the goods in question is the staple American wool, with more or less admixture of cotton and shoddy. The wool, as we have seen, is probably somewhat dearer than similar material in countries admitting it free of duty; and by so much the domestic woollens must be dearer. But it is impossible to say with any exactness what must be allowed for this excess, representing the effect on the consumer of the wool duty alone. Whether the duties on woollens, taken by themselves, exercise an independent effect, must depend on the cost of manufacturing the material into cloth in this country as compared with foreign countries, and especially with England. How much this expense and the consequent difference in selling price vary in domestic and foreign mills, even the persons best informed in the minutiae of the trade would find it hard to say.

A certain answer to the question just suggested would be given only if both wool and woollens were admitted free of duty, and American and foreign manufacturers competed under equal conditions in a free market. Such a state of things is not likely to come at any time in the visible future. But free wool and a comparatively moderate duty on woollens are among the possibilities of the next few months; and the results of this change are not so difficult to forecast. A duty of 25 or 30 per cent. would probably leave much the greater part of the American woollen manufacture as it is. The lower price of wool would bring down the price of woollens. The easy choice in using foreign wool might have a further effect on the quality of the goods commonly made. No considerable importation of the cheaper grades of foreign fabrics would be likely to ensue.

As to the finer goods of which there is continued importation for men's use, and still more for women's, the situation is different. Here we have the certain proof

that the taxed article, whether imported or made at home, is raised in price by the full amount of the duty. The domestic product, to be sure, is not large in amount; and, while as a rule it is nominally cheaper, it is correspondingly less desirable, and able to maintain itself in the market only because the foreign competitor is so heavily handicapped. The same conditions which were assumed a moment ago—free wool and a moderate duty on woollens—would bring a large reduction in the price of those more luxurious and in many ways also more serviceable cloths. The fact that the American manufacturers, notwithstanding high duties continued during a generation, have been unable to secure any large part in the market, would seem to show conclusively that the cost of making the better cloths is much higher for them than for their English, French, and German competitors. A very low duty might be expected to wipe out this part of the woollen industry; while a duty of even 35 or 40 per cent. would make its future at least uncertain.

That this result would ensue, however, is emphatically denied by most of those who advocate an incisive change in the woollens schedule. It is urged, on the contrary, that the new system would stimulate rather than check the domestic manufacture of finer goods. The cause of the limitation of the industry as it stands now, is said to lie in the tariff restrictions under which the manufacturer labors in his choice of material; and the removal of the duty on wool is expected to enlarge the range of his operations. This prediction raises the questions most difficult to answer in regard to the effects of the present *régime* and the results to be expected from that impending.

Undoubtedly, it is true that the wool duty hampers the manufacture of the better goods much more than that of the cheaper, and offsets in good part the effective protection given the former. The fine wools, as we have seen, are not produced in sufficient quantity within the country,

and are imported largely from Australia. Here the specific duty on woollens is really needed for compensation; and, of the total accumulation of duties on the manufactured article, the specific portion is chargeable to the wool tariff alone. On some of the finer dress goods, the compensation in late years has probably been excessive; but on finer woollens and worsteds this has not been the case, and, indeed, on worsteds it was for a time probably not enough to offset the wool duty. On the goods commonly made in the United States, however, the specific duty has always been needlessly large, and has made the real protection much higher than the nominal ad valorem rate. The higher net protection so given is sometimes supposed to have brought higher profits to the makers of the cheaper goods, and to explain the commanding place they have in the domestic manufacture. But the explanation has little support from general reasoning or from experience. *A priori*, in an industry divided among many establishments and presenting hardly a possibility of combination, competition might be expected to prevent any permanently heavy profits, even though duties were very high; and, in fact, the period immediately following the imposition of the higher duties of 1867, in which large gains might conceivably have been reaped, happened to be one of depression and discouragement. The higher protection of the cheaper woollens simply made the duties on them more effectually prohibitory, and veiled more completely their real incidence and effect. On the other hand, so far as the finer goods are concerned, the duties, even after setting aside the specific part as of no advantage, have still been high enough to give substantial encouragement. The specific duty would seem at least to have performed its function of making good the damage caused by the wool tariff; and there remains the ad valorem rate of 35, 40, now even 50 per cent. This is still a heavy rate of protection; and the question recurs, Why have twenty-

five years of heavy protection brought about so insignificant a development in the manufacture of the finer goods?

The necessity of the freest choice of material, and the hampering effect which, notwithstanding every effort at compensation, a restriction in the selection of wool exercises, have been dwelt on with such emphasis, both by the advocates and the opponents of the existing system, that the layman must admit the weight of this factor in the situation.* With wool on the free list, manufacturing would be carried on under conditions so fundamentally different from those of the present that a complete overturn cannot be declared impossible or even highly improbable. It may be, as we are told so confidently by those who find in the present system a cause of ruin to the wool industry, that no measure of compensation, devised though it be by the manufacturers themselves, can prevent the duty on the raw material from embarrassing them. The whole system established in 1867 has been described again and again in the columns of the *Bulletin of the Wool Manufacturers* as unsatisfactory in

*See, for example, the report of the wool manufacturers to Secretary Manning in 1885, printed in the *Bulletin of the Wool Manufacturers*, vol. xv. pp. 213-216. Compare the weighty remarks of Mr. E. O. Page in an excellent pamphlet on *The Woollen Tariff*, reprinted from the *American Wool and Cotton Reporter*, 1893. The most emphatic assertion from the other side of the evil effects of the wool duty comes from Mr. J. Schoenhof, especially in *The Destructive Influence of the Tariff*.

Mr. Page, in the pamphlet just cited, says: "I fear many manufacturers do not fully realize even now how much improvement and economy is to be accomplished by making their goods from a mixture of the stocks most exactly suited to the qualities the goods are to possess instead of from the makeshifts which our meagre market has hitherto afforded. I have been shown in an English wool manufacturer's house a mixture or blend of no less than fourteen distinct and different varieties of wool, from which is made a simple woollen fabric in which at home no more than two or three qualities are used. . . . It cannot be denied that the virtual prohibition of the use of two-thirds of the world's wools to the American manufacturer during thirty years of tariff discrimination has deprived him of the knowledge necessary to success in this most important branch of the manufacture [the selection and mixture of wool]."

itself, and submitted to only because the retention of the duty on the raw material was essential to the maintenance of the protective policy as a whole. In the face of such statements, it must be admitted to be possible that the privilege of using at will any and every quality of wool, which has been virtually denied the domestic manufacturers for a generation, may enable them to turn out many sorts of goods, fine as well as cheap, at prices which will enable them to meet foreign competition with the aid of but a moderate duty.

On the other hand, there is a line of reasoning which points to less optimistic conclusions. In general, it may be laid down that American producers cannot hold their own in competition with foreign unless the labor and capital applied by them are more efficient,—unless they have a comparative advantage in production. To the individual business man this is the obvious consequence of the higher range of wages in the United States. Paying higher money wages, the manufacturer must be undersold by his foreign competitor unless the labor he employs is more efficient in proportion to its greater expense. For the community at large the higher range of wages simply means that industry in general is more productive; and the inability of any one branch of industry to maintain itself because its competitors abroad can get labor cheaper, indicates that the productive forces are applied to less advantage here than in branches which are not affected by such competition. So far as manufacturing industries are concerned, the evidence is ample that a wide range of them possess a comparative advantage, and would maintain themselves without the aid of duties. The cause of advantage may be greater cheapness of the material, or greater opportunity for the exercise of discretion and intelligence by the workmen, or greater ingenuity in the machinery and methods of the business leaders, or all these combined in greater or less degree. Usually,

the cause of advantage is that the American industry has taken the lead in the advance of the arts, and is superior to foreign rivals in inventions and labor-saving appliances.

Examining the woollen manufacture from this point of view, we find occasion for doubting whether the *régime* of free wool will so affect it as to bring the necessary conditions of comparative advantage. So far as the present writer is informed, the Americans hitherto have followed rather than led in it. The new inventions, the improvements, have been first made abroad, and in this country have been imitated more often than carried to further perfection. This is more especially the case in the worsted manufacture. In making cloths from carded wool, it is said that there is no superiority in machinery abroad; while here, as in the cotton manufacture, the mechanism of the loom seems to have been carried to its highest perfection by Americans. Yet, on the whole, there seems to have been little of that revolutionary enterprise which has been shown in other directions. In the making of boots and shoes, of fire-arms, of sewing-machines, of hardware generally, of wooden ware,—to mention only some of the most conspicuous cases,—American producers have come to the fore, without any aid from protection. In other industries much affected by the tariff, as the manufacture of silks and of steel, there has yet been a marked initiative and a promising boldness in new methods and new machinery. In the woollen manufacture such independent advance is little heard of. We need not accept as typical of the situation the stories of second-hand and discarded English machinery bought for use in American mills. Such cases can be only sporadic. But there is no indication that Americans have taken the lead. The manufacturers themselves inform the legislature that “it is the one textile manufacture in which it has not been possible as yet for Yankee ingenuity to excel the products of countries which have been engaged for centuries in devel-

oping the industry.”* The greatest single change of recent times has been the perfecting of combing machinery,—the last stage in the long process by which the hand-comb of older days has been supplanted by the modern machine-comb; and this advance was achieved in England and on the Continent.† We are often told that American mills are as well equipped as English, but few venture the assertion that they are better equipped. In one direction only is there evidence of marked initiative and superiority among Americans,—in the carpet manufacture,—where, before the Civil War, a great inventor put the industry in the United States on a new and independent basis.‡

Further, there is ground for saying that, so far as finer woollen goods are concerned, the conditions are not favorable for a triumph of Yankee invention and ingenuity. In the testimony given before Congressional committees we encounter again and again the statement that finer woollen goods call for more labor and a larger proportion of labor cost than cheaper goods and than manufactures generally. This means, when translated into the language of economists, that previous labor embodied in machinery plays a less part, and direct labor in guiding the machin-

*This is the language of the brief laid before the Ways and Means Committee by the National Association of Wool Manufacturers in September, 1893.

† The history of this typical change in manufacturing art can be followed in the pages of James's *History of the Worsted Manufacture in England* (1857) and Burnley's *History of Wool and Wool Combing* (1889).

‡ I refer to Mr. E. R. Bigelow, the inventor of the power-loom for carpets, known to economists as the author of an able defence of the protective policy, *The Tariff Question* (Boston, 1862).

I have said nothing in this paper of the carpet manufacture, the next most important branch of the woollen manufacture after woollen and worsted cloth. The imports of carpets have practically ceased. The domestic production is enormous, and commands the field. The duties have been so long prohibitory that there has been no possibility of effective comparison of the price and qualities of foreign and domestic carpets. The indications are that the carpet makers can face lower duties with as much confidence as any among the woollen manufacturers.

ery or manipulating the material plays a larger. In making finer woollens, we are told the raw material must be more carefully sorted, selected, and prepared. The machinery can run at less speed and less continuously. The operative must stop it more often to repair the thread and insure the nicety of every stage in spinning and weaving. The cloth must be more laboriously gone over for imperfections. These conditions are not favorable for the rapid action, the continuous use of machinery, the economy of direct labor, by which American mechanical genius has achieved its greatest results. In making cheaper woollens, we are told that production can be more automatic, and that American mills run their machinery faster than European. Such a difference suggests that the manufacture of cheaper woollens would meet foreign competition more easily than that of finer.

The conditions are similar in the cotton manufacture. There it seems to be certain that the cheaper grades of cotton goods, which form by far the most important part of the industry, can be made as cheaply in the United States as in any foreign country, notwithstanding the higher wages bill; partly because the material is cheaper, partly because methods and machinery are better. Finer cottons, on the other hand, are more cheaply made abroad, because, in the language of the business man, they entail a larger proportion of labor, which means, again, that labor embodied in machinery can supplant in less degree the application of immediate labor. In both these great branches of the textile industries, we thus find indications that, in the present state of the arts, the making of the more expensive grades of goods presents conditions not the most favorable for mechanical ingenuity and success, and so not promising for the American producer when exposed to unhampered foreign competition.

Whether free wool will vivify the whole woollen manu-

facture; whether a sharp reduction of duties on woollens will prostrate it; whether some parts will prosper while others go to the wall,—all this the event alone can tell. The more conversant the unbiassed searcher for truth becomes with the facts of the situation, the more must he hesitate to accept any one of the confident but contradictory predictions as to the outcome of radical changes. But it seems to be reasonably clear that such legislation as is likely to come in the visible future will not work any catastrophe. Free wool, with a duty on woollens ranging somewhere between 25 and 35 per cent., would enable the bulk of the woollen manufacture to hold its own, and would give the rest at least a fighting chance. The first effects of a radical change could not but be unsettling, especially with the process of experimenting which must be gone through before it can be known what changes in the price and selection of wool will result from its free admission. In view of the novelty of the conditions which will confront the manufacturers with wool free, it might be the part of sound policy to make the duty on woollens somewhat higher at the outset than it was proposed to make it when the lapse of a year or two had enabled them to see what the situation really proved to be as to their raw material. After a season or two of such transition, it will be more plain what the new *régime* will really bring; and then only can we know what the *régime* of the past had been doing.

Meanwhile, wool will be somewhat cheaper, and woollen cloths will be cheaper, too, though in varying and uncertain degree for different sorts. The consumer cannot fail to secure some degree of advantage; and those who believe that he is the main person whose welfare the legislature is called on to consider in matters of tariff policy, can look forward to the coming changes with confident expectation of some solid gain.

F. W. TAUSSIG.