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The Iron Industry in the United States

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THE IRON INDUSTRY IN THE UNITED STATES.

II.

THE WORKING OF PROTECTION.

THE argument for protection to young industries has been little heard of late years in the protective controversy. The opponents of protection assail it with ridicule. The protectionists themselves are chary of referring to the huge enterprises of this generation as needing the props of infant endeavor. Fifty or a hundred years ago the case was different. Then many industries in the United States were obviously in the early stages of development. The established organization of business in other countries, and especially in England, their possession of unfamiliar machinery and processes, the acquired skill of the laborers, made it at least plausible to argue that here were formidable obstacles for new competitors; and yet obstacles which — given time and some temporary aid — were not insurmountable. Accordingly, the argument for protection to young industries was loudly and persistently urged, and ceased to be heard only as the rapid development of manufacturing industries made the word “young” less and less applicable to what seemed to be the plain facts of the situation.

And yet the same argument has continued to be presented, in terms nominally different, but in substance the same. We have not been told that protection should be accorded to young industries; but we have been told time and again that protection, while it may cause the price of an article to rise for a while, eventually leads to a reduction in its price. When such assertions are made, the free-trader of the uncompromising type asks at once, why should the domestic producer need aid if he can put his

commodity on the market as cheaply as the foreigner? The answer of the protectionist is that aid is needed only in the early stages. At the outset, it is said, the domestic producer cannot market as cheaply. He has much to learn; but the field is promising, and, given time and the spur of competition at home, he will in the end accomplish the object, and be able to meet the foreigner without fear or favor. Evidently, this is our old friend the plea for protection to young industries. It is assumed that there is a promising field. No deep-seated obstacles stand in the way of the successful prosecution of the new industry, and difficulties arise merely from lack of experience and acquired skill. Only if assumptions of this sort be made, can it be reasoned that protection is needed, and yet that prices will sooner or later be as low as those of the imported article.

These simple and familiar generalities have been set forth once more, because they bear on the extraordinary development of the iron industry in the United States during the last thirty years. The attentive reader of the campaign literature put forth by the American Iron and Steel Association must be struck by the change, in very recent years, in its mode of presenting the alleged effects of the protective duties. Formerly the practice of the astute managers of its protectionist propaganda was to set forth in a single column the fall in the domestic price of (say) steel rails before and after the imposition of the heavy duty of 1870. Sometimes simplicity was carried so far that for the period 1865-78 current American prices were quoted without even making corrections for the depreciation of the paper currency, bringing the high prices of that time into wonderful contrast with the reduced gold prices of later years. The present writer, when discussing the effects of the duty on steel rails some fifteen years ago, naturally resorted to the comparative method, and showed, in parallel columns, that the

American price in specie, fallen though it had, remained continuously and largely above the foreign price.* Of late, however, comparison of this sort, once studiously avoided, has been instituted with ostentation by the protectionists themselves. Their broadsides now state prices not only in the United States, but in Great Britain as well, and show that the prices of many forms of iron and steel have not only fallen in this country, but have fallen to the foreign level, sometimes even below the foreign level. This change in the comparative level of prices is a recent phenomenon; but it is the outcome of forces that have been in operation for several decades, and it calls for a fresh examination of the working of the protective system.

A glance at the figures in the appended tables † will show that since the year 1893 there have been no considerable differences between the prices of pig iron in Great Britain and in the United States. We may disregard for the present the course of prices during the year 1899: of this something more will be said presently. Looking at matters as they stood at the close of 1898, we find that for five years American prices were virtually the same as British, a trifle higher in the earlier part of this quinquennial period, a trifle lower in the later. Before 1893, on the contrary, British prices had been steadily lower,—sometimes very much lower, sometimes with moderate divergence, but always with a general level unmistakably beneath the American level. The same sort of change has appeared in the prices of steel billets and steel rails. Here, too, after a long period of higher prices, the American quotations fell to the British, and even below them. It will be recalled that it was in the decade 1880–90 that the greatest growth took place in the American iron industry. In 1890 the American output for the first time exceeded that in Great Britain. Domestic production has thus

* In the essay on *The History of the Present Tariff* (1885), since incorporated, with some revision, in the *Tariff History of the United States*.

† See the Appendix, p. 573.

mounted, domestic competition has lowered prices, and these prices have fallen not only absolutely, but relatively to those in competing countries. It may be fairly argued that the community has got its iron more abundantly and more cheaply than if it had relied on free importation. *Prima facie* the case of the protectionist is made out. Protection to young industries seems to have been successfully applied.

But, while the object of protection to young industries has been attained, it may remain a question whether it has been attained by means of that protection. The result may have been due to other causes, such as would have been at work in any event. The same forces might have come into operation without the stimulus from protective duties. Further, it may be a question whether the gain, even if due in some degree to protection, is worth the cost,—whether the incidental losses and disadvantages may not outweigh the gains and advantages. To answer these questions, a more searching analysis is necessary, and a more detailed consideration of the course of prices in both countries.

It will be of service to note at the outset what were the duties on pig iron during the period under consideration. In round figures they were \$7 per ton for the period from 1870 to 1894, and have been \$4 a ton since 1894. Some variations in the rates during the earlier period are set forth and explained below, but are of no great moment.* The

* *Duties on Pig Iron*

(Per gross ton of 2,240 lbs.)

Act of July 14, 1870	\$7 00
Act of June 6, 1872	6 30
Act of March 3, 1875	7 00
Act of March 3, 1883	6 72
Act of October 1, 1890 ("McKinley")	6 72
Act of August 27, 1894 ("Wilson")	4 00
Act of July 24, 1897 ("Dingley")	4 00

The "war duty" on pig iron (1864) had been \$9 a ton, and was reduced to \$7 in 1870. The reduction in 1872 was part of the "horizontal" 10 per

duties on other forms of iron than pig iron, and especially on some steel products, are of much importance. But it will be convenient to confine the inquiry for the moment to the prices, production, and imports of pig iron, passing thereafter to such other parts of the industry as present phenomena different from those which appear in this fundamental branch.

The iron industry is peculiarly liable to the periodic fluctuations of modern industry. Indeed, it reflects in the extreme the alternations of activity and depression between which intervene the recurring commercial crises. The explanation of this special sensitiveness is not far to seek. The periodicity of the changes is closely associated with the variations in the spirit of investment. In so-called good times, new enterprises of all sorts are freely launched. In the succeeding periods of dulness, few such are undertaken. But investment and fresh ventures in our modern days mean the erection of plant, tools, and machines; and these mean iron and steel. When new and ever new railways formed the main outlet for the investment of the rapidly growing accumulations of savings, it was inevitable that their construction — rapid in the days of activity, slow and halting in those of depression — should cause periods now of insatiable demand for iron, then of glutted markets. Within the last decade or two the railway has become relatively less important in the investment of the new supplies of savings; but the development of the arts in other industries, the ever-growing use of iron and steel in buildings, ships, tools, and machinery of all kinds, have caused the oscillations in the iron trade to persist. Naturally, these phenomena are

cent. reduction on manufactured articles made in that year, and repealed in 1875. In the general revision of 1883 the duty on pig iron was stated in terms of so much per pound, — no longer per ton, — the figure being 3-10 cent per pound, or \$6.72 per gross ton. No change was made in the McKinley act of 1890; but in the Wilson "reform" act of 1894 the rate was lowered to \$4, and this was retained when the protective system was rehabilitated in 1897.

accentuated in the United States, where material progress is rapid beyond comparison, and where the investment of capital proceeds fast and feverishly. Hence we find that with every rising wave of enterprise and investment the price of iron rises, and its production mounts with sudden rapidity. Then comes the crisis: prices fall, production halts, and a period of depression follows, more or less long according as the conditions for revival appear sooner or later. Commonly, the iron industry feels a chill before the commercial storm breaks. A slackening in the launching of new enterprises naturally appears, as some among the enterprises already set up begin to weaken under the test of active operation. Hence the maximum production of iron and the highest range of prices for the cycle often come in the year immediately preceding the crash. In 1872-73, it is true, the largest production and the highest price came in the year of the crisis itself, in 1873. But, before the disturbances of 1884 and of 1893, a relaxation in the rate of output and the beginning of a fall in prices are seen in advance of the general overturn. In 1899 and in the first months of 1900 the industrial world was on the crest of a rising wave, with its familiar phenomena of increasing production and inflated prices, sure to be followed, so far as experience can guide us, by a period of slackened production and falling prices.

A glance again at the tables in the Appendix will show that during more than half of the period under consideration the imports of pig iron responded regularly to the increasing demands of the active periods, and fell as regularly during the dull times that followed. At the beginning of our period the domestic supply of iron needed to be regularly supplemented by the imports; and in the years 1871-72 there was simply a somewhat increased resort to a regular foreign supply. But, as the domestic product became larger, the imports became less and less important, and, except in the years of rising speculation and invest-

ment, virtually ceased. It is true that the custom-house returns show continuous and considerable imports throughout the period; but the figures might easily mislead. The imports classed as pig iron are in good part imports of special qualities, required for some particular use. Thus in the decade 1870-80, and even later, Scotch pig iron was imported in considerable quantities, being thought specially adapted for certain kinds of smooth castings, and so bought abroad in the face of a duty which advanced its price much beyond that of domestic iron. Of late years Southern iron has been found available for these purposes, and the importation of the Scotch brand has ceased. Similarly, spiegel-eisen and ferro-manganese — which are classed with the ordinary kinds of pig iron in the custom-house returns — are imported in varying quantities. These are used, in comparatively small amounts, solely for mixture with Bessemer pig in the last stages of the conversion of that iron into Bessemer steel, and are imported in fluctuating quantities, but with a gradually lessening dependence on the foreign supplies.* Setting aside these special imports, we are safe in saying that in the dull periods of 1875-78, and again in 1884-85, the imports practically ceased. On the other hand, they suddenly revived, and became of considerable volume in the active years 1879-82, and again in the year 1886-87. Since this latter period, however, they have ceased to come in, even during the periods of activity. The year 1890, when first the American iron product exceeded that of Great Britain, marks also the end of this spasmodic competition. With that year the revolution in the iron trade of the United States was virtually accomplished; and the new period was entered on, of whose characteristics some have

* The production of these special brands varies greatly, within the country and without, apparently from the sporadic and easily exhausted pockets of the peculiar ore. But the domestic production, on the whole, has been rapidly increasing. See the *Report of the American Iron and Steel Association for 1898*, p. 40.

already been noted, and of which others still need our attention.

It is clear from these facts that during the years of activity — 1872–73, 1879–82, 1886–87 — the price of iron in the United States was at the seaboard higher than the price in Great Britain by the full amount of the duty. The mere fact of importation suffices to prove this: the iron would not have come in over the duty unless the price had been high enough to make the sales profitable. At other times iron has not come in,— that is, only certain special qualities have come in; and the American price, while higher than the foreign, has not been higher by the full amount of the duty. The tables of prices amply verify these statements. In the busy years the difference between American and British prices is large enough to offset duty, freight, and other charges; and imports flow in. In dull years the margin shrinks; and imports cease, except for the special qualities. Until 1893 — that is, through much the greater part of the period we are considering — the American public has had to pay roundly, sometimes the full amount of the duty, sometimes less, but always a very substantial added price, for the eventual gains which may be credited to the protective system.

A precise measurement of this burden has sometimes been attempted. Following the simplest lines of orthodox reasoning, it has been argued that the total domestic production, multiplied by the rate of duty, would gauge accurately the added charge on the community.* The dangers of the hasty application of simple deductive reasoning could not be better illustrated than by the comparison of this version of the situation with the concrete facts. Had there been no duty on iron, the price at the seaboard would unquestionably have been lower than it was,— sometimes by the full amount of the duty, sometimes by less. The

* See the Appendix to D. A. Wells's *Recent Economic Changes*, pp. 469, 470.

price in the interior, say at Pittsburg, also would doubtless have had a somewhat lower range; but how much lower it is impossible to say. The freight charges from the seaboard would have impeded competition from imported iron, raising the price at which it could then be supplied. The iron output west of the Alleghanies was being made more and more cheaply and sold more and more cheaply, as the years went on; and any iron imported free of duty, while it might have caused prices to be lower, would at no time after 1882 or 1883 have caused a decline in the heart of the country by the full amount of the duty. Indeed, in the latter part of this decade — 1888 or 1889 — the price in this region was little higher, if at all, than that at which foreign iron could have been supplied, duty free. And, further, even admitting that domestic prices were much higher than foreign, it is probable that the removal of the duty and the consequent demand on Great Britain for iron would have caused the price of British iron to go up. The level of prices would indeed have been the same in the two countries (allowing for freight and the like); but it would have been higher than the foreign level which in fact prevailed. A great increase in the demand on the British iron-masters for iron, consequent on the absence of the American duty and the lessening of American product, might have raised the price in Great Britain, not only temporarily, but over the whole period. During the earlier part of the period, say until the year 1880, it is not unlikely that Great Britain could have sent to the United States all the iron that would have been imported there, if free of duty, without such pressure on the coal and iron mines as to have caused enhanced cost and permanently enhanced prices. But with the extraordinary increase in the American demand after 1880, the additional quantity could not have been supplied from Great Britain except on harder terms. The price of iron in Great Britain would have risen in face of so great an addition

to the annual demand, and the common international level would have been somewhat higher than the British price was in the absence of this demand. Thus the calculation of the extent of the higher charge for iron in the United States because of the protective system is impossible to make with exactness. It is clear that until very recent years much more was paid by the American community than would have been paid without any duty; but neither the full amount of the duty nor the full extent of the domestic product is to be reckoned in calculating the national loss (let it be admitted for the present there was such a loss), and even an approximate estimate in terms of annual or total figures would be hazardous to frame.

While some heavy burden, even though not one susceptible of precise measurement, is thus made out, it is also easily to be seen that the duties served to increase the range of the periodic fluctuations. The sources of supply were narrowed. Until the price rose high enough to bring in imports, the domestic output alone was available for the market. The differences between highest and lowest prices were greater than they would have been without a duty or with lower duties. When a "boom" came, the domestic iron which was on hand, or was obtainable promptly from furnaces in blast, soared in price to the importing level. The abrupt and great rise in price tempted equally abrupt and great increase in the building of new iron furnaces, with the consequence that, when the boom collapsed and the demand fell, a large supply from the increased number of furnaces was on the market, and caused prices to fall as unduly as they had been before unduly raised. This is but an illustration of the simple principle that, the wider the range of the sources of supply, the greater the steadiness of prices. Fluctuations of the same general sort there would have been in any case: the price of iron in all the great countries rises and falls in sympathy with general industrial

conditions. But interplay between the markets of different countries, under a system of free exchange, would have mitigated in some degree the extent of the oscillations.* The extremes were made wider apart in the United States by the protective régime; and so another count is added to the indictment which its opponent may fairly bring against it.

But, after all, the protectionist may point with pride to the final outcome. In the end his object was attained: the industry is self-sufficing, needs no further props, can supply its product as cheaply as could be done by the now fairly beaten foreigner. And have we not here an offset against all that may be urged on the other side?

The answer to this question requires an examination of the two main factors which have led to the victorious progress of the American industry. These are: first, the supply of cheap and excellent ore and coal; and, second, the better manipulation of these materials at the iron-works.

We have already examined the mode in which the great iron ore deposits of Lake Superior have been utilized. The main factor which has promoted their development has been the improved transportation, which has made available rich natural resources that would have been thought, a generation ago, too distant for use. The cheapening in the carriage of ore and coal, however, has been simply one phase—an important one, but by no means a dominant one—in the general cheapening of carriage by rail and water. European observers, from Cherbuliez and Jevons to contemporary observers, have

* That such an interplay would have lessened the fluctuations in prices is made more probable by the fact that the ups and downs of industrial activity are not precisely synchronous in the international sphere. The speculative revival in 1870-73 began in England and on the Continent earlier than in the United States. The American revival in 1879-80, on the other hand, preceded the European, as did also that of 1886-87. In 1889-90—certainly so far as iron went—the European demand, again, showed renewed strength earlier than the American; and the same is true of the period 1898-99.

been amazed at the forwardness of the American people in building and managing canals and railways, in smoothing and utilizing the great natural waterways of the continent. The immense area over which free trade was permanently assured, the mechanical genius and commercial enterprise of the people, the vistas of fortune-building through the exploitation of the great Western country,—such are the impelling forces by which the means of transportation have been driven to their high stage of efficiency. The protective system can claim no credit for this result. The advance has appeared in the apparatus for international trade as well as in that for domestic, and in domestic trade such as would exist without protection as well as in that fostered by protection. And this has been probably the one single cause which has counted for most in promoting the growth of the iron industry. Through it that industry in the United States, so far from having to deal with obdurate and limited fuel, and ores of no special excellence, has been able to bring together unlimited supplies of both materials on easy terms and in perfect quality. How much such easy command of proper materials tells is shown by the growth of the iron manufacture in Alabama and the adjoining Southern region. Here the close contiguity of coal and iron has caused a great industry to develop with extraordinary rapidity, in the face of difficult social conditions and of the competition of the strong and comparatively old industry in Pennsylvania. The cheapening of transportation has given Pennsylvania herself the equivalent of contiguous ore and coal, and has been the main factor in promoting the advance of her iron industry also.

But causes of the second sort have also had their effect,—improvements at the mines and at the furnaces and iron-works. At the mines, whether deep-worked or open-cut, the organization, the engineering, the machinery, have become better and better. The ores are systematically

sampled and analyzed, their chemical and physical constitution ascertained, and the various kinds carefully assorted for different uses or mixed in the most advantageous combinations. At the iron and steel works all the discoveries of applied science have been promptly and systematically turned to account. Thirty years ago the blast furnaces and iron-works of the United States were behind those of Great Britain in their technology. Matters went much by rule of thumb. The ore and coal and flux were dumped into the furnace, and the product marketed as it chanced to turn out.* Now the advantage, if any, is with the American works in the application of the best scientific processes. It is certain that the economies from production on a large scale—these being partly from the better organization of labor, partly from better technical appliances,—have been most fully secured in the American establishments. Here are improvements in the iron industry itself, such as may be with more reason ascribed to the stimulus given it by protective legislation.

But here, too, we are dealing with causes whose operation has not been confined to the iron industry or the protected industries in general. In part, they have been of world-wide effect. All countries have shared in the advances of the arts and the triumphs of applied science. True, in our own country special industrial excellence has been achieved in many directions; but not solely or peculiarly in the protected industries. American mining engineers have pushed their art with signal success in coal mines and in mines for the precious metals, as well as in copper and iron mines. No more remarkable achievements have been made than in electrical engineering, where a nurturing shelter from foreign competition

* See an instructive article by J. S. Newberry in the *International Review* for November, 1874, vol. i., especially pp. 778-780, where it is pointed out that at this date "the ingenious, enterprising, and energetic Americans" were still "far outdone by their English relatives."

has never even affected to play a part. A main cause throughout the industrial field has unquestionably been the wonderful growth of technical and scientific education. The supply of intelligent and highly trained experts, to whom the management of departments and separate establishments can be intrusted with confidence, has facilitated the process of consolidation and the organization on a grand scale of widely ramifying enterprises. It may be a question how far our scientific schools and institutes of technology have been successful in stirring invention and developing initiative talent. The prime essential for leadership seems to be here, as elsewhere in the intellectual world, inborn capacity. But the rapid spread and complete utilization of the best processes have been greatly promoted by them. They have been largely instrumental in enabling prompt advantage to be taken of chemical, metallurgical, and mechanical improvements in the iron and steel works. Their influence has shown itself no less in the railways, the great buildings, the textile works, the manufacturing establishments at large. Their efficacy in permeating all industry with the leaven of scientific training has been strengthened by the social conditions which have enabled them to attract from all classes the plentiful supply of mechanical talent. Hence American industry has shown not only the inventiveness and elasticity characteristic of the Yankee from early days, but that orderly and systematic utilization of applied science in which the Germans have hitherto been — perhaps still are — most successful. The rapid accumulation of ample capital has still further facilitated the ready trial and bold adoption of new and better processes.

On such grounds as these it may be alleged that the iron industry would have advanced during these thirty years in much the same way, protection or no protection. And yet the unbiassed inquirer may hesitate before com-

mitting himself to such an unqualified statement of what would have been. Rich natural resources, business skill, improvements in transportation, wide-spread training in applied science, doubtless suffice to account for the phenomena. But would these forces have turned *in this direction* so strongly and unerringly but for the shelter from foreign competition? There can be no question that the protective system enabled, perhaps caused, high profits to be reaped in the iron and steel establishments of the Central District, and that the stimulus from great gains promoted the unhesitating investment of capital on a large scale. The decisive period was the decade 1880-90. During these ten years the iron output in the Pittsburg district and the rest of the Central region served by the Lake Superior ores, grew from comparatively modest dimensions to independent greatness. Profits were good in all these years, and were enormous during the stretches of active demand in 1880-82 and 1886-87. Indeed, they continued high in the large and well-provided establishments until the crash of 1893. The mounting output is the unmistakable evidence of profitable investment. Then the community began to get its dividend: prices fell in the manner already described, and the iron industry entered on its new stage. It is certain that the same sort of growth would have taken place eventually, tariff or no tariff; but not that it would have taken place so soon or on so great a scale. With a lower scale of iron prices, profits doubtless would have been lower; and, possibly, the progress of investment, the exploitation of the natural resources, even the advance of the technical arts, would have been less keen and unremitting.

No one can thus say with certainty what would have been; and the bias of the individual observer must have an effect on his estimate of probabilities. He who is convinced, as the present writer is, that restrictions on international trade operate,—as similar restrictions on the

division of labor within a country would operate,—as a rule injuriously, will be slow to admit that countervailing gains were here secured through a larger and cheaper eventual supply. He will admit, indeed, that the thing might have been. The premises on which the young industries argument rests are not quite absent. It is not historical youth in a nation's career that is essential. Any period of rapid change and transition in the arts opens possibilities for stimulating advantageous growth, greater than those in the course of settled industry. Nor is it essential that the particular direction of growth should be designed by the legislators. The unexpected places and the new processes in which the iron industry made its advance may have been promoted by protection, even if an undeserved prop for old established routine was all that the tariff was designed to afford. But the sceptic as to the actual stimulus from fostering protection will say that it was not needed. At best, it was only a question of sooner or later rather than of whether or no; and, at all events, the burdens in the intervening period of restricted supply and high prices outweighed the gain from the eventual abundant supply and the eventual lower prices which were quickened—perhaps, and perhaps only—by the tariff system.

On the other hand, the firm protectionist, quite apart from his probably denying that there were ever any offsetting burdens (of which aspect of the controversy more will be said presently), will not fail to find in the history of the iron trade conclusive proof of eventual gain. And very possibly those economists who, being in principle neither firm protectionists nor firm free-traders, seek to be guided only by the outcome in the ascertained facts of concrete industry, would say that the verdict here was not unfavorable to the policy of fostering “national industry.” Few persons, whether convinced protectionists, or thinkers of would-be judicial spirit, or plain every-day business men,

will be able to resist the appeal to national pride. Mere achievement of the leading place as the world's producer stirs a sense of triumph, as a victory on the battlefield, even in a dubious cause, kindles the pride of conquest. The position of the protectionist is not only on first inspection a strong one: after searching scrutiny, it remains, if by no means impregnable, both imposing and defensible.

The economists of Ricardo's school were wont to say that a conclusion as to the effects of protection could be reached only by deductive reasoning, such as was commonly used by them. John Stuart Mill, in his statement of the method proper in the social sciences, treated this problem as a typical one, and set forth the difficulties of disentangling the effects of tariff policy from those of the other forces operating with it on a country's prosperity. But a high authority of our own day, Professor G. Schmoller, has questioned the validity alike of the general theorem and of the particular example. Attentive examination of the industrial policy and history of this or that country, he suggests, may show whether or no protective duties serve to promote prosperity.* Is any aid in the settlement of the question of method to be had from our inquiry as to the duties on iron in the United States?

Certainly, the statistical and historical material is here as complete as it could possibly be made. The elaborate reports of the British and American Iron Associations, the publications of the Geological Survey, the detailed customs statistics, the extensive technical literature, supply infor-

* In the article "Volkswirtschaft" in the *Handwörterbuch der Staatswissenschaften*, reprinted in the volume *Ueber einige Grundfragen* (1898), Mill is referred to as trying to prove his theorem "with the inapt example [*groben Beispiele*] that the general inquiry, whether a system of protection makes a country rich, can lead to no result. He fails to see that he puts his question wrongly; i. e., in terms too general. Specialized investigations, such as Sering's on the German iron duties, Sombart's on the tariff policy of Italy, and others of recent times, show that inquiries which examine properly the facts in detail may prove, with reasonable certainty, when protective duties operate to promote prosperity." *Ueber einige Grundfragen*, p. 296.

mation with a fulness of detail such as the economist can hope to possess but rarely. If ever the inductive method is applicable, here is an opportunity.

In the preceding pages, the reader will have observed in more than one place the assumption that the protective system, certainly in its initial stages, involves a loss. Possibly, that loss may be offset by a gain in the later stages if the object of protection to young industries proves to be attained; but a loss at the outset there is. It would be measured, in the simplest case, by the volume of the domestic production multiplied by the rate of duty, the domestic price being supposed to be raised by the full amount of the duty. We have seen in the examination of the facts and statistics of the iron industry how much care must be exercised in applying this sort of measurement. The domestic price may not be raised by the full amount of the duty; the question of constant or diminishing returns in the competing industry of foreign countries needs to be considered; and so on.* Some loss, however, there is,—or, at least, is assumed to be.

But, as was parenthetically noted in the course of our inquiry, the stanch protectionist will deny this *in toto*. There never is a loss. The community is richer from the start. True, the prices of the articles taxed may be higher. But a home market springs into being, capital previously idle finds employment, a demand for labor is created, the rate of wages is maintained at a high level. No doubt, all such familiar disquisition will be set aside summarily by the person severely trained in economics. It belongs in the A B C of the subject; and the proper place for its discussion is the elementary class-room. No doubt, too, the reasoning on which we conclude (*pace* the

* The reader conversant with the theory of international trade will see that, in measuring the loss, not only the conditions of increasing or of diminishing return must be reckoned in, but also the equilibrium of demand between the trading countries. These more recondite aspects of the theoretical problem may be neglected for the purposes of the discussion in the text.

protectionists) that there is a national loss is, in its essence, very simple. It is but a common-sense application of the principle of the division of labor, a simple corollary from an analysis of the gains from the geographical distribution of industry, and thus a platitude hardly to be dignified as "deductive reasoning." And yet, when we meet the protectionist on his own ground, this platitude leads to some reasoning by no means of the simplest sort. Is there no real additional market? Is there employment for idle capital, or only transfer of capital previously employed? Is the rate of wages maintained? The reader who has followed the voluminous economic literature which German scholarship has piled up in recent years meets not infrequently the contention in favor of *Schutz der nationalen Arbeit*. Yet often he is left in doubt just how and why national labor is to be shielded by protection,—whether for preventing rude shocks and sudden transitions in the historically rooted industries of a slow-moving people, or for elevating the condition of labor in a whole country. Or, to take another example, it is often set forth, in the same quarters, that the burdens which the great social legislation of Germany imposes on her employers must be offset by duties on the products of competing foreign employers,—a proposition to which the stanch protectionist would unhesitatingly assent. But, if this be a good ground for compensating duties, why is not a general higher range of wages, or any other condition unfavorable to the employer,—*e.g.*, poorer natural advantages? To answer these questions, some severe reasoning is called for: plain common sense, unsupported by sustained argument from principle, leaves us in the lurch. The most exhaustive specific inquiries, statistical and historical, as to the extent of the home market, the situation of domestic labor, the amount of the burdens on the employer, can lead us to no secure result until we have not only grasped, but followed into all its

ramifications, our first conclusion as to the effects on national prosperity of the new direction of the productive forces brought about by tariff restrictions.

Similarly, our statistical inquiry as to the American iron industry can lead us directly to no conclusion on the old and perhaps stale dispute on protection and free trade. The initial question in the inquiry—is there a national loss because of the higher price of the dutiable article?—cannot be answered from facts and figures. So far Mill and his associates were right. The effects of protection on national prosperity cannot be made out by examining, however laboriously and critically, the facts either as to the prosperity of the community at large or as to the growth of protected industries. This first and crucial question must be answered on grounds of general reasoning, and not only answered, but the answer held fast amid all the twists and turns of the controversy about markets, employment, labor, wages, profits, and employers' burdens.

If, indeed, this much be settled,—if the conclusion here assumed with regard to the general principle be acceded to,—then the next stage in the inquiry assumes a different form. The scholar above referred to has remarked that inductive and deductive reasoning are as indispensable each to the other as the right foot in walking is to the left.* For the particular sort of economic problem here under consideration the present writer believes that a long step forward must first be taken by deduction alone,—that is, by reasoning from premises established through very simple observation. But thereafter both laborious digging at the facts and their critical interpretation in the light of familiar premises must proceed side by side. Thus the varying aptitudes of different peoples are important factors in the division of labor between them. But those varying aptitudes are not of spontane-

* Schmoller, *Grundfragen*, p. 293.

ous origin. They are an historical growth,—how and why developed, we are much in the dark; and it is not to be assumed, as was so often done by the earlier English writers, that purposeful legislation cannot affect them or that here is no problem for the economist.* Or, again, to come closer to the special sorts of questions that have been considered in the preceding pages, the argument for protection to young industries cannot be disposed of by any *a priori* reasoning. We may indeed say, on general principles, that eventual gains from protection, such as this argument points to, are likely to be secured only in young countries or in periods of large industrial transition; but when and how such conditions exist must be ascertained by study of the facts. Such a study of the actual conditions of the American iron industry has been attempted in this paper, but with no expectation of its leading to any solution of the general question of principle. This precise mode of dealing with a problem very similar to our own appears in one of the investigations to which Professor Schmoller refers,—Professor Sering's monograph on the iron duties in Germany.† One conclusion in this excellent paper is that during the period from 1840 to 1860 the transition from charcoal iron to coke iron in Germany was facilitated by protection against competing English iron, and that a temporary burden on the community was justified by the establish-

*“Whether the advantages which one country has over another be natural or acquired is, in this respect, of no consequence. As long as the one country has those advantages and the other wants them, it will always be more advantageous for the latter to buy of the former than to make. It is an acquired advantage only which one artificer has over his neighbor who exercises another trade; and yet they both find it more advantageous to buy of one another than to make what does not belong to their particular trades.” *Wealth of Nations*, Book IV. chap. ii. Adam Smith's reasoning in this passage holds good of any given time, but does not afford any clew to the question how the “acquiring” of advantages may be promoted.

† M. Sering, *Geschichte der preussisch-deutschen Eisenzölle von 1818 bis zur Gegenwart*; in Schmoller's *Forschungen*, vol. iv. (1882). See especially pp. 70, 71.

ment, within a decade or two, of a strong and independent domestic industry. The initial sacrifice is admitted. Thereafter comes the question, to be settled only by unbiassed specific inquiry, of eventual gain.

The same need of "inductive" inquiry appears in another and closely related aspect of the general tariff controversy,—the effect of protection in stimulating or retarding the advance of the arts of production. Two opposite versions are presented by the contending sides. The free-traders maintain that it checks improvement, enabling domestic producers, undisturbed by the competition of foreign rivals, to keep in old ruts. The protectionists maintain that, on the contrary, their policy stimulates competition within the country, and promotes newer and better modes of production. This, indeed, is the gist of the young industries argument. The truth would seem to be that either consequence is possible. The case is one where *a priori* reasoning leaves us quite at fault. On such reasoning domestic competition might be expected to be no less effective than foreign competition, and no more so, in bringing into action the best among known processes; and, this being equally the case at home and abroad,—such was the tacit assumption of the strict Ricardian reasoning on international trade,—the question of relative efficiency must turn solely on the goodness of natural resources, or on industrial traits so ingrained as to be equivalent to physical causes. But the free-trader qualifies this general reasoning by averring that domestic competition alone, being narrow, will not make sure that the best known processes are availed of; while the protectionist avers that this same competition, working under new conditions, will probably promote new and better ways. And, in fact, history shows that either result may ensue. It would seem, for instance, that in France, under the system of absolute prohibition against competing imports which prevailed through the first half of

this century,—in fact, up to the great commercial treaty of 1860,—not a few manufacturers failed to make use of proved and familiar processes, and were inferior to British rivals. On the other hand there were industries in France itself which had reached out into foreign markets, thus giving conclusive proof of not being behind the times.* In the United States it would doubtless be possible to find examples of the former sort: a benumbing influence has sometimes been felt. But these are exceptions. As a rule, if American manufacturers have been unable to meet foreign competition, it has not been because of inert routine. Driving competition within the country has commonly sufficed to prevent any inferiority to foreign makers in machinery and processes. If, with best endeavors, the foreigner has still been able to undersell, his success has been due to other causes,—the lack of natural advantages within the United States, or, more often, the simple influence of better openings for labor and capital than the protected industries afforded. Thus the effect of protection on improvements may or may not be deterrent. In an inert people, moving in tracks of routine and habit, it may cause outworn methods to be retained. In a quick and vigorous people it may cause better methods to develop under the novel conditions of a fresh trial. The adaptation of the chosen industry to the bent and training of the people must also have its effect. In the United States the free-trader is shown by economic history to be in the wrong on this particular point: if protected industries have continued to need protection, as so often they have, the explanation is not to be found in the retention of antiquated processes. So far as the question of economic method is concerned, here again it is clear no abstract reasoning can suffice: the history of each people and the facts of each case must be investigated, and generalization from *a priori* reasoning must be shunned.

* See Amé, *Les tarifs de douane*, vol. i. pp. 318, 338, 399, 421, as to backward industries, and pp. 349, 375, 430, as to progressive industries.

The iron and steel industry, even as regards the cruder forms of the metal,—pig iron, bar iron, steel billets, and the like,—ramifies into a number of branches. To consider these in detail would call for elaborate investigation, and indeed for greater knowledge of technical conditions than the present writer can affect to possess. The history of the industry at its basis—the production of pig iron—serves to show the nature of the growth which has taken place and to illustrate the economic principles involved. With this history in mind, it will suffice to consider summarily some other significant aspects of the changes of the last thirty years.

(1) One part of the protective system has been the duty on iron ore. This had been fixed at 20 per cent. (*ad valorem*) in 1870, and in 1883 at 75 cents a ton,—in effect, an increase over the rate of 1870. In 1894 the duty was reduced to 40 cents a ton; and it remained at this point in 1897.

It has been pointed out in the previous article that the region east of the Appalachian chain is comparatively lean in iron ore fit for the Bessemer process. The demand for this ore, which was the main factor in the development of the Lake Superior region, led also to search in foreign lands. During the decade 1870–80 there was a considerable and growing importation of iron ore in the United States. In part, the same sources were turned to as eked out the similarly insufficient supplies of Great Britain,—the island of Elba, and especially the Bilboa region in Spain. But resort was had also to nearer places, above all, to Cuba, which has important deposits on its southern shore (close to the scenes of battle in the Spanish-American War). The heaviest importation was in the year 1880, when no less than a million tons were brought in. Thereafter, while imports continued in considerable quantities, chiefly from Cuba, they were in smaller volume, the great yield from Lake Superior supplying the needs of the furnaces.

The effect of this part of the iron duties is perfectly simple. The Lake Superior ore made its way farther eastward than it would otherwise have done. The Cuban and other foreign ore was handicapped by just the amount of the tariff tax, and the iron-master near the seaboard had to pay so much more for this part of his material. The region of supply for the foreign ore was artificially narrowed. It is difficult to see how an intelligent person, unless a protectionist of the most obdurate stripe, can see in this anything other than a harmful interference with the "natural" course of industry,—that much-abused word here is strictly appropriate. The Cuban ore is nearer the Eastern region than that from the West. At best, it could not make its way inland far. The Central region would be supplied, in any case, by the Lake Superior mines. No political argument could hold, as to any resulting serious dependence on the foreign supply. Had Cuba been a part of the United States, its mines would have been welcomed as enriching the natural resources of the country; but, being outside the pale, the persons owning the Lake Superior mines were able to bolster their opposition to this particular competition by the appeal to national prejudice. Had the Mesabi and Vermilion mines on Lake Superior been a little on the Canadian side of the border, instead of being just on the American side, a very effective fight against them would have been made on the same ground—and who can say with what outcome?—by the owners of the other mines on the lake. Indeed, at the two extremes of the continent, on the Atlantic and Pacific coast, this sort of opposition has succeeded in limiting the supply of coal. In Nova Scotia are coal mines, which, though not ascertained to be of the best, are yet promising sources of supply for the North Atlantic coast. In British Columbia, close to the border, are mines which are certainly the best sources for the whole Pacific coast. New England and the Pacific coast

alike are handicapped by a duty on coal. This cutting-off of our own noses can be explained only on the ground of crass national prejudice, fomented by an intolerant protectionism, which fears that even the smallest chink in its armor may open the way to a stroke of vital effect.*

(2) Of the duty on steel rails much has been said, and the present writer has touched on it elsewhere.† It presents phenomena varying from those already discussed as to the industry at large, chiefly in the effects of combination among the protected interests.

Steel rails were the first important outcome of the Bessemer process, and the rapid development of the railway net of the United States caused a large demand for them. The duty on them was higher, in proportion, than that on pig iron; and it has had in general an effect the same in kind, but greater in degree. Until very recent years the price was always higher than the foreign price, and in years of active demand higher by the full amount of the duty. The process of manufacture must be on a large scale. The number of individual establishments hence is comparatively small; and a combination, or pool, among them was easily formed. Hence domestic competition operated more slowly and unevenly than with pig iron, which, while often produced on a large scale, is yet turned out by numerous and widely scattered establishments. For many years the steel rail combination, or what it is now the fashion to call a trust, was effective. The case was one where the duty not only bolstered up

* At Sparrow's Point, near Baltimore, one of the great steel companies (the Pennsylvania Steel Company) has erected large works, where iron and steel are made from ore brought in cheaply by sea from mines owned by the company in Cuba. The coal comes from the Appalachian chain, chiefly from the Pittsburg region, meeting the ore half-way, as is the case with the Ohio and Illinois works in the Central region. The representatives of this company have pleaded strongly for free ore before Congressional committees, and of course have met the opposition, hitherto successful, of the Lake Superior mine-owners.

† In the *Tariff History of the United States* (fourth edition), pp. 244, 272. Figures as to production, imports, duties, prices, are given, *ibid.*, p. 416.

an industry, but facilitated monopoly gains. After 1893, when the prices of pig iron and of steel (billets and blooms) suddenly fell, those of steel rails were kept for some time comparatively high, the pool succeeding in preventing the fall which would be expected in view of the low prices of the cruder forms. But in 1897, in the face of slackening demand on the one hand, growing restiveness on the other among the great and well-equipped makers against the restrictions on output and sale, the combination suddenly collapsed. The price of rails went down at once, and, like the prices of other kinds of iron and steel, reached a level as low as that in Great Britain, even lower. With reviving demand, it was certain, not only that prices would go up again, but that the pool would be re-formed, which accordingly happened in 1899. The duty served once more to aid the combination. Here we have the case of a "trust" aided by restriction on foreign competition.

There seems to be no doubt that the process of rolling steel into rails is carried on as cheaply in the United States as anywhere. Given the material as cheap, and the rails will certainly be made in the country. As in the making the iron and steel itself, so in the fashioning of the rails, great improvements have been made. Precisely the same sort of questions arise here as in regard to the cruder forms. The dominant item in the manufacture of steel rails is that of making the iron and steel,—usually undertaken by the same enterprise that carries the operations on to the next step of rail-making. But in this supplemental step the skill and energy of the American establishments have been no less marked. The same claim of the successful issue of protection may be made, and may be considered in the light of the same analysis of the forces which have impelled the growth. That a combination has prevented the effects of improvements from filtering through to the purchasers as easily as with some other

kinds of iron and steel does not alter the fact that improvements have been achieved; though it obviously strengthens the belief that the time has come for doing away with the restrictions, and compelling the domestic makers to face the world without fear or favor.

(3) A curious case is that of tin plate,—a very *Schmerzenskind* in the tariff controversy, a source of tribulation alike to protectionists and to their opponents.

Tin plates are sheets of iron or steel coated thinly with tin. Formerly they were sheets of iron. As steel became cheaper, they have been made of that material. The duty on them was for many years exceptionally low;* and imports were large, supplying the entire consumption. In 1890 the duty was greatly raised; and, as if by magic, the domestic industry not only sprang into existence, but rapidly displaced the foreign competitor. In 1894, when the political overturn caused the tariff to be remodelled in the direction of somewhat lower duties, that on tin plate was reduced. In 1897 it was raised again, though not to the rate of 1890. Notwithstanding the lower duty of 1894, the industry grew steadily from 1894 to 1897; and, after years of non-existence under high duties, it flourished and nearly displaced the foreign rival under much lower duties. The explanation is obvious. The price of all iron and steel within the country had gone down under the influences set forth in the preceding pages. Steel sheets could be had so much more cheaply than in previous years that a duty which had been ineffective before was now more than effective. Whether, with steel sheets equally cheap in the United States and in Great Britain, the process of dipping, or coating with tin, could be carried on as cheaply, and the tin plate marketed at as low a price, the present writer would not venture to say. Certainly, a very moderate duty would have sufficed to shelter the industry.

*See the memoranda in *Tariff History*, pp. 272, 302, 347.

The comparatively high duties of 1890 and 1897 were followed, however, by other results equally unexpected and much less welcome to the protectionists. To be sure, the industry grew as if by magic. Here was a case where domestic production was successfully stimulated, domestic labor employed, the grasping English producer despoiled of his market. But in the sudden burst of combinations and consolidations in 1897-99 a tin-plate "trust" was formed (in December, 1898),—a trust in an industry which had been so conspicuously paraded as a fruit of high duties that the spectacle of the nurture of this combination by protection was no less conspicuous. The attentive student of industrial history will not assent to the proposition that the tariff, or the railways, or the money power, or any such single cause, is at the bottom of the movement towards consolidation. But he must admit that in many directions it has been aided and promoted by high duties, and that the difficulties of the problem are increased by this ancillary cause. Two cases in the iron industry have here been noted,—steel rails and tin plate. Others could be found in this industry, still others elsewhere in the protected circle. The case for the protective régime is inevitably weakened by such phenomena, which go to strengthen the forces tending steadily to undermine the whole protective fabric. So far as the effects of protection in advancing domestic industry are concerned, the tin-plate manufacture does not present, as is often implied, a case of exceptional success. It is but a phase of the general history in the iron and steel industry at large.*

(4) Lastly, something should be said as to the striking events of the year 1899, to which some reference has more

* It does not appear that the tin-plate combination caused the price of this article to go up in 1899 much more than in proportion to the higher price of steel. See the analysis of its operations by Professor J. W. Jenks in the *Preliminary Report of the Industrial Commission*, Part I., pp. 53-55. Cf. the article by F. L. McVey in the *Yale Review* for November, 1898, and August, 1899.

than once been made. The course of the iron industry in the immediate past serves to illustrate and to verify the account of its development which has been given in the preceding pages.

In 1899 a sudden burst of demand for iron appeared, precisely similar to that of other earlier years of sudden activity, notably 1872 and 1880. The prices of all kinds of iron and steel rose rapidly. Speculation was rampant, the establishments in active operation pocketed huge profits, new enterprises were launched in abundance, and production advanced by leaps and bounds. All this activity was world-wide, as marked in Germany and England as in the United States. Indeed, the first advance in prices began in Europe, during the latter part of 1898. It was accelerated in 1899, and soon reached the United States. Characteristically, the American movement was more rapid and more sharp than that in other countries. In the course of the first six months of 1899 the price of pig iron doubled in Pittsburg, other articles being affected in similar degree; and the maximum reached was higher than that in England and Germany. Some reaction from this extreme was inevitable; yet for fully a year the prices of all forms of iron and steel were maintained at a range nearly double that of the preceding years, the "boom" being as sudden, as extreme, and as long continued as in any of the similar previous episodes.

But the international relations showed the effects of the new stage of the American industry, and they were different from those in former years of activity. It is true that for a time, especially in the latter part of 1899, American prices outstripped those abroad; and perhaps they would not have done so in the same degree, had it not been for the duties. The price of Bessemer iron particularly showed a great advance, reflecting the heavy domestic demand for this all-important material. Yet now, in contrast with former experience, it was the Euro-

pean iron-master who looked askance at the American market, uneasy lest it should relax and lessen his rich harvest. It is true that some imports of iron and steel into the United States were tempted at the time of the highest prices of certain articles, especially of Bessemer steel products. But, on the other hand, exports from the United States, of crude iron as well as of finished products, continued with little abatement in any one article and with great increase in the volume of total exports. Some of the combinations which controlled for the time being the output of particular articles reaped huge profits,—profits due partly to the general situation, and so shared by all iron enterprises, whether combined or not, but profits which were swelled for a while by the duties which prevented foreign competitors from entering the market. It cannot be said, therefore, that the duties in this latest period of activity were without effect. They did, in some degree and in some cases, once more enable domestic prices to be pushed higher than would have been the case without duties. But such effects were confined mainly to a few months of extreme speculation, and were very different in kind and in significance from the burdens which the community bore in earlier years. On the whole, this period of sudden activity, no less than the preceding years of prolonged depression, showed that the days of secondary place for the American iron industry were past, and that its new, independent, and commanding position had been definitively established.*

* Lack of space forbids a more detailed consideration of this striking period, whose course, indeed, is as yet far from fully run. The extent and the dates of the changes in prices are indicated roughly by the following figures:—

	<i>England</i>		<i>Pittsburg. Bessemer pig</i>
	<i>Middlesboro pig</i>	<i>Hematite.</i>	
January, 1898	\$9 80	\$11.70	\$10 00
July, 1898	9 75	12 25	10 30
January, 1899	10 90	14 00	11.00
July, 1899	16 70	18.00	20 45
January, 1900	16.70	18.60	25.00

So much as to the past. What now of the future?

The cheapness of crude iron and steel led to considerable exports in the years 1896-98. A large quantity of Southern pig iron was exported, chiefly to England,—a veritable sending of coals to Newcastle. Steel rails also went out to Japan, to Russia, to all parts of the world. The United States, once a large importer of iron and steel, has become a large exporter. The exports first exceeded the imports in the year 1893. Since then they have steadily risen, and have come to form a large item in the outgoing foreign trade.*

The export of some forms of iron and steel, however, is an old phenomenon. Various kinds of hardware and machinery have been sent to foreign countries for many years,—locks, hinges, and other ironware for houses, tools, sewing-machines, metal-working and wood-working machinery, and the like. The steady disposal of such articles in markets abroad, notwithstanding the dearness of the materials, was certain proof of great aptitude for making them and of great efficiency in American industry. Naturally, as the material became as cheap or nearly as cheap within the country, these exports increased.

Whether the exports of the cruder or the more highly manipulated forms of the metal will show the larger growth in the future remains to be seen. The early attainment of the export stage by the more advanced parts

* The following figures, which state the value (millions of dollars) of the imports and exports of "iron and steel and manufactures thereof" from 1880 to 1899, tell their own tale:—

<i>Calendar years.</i>	<i>Exports</i>	<i>Imports</i>	<i>Calendar years</i>	<i>Exports.</i>	<i>Imports</i>
1880	15.4	64 0	1890	27 0	44 5
1881	18 4	46 7	1891	30 7	42 0
1882	22.6	68 7	1892	28 0	33.9
1883	22.6	48 7	1893	30.1	29 6
1884	19.3	37 1	1894	30 0	20 8
1885	16 6	31.1	1895	35 1	25 8
1886	14.9	41 6	1896	48 7	19 5
1887	16 2	56.4	1897	62 7	13 3
1888	19 6	42.3	1898	82 8	12 5
1889	23.7	42.0	1899	105.7	15 1

of the industry, and the traditional adaptation to it of American inventive genius, point to the continuance and preponderance of this sort of trade. It is certain that at home the American iron industry will have virtually nothing to fear from foreign rivals. Some specialties, doubtless, will continue to be imported; but specialties in greater number, on the other hand, will be exported, and the foreign producer will have more to fear from international rivalry than the domestic. The main effect of protection will be, not to change the direction in which labor and capital will be employed within the country, but to facilitate occasional combination, in some cases perhaps permanent combination, among the protected capitalists—who may turn over a scrap of the plunder to their workmen—for levy on the public at large.

But not only the iron industry itself will dominate the international market: its success will affect the whole range of American industry and the whole working of the protective system. Cheap and abundant iron and steel, with a wide diffusion of enterprise, mechanical skill, and scientific knowledge, insure a great development of manufactures. All the experience of the decade just passed confirms what the present writer said when discussing in 1890 the renewed application of extreme protection under the tariff act of that year: the question is not whether the United States shall be a manufacturing country; it is whether she shall cherish those manufactures which stand of their own strength or those which need to be bolstered by artificial aid. Weaklings there always are, and the diligent legislator who scans the industrial world for them will find enough to engage his attention. But there are plenty of growing and stalwart industries, to which capital and labor will betake themselves unaided. The recent growth of the iron trade not only makes this obvious in that industry taken by itself, but points to the same outcome in a wider and wider field of general manu-

factures. It is, therefore, not rash to predict that, as the twentieth century moves on, the protective system will have less and less hold on public attention, and will eventually be shorn of its extreme and now characteristic features. This change may come slowly, and perhaps will come by gradual steps; and it would certainly be rash, in view of the recrudescence of national spirit and prejudice the world over, to predict that anything like a system of consistent free trade will be witnessed by adults now living, if ever. But protection as a system will have a less strong hold on the imagination of Americans. To this change in attitude the policy of colonial expansion will contribute,* and not less the growing stress from the great social problems which must more and more press for solution. The day when protection could be made the great issue before the American people is gone, as irrevocably as is the period of its real effectiveness in shaping the nation's industrial development. Other questions—the relations of labor and capital, the functions of the State, the very foundations of the social order—will engage the public mind; and the hoary controversy about protection will be not indeed settled, but disposed of and set aside by the working of other great industrial and political forces.

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*See the suggestive article on *Expansion and Protection*, by Professor H. H. Powers, in this Journal, vol. xiii. p. 36 (July, 1899).