

## AMERICAN LABOR'S DEBT TO RAILROADS.

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[Guy Morrison Walker, student and traveler; was called in consultation by President McKinley during the last Chinese war, and his article on "China, the Sphinx of the Twentieth Century" has been regarded as a little classic; Mr. Walker is much interested in financial and transportation problems, and his contributions are sought by the best of American magazines, and his articles invariably set men thinking, and often along new lines. He is a native of Indiana, a graduate of De Pauw university.]

It is a well known fact, though one that we seldom stop to recall, that the price of the finished product in the markets of the world is made up of the cost of manufacture plus the cost of transportation. Reduced to its lowest analysis, the cost of every manufactured product is simply the cost of labor to produce it, for the cost of raw material is simply the cost of labor to obtain it, whether it be by digging ore from the mines, gathering ivory in the forests of Africa, or shearing wool from the backs of sheep.

Under primitive conditions even transportation is simply labor, and the cost of transportation is simply the cost of the human labor necessary to carry the finished product to market. This condition is still to be seen in Oriental countries, particularly in China, where the greater part of the tea crop is borne to the waterways on the backs of men, and in Africa, where strings of negroes still bear to the coast the ivory gathered in the forests of the interior.

By the development of modern means of transportation labor in civilized communities has been relieved of the burden of transporting its manufactured products to market by the costly and laborious methods that still prevail in less favored communities. The farmer of Kansas and Nebraska sells his great surplus of wheat and corn at a good profit in the markets of Europe because American railroads transport his grain from the farm, 1,500 miles in the interior, down to the coast at a cost of approximately one third of 1 cent per ton per mile.

The province of Honan, in China, lying about 600 miles inland from the coast, with an area about equal to that of the

state of New York, but with a population of over 22,000,000, has a foreign commerce that aggregates only about \$500,000 a year. The province of Szechuan, with an area of 200,000 square miles and a population almost equal to that of the United States, is practically an unknown world, because almost its only means of communication is by the small boats that descend the Yangtze river and the returning boatmen, who trudge into the interior carrying on their backs such small bundles as they are able to bear. Although the men engaged in this traffic are paid only about 8 cents a day for their work, and they board themselves out of that pittance, this method of transportation costs about 10 cents per ton per mile, or nearly fifteen times the average freight charge of American railroads, and more than thirty times what American railroads charge for the transportation of grain.

The value of every commodity depends upon the breadth of the market for it, and particularly is this true of the value of labor, for labor necessarily depends for its value on the facilities which exist for transporting its products to market. Thus we see that in China, where the facilities for transportation are the poorest in the world, we find the cheapest labor—cheap because it is confined for a market for its products to the territory immediately surrounding it and is cut off from the markets of the world by the high cost of reaching them. In all China there is in operation less than 1,000 miles of railroad. The following table gives the population, total miles of railroad, and the miles of railroad for each 10,000 of population in the leading industrial countries of the world:

Country.	Population.	Miles of road.	Miles per 10,000.
Great Britain.....	41,454,578	21,855	5.27
France.....	38,641,000	26,234	6.78
Germany.....	56,843,000	31,392	5.57
Austria.....	47,102,000	22,545	4.78
Italy.....	32,449,000	9,772	3.01
Russia.....	128,982,000	28,589	2.21
United States.....	76,303,000	202,000	26.47

It will be seen from this table that the average man in America is four times better served with railroad transportation facilities than the average Frenchman, who, next to our-

selves, are the best served by their railroads of any people in the world; while the average American is five times better served in this respect than is the average inhabitant of Great Britain or Germany, who are our chief industrial rivals. From this it is easy to see how much greater is the opportunity of the average American to market the products of his labor, and how much wider is the market which these products may reach.

Transportation rates are not only governed by the methods of transportation employed, but in civilized countries where practically the same methods of transportation prevail, they are governed by skill in operation and by the fixed charges that are necessary to build up the transportation systems. Nowhere else in the world has railroad operation been reduced to the science that it has in this country, where our train loads average almost double those of Europe, and our ton mile rates are not only the lowest, but are scarcely one third those of our nearest competitors. In all this the American laborer has a great advantage over the laborer in any other part of the world.

The average capitalization per mile of American railroads is only \$61,884, while the average capitalization of the railroads of Europe is almost twice that sum, amounting to \$113,880 per mile, and the railroads of Great Britain and Ireland are capitalized at \$268,051 per mile. This means that the charge of American railroads upon the products of labor for transporting them to market, necessary to pay the fixed charge upon the investment in the roads, is only one half as much as European railroads must tax the product of their labor in order to place that product in the market, and only one fourth as much as English railroads are forced to tax the products of English labor in order to pay their fixed charges or the interest upon the sum invested in them.

While the market for any given product is controlled by that nation which can combine the lowest cost of manufacture together with the lowest cost of transportation to market, the price of that product in the market is governed by the next to the lowest possible combination of these two elements—or, in other words, by the cost to the nearest competitor.

The nation which makes cheapest and reaches the market cheapest need not sell its product as cheap as they can be made and delivered in order to control the market, but only to sell a little cheaper than its nearest competitor can make and deliver. When one of the competitors for a market has secured control of it by reducing the sum of his cost of making and delivering below that of his nearest rival, he may thereafter, by the reduction of one of the elements of cost, be able to increase his profit without danger to his control of the market. He may even reduce one element of cost so much as to be enabled to increase the other element of cost and still make the combined cost less than it was before.

In other words, when one country has secured control of the market for any given commodity by being able to make and deliver it cheaper than it can be done by any industrial rival, that country may, by reducing its cost of transportation to market, greatly increase its profit and still control the market without in any manner reducing the price of its wages. It may, in fact, so materially reduce the cost of transportation that wages in that country may be materially increased without endangering its control of the markets of the world. It is just this that American railroads have enabled us to do in the markets of the world, and what this means to American labor is shown by the following table, which gives the cost of transportation per ton mile and the average wage per day that is paid to labor in the leading countries of the world:

Country.	Cost of transportation per ton-mile.	Wages per day.
China.....	\$0.10	\$0.10
Japan.....	.05	.23
Russia.....	.022	.34
Italy.....	.024	.26
Austria.....	.0225	.50
Germany.....	.015	.90
France.....	.019	.80
England.....	.026	1.04
United States.....	.0069	2.60

From this it will be seen that in China, where the cost of transportation amounts to 10 cents per ton per mile, wages

average only 10 cents per day. In Japan, which, by reason of a small railroad system and fair means of water communication, has reduced its average cost of transportation to 5 cents per ton per mile, the wages are about 23 cents per day. In Russia and Italy, which of the civilized countries have the lowest railroad mileage in proportion to population and a high average cost per ton per mile for transportation, the average wage is only 34 and 26 cents per day, respectively. In Germany, France, and England, which approximate each other in the average cost of transportation per ton per mile and in their average mileage of railroad in proportion to their population, there is a fair approximation in the average wage, while in our own country, where we have the greatest railroad mileage in proportion to our population and the lowest cost of transportation, we have the highest average wage to be found in the world—the highest wage in fact of which there is any record in history.

In the face of these figures it is impossible to escape the conclusion that there is a definite, fixed relation between wages and the facilities and cost of transportation; that in the absence of transportation facilities and in the presence of a high cost or rate of transportation, industry languishes, labor finds little to do, and wages remain low. While as transportation facilities increase and transportation rates grow lower and cheaper, industry thrives, markets widen, commerce grows, and wages increase by leaps and bounds.

The industrial development of America, the great demand for labor, and the high wages that exist in our country to-day are due primarily to our wonderful railroad development and to the wonderful cheapness of our transportation rates. It is a mistake to imagine that manufactures can thrive or agriculture flourish in advance of adequate transportation facilities. Were the farmers of Kansas and Minnesota compelled to pay such transportation charges as the farmer of China, it would cost them \$150 a ton to ship wheat from their farms to New York, or \$4,500 for a 30-ton carload of 1,100 bushels. In other words, their wheat worth only 60 cents a bushel on the farm would cost \$5 a bushel delivered at tide water.

Were the steel mills of Pittsburg compelled to pay only as much as the manufacturer of Japan for the transportation of their products to market, it would cost them \$25 a ton to deliver steel rails on board ship. Pittsburg rails costing \$25 a ton at the mill would cost \$50 a ton in New York, while Chicago rails facing a transportation charge of \$50 a ton would have to be manufactured for nothing in order to compete with Pittsburg rails in the Atlantic coast market.

Neither the products of the farm nor of the factory can pay such charges for transportation to market. It is easy to see that industrial development in competition with conditions as we know them in America is impossible in a country like China, where coal mined by cheap Chinese labor at a cost of only 25 cents per ton at the mouth of the mine is raised by the mere cost of transportation to \$8 per ton when transported a distance of less than 40 miles. Under such conditions the consumption of coal is naturally limited to a small radius around each mine, and it is impossible to develop any mining industry. The miners of this country should recognize the fact that were it not for the wonderfully cheap rates made by our American railroads for the transportation of coal, not one mine in one hundred would be open to-day, and most of them would be seeking employment, as are the inhabitants of most other countries, at wages averaging about one fourth of what they are earning to-day.

In contrast with the labor conditions that exist in China, the recent railroad development in Japan has resulted in a wonderful rise in wages. Wages have increased within the last twenty years from an average of 8, 10, and 12 cents per day to 20, 30, and 40 cents per day, according as the labor is skilled or unskilled, while her exports to foreign countries have increased over 800 per cent.

Wages have always been low in those parts of the country far ahead of or removed from railroad facilities, and to-day the lowest wages found in the United States are in those states which have the poorest railroad facilities. Whenever the railroads come into a new community wages are almost immediately doubled. The following table, showing the cost of transportation per ton per mile for each decade of the last fifty

years and the average wage of American labor at the same time, shows what the increase of our transportation facilities and the reduction of our railroad rates have done for American labor:

Year.	Cost of transportation per ton-mile.	Wages per day.
1850.....	\$0.085	\$1.23
1860.....	.0274	1.50
1870.....	.0199	1.97
1880.....	.0126	2.13
1890.....	.0092	2.50
1900.....	.0069	2.80

It will be seen that as our transportation rates have steadily fallen the wages of labor have steadily risen, and that, too, in an almost constant proportion. In the last fifty years our railroad mileage has grown from a few thousand miles of scattered and disconnected links into a great railroad system of over 200,000 miles, every mile of which is in connection with every other mile, equalizing labor conditions and leveling prices throughout the whole country, preventing either local famine or local waste of surpluses. This and the reduction during the same period of our railroad rates from 3½ cents per ton per mile to 6.9 mills, or less than one fifth what they were fifty years ago, has enabled us to accomplish the greatest miracle that the world has ever seen.

During those fifty years our population has grown from 23,000,000 to over 76,000,000, and over 18,000,000 foreigners have immigrated to our shores. Yet in the face of this great supply of labor, and most of it extremely cheap labor, that has poured in upon us, we have been enabled to develop our industries and create such a demand for labor that we have more than doubled our own average wage and at the same time delivered our finished products in Europe so cheaply that that country, even after shipping its surplus supply of labor to us, has been unable to bring about any material increase in its own wages.

The reason that the iron mills of Saxony have been idle has been because German railroad rates to the coast have been

more than the combined charge of American railroad rates from interior points to our seacoast and the added cost of transportation across the seas. Why do the industries of Germany languish? It is because the government control of German railroads has abolished competition and maintained German freight rates at figures nearly three times greater than those fixed by private competition here in America. In America the necessity for lower rates forced many roads into receiverships, but this resulted in a scaling of their debts and their reorganization on a basis which lower rates were able to support. This relief, however, is impossible to the government owned railroads of Europe, for the attempt to reduce railroad rates based upon the present capitalization or cost of those roads to their governments would impair at once the security of government investments; and so the German laborer must struggle for a wage scarcely more than one third that paid to the American laborer, in order to equalize this difference which prevails in the freight rates of the two countries.

Of what use was it to discover that California could raise fruit for the whole world when that state had but a population of 1,500,000 to consume it? But this fact becomes of great importance when it is known that by reason of our fast freights and cheap railroad rates California apples are shipped across the continent, then across the Atlantic, and sold in London so cheap that Scottish apples, paying English railroad rates for a distance of only 600 miles, are unable to compete with them. There is no question but that the high standard of American wages has been brought about and made possible by our low transportation charges. Our wages have, in fact, continued to advance until the standard is so high that in many branches of industry it is becoming difficult to maintain our command of the world's market, the struggle for which is growing fiercer with each day. Europe, still thirty years behind us in transportation rates, which she has heretofore equalized by low wages, is reaching after us, and a better development of transportation facilities is going on in all her different countries.

There is but one possible way of maintaining our domination of the world's markets, and that is either by a reduction of wages or by a still further reduction of the cost of transportation. Our laboring people must therefore recognize that their only hope not only of better pay, but even of maintaining their present industrial position, depends upon the ability of our railroads to continue as they do to-day to deliver our manufactured products at a cost which defies competition; that every imposition laid upon our transportation systems is an imposition upon labor itself; that every advantage taken from these transportation facilities robs the labor that benefits by low railroad rates; that every tax and burden laid upon our transportation facilities is doubly a tax and a burden upon labor, which is at the mercy of these same transportation facilities to find a market for its products.

Every obstacle placed in the way of cheapening the cost of transportation prevents and makes impossible any rise in wages. It is surprising, when our attention is called to the manner in which we have hampered and burdened our railroads, that we have succeeded as we have. It is time for laboring men to recognize that their future is inseparably bound up with that of the railroads of this country. It is these railroads that have enabled our workingmen and mechanics to fatten off the work that they are doing for the whole world while foreign workmen are idle and all Europe is wildly protesting against the American invasion. If our railroad rates were doubled, at which figure they would still be lower than those of any other country in the world, it would close almost every mill and factory in our country away from tide water.

In order to maintain our position railroad rates will doubtless become even cheaper than they are to-day. But it is to be hoped that this will not be accomplished by the reduction of the wages of railroad laborers to the standard of Germany, whose railroads only pay their engineers and firemen a wage ranging from eight to ten cents per hour for a ten-hour day and whose laborers work for a pittance of from five to seven cents per hour.

Our whole people should join in securing every reasonable immunity from taxation or oppressive regulations for our great transportation systems, so that as we have used them to attain our present position in the industrial world, we may by removing all obstacles from their way, make them the means of maintaining American wages at their present high standard and at the same time securing for American labor its rightful heritage—the markets of the world and the industrial supremacy of the earth.