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**INDUSTRY
AND HUMAN WELFARE**

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EDITED BY EDWARD T. DEVINE, PH.D., LL.D.

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INDUSTRY
AND HUMAN WELFARE

BY
WILLIAM L. CHENERY
INDUSTRIAL EDITOR, "THE SURVEY"
EDITORIAL WRITER, "THE NEW YORK GLOBE"

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To
IDA BURNLEY CHENERY,
My Mother,
WHO, ALOOF FROM THE LARGER MANI-
FESTATIONS OF INDUSTRY, HAS EVER
BEEN ALIVE TO THE RANG-
ING IMPLICATIONS OF
HUMAN WELFARE

INTRODUCTION BY THE EDITOR

The Social Welfare Library is notably enriched by the present volume on Industry and Human Welfare. Its author is a specialist, but he has not written for specialists. He is a journalist, but this is not, strictly speaking, an attempt to "popularize" a technical subject. It is intended for that already large and increasing number of citizens who are concerned that industry shall be productive and not destructive; that it shall promote the general welfare, without injury to workers; that the work of the nation shall be done by the natural and legitimate workers, not by children or invalids, and each part of it by those physically and mentally qualified for it.

This Library is designed for those who are interested in promoting the conditions which favor a happy and useful life for all people. Among the most important conditions are those which affect income. Knowledge of the effect of industry itself on the worker and his family, his wages, his hours of labor, the regularity of employment and the hazards of industry, is therefore fundamental. The public official, the church visitor, the private citizen interested in family welfare or in child welfare, has to understand what has happened as a result of the industrial changes of the past century if he is to get the elementary satisfaction to which he is entitled from his efforts. At the present

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moment the effect of industry upon the individual—with which this little volume especially deals—is of paramount interest and importance.

Like the text-book on Social Work by the Editor of this Library, and Professor Hart's Community Organization, the two volumes which have preceded it, the present volume is intended as a contribution to an understanding of the social problems in a particular field, and of their relation to the human welfare in general and to consciously directed social progress.

EDWARD T. DEVINE

September, 1921.

INTRODUCTION

The inspiration of this small book has been a desire to ascertain and to state the major effects of the rise of the factory system upon the welfare of the American people. To achieve such a result adequately calls for time and resources far beyond those at any command. I am conscious of the hazards of undertaking to do briefly during the all too rare leisure hours and days at the disposal of a working newspaper writer a task worthy of the undivided attention of a group of scholars. Perhaps, however, the very brevity of this work will suggest to others the desirability of portraying the scenes and the changes upon a truly generous canvas.

I have endeavored first to describe the condition of the American people during those years when factories were but prophecies. In doing this I have been actuated by the belief that it would be difficult to understand the results of the factory system until the way of life of those who came before the industrial revolution had been envisaged. In piecing together this picture of the condition of the people at the beginning of the nineteenth century I have utilized the researches of many students. Where references would seem to serve the purposes of readers I have in footnotes indicated my authorities. The sources used have been both primary and secondary. Chief reliance has been placed

in the historic governmental reports and in the monographs of various students. But I have been at all times aware of the heavy obligation which all workers in this field owe to such men as Professor John R. Commons, John B. McMaster, William B. Weedon, Victor S. Clark, and others whose researches are now the classics of American industrial history.

As I have followed this study I have been driven irresistibly to the conclusion that the well being of the people of this country lies within their own choosing. Throughout the history of the nation social control has been exercised through the national and state governments. Industry has been directed in accordance with the purposes of those who happened to be dominant at the time. *Laissez-faireism* has been a doctrine useful to the owners and managers of industry. It has seldom been appealed to as an argument to defeat the wishes of those who possessed property and political privileges. It has been chiefly a rein upon legislation designed to alleviate the condition of the poor. This has not been wholly a conscious process. The advocates of economic anarchy, which is an uncharitable translation of the French phrase *laissez-faire*, have seldom been aware that they were practicing social control in behalf of the owners of factories while they preached industrial drift to workers. But for all the unconsciousness of the development the record is not the less convincing.

In making this study many inviting by-paths have been crossed. American industrial history is richly suggestive. Unworked fields are many. One of the most promising is a study of the hazards which working

people historically have encountered. A fruitful chapter of such a work would recount the fortunes of the debtor prisoners. The change from a system of imprisonment for debt to public insurance against the hazards of industry measures a social revolution. Of necessity this matter had to be excluded from detailed consideration. Other questions of equal and even of greater importance have had to be pushed aside. Among the most tempting of these is the problem of the migration of people which has followed the progress of factories. The population of the country has been redistributed by industrial need. An agricultural people has been moved to towns and cities. A wide range of issues has been created by the shift. Congestion, transportation, housing, recreation, community organization are some of the unanswered questions occasioned by the movement of people from the country to the city in response to factory demand. Consideration of these matters would, however, lead too far afield from the proper limits of this book. So, too, the alluring questions of industrial control have been avoided. These are germane to the central problem of stating the consequences of the rise of the factory system upon human welfare. The question of space has again been imperative. A brief volume cannot infringe upon the prerogatives of an encyclopedia. Industrial government with all its related problems, so charged with significance for the future of society, has accordingly been avoided.

I wish here to acknowledge my obligation to Miss Mary Van Kleeck, director of industrial studies of the Russell Sage Foundation, John A. Fitch of the New

York School for Social Work, Professor William E. Dodd of the University of Chicago, and Miss Lilian Brandt, all of whom generously read my manuscript and who saved my book from slips which it would otherwise have carried. I do not wish, however, to suggest that any of these friends bears any responsibility for the opinions herein expressed. Finally I would express my appreciation to the editor of this series, Edward T. Devine; and to Paul U. Kellogg, editor of the *Survey*, for that generous treatment of an associate's time without which this work could not have been performed.

WILLIAM L. CHENERY

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INDUSTRY AND HUMAN WELFARE

CHAPTER I

THE PIONEER NATION

THE history of industry in America calls to mind Goethe's ironic saying: "Whatever one desires in youth one has in age in abundance." For to a remarkable extent the growth of mechanical production in the United States has fulfilled the desires of some of the founders of this republic. Responsive to a request from the House of Representatives in 1791, Alexander Hamilton as Secretary of the Treasury wrote a brilliant argument in behalf of the development of manufacturing. He set forth advantages which the United States might get from manufactures. As a nation we have attained much of what Hamilton foresaw. Some of the benefits forecast became the serious social evils which in subsequent generations threatened the health of the republic. Only too adequately did the mature nation reach the goals of its youth. The aspirations of the fathers fulfilled in the lives of the children created conditions which now call for states-

manship not less alert and vigorous than that of the original great advocate of American industry.

In Hamilton's judgment the independence and prosperity of the new republic would be furthered by the national protection and stimulation of a variegated industry. The steam engine had not then become a practical tool and only the new inventions in use in the English textile mills had begun to make clear the outlines of modern industry. But Hamilton saw lucidly the enormous potentialities of manufacturing. He was eager to persuade the feeble federal government to nurture industry and mechanical invention. He was willing to do this at a time when even the most populous and influential states were still predominantly agricultural.

The effectiveness with which Hamilton's policies were put into practice by his countrymen became the admiration and wonder of later travelers from Europe. The United States built rapidly according to the plans designed by the first Secretary of the Treasury. The thing which the great protagonist of industry and his immediate successors did not see, however, was that the social organization and the political principles which were adapted to handicraft industry and to agriculture might prove grievously inadequate in that complex, impersonal, industrial society whose attractions he set forth with logic and with eloquence. Hamilton sought to change the method of production, but he was not aware that mechanical industry involved the creation of entirely new human relationships. Consequently, while he pleaded for the nurture and for the protection of industries which then had hardly been

conceived, he did not know that the people of the country also required protection against the devastating influences of the new order. Because he did not know this, because generations passed before America became conscious of it, because even to-day the full reality is not commonly accepted, the industrial problem exists.

"The expediency of encouraging manufactures in the United States, which was not long since deemed very questionable, appears at this time (1791) to be pretty generally admitted," Hamilton was able to say. He pointed out what now seems almost too obvious for utterance, namely, that the employment of machinery forms an item of great importance in the general mass of the national industry, and then he turned to some of the details of the progress he proposed. The following paragraphs show the line of his reasoning as plainly as they foretell some of the evils which even to-day are unconquered:

"The cotton mill, invented in England within the last twenty years, is a signal illustration of the general proposition which has just been advanced. In consequence of it, all the different processes of spinning cotton are performed by means of machines, which are put in motion by water and attended chiefly by women and children; and by a smaller number of persons, in the whole, than are requisite in the ordinary mode of spinning. And it is an advantage of great moment that the operations of this mill may continue with convenience during the night as well as during the day. The prodigious effect of such a machine is easily conceived. To this invention is to be attributed, essentially, the immense progress which has been so suddenly made in Great Britain in the various fabrics of cotton.

"This is not least valuable of the means by which manufacturing institutions contribute to augment the general stock of industry and production. In places where

those institutions prevail, besides the persons regularly engaged in them, they afford occasional and extra employment to industrious individuals and to families, who are willing to devote the leisure resulting from the intermissions of their ordinary pursuits to collateral labors, as a resource for multiplying their acquisitions or their enjoyments. The husbandman himself experiences a new source of profit and support from the increased industry of his wife and daughters, invited and stimulated by the demands of the neighboring manufactories.

"Besides this advantage of occasional employment to classes having different occupations, there is another, of a nature allied to it, and of a similar tendency. This is the employment of persons who would be otherwise idle, and in many cases a burthen on the community, either from the bias of temper, habit, infirmity of body or some other cause, indisposing or disqualifying them from the toils of the country. It is worthy of particular remark, that, in general, women and children are rendered more useful, and the latter more early useful, by manufacturing establishments than they would otherwise be. Of the number of persons employed in the cotton manufactories of Great Britain, it is computed that four-sevenths nearly are women and children; of whom the greater proportion are children and many of them of a tender age."*

This line of argument was touched again when Hamilton was urging the development of the iron industry. Thus he said:

"The United States already in great measure supply themselves with nails and spikes. . . . The first and most laborious occupation in this manufacture is performed by watermills; and of the persons afterwards employed, a great proportion are boys, whose early habits of industry are of importance to the community, to the present support of their families, and to their own future comfort."

These conditions deemed so desirable by the great constructive statesman of American industry and finance have been in part the evils against which subse-

* Works of Alexander Hamilton, Volume 3, Manufactures, page 207 and following.

quent generations have waged increasing warfare. Hamilton, in fact, advocated industry as a means of creating the circumstances which as soon as manufacturing was firmly entrenched were recognized as perilous to the national well-being. He reckoned among the advantages of industry the list of what the present day regards as wrongs. Child labor, employment of women and children at night, the regarding of manufacturing employment as a source of supplementary income rather than as the basis of living for those employed by it, continuous industry,—these are a vital part of the social problem created by the development of manufactures. Nevertheless, they are precisely what Hamilton advocated. Only too well in these respects has the republic fulfilled the ambitions of its youth.

The essential advantage which Hamilton sought was the labor-saving utility of machinery. To save labor has in fact been the one and persistent object of industrial invention everywhere. The intensity of the early American desire for labor-saving methods of production is attributed to the partially occupied condition of the land and to the temptation of a superlative abundance of unexploited natural resources. Every man saw riches in sight if he could obtain labor. To understand plainly the salient effects of industry upon human welfare it is therefore needful to take this fact into consideration. It was a determining national motive. To comprehend the effects the new industry engendered in the United States, it is also necessary to recall to mind the state of the American people during the years immediately preceding the establishment of the

factory system. Unless in fact the work and life of the people for whose well-being Hamilton and others urged the fostering of manufactures are pictured it is difficult to see in perspective what have been the consequences of industry for human welfare in this country.

One hundred and twenty-five years ago the factory system had hardly been conceived in the United States. To-day we are the greatest manufacturing nation. At the dawn of the nineteenth century the United States was a sparsely settled strip bounded by the Atlantic and by the Appalachian ranges, a pioneer country supported chiefly by agriculture. The century which ended with the outbreak of the World War saw the rise and maturing of the factory system under a government which through the Monroe Doctrine claimed primacy over two continents. Within the space of those few generations the isolated colonial settlements of Napoleon's time had become the continental citadel of strength to which the Great Powers turned for aid in time of need. In this cosmic drama the rise of the factory system in America has played a notable rôle. Worshippers of power and of magnificence may find indeed an altar for their prayers and their thanksgiving in industrial America. The multiplication of riches, the development of luxury, and the growth of might, attributable to machine manufacture, are the familiar products of our industrial revolution. But what has happened to the individual American by reason of these vast changes? How has industry affected human welfare? Is life happier and more carefree for the majority of men and women and children in

this land because of the new industry? Is the day of the skilled artizan more filled with satisfaction? And how has the common laborer fared? How, again, have women and children of the working classes been affected? Is work under the factory system a better régime for them? Does life offer more to them than their great-great-grandparents secured? What are the outstanding changes in human welfare occasioned by the rise of mechanical industry?

During the years between the end of the American revolution and the beginning of the era of railroad transportation in 1830, factories took firm root in the United States. The necessities of the colonists, suddenly cut off by the war of independence from the customary English supplies, caused men of Alexander Hamilton's outlook to realize the need for the establishment of manufactures in the new nation. The experience of the country during the War of 1812 emphasized the lesson. Many considerations—local, sectional, national, and international—tended to reinforce the arguments made in behalf of mechanical industry. In an amazingly short time the United States from Massachusetts to Baltimore became an industrial nation. The first cotton factory was established in Rhode Island in 1790 by Samuel Slater. The rapid development came after 1815, and by 1830 the new industrial order was entrenched.* What then was the state of the American people during the first decades of the nineteenth century? In particular, what was the condition of the working classes?

At the beginning of the nineteenth century the

* Massachusetts Bureau of Labor Statistics, 1885, page 162.

people of the United States, it has been observed, neither believed nor practiced their political professions of human equality. Politically the United States was a government of, by, and for the property holders. A man could not vote in most states unless he owned property, and in many states unless he complied with certain religious tests. A woman could never vote save by an oversight, as in New Jersey, where a hastily drafted constitution had neglected to exclude women. Citizenship in the colonies was like membership in a corporation. The possession of stock or property was a prerequisite to voting and to holding office. The ownership of fifty acres of farm land or of equivalent property was the customary test. Property voted; men did not. Taxation without representation, was the revolutionary war cry. The political revolution which preceded the change in our industrial system tended, it is true, to eliminate the property qualifications for the suffrage. But it was not until the eighteen-twenties that the greatest battles were fought for manhood suffrage. As late as 1837 the attitude of property holders toward the extension of the ballot was expressed as follows in the Pennsylvania Constitutional Convention:

"But, Sir, what does this delegate propose?" said a defender of franchises for the upper classes. "To place the vicious vagrant, the wandering Arabs, the Tartar hordes of our large cities on a level with the virtuous and good man? . . . These Arabs, steeped in crime and vice, to be placed on a level with the industrious population is insulting and degrading to the community. . . . I hold up my hands against a proceeding which confers on the idle, vicious, degraded vagabond a right at the

expense of the poor and industrious portion of this commonwealth." *

The right was merely that of suffrage, and the men termed Tartar hordes steeped in vice and crime were only those whose property was insufficient to qualify them for the ballot. Political power throughout the United States, during the years when the present industrial system was being created, was exercised by a minority of property owners. How small that minority was may be estimated from the vote on the constitutional convention in Massachusetts—a convention called to extend the franchise. In that state only men who owned real estate which brought in an income of three pounds annually, or who had other property to the extent of sixty pounds, were permitted to participate in elections. In 1820 the population of Massachusetts was 523,287. There were 142,588 free white males over sixteen years of age.† Only 18,349 men voted on the question of holding a constitutional convention.‡ The men who could not vote, who had no real share in the determination of public affairs, were vastly more numerous than the voters.

In the *New England Magazine* of January, 1890, Dr. J. F. Jameson reported his computations of the early voting in Massachusetts and elsewhere. He says:

"Taking all the excluded together, we may venture to bring our own figure down to 16 or 17 per cent, and may conclude that in round numbers about one-sixth of the

* Penn. Con., 1837: Debates 2, 487. Quoted in "Suffrage in the United States," by Kirk H. Porter, University of Chicago Press, 1918.

† United States Census, 1820.

‡ *Niles' Weekly Register*.

population of old Massachusetts, or say 55,000 men, 50,000 of them in Massachusetts and 5,000 in Maine, were entitled to vote in 1776. . . . About 16 per cent of the inhabitants could vote if they chose. How many of them did so? . . . The number of those who actually did vote in those ten years (1780-1789, inclusive) amounted to just about three per cent." *

The property and other qualifications for voting in Massachusetts were near enough like conditions in the other states to give a fair picture of the degree of political self-government exercised by the American people in the decades prior to the development of mechanical industry.

The qualifications for holding office, furthermore, were stricter than those for voting. In spite of the assertion of state constitutions that all men are born equally free and independent and that therefore all just government originates from the people and is instituted for the general good, the holding of office was in practice of, by, and for privileged property holders. McMaster well says: "The poor man counted for nothing. He was governed, but not with his consent, by his property-owning Christian neighbors. He was one of the people, but he did not count as such in the apportionment of representation. In short, the broad doctrine that governments derived their just powers from the consent of the governed was not accepted by the 'Fathers.' The most they were ready to admit was that all governments derive their just powers from the consent of the taxpayer."† This condition had an enormous influence on the development of industry in this country.

* No change for some decades.

† "Rights of Man in America," Cleveland, Ohio, 1893, page 21.

Political power was utilized to direct the growth of manufacturing industry and that power was wielded strictly in the interest of the property-holding group who had historically possessed the franchise. "*L'état, c'est moi*" was, and to a considerable extent still is, the emblem of American property owners, just as truly as it was the startled expression of an indiscreet French king.

Industrially the population was predominantly rural and agricultural. As late as 1820 less than five per cent of the American people lived in cities of 8,000 population and over.* In 1790 there were but five cities in the United States having a population of 8,000. Their combined population was less than 100,000, forming only 2.4 per cent of the population of the country. The great majority of Americans, perhaps 95 per cent, were countrymen at the time that the foundations of the industrial system were laid. A majority now live in the cities. Farmers were of many classes. The richest were masters of principalities. They were aristocrats whose lives and whose views were fashioned upon European ideals. The republican court which President Washington himself maintained at Philadelphia satisfied the punctilious requirements of visiting French nobility. From the estates of gentlemen who sought to develop in this country an old world social order the holdings of farmers varied in size and value to the poor clearing of the pioneer. Manufacturing was a home industry carried on chiefly by farmers and their wives and chil-

* "A Century of Population Growth in the United States Government," Census Bureau, Washington, 1909, page 14.

dren and servants, and by wandering mechanics. The artizan was sometimes a freeman and often an indentured servant or a slave. Yet his was the ingenuity which invented many of the technical processes upon which the factory system was later built.

Skilled workers in Maryland and southward were largely slaves and indentured servants. In Pennsylvania at the beginning of the nineteenth century it has been estimated that one-half of the artizans were redemptioners, so-called. The redemptioner was the immigrant who was bound to serve a term of years in payment for his passage overseas. During his servitude he or she could be sold from master to master after the manner of slaves. The indentured servant and his variant, the redemptioner, were always potentially free men and seem to have been counted as such in the first censuses. Yet while he served the bondsman's status was close to that of a slave. The system of servile labor was furthermore as old as the colonies. It had grown out of the apprentice system. From the very beginnings of Maryland and of Virginia men and women had been imported to do the work of the plantations. The capture and enslavement of Africans tended to supplant white servitude in the South but the system of indentured servants was continued well into the nineteenth century. Men and women willing to settle in the United States and lacking the price of the passage were induced to sign papers of indenture. The master of the ship or some merchant who had advanced the transportation expenses would dispose of these immigrants on the arrival of the ship at Philadelphia or Baltimore, or at some other port. This trade was

carried on in full force until 1817.* Isolated cases were mentioned as late as 1835.

These white contract immigrant laborers were an important section of the productive population. Effectually the redemptioners† were slaves for a limited period of time. Englishmen, Irish, Scotch, and later Germans and Swiss, were all the material of the system. Curiously enough, too, most of the German redemptioners were brought in after the War of Independence. In 1817 three small sailing vessels left the Dutch port Helder with 1,100 redemptioners for New Orleans. During a passage of about four months 503 perished. The survivors were sold to work out their passage. The number of years served by these immigrants in order to redeem their freedom varied. They might work only four years. But if they were indentured while children they might be compelled to serve until the twenty-second or the twenty-fourth year was passed. While still in bonds the indentured man or woman had few rights which the master was bound to respect. A redemptioner could not marry except with the permission of his owner. The bondsman could be arrested and imprisoned wherever found if he traveled without a permit. He could be beaten cruelly by way of discipline.

On March 21, 1817, the following advertisement appeared in the Baltimore *American*, and it was repeated daily until April 7:

* "White Servitude in Maryland," by Eugene Irving McCormac, Johns Hopkins University Press. Page 109.

† "History of the German Society of Maryland," by Louis P. Hennighausen, Baltimore, Md., 1909.

"GERMAN REDEMPTIONERS.

"The Dutch ship 'Johanna,' Capt. H. H. Bleeker, has arrived before this city and now lies in the cove of Wiegman's Wharf; there are on board, desirous of binding themselves for their passage, the following single men: two capital blacksmiths, a rope maker, a carrier, a smart apothecary, a tailor, a good man to cook, several young men as waiters, etc. Among those with families are gardeners, weavers, a stone mason, a miller, a baker, a sugar baker, farmers and other professions."*

Prior to the Revolutionary War the only skilled laborers in the province of Maryland had come as indentured servants from Ireland and England.† Light on the position in society of such mechanics is cast by such newspaper advertisements as the following, which appeared in *The Maryland Gazette* and *Baltimore Advertiser* of January 25, 1785:

"Ran away from the subscriber, living on Monocacy, Carroll's Manor, in Frederick county, six miles from Frederick-Town, on the 27th of December last, an indentured Irish servant-man known by the name of Patrick Quigley, a shoemaker by trade, of middling stature, well set, of ruddy complexion, short black hair, about 5 feet 2 or 3 inches high, 24 years of age; had on and took with him when he absented a felt hat half worn, short blue sailor's jacket, red waistcoat, pair of white cloth breeches, a pair of white and black speckled milled stockings, and a pair of old shoes with steel buckles. Whoever takes up said servant and brings him to the subscriber or secures him in any jail so that his master may get him again shall have, if taken 20 miles from home, Twenty shillings; if 30 miles, Thirty shillings; if a farther distance, Three pounds, including what the law allows and reasonable charges if brought to Daniel Hardman, January 8, 1785."‡

So far reaching was this system that tradesmen, clerks, schoolmasters, and even ministers were adver-

* Hennighausen, *op. cit.*, page 59.

† "White Servitude in Maryland," page 35.

‡ *Idem*, page 51.

tised for sale. Ballagh relates that "Colonel William Preston of Smithville, Virginia, bought at Williamsburg about 1776 a gentleman named Palfrenan as a teacher for his family; he was a poet and a scholar, a correspondent and a friend of the celebrated Miss Carter, the poetess, and also of Dr. Samuel Johnson." *

The apprentice system of which the redemptioners were so signal an expression broke down, it is true, during the first decades of the nineteenth century. But the industrial revolution, the change from manual to mechanical production, came about while the ideas and customs of that servile economic system still lingered. Labor had still something of a slave status when New England and the Middle Atlantic States began to erect factories.

Freedom and independent status came ultimately to these redemptioners because of the abundance of the land. After their periods of service had passed the majority set up establishments for themselves on the edge of the wilderness. Many of them founded well known families. Some of the signers of the Declaration of Independence were former bondsmen. The self-made men, so-called, were common in colonial days; and yet, even though every redemptioner was potentially a free man and a citizen, the gulf between the bond and the free was wide.

Such was indentured labor. But beyond the bondsmen were the free artizans to the North and the Negro

* "White Servitude in the Colony of Virginia," by James Curtis Ballagh, Johns Hopkins Studies in Historical and Political Science, 1895, page 83.

slaves in the South. What was the status of the free artizan at the beginning of the nineteenth century? He was inconspicuous south of Mason and Dixon's line, and to the north as far as Pennsylvania he was in active competition with the redemptioner, who had what was for the period of his service a slave status. The artizan worked from sunrise to sunset. His wages were low. He was esteemed of little significance in the social scale. Nowhere is the position of the propertyless working man in the early years of the republic described more vividly than in a debate in Congress over the pay of soldiers. The Annals of Congress, January 6, 1794, tell plainly what the "Fathers" thought of common folk.

The House was debating the military bill. The United States paid its soldiers three dollars monthly. The bill proposed to raise this to four dollars. A member of the House offered an amendment which raised this figure to five. Then in truth Congress was agitated. The official reporter says:

"Mr. Wadsworth did not see any reason for the proposed additional dollar per month. If he had thought it necessary he would have been very ready to mention it. In the States north of Pennsylvania, the wages of a common laborer were not, upon the whole, superior to those of a common soldier. . . . Mr. Boudinot said that he should be very sorry to recommend the augmentation, if he thought that it would induce farmers and sober, industrious folk to quit their families and professions in exchange for a military life. . . . America would be in a very bad situation, indeed, if an additional pay of twelve dollars a year could bribe a farmer or a manufacturer to enlist. . . . Originally troops had been raised for less than two dollars per month. The pay had been augmented to three, and was now on the way of being raised to four. He wished to make its advance gradual. . . . Mr. Smith said that, as to the rate of labor, good men

were hired to work in Vermont for eighteen pounds a year, which is equal to four dollars per month, and out of it they find their own clothes. He thought it a very dangerous plan to raise the wages of soldiers at this time, when every article was above its natural price; because, when things return to their old level, it would be impossible to reduce their wages. . . . The members of Congress had six dollars per day, and it would be no easy matter to alter that, which he seemed to hint might not be quite improper. He thought that high pay would only serve to make the soldiers get drunk."

Mr. Smith's views seemed to find support, for in the end the amendment was rejected. This debate shows at least how the political representatives of the socially and economically privileged classes viewed ordinary workmen during the early years of this republic. But the nation is not always as drab as a debate in Congress would indicate. The life of the skilled artizan in New England, at any rate, compared favorably with that of men of other classes. Mechanics were relatively few. In 1789 Dr. Franklin said of New England:*

"Calculations carefully made do not raise the proportion of property or the number of men employed in manufactures, fisheries, navigation or trade to one-eighth of the property and people occupied by agriculture even in that commercial quarter."

Most mechanics seem to have followed many vocations. The career of Thomas B. Hazard, "Nailer Tom," as set forth in his diary † was apparently of wide and entertaining variety. The entries of a few months picture a way of living which socially is richer than the condition which the wage-earning or even the lower-salaried classes find to-day. Hazard was

* Quoted in *New England Magazine*, January, 1890, page 487.

† "Historical Narragansett," Volume I, page 32, and following.

brief but apparently accurate, and his mind was constantly taking note of what passed. As his nickname indicates, he was a nailmaker by trade, and yet, according to his own account, nailmaking seems to have been reserved for days and evenings when other labors were not pressing. Among the entries are such as these:

"Making bridle bits, worked a garden, dug a woodchuck out of a hole, made stone wall for cousin, planted corn, cleaned cellar, made hoe handle of bass wood, sold a kettle, brought Sister Tanner's goods in a fish boat, made hay, went for coal, made nails at night, went huckleberrying, raked oats, plowed turnip lot, went to monthly meeting and carried Sister Tanner behind me, bought a goose, went to see town, put on new shoes, made a shingle nail tool, helped George mend a spindle for the mill, went to harbor mouth a gunning, killed a Rover, hooped tubs, caught a weasel, made nails, made a weasel cage, opened the cow's hoof, split wood, made a shovel, went swimming, staid at home, made rudder irons, went an eeling."

By his own account Hazard, who was a famous mechanic and whose skill was esteemed highly in his region, was thus a man of odd jobs. He was farmer, gardener, fisher, hunter, boatman, veterinarian, toolmaker, bridle-bitmaker, nailer, cooper, woodworker, boat builder, to cite only a few of the crafts which he followed. Mechanics of his skill and ingenuity were the type whose inventions made possible much of the success of the mechanical revolution in the United States. Such men often became the heads of manufacturing establishments when later power machinery was set at work. Many of these men enriched themselves and became the founders of wealthy families. Free mechanics in New England were not citizens in a full

sense unless they had property, but they had a respectable status and an interesting life during the early years of the republic. In attempting to estimate the major effects of the industrial revolution in the United States it is important to consider what has happened to the vocational descendants of "Nailer Tom." Some, of course, like Henry Ford, have found opportunities imperial in their scope, while others—with whose fortunes this book has concern—have a very much less interesting life. Hazard's wages seem to have varied from \$1.50 to \$2 a day and upon occasion he took his pay in kind. Thus on December 2, 1778, he notes that his work at Oziel Wilkinson's has come to "three oxen which he has paid me."

Women and children were constantly employed. For the most part they were engaged in the home or in the field, but they were none the less busy. The discipline of hard work was esteemed the best educative influence for children. Where the apprentice system continued young children were bound out to learn their trades. Because of the predominance of agriculture in the colonies and because of the greater development of home manufactures the apprentice system was, however, never so common in the United States as in England. But the need for some variety of employment to take the place of apprenticeship was felt and so the Manufactory House, established in Boston not long before the Revolutionary War, was esteemed to be a school. William Molineux, a member of the society responsible for the building of the establishment, stated to the Massachusetts Legislature that he had "Learned at least 300 children and women to spin in

the most compleat manner.”* The first nine operatives engaged by Samuel Slater, the British mechanic whose experience made possible the establishment of the first cotton mill in the United States, were seven boys and two girls between the ages of seven and twelve years. Moses Brown, the cotton merchant, who before his venture with Samuel Slater had been engaged in supplying coarse cotton cloth to southern plantation owners for the use of their slaves, considered the employment of children to result in “near a total saving of labor to the country.”

The hours of labor in nearly all industries “were measured by the sun, from sunrise to sunset constituting the working day.” Although there were a few earlier flurries, not until 1824 was the subject of shorter hours seriously agitated, and not until the period of 1835 and 1840 were shorter hours adopted to any extent.† It was several years after that date before ten hours became the rule in the mechanic trades, while in the textile industries the ten hour system is “a modern innovation,” as yet adopted only in Massachusetts, so far as America is concerned, Carroll D. Wright, Chief of the Massachusetts Bureau of Statistics of Labor, reported in 1885. The hours of labor at the beginning of the industrial age were in fact those of agriculture. The textile mills at Lowell were the pride of New England during the early decades of the nineteenth century, and yet it seemed entirely right and natural that little girls not over ten

* “The History of Manufactures in the United States,” by Victor S. Clark, page 188.

† “History of Labor in the United States,” Vol. I: 393.

years of age should work fourteen and fifteen hours daily alongside their elders.* From five in the morning until seven in the evening were the customary hours in the early mills, and even this was shorter than the working day in the country during the busy season.

Doffer girls were paid two dollars a week at Lowell, but these wages were esteemed very high, so high that the daughters of professional men were drawn to the mills, just as during the World War the wages paid in munitions plants attracted classes of workers who ordinarily do not enter factory work. During the years after the American Revolution money was scarce and trade took the form of barter. Wages were paid in clothing, or groceries, or in orders for such commodities. This system, afterwards known as the truck system, and still one of the lingering evils of outlying industrial establishments, was almost universal at the beginning of the nineteenth century. "Of actual money the workingman had little," says the Massachusetts Bureau of Statistics of Labor,† and "when cash became absolutely necessary, they were often obliged to exchange store orders therefor at a considerable discount. Employers kept stores of groceries, clothing, boots and shoes, and particularly liquor and tobacco, and it is evident from the inspection of old account books that a liberal share of the wages of labor was paid in rum and gin." The almost universal result of this method of payment was that

* "Early Factory Labor," by Mrs. Harriet H. Robinson, in 14th Annual Report, Massachusetts Bureau of Statistics of Labor, 1883.

† Annual Report, 1885.

the workingman was continually in debt and effectually bound to his employment.

Wages were certainly not high. In Massachusetts, for example, the same general level, with considerable minor variations, seems to have been maintained between 1800 and 1815. A laborer got from 35 cents to 75 cents a day or \$13.33 a month. Carpenters were paid from 80 cents to a dollar a day. A shoemaker earned about \$5.52 a week or 23.4 cents per pair of shoes when on piece work. A teacher was paid from \$30 to \$50 a month, while a painter got about 62 cents a day. A mason got as much as \$1.66 a day. Boys employed in agriculture were rated at 16 $\frac{2}{3}$ cents a day in 1808. In 1815 blacksmith horseshoers were paid 90 cents a day, or if they had board in part payment, 45 cents. The same year boat builders were paid at the rate of \$1.13 daily or 50 cents with board. Clockmakers and coopers each had the rate of \$1.13 daily. Women employed as domestic servants received their board and 50 cents a week. Skilled foundrymen earned \$1.13 and their unskilled associates 87 $\frac{1}{2}$ cents daily. Harnessmakers were paid from 45 cents to 88 cents a day, depending on whether or not they boarded themselves. Laborers that year varied from \$8 a month with board to \$1.50 daily, the high mark. Millwrights, machinists, and house painters were paid \$1.13 a day. Ship and sign painters, however, got \$1.38. Tailors earned \$3 a week with board, or \$6 without. Printers were on the basis of \$1.13 a day. Patternmakers had the same. Ship riggers got \$1.25 and ship carvers \$1.38.*

* "Wages and Prices: 1752-1860." Sixteenth Annual Report, Massachusetts Bureau of Statistics of Labor.

The employment of women and children was universal during the years prior to the establishment of the factory system in the United States. From the very beginnings of this country women and children had worked. That their toil was limited to the home and to agriculture and to domestic industry was merely due to the fact that there were no other opportunities for employment. The belief current recently that the establishment of the industrial system drove women and children to work is without foundation. The mechanical revolution changed only the kind of work done. The fact of work itself was assumed. In any effort to recall the social and economic background of the industrial system in this country it is vital to remember this. A farmer could hardly hope to live without the coöperative employment of his wife and children.

The ideas which gained sanction during the centuries prior to the beginning of power production were carried over into the new era.

CHAPTER II

THE RISE OF INDUSTRY

IN such a world the foundations of modern industry were laid. Labor was essential but not in all grades dignified. Power in most of the states was in the hands of a selective few. The possession or acquisition of property was the common test of fitness of the resident to become the active citizen. Government was the expression of the will of property holders. Slaves, indentured servants, women, men without sufficient holdings and income to vote, had no voice in the framing of public policies or the making of laws. Government, the expression of the will of property holders, was therefore naturally utilized to nurture, protect and develop manufacturing industries as new sources of wealth to individuals as well as to the state.

Prior to the Revolutionary War the power of the British government had been used to retard the development of manufacturing industries in the American colonies. After the Revolutionary War the federal government and, to an extent, the states, used their powers to build up an American manufacturing system. Without interruption, from 1789 to the present, the government has fostered manufacturing industry. Chiefly by tariffs and patent laws, in part by embargoes, and to a lesser extent by bounties and other spe-

cial advantages, manufactures have been consistently aided. These facts, familiar enough, throw light on the doctrine, long prevalent and still powerful in this country, that the state must not interfere with the management of industry. What is meant, of course, is that the government, state or national, must not intervene in order to safeguard the health and well-being of wage-workers in industry, or of consumers. For few of those who resent so-called government interference in behalf of either workers or consumers object in the slightest to governmental activity in the interest of the owners and managers of industry. On the contrary, such support has been courted from the very earliest days. *Laissez-faireism*, the hands-off policy, in its American version, was developed not to fend off the friendly offices of governments from infant industries, but to prevent those governments from exerting themselves in the interest of consumers and workers when the infant industries had grown great.

In every way which the builders of this republic could conceive the government has been led to nurture manufactures. Mechanical industry was from the outset seen to be a national enterprise of boundless importance to the United States. The experiences of the Revolutionary War, of the War of 1812, and also of the intervening period between those struggles, induced statesmen to take public measures to aid in the creation of manufacturing establishments. Although at first the seafaring interests of New England and the planting interests of the South opposed national aid to manufactures, to advocate protection for private industry was not during the early decades to be politi-

cally partizan. Despite their differing politics Albert Gallatin and Alexander Hamilton were both zealous friends of American mechanical industry. Tench Coxe and Thomas Jefferson were friends and correspondents.*

States as well as the federal government exerted themselves. Thus in his address to the New York Senate on January 29, 1811, Governor Daniel D. Tompkins expressed a common view when he observed that "The astonishing progress which has been made in the improvement and extension of domestic manufactures was a source of lively satisfaction. . . ."; and when he added, "Let us extend to them (i. e., manufactures) the utmost encouragement and protection which our finances will admit." The encouragement and protection afforded by the states were practical. The general court of Massachusetts, for example, directed that the sum of two hundred pounds be paid out to Robert and Alexander Barr, "to enable them to complete certain machines for carding, roping, and spinning cotton and sheep's wool." The machines which these artizan-inventors devised were put on exhibition for the benefit of all who desired to see them.† Thomas Somers was given twenty pounds by the general court of Massachusetts in order to enable him to build certain machines for the carding, spinning and roping of cotton wool. Somers had learned how to construct the machines while in England. Many other incidents of this nature were recorded. The states, as well as certain

* "Memoir of Samuel Slater," by George S. White, Philadelphia, 1836.

† *Op. cit.*, page 295.

cities and private organizations, were willing to expend public money to stimulate the development of manufactures. That policy has its contemporary parallel in the aid given by chambers of commerce to new manufacturing enterprises in some communities, and in a larger way to the aid given war industries by the national government during the struggle with Germany, and more recently in the loans accorded the railroads. While this form of state aid may not have influenced the subsequent development of manufactures in any important way,* it at least recorded the attitude of public authority toward interfering with industry.

Perhaps the most potent influence of state legislation upon the development of industry, however, is to be found in the liberal incorporation laws. The earliest corporations chartered by the states were generally semi-philanthropic, and some of them received gifts of public land. But far more important than such donations was the building up of the legal fiction that the corporation was a person. The specific powers granted to groups of individuals and the limited liability which each individual thus incurred gave to the corporation an enormous opportunity for development. It may well be that not otherwise could manufacturing industries have been so rapidly rooted in this country, but it is nevertheless true that the form of incorporation devised in the United States has had a lasting influence upon the varying prosperity of the men and women and children who fill the ranks of industry.

* "History of Manufactures in the United States, 1607-1860," page 265.

The need for protecting industry and commerce was in truth one of the determining motives which led to the consolidation of the thirteen independent states. Alexander Hamilton said that the suggestion of giving Congress the power to make uniform regulations for commerce in all the states was first made at a convention held at Hartford.* A committee was appointed by Congress in 1784 to consider the matter. Jefferson, Gerry, and three others were members of the committee. It recommended "to the legislatures of the several states, to vest the United States in Congress assembled, for the term of fifteen years, with a power to prohibit any goods, wares or merchandise from being imported into any of the states, except in vessels belonging to and navigated by citizens of the United States or the subjects of foreign powers with whom the United States have treaties of commerce." † Individual states did enact tariff and non-importation laws. Among these were Pennsylvania, Rhode Island and Massachusetts.‡ Immediately after the end of the Revolutionary War an extensive importation of manufactured products from Great Britain was begun. Among the effects of this movement were the stimulation of luxury and the draining of coin from the country. Merchants and mechanics suffered especially, and the papers were filled with complaints even from farmers. The merchants, mechanics and tradesmen of Baltimore, New York, and Boston, as early as 1789,

* Hamilton's Works, 2: 26: "Early Stages of the United States Tariff Policy," by William Hill. Publications of the American Economic Association, 1893, page 95.

† Journals of Congress, 9: 185.

‡ Hill, *op. cit.*, page 145 and following.

began to petition Congress for relief from the competition of foreign imports. The New York committee appeared to the first Congress on April 18, 1789, saying in part, "Wearied by their fruitless exertions your petitioners have long looked forward with anxiety for the establishment of a government which would have power to check the growing evil (i. e., the importation of foreign goods) and extend a protecting hand to the interests of commerce and the arts. Such a government is now established. On the promulgation of the constitution now just commencing its operations, your petitioners discovered in its principles the remedy they had so long and so earnestly desired." The mechanics and manufacturers then added a list of articles which they said could be profitably made in New York provided the general government gave them the protection sought in their petition.* When the Constitution had actually been adopted, among the first acts of Congress was the passage of the tariff law of 1789. Although the purpose of this was in part to raise revenue, by its very terms it proclaimed the protective principle.

The Annals of Congress † show how generally accepted was this principle of protection. Representatives of every state which had industries desired tariff barriers against foreign competition, but at the same time many sought the free importation of the raw materials used in their own industries. James Madison, who introduced the original bill, sought only five per cent duties for revenue although he readily accepted the protection principle. Fitzsimmons of Pennsylvania

* American State Papers: Finance, Vol. 1, page 9.

† I: pp. 173-174.

introduced a substitute bill and stated clearly the purpose in the following words:

"The tax is meant not only for revenue but as a regulation of commerce, highly advantageous to the United States. . . . The legislature of Pennsylvania granted aid by discriminating in the manner proposed and with like aid from the government of the United States, the merchants may no longer fear the machinations of the opulent companies of Europe."*

There was not the slightest tinge of laissez-faireism in the doctrines preached by the early Pennsylvania representatives to the Congress of the fathers. Nor was there any hesitancy on the part of the Congress of 1789 to grant the protection desired by the early merchants and manufacturers who were at that time chiefly mechanics dependent on the favor of the better established merchant class. Even rum was protected. Massachusetts demanded this, while Madison argued that an industry so pernicious needed no protection. Madison was defeated.† William Maclay, senator from Pennsylvania, records in his notes the course of the debate in the Senate:

"I set out with naming over the greater part of the articles on which the protective duties of Pennsylvania were twelve and one-half and thirteen per cent in New York. I reasoned from the effect of these duties on the promoting the manufactures. But by the present law the manufacturers would stand on worse ground by five per cent than they had done under state laws; and although the United States were not absolutely obligated to make good the engagements of states to individuals, yet as the individuals had embarked their property in these manufactures, depending on state laws, I thought it wrong to violate those laws without absolute necessity."‡

* *Annals* I: 141.

† *Ibid.* I: 173.

‡ *Sketches of Debates*, page 68, quoted by Hill.

Protection was thus evidently deemed a sound principle by the lawmakers of 1789. Laissez-faireism certainly did not then arise to denounce government interference with industry or commerce.

The practical differences of opinion as to protection were mainly those of degree. Free traders, so-called, were content with low duties, while protectionists have demanded higher ones. There have, however, been divergencies of desire as to the interests to be protected. The New England commercial and marine groups were for a long time opposed to the national development of manufactures. But their opposition was grounded on their belief that the government should not aid their rival interest.* The tradition of the eighteenth century sanctioned the closest relationship between governments and industry. Alexander Hamilton in his statement to Congress listed eleven different methods of fostering industry "which have been employed with success in other countries": protecting duties, embargoes on importation, embargoes on exportation of raw materials to rival nations, pecuniary bounties, premiums, exemption of raw materials from duty, drawbacks of the duties which are imposed on the materials of manufactures, encouragement of new inventions, judicious regulations for the inspection of manufactured commodities, the facilitating of pecuniary remittances from place to place and the facilitating of the transportation of commodities. Most of these methods have at one time and another been used either by the states severally or by the United

* "The Tariff History of the United States," by F. W. Taussig, page 70.

States. Often enough the action taken has been justified. The point is that the interference and assistance of the government have been consistently sought by those concerned with building up private business. This unbroken custom is of the utmost significance in reckoning the influence of mechanical industry upon the welfare of the American people.

It is enlightening from this point of view to recall briefly the trend of argument on the tariff controversy. From 1789 until the present that issue has never been long dormant in this country. The varying positions taken with reference to it, moreover, indicate with definiteness the changing condition of the people. In following the early discussions it is necessary to keep in mind some of the customary and, at the time, unchallenged, assumptions of the founders of American industry. First of all, as has been indicated by the statements of Alexander Hamilton and Tench Coxe, the labor of women and children was taken to be a part of the natural order. Again, mechanical power, it was thought, would so lighten labor that women and children could easily bear the burden of manufactures. Finally, the early American industrialists, in contrast with the English factory owners, were very much concerned about the shortage of labor. In England, in spite of the Napoleonic wars, there was an undoubted surplus of workers both in the rural districts and in the towns.* In the United States the open lands of the West were constantly attracting settlers from the older states. This set up a competition between the agricultural interests of the West and the industrial interests of the East, a competition which

* "The Village Laborer," by J. L. and Barbara Hammond.

had a long and important influence on the development of the nation. Because of the relative ease with which the adventurous laborer might become a pioneer farmer, wages of labor in Eastern manufactories were fixed by the level of Western agricultural earnings. Of necessity they had to be high enough to prevent too ready migrations if the labor force were to be stabilized. As compared with the wages paid in England the earnings of mechanics and laborers were high in the United States during the first decades of the nation, because of the abundance of unsettled land.

The problem which the advocates of the establishment of American industry confronted was accordingly the discovery of a method of meeting the competition of British manufacturers who employed cheap labor and at the same time of preventing migrations westward. British competition was as serious after the War of 1812 as it had been at the conclusion of the Revolutionary War. American industrialists turned to the tariff. Then developed one of the most interesting phenomena in American industrial history—the labor argument in the veering tariff discussion. Hamilton, with characteristic perspicacity, had seen previously that the difficulty of high wages could in part be remedied by stimulating immigration as well as by the use of women and children. "We shall," said he, "in a great measure trade upon foreign stock, reserving our own for the cultivation of our lands and the manning of our ships, as far as character and circumstances shall incline.* Stimulated immigration

* Page 34, Taussig reprint, *State Papers and Speeches on the Tariff*.

since the very beginnings of industry, as a matter of record, has tended to lower what have ever been called the high wages of American workers, but the fact of this continuous recruiting for the industrial armies, with its tendency to lower wages, strangely enough has been ignored when tariff protection was being sought for industry. The high wages of American workers were, furthermore, from the first, frankly regarded as disadvantageous. Protectionists urged the wage scale as an additional reason for levying high duties on imports. The motive in the early decades at any rate was not to make possible the continuance of high wages but to compensate American employers for the wages which they were compelled to pay.

The great tariff discussion which followed the War of 1812 occurred before manhood suffrage had been widely established. There was accordingly no political pressure to induce members of the government to act in the interest of laborers. During the tariff campaign the labor argument in behalf of the tariff took two distinct forms. The tariff was urged because of the unemployment due to the shut-down of certain mills, and it was also advocated in order to compensate employers for the high wages which were reputed to be paid. "The increasing unemployment following the year 1816 and culminating in the great crisis of 1819-20 gave a powerful impulse to our tariff policy and popularized protection in many parts of the union," says Mangold.* Mathew Carey, who was one of the first Americans to attempt to attract public attention to the condition of the poor, was an active advocate

* "Labor Argument in the Protective Tariff," page 29.

of protective tariffs. After 1831 eastern manufacturers opposed liberal land laws in order to prevent the migration westward and at the same time demanded duties on imports which would enable them to pay the wages demanded by laborers who might otherwise go west. After 1830—about the time when laborers and other propertyless men began to vote—the labor argument of the tariff advocates changed in character. Less was said about compensating employers for the high wages they felt impelled to pay. The unemployment argument, the assertion that the imposition of import duties would stimulate employment, was renewed. At the same time it was argued that the protective system itself tends to make high wages.* This was a complete change of front. This argument culminated in the theory that tariffs were to be laid in order to protect the American workingman from the pauper labor of Europe.

In connection with the elaboration of the labor argument for protective tariffs it is relevant to remember that an immigration policy designed to overcome any benefits which laboring men and women might have, in fact obtained, from the imposition of tariffs was being steadily applied. That policy was the stimulation of immigration. It was an entirely natural expression. There was an actual shortage of workers in the United States. Unsettled lands did invite human energy. From Hamilton onward the leaders of the rising industrial interests strove to increase immigration just as strenuously as they sought to have a tariff wall built to save them from the competition of

* *Op. cit.*, page 70.

Europe. They were full of zest in keeping out the products made by the pauper laborers of Europe, and they were equally enthusiastic in facilitating the importation of these pauper laborers themselves. The reason was in part assuredly to be found in their belief that immigration would tend to reduce wages to a more satisfactory level. John Pickering* said in 1847:

"If the working classes will promote the 'protective system,' their first object should be to prevent the importation of foreign 'pauper operatives'; it will then be time enough to think about preventing the importation of the goods they make; till then it would be perfectly useless."

The labor argument in the tariff was an interesting concession to the times. The principle of protection itself, a principle which has been applied in varying degrees but without interruption from the very birth of the republic until the present, reveals clearly the attitude of the state toward industry and of industry toward the state. Consistently throughout the history of this nation the owners and projectors of industry have desired public aid and their desire has ordinarily been fulfilled. To a great extent this has been true also of transportation. The record of municipal, county, state, and national aid to railroad building is a literature in itself. It reaches far beyond the proper confines of this study. None the less, it shows as lucidly as does the history of the tariffs how willing public authority was to coöperate in construction of the means of transportation as an aid to agriculture, commerce

* "The Working Man's Political Economy," page 150; quoted by Mangold, page 101.

and industry, and how welcome was such coöperation so long as it was directed to the assistance of the private possessors of the property.

Since the coöperation between statesmen and the promoters of industry has been historically so close it is important to examine the purposes and the social ideals of those who were the founders of the American manufactures. What has been the historic purpose of statesmanship in this respect, and what were the ideals of those formative years? How has the subsequent development of industry been influenced by those ideals? First of all, American leaders from the very outset have believed that farmers were the backbone of the nation. Even Hamilton regarded manufactures as a supplementary source of wealth. "It ought readily to be conceded," he wrote,* "that the cultivation of the earth as the primary and most certain source of national supply; as the immediate and chief source of subsistence to man; as the principal source of those materials which constitute the nutriment of other kinds of labor; as including a state most favorable to the freedom and independence of the human mind—one, perhaps, most conducive to the multiplication of the human species; has intrinsically a strong claim to preëminence over every other kind of industry."

The permanence of that sentiment in American life was curiously exhibited when the Senate Committee investigating campaign funds in 1920 examined certain industrial leaders. The witnesses naïvely expressed the opinions that farmers, especially Middle Western

* American State Papers, Finance I, 123.

farmers, were the best Americans. The tradition of that belief runs as an unbroken strand through the texture of American development. It has had far-reaching results. One of the first of these was the principle accepted by Hamilton, Tench Coxe, Gallatin, and others, that manufactures were subsidiary. The labor employed was to be that of women and children, immigrants, and the sons of farmers during the frozen winter. "The husbandman himself," said Hamilton, "experiences a new source of profit and support from the increased industry of his wife and daughters, invited and stimulated by the demands of the neighboring manufactories." Women and children, particularly those of a tender age, were to be recruited. Immigration, attracted by manufactures, would in Hamilton's words be "an important resource, not only for extending the population, and with it the useful and productive labor of the country, but likewise for the prosecution of manufactures, without deducting from the number of hands which might otherwise be drawn to tillage; and even for the indemnification of agriculture for such as might happen to be diverted from it." The importance of this belief that industry was to be treated as a subsidiary enterprise in the national economy developed later. Inadequate wages, long hours, unwholesome working conditions, devastated family life, bad housing, periodic unemployment, were in part made immune from public interference by this belief that agriculture was the main business and industry the supplementary avocation of American workers.

The belief that manufactures were subsidiary to

farming had also the effect of imposing the agricultural system of labor in the factories. The hours of labor were from sun to sun in agriculture. It was accordingly entirely natural to establish the summer routine of the farms in the cotton mills. Mrs. Harriet H. Robinson, one of the young women who worked at Lowell when the factory system was getting established in this country, recorded her memories in a paper published in 1883 by the Massachusetts Bureau of Statistics of Labor. Lowell was the model factory town of early America, and yet little girls not over ten years of age there worked fourteen and fifteen hours daily. "The working hours of all the girls extended from five o'clock in the morning until seven in the evening, with one-half hour each for breakfast and dinner. Even the doffers (the youngest children) were forced to be on duty nearly fourteen hours a day," said Mrs. Robinson. On occasion the working day was lengthened until eight, nine or ten o'clock at night and sometimes it began at four in the morning. The factory girls came from New England farms. They returned ordinarily to their country homes where similar hours prevailed. It was not extraordinary, therefore, that the farmers' working habits should have been adopted by early industry.

Another ideal which was taken over bodily was the conception of personal relationship between employer and employes. That ideal still persists in many places. It was valid in the eighteenth century. The apprentice system was never elaborated in this country as it was in England and in Europe generally, but none the less the tradition of the relation between apprentice and

master was strong. The colonial manufacturer was the mechanic or artizan who had gathered about him a few journeymen and a few apprentices. The first factories were spinning rooms. These establishments were designed to utilize the energies of petty offenders or to instruct children in the textile arts. The remaining records of apprentices always portray relationships which were intimate and personal even though they were not always pleasant and just. Following the example of Arkwright and Strutt in England, whom he had served as an apprentice, Samuel Slater, the founder of cotton manufactures in the United States, established Sabbath schools for the moral instruction of his employes. The rules and regulations in the Lowell factories are suggestive of the régime of girls' boarding schools of the time. Board and lodging and clothing were the pay of the apprentice who was content to work because of the instruction he obtained. Similarly the first factory workers were given their board and lodging by many employers.

Long hours of labor and the employment of women and children were accepted because of the general belief in the virtuous discipline of steady toil. Yet the establishment of manufactures was sought also because of the labor-saving potentiality of machinery. A sparsely settled country needed the application of labor. Mechanical industry promised to save labor. The advocate of manufactures accordingly delighted to calculate the savings which would result from the use of machinery. In contrast with hand processes the burden of watching the machine seemed light. Of the number employed in the British cotton industries

Hamilton noted that four-sevenths were women and children, that the greater portion of these were children, and that the majority of the children were of a tender age. The textile machines seemed so great a liberator of mankind from the curse of toil that only the strength of infants was thought to be required to perform the work of men and women. That idea was carried on. In 1810 Albert Gallatin, the brilliant Secretary of the Treasury, again reported to Congress on the state of American manufactures. At that time he was compelled still to report that by far the greater part of goods made of cotton, flax and wool in the United States "are manufactured in private families, mostly for their own use and partly for sale." Tench Còxe, the most active advocate for the establishment of manufactures in the United States, calculated in 1814 that 58,000 operatives could spin the entire amount of cotton then exported from the United States. With machinery Coxe reckoned that only one-eighth of this working force need be adult males,* the remaining seven-eighths women and children. One hundred thousand women working on a half-day schedule could weave this cotton. It could be printed by about 60,000 men and children. The labor of 210,000 persons, chiefly women and children, could by the subtlety of machines increase the value of this export cotton from eight or nine million dollars to seventy-five million dollars. Coxe reported that the diminution of manual labor in Great Britain by means of machinery in the cotton business was estimated at 200 to 1 in 1808. He, pioneer leader that he was, with the

* American State Papers, Finance 2, 669.

enthusiasm of a crusader in advocating industry, described "wonderful machines working as if they were animated beings, endowed with all the talents of their inventors, laboring with organs that never tire and subject to no expense of food or bed or raiment or dwelling," which "may justly be considered as equivalent to an immense body of manufacturing recruits, enlisted in the service of the country." It was estimated that a hand-wheel spinner could produce about four skeins a day in 1800. In 1815 a mule spinner could attend to about 90 spindles, which produced daily 180 skeins. Twenty years later each mule spinner watched 200 spindles, each of which turned out as many as eight and one-half skeins daily.*

Fundamental to the entire movement which sought the governmental nurture of industry was finally an admirable desire to enable the American people to fabricate comforts and luxuries for themselves and render the nation self-sustaining. Simple men as well as the great leaders whose names have become historic united in this enterprise. Among the group of Boston merchants who petitioned Congress for protection on June 5, 1789, were spokesmen of wheelwrights, blacksmiths, rope-makers, hatters, pewterers, soap-boilers and tallow-chandlers, wool cardmakers, ship carvers, sail-makers, cabinet makers, coach makers, tailors, cordwainers, glue and starch makers, brass founders and coppersmiths. These men had the vision of nation builders. They lived at a time when a new and revolutionary era in human history was unfolding and they

* "History of Manufactures in the United States," page 432. House Doc. 146, 24 Congress, I Session, page 52.

desired ardently to see the great forces which invention promised set to work in the service of their country. Political traditions they had broken. Social stratification they were beginning to challenge. In the midst of these two revolutions, political and social, came the prospect of even deeper changes in the productive life of the new nation. The power which the new industry proffered early Americans eagerly sought and attained. The consequences which followed, the manner in which human welfare was affected by the machine era, must now be considered.

CHAPTER III

THE WORKER'S FAMILY

THE avowed purpose of Congress in stimulating the development of manufactures was to add to the national prosperity. Variegated industry, it was thought, would render the country independent of foreign nations for military and other essential supplies. At the same time, through the division of labor and the use of mechanical power, the total sum of national wealth would be vastly increased. The forecasts of the early advocates of manufactures have been abundantly fulfilled in this respect. By many tests an enormous multiplication of national wealth and productivity has been shown. Tench Coxe in 1812 estimated the value of all the manufactures of the United States at \$172,762,676.* In 1919 the value of American manufactured products was placed at more than sixty-two billions.† Within that 107 years the value of the products of American industrial establishments had thus been increased approximately three hundred and sixty fold, while the population had increased sixteen fold. The value of manufactures had accordingly been augmented more than twenty times as rapidly as had the population. None of the bold

* "Digest of Manufactures," page 676.

† "Census of Manufactures," Press Release, May 24, 1921.

promoters of a century ago dared dream of such a growth. The actual material achievement of American industry has surpassed enormously the wildest hopes of the forefathers.

How has this great augmentation of national production, and how, in particular, have the various industries through which this new wealth is produced, affected the working class family? It has been customary, first of all, to accuse manufacturing industry of having broken down the worker's home by taking women and children out of it. The charge is only in part justified. Women and children worked* long before the steam engine was invented although work in the home was very different from the later service in factories. In fact it has been said that during the seventeenth century English women provided clothes and food for the family while the men supplied shelter. Every member of the American artizan or farmer family was busily employed. A farmer complaining of the extravagance and waste of the times wrote a letter which was published in the *Connecticut Courant* of August 18, 1788. He was born poor and became rich. In recounting the vicissitudes of his own life he painted a picture which has been considered typical of the age and region. He recalled:

"My parents were poor and they put me at twelve years of age to a farmer with whom I lived until I was twenty-one. My master fitted me off with two suits of homespun, four woollen shirts and two pair of shoes. At twenty-two I married me a wife, and a very good young woman she was. We took a farm of forty acres on rent. By industry we got ahead fast. I married my

* "Women in Industry," by Edith Abbott.

eldest daughter to a clever lad to whom I gave one hundred acres of my out land. This daughter had been a working, dutiful girl, and therefore I fitted her out well and to her mind: for I told her to take the best of my wool and flax and to spin herself gowns, coats, stockings and shifts—nay, I suffered her to buy some cotton and to make into sheets as I was determined to do well by her. At this time my farm gave me and my whole family a good living on the produce of it and left me one year with another one hundred and fifty silver dollars, for I never spent more than ten dollars a year which was for salt, nails and the like. Nothing to wear, eat or drink was purchased as my farm provided all—with this saving I put my money to interest, bought cattle, fattened and sold them and made great profit.”

Prosperity led this particular family into what the farmer deemed luxury and also into extravagance and debt, whither it is unnecessary to follow them. The system of work in which all participated, even the very young children, was, however, well nigh universal throughout New England and the Middle Atlantic States. All were expected to work. Industry was, in fact, the only school open to the great majority of the population. It was universally deemed to be the best influence in the formation of character. Boys and girls for the good of their souls, as well as for the profit of their parents, were put to work almost as soon as they passed the frontier of infancy. Little girls of six and seven and younger began the tasks—theirs for life—of spinning wool and flax and cotton.* A Massachusetts law of 1642 provided that children who tended cattle “be set to some other employment withal, as spinning upon the rock, knitting, weaving tape, etc.” Portable hand looms were taken into the pastures by the boys and girls in order that their small hands might

* “The Family as a Social and Educational Institution,” by Willystine Goodsell, page 401.

be kept busy. Boys wove garters and suspenders on tape looms while girls assisted in the gardens. Both boys and girls were apprenticed, although the apprentice system was never so common in the colonies as it was in England. A "Spinning School House" was established in Boston in 1720 for the purpose of teaching the art to children of the poor. Some masters seem to have regarded apprenticed children lightly, as may be gleaned from the following advertisement which appeared in the *Connecticut Courant*:

"Run away from the subscriber on the evening of the thirteenth of this instant July, an apprentice boy about 17 years old and about five feet high: said boy did belong to New Haven, named Elisha Turner. Who will take up said boy and return him to his master shall have two pence reward and no charges paid by

SAMUEL CLARK,
Winchester, July 28, 1788."

Under the system of domestic industry practically all textiles were spun and woven by women and children. Historically spinning and weaving and the making of clothes were duties which women, their children, and their servants, where servants were available, had generally performed. The first factories thus were competitors of the family manufacturers. When Tench Coxe prepared the Digest of Manufactures for 1810 * home production was seen to exceed the output in manufacturing establishments enormously. For every yard of cotton made in a factory upwards of 112 yards were fabricated by families in 1810. Wool showed similar conditions. More than nine and a half million yards were woven in families,

* American State Papers: Finance 2: 690 and following.

while only some seventy-one thousand yards were turned out by the twenty-three woolen factories reported in the 1810 census. The disproportion was overwhelming. It was entirely to be expected, therefore, that the ambitious promoters of manufactures should have accepted industrial conditions as they found them. Women and children had been employed in the fabrication of cloths. The invention of power looms, the utilization of water power first and later of steam, appeared to render far more facile the work they had traditionally performed. Machinery seemed at first sight to make things very easy of accomplishment—to lighten their historic burden and not to impose new duties. The textile factories were, moreover, the pioneer manufactures. The conditions which obtained in them, conditions sanctioned by immemorial usage in domestic life, were extended generally into industry. As factories grew in number and importance women and children left the home for new industrial duties.

Work in factories was not, however, like that of homes. This was clearly seen by a few in England, and Americans who advocated the establishment of manufactures had to defend the project against charges that such work was demoralizing. Tench Coxe took up the imputation and in reply said:*

“Opinions have been advanced in some countries unfavorable to the morals of the manufacturers. But it does not appear that there is more vice among the description of persons indicated in the preceding paragraph than in some other extensive classes of our population. . . . The system adopted at Humphreysville, in

* “Digest of Manufactures,” page 689.

Connecticut, with respect to education, manners, discipline, morals and religion, is an interesting evidence that the people of the United States may quicken and increase the virtues of the rising generation, and reform the degenerate of later years by a humane and politic system in the large manufactories. It may correctly be observed that while no commotions have dishonored the reputation of manufacturers in this country, from this class of our citizens there have arisen Nathaniel Greene, Benjamin Franklin, and David Rittenhouse, respectfully conceived to be comparable without disadvantage to their respective memories and to their manufacturing brethren with any equal number of ornaments and benefactors to their country of any other single profession or occupation. The field of manufacturers, represented in other parts of the world, to be fruitful in mischief and turbulence, has produced here a body of firm supporters of our constitutions and laws and the most respectable examples of civic virtues."

But beyond the vague suspicion that factory life made for loose morals, there was hardly a trace of uneasiness concerning the effects of industry on the welfare of the people. No question of health, of fatigue, of compensation for accidents or unemployment, of control, of a possible rift between classes, seems to have occurred to the inaugurators of the industrial system. Early American promoters of industry were concerned chiefly about increasing the resources of the country. Children were means to this end. How fully absorbed the nation was in acquiring wealth is shown by an ingenious estimate of the value of the unused child labor, similar to that made by Sir William Petty in the seventeenth century. This was published in *Niles' Weekly Register* on October 5, 1816. The correspondent calculated for one town that the value of 200 unemployed children between seven and sixteen years old, working 45 weeks a year, would be \$13,500. Children were rated at from \$1.25 to \$2 a week. The

computation was carried out for the nation. It was reckoned that there were then 317,000 children whose time was not fully employed and who might be utilized in textile industries. The employment of all these children would, however, call for the establishment of factories with nearly 8,000,000 cotton spindles—a plan too large to seem immediately attainable to this enthusiastic estimator of the unharnessed energies of the nation's children.

These promoters had the same attitude toward unemployed children that later Americans have expressed toward unutilized water power. Both thought that a great material resource was being wasted. The earlier generation failed as completely to sense the needs of childhood as did its successor, when brought face to face with the problem of natural resources, seem unable to understand the value of beauty and of foresight for future generations. The failure to appreciate the necessities of children was, however, in character with the times. Thus citizens living on the Brandywine remarked in 1815, in a petition to Congress, that "More than eight-tenths of the persons employed in the manufactories in the United States are women and children, by which the latter are earlier trained to industrious habits than they would otherwise be."*

During the formative years of industry few disputed the propriety of employing children. Samuel Slater, the pioneer of the American textile industry, started in Rhode Island the English custom of employ-

* "Woman and Child Wage Earners," Vol. 6:28; Senate Document, 61st Congress, Second Session, No. 645.

ing entire families in his mills.* The first records of the Slater mill mention prominently the names of four small lads. The letter of one of the early operatives who began work himself at ten years of age indicates that during 1790 and 1791 the operatives in the first cotton mill were almost exclusively children of from seven to twelve years of age. The Committee on Manufactures in 1816 estimated that 24,000 boys under seventeen and 66,000 women and girls were included in the total calculation of 100,000 operatives in cotton mills.† A considerable period of time elapsed before there was any general recognition of the menace of child labor. The principle that work was the "mother of virtue" was deeply rooted. So prevalent was this idea that free traders such as Condé Raguet were compelled to argue that there was work enough for children in agriculture.‡

The first recorded stirring came in Rhode Island, where the employment of children was most extensive. In his message to the legislature in 1818 the governor called attention to the need of educating factory children. "It is a lamentable truth," said he, "that too many of the living generation, who are obliged to labor in those works of almost unceasing application and industry, are growing up without an opportunity of obtaining that education which is necessary for their personal welfare as well as for the welfare of the whole community." A resolution providing for the establishment of schools for the benefit of

* "Women in Industry," page 338.

† "The Textile Industries of the United States," page 159.

‡ "Woman and Child Wage Earners," Vol. 6, page 29.

the 2,500 children between the ages of seven and fourteen employed in Rhode Island factories was reported in 1824 by Tristan Burges, who proposed to make the employers bear the expense of the schools. The resolution failed.* Massachusetts first made a state investigation. A joint committee of the legislature was ordered on January 14, 1825, to report on the expediency of establishing a system of education for children employed in factories. The committee reported that it was inexpedient, but suggested an investigation. Although manufacturers were still petitioning for public aid whenever they desired it, the notion of the impropriety of governmental intervention in behalf of any class other than the owners of industry was so strong that the selectmen were instructed to investigate only child labor found in "incorporated manufacturing companies." The dislike of corporations then general, and too, the legal fact that the corporation was a creature of the state, were sufficient to bring them within the scope of the inquiry, although unincorporated manufacturers escaped. The legislature was subsequently informed that the boys and girls investigated worked twelve or thirteen hours a day, a system by which they have "little opportunity for daily instruction." Not until 1842, however, was Massachusetts willing to pass a school law, the first legislative milestone in the history of the liberation of American childhood.

For a long time the children continued to take a very important part in American industry. Pennsylvania in 1848 passed the first law forbidding children

* "Woman and Child Wage Earners," Vol. 1, 6: 31.

under twelve years old to work in cotton, woolen, silk, and flax factories.* The law also pronounced ten hours to be the legal working day in such industries. But children over ten years old could be employed longer than ten hours, if special contracts were made with their parents. Moreover, no proof of the age of the child workers was required. When the law went into effect manufacturers in the vicinity of Pittsburgh stated that the ten-hour working day would be ruinous to them so long as manufacturers in other states had a twelve-hour day.† A strike ensued, participated in by children, lasting from July 4 to August 28, at the end of which time it was settled, the employees winning their legal ten-hour day but losing sixteen per cent in their wages. In the course of the strike a number of girls were arrested for riots. One of them, a child of thirteen, was sent to jail for want of bail. Thirteen girls were found guilty and four were acquitted.‡ Before Pennsylvania forbade the employment of children under twelve at work in these textile mills, laws had been passed in other states limiting the hours of child labor. Connecticut in 1842 had forbidden children under fourteen years old to work more than ten hours a day in cotton and woolen factories, and the same year Massachusetts had prohibited children under twelve from working more than ten hours a day in any manufacturing industry.

But in none of the earlier laws was a special method

* *Op. cit.*, 6: 207.

† J. Lynn Barnard, "Factory Legislation in Pennsylvania," University of Pennsylvania Publications, Political Economy No. 19, page 20.

‡ "Woman and Child Wage Earners," Vol. 6, page 124.

of enforcement provided. In consequence, as later inquiry showed, the laws intended to limit the hours of child labor and to keep children out of factories seldom served their purpose. The most effectual of the early efforts in behalf of children were the school laws. In these Massachusetts was the pioneer and other industrial states followed. The first act of this character was the Massachusetts Statute of 1836, which provided that children under fifteen years old must attend school three months out of twelve. Here again, however, no special means of enforcement were provided and in consequence the school laws were only partially enforced. The report of the Massachusetts Labor Commission in 1866 gives conclusive and striking evidence on this point. Edward Harris of Woonsocket, according to the report made to the legislature, "desires to call attention to the labor of children in the mills. Represents that, from eight years old and upwards, they work full time—rise at four and a half a.m., having thirty minutes for breakfast, forty-five minutes at dinner, and leave work at seven p.m., fourteen and a half hours. Thinks manufacturers in Massachusetts and in Rhode Island pay little regard to the law respecting the employment of children." In spite of the fact that he belonged to the manufacturers' group, Mr. Harris held that a ten-hour law for women and children, enforced with penalties, would increase the intelligence of the community. Another spokesman of the manufacturers urged that if the hours of labor were reduced, manufacturers would leave the state. This gentleman, J. E. Carver, of Bridgewater, was certain also that the workers would suffer if the

hours were reduced. "No legislation," said he, "can make his receipts for eight hours more than four-fifths of what they would be for ten hours." A different view of the power of politics to control prices was expressed, however, when the manufacturers sought the protection of friendly import duties in order that they might escape foreign competition.

Vivid pictures of the customary effects of early child labor were given by witnesses from industrial towns to the commission. T. J. Kidd, of Fall River, testified in part as follows:

"Question: Was there any one who ever tried to cause the children to be sent to school?

Answer: Not since old man Robeson died.

Question: Why do not the parents send them to school?

Answer: Small help is scarce; a great deal of the machinery has been stopped for want of small help, so the overseers have been going around to draw the small children from the schools into the mills; the same as a draft in the army."

John Wild, also of Fall River, threw light on the child labor situation as it existed in Massachusetts the year after the close of the Civil War. Wild testified that children seven years old were employed in the mill. His own children worked because his earnings were not sufficient to support the family. Said he to the Labor Commission:

"I don't know that I have any more to say, except that I have two little boys, one eleven and the other about eight and a half. I am no scholar myself because I have always been working in the mill, and I am sorry for it. I don't want my children to be brought up the same way. I wish to get them to work a little less hours so that I can send them to night school. I want, if it is possible, to get a law so that they can go to school and know how to read and write their own names."

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During the half century prior to the close of the Civil War the system of child labor was fully developed. Not until after the Civil War was child labor effectually challenged in this country. Even to-day the evil is not remedied. It is the opinion of many that conditions in this country never became so serious as they were in Great Britain, which however, it is fair to say, began earlier and worked with more vigor and intelligence in eradicating the evil than have the not always United States. Before it was possible to liberate children from the burden of factory labor, society had to be slowly enlightened. The old Puritan principle that work is the mother of virtue had to be modified by a new passion for learning and for the liberty which workingmen believed during the first half of the nineteenth century could only be attained by an educated generation. Many good and some great citizens served the republic well in this long struggle. Not least powerful was Horace Mann, who as secretary of the Massachusetts Board of Education came boldly to plead the cause of the children. Mann declared in his report for 1848 that "those who employ other people's children for profit could not entrench themselves behind the sacredness of parental rights. Their object is their own personal gain, a lawful and laudable object, it is true, but one which cannot sanction for a moment the infliction of a positive injury upon any child, or the deprivation of any privilege essential either to his well-being or to the permanence and prosperity of the state." The pioneer educator asked: "How can any man seek to enlarge his own gains or to pamper his own luxurious habits, by taking the bread of intel-

lectual and moral life from the children around him?"*

The answer to Horace Mann's appeal was made by many and it has been repeated down to the present generation. The first and most important response to a demand for the protection of children has usually been that the manufacturers did not desire it. The early Massachusetts legislators found it "inexpedient" to pass school laws, and three-quarters of a century later and more the legislators of North Carolina were finding the opposition of cotton manufacturers an insurmountable obstacle to the passage of adequate child labor laws. The state has no right to interfere with private business, it has ever been argued by textile manufacturers. A North Carolina manufacturer said in 1905, when one of the losing fights for a child labor law was made, that it was an insult to manufacturers to take the management of their property away and vest it in the superintendent of schools. The law provided that no boy under twelve and no girl under fourteen should work in the mills. A boy under fourteen was excluded from the factories unless he could read and write. The superintendent of schools was authorized to approve the school certificates. That was what the manufacturer meant when he said the bill "takes the management of their property out of their hands and puts it in the hands of the county superintendent of education, who knows as much concerning the needs or the best interests of a factory as a billy goat knows about fishing." A veritable fury of opposition has contested the progress of public control over child labor. Public interference, north, west and south, has

* "Woman and Child Wage Earners," Vol. 6, page 72.

been unfailingly resented as an unwarranted intrusion on the part of the government by the very men who have consistently sought governmental interference whenever public aid seemed to promise nourishment for their profits.

During the early decades the campaigns to take children out of factories found success when based on a demand for education and on a demand for the protection of the health of the future citizen. Broadly speaking, that is still true. The great sanction of laws preventing the premature employment of children lies in the now acknowledged duty of society to coming generations. The state cannot permit the health of children to be dwarfed by toil during years when growth is the normal function. Nor can the state allow the next generation of citizens to grow up unschooled and in ignorance. These two principles have the approval of all except those who desire to exploit the energies of the young, and this is now a minority which decade by decade becomes less potent. A further principle, the right of the child to the pursuit of happiness, is now reinforcing the older doctrines. It is now known that children—like their elders—will play; and woe betide that society or that community which suffers the natural impulses of youth to be thwarted by industry or by any other artificial barriers. In any adequate consideration of the effects of industry upon human welfare, however brief, this factor should be taken into account. For, besides drafting the juvenile energies of the nation as into an army, industry has in many places taken away most of the natural opportunities for play, even among those children who are

not absorbed into factories and mills. This state of affairs is apparent in any industrial city. It is most obvious in the working class quarters of larger municipalities. In the congested districts of New York City, for example, little children learn while they are still toddling infants to gamble upon the streets. Because they have no normal outlets for their play energies they are driven to abnormality. When the full accounting of what industry has done to childhood is made, these things which have such great consequences in the wasting of opportunities for sound development and in the stimulation of criminal tendencies must not be forgotten.

Child labor is not an obsolete issue. In 1910 the census showed that two million children between the ages of ten and fifteen were still employed in gainful occupations in the United States. The federal tax on the products which involve the work of children affects only fifteen per cent of the full number of juvenile workers, according to an estimate made by the National Child Labor Committee.* The children protected are those who would be employed in factories, mines, and quarries. Children employed in agriculture, domestic service, street trades, stores, messenger and delivery companies, tenement homework, and in restaurants and hotels, are not touched by the federal act, unless they make articles which are shipped in interstate commerce. State laws have improved greatly during the last decade, but even at the present time they permit the continuance of much child labor. Most states have adopted at least a fourteen year age limit for the in-

* Pamphlet 303, page 4.

itation of children into industrial life and a few have higher limits. Child specialists now think, however, that sixteen should be the minimum age limit and many regard even that too low.* The manufacturing industries are, it should be said, now distinctly not the chief offenders against children. Agriculture, which provided ready-made the system of child labor which industry so greedily took to its own purpose, still retains its hold upon childhood in many parts of the country. The National Child Labor Committee in recent surveys has found children, four, five and six years old picking cotton in the Imperial Valley of California. In Oklahoma, children as young as five were found regularly picking cotton while the average school attendance was only a little more than half of the enrolment. In Colorado five thousand children between five and fifteen years old were found to be regularly engaged in the beet industry.

Industry did not begin child labor but industry, in a unique sense, did use children for its own profits. Manufacturers entered the worker's home and took his young children out and made them labor for his enrichment, without thought of their future or of the country. In time the society which created industry for its own ends saw that child labor was a means of race deterioration and consequently public intervention—still far from completed—was inevitable. For the most part, however, if the record of a century be taken, industry has lightened rather than added to the burdens carried by children. Childhood is more free and happier than it was a century ago. The rise of

* Standards of Child Welfare, Children's Bureau, 1919.

industry has been coincident with this humanitarian development, and while manufacturers have in their day and generation on the whole sought to retain children in bondage, it is still true that mechanical industry has supplied the wealth which has really liberated childhood. The period during which industry has developed has taken work away from children—save in agriculture and in a few other branches—and it has established universal education. The child of the worker to-day has in these respects a very much better chance than the child born a century ago.

But what about women? It has already been observed that manufacturers did not first set women to work. Family manufactures, domestic industry which preceded mechanical production, were very largely in the hands of women, servants, and children. The textile industry was almost overwhelmingly a woman's industry. The effect of the establishment of manufactures was accordingly chiefly to change the nature of woman's work. Women followed their familiar tasks out of the home and into the factory. Women were employed in the early factories because men were needed for heavier occupations. The pioneers of industry believed quite sincerely that woman's place was the home. They were not willing to let her stay there because they were practical men who thought more of their profits than of their prejudices. Women, moreover, were cheaper than men. They still are.

There can, however, be but little doubt that employment in factories has offered certain clear advantages to women. It has defined their work more precisely. Instead of the endless round of domestic

duties definite performance during specified hours has been demanded. These hours were at first overpoweringly long. They began at 4:30 in the morning and they ended at seven in the evening or later. Fourteen and a half hours was not an unusual stint. But after all those were the hours which women—and men—then worked on the farms during the summer. When hours became shorter the definiteness of industrial work was undoubtedly a factor which counted in its favor. But more than that, even the low wages of women have meant a step toward economic independence. Before manufactures came most women worked, but without pay. After manufacturing was established women continued to work, but for pay. The first textile mills in Rhode Island paid men for the work they performed, and also for the labors of their women and children. Dennis Rier contracted on January 27, 1815, to work for the Poignaud and Plant Mill at Lancaster, Massachusetts. His agreement provided that he should be paid for himself, his daughter, aged twelve, his three sons, his sister, and her son and daughter. The family system was carried over into the factory in certain places for a time, but generally women were paid their own wages.* Industrial work has accordingly brought to women a measure of economic independence. That is a very great gain in the development of human liberty. But other effects of industry upon women have not been always happy. Women have been underpaid and overworked. Fatigue and strain have become so great a menace to the health and strength of women, and through them, as mothers, of the future genera-

* "Women in Industry," page 268.

tions, that in self-defense the states began to regulate the conditions under which women might be employed.

During the century and more since industry began to take shape in the United States the government has been compelled to intervene in behalf of the women who were employed in industry. Action of this character has been taken grudgingly. Legislators who have never hesitated to grant the favors demanded by the promoters of industry, commerce, and transportation have been more than reluctant to take any public action in the defense of the women of the nation. Lawyers on the bench and at the bar who have built up legal sanction for novel varieties of impalpable property, by logic which rivals in subtlety the polemics of medieval casuists and theologians, have looked askance at the rise of new teachings concerning the duty of the state to protect the health and vigor of women. Manufacturers and business men who have demanded and who have received gifts of public money, public credit, public lands, and who have insisted that the public power of taxation be diverted to their own enrichment, have presented an almost unbroken front against any public action in the interest of women workers. This has been true largely because at the time that manufactures were developing, political power was in the hands of those who possessed property. As has been observed, the privileges of voting and of holding office were the exclusive prerogatives of those who owned property. As the industrial revolution came on political barriers were torn down, but before workers learned how to use their new ballots the theories of laissez-faireism had become a bulwark of property

holders against the demands of the workers. It is one of the paradoxes of our industrial history that the same men who insisted upon receiving public aid for their own enterprises should have so long been able to prevent their employes from obtaining assistance from the public authority. In time, however, the states began haltingly to take action in the interest of women workers. Along three different lines this development has proceeded. Hours of work, wages, and conditions affecting health and safety, have all been the separate occasions of what is now a large, if incomplete, body of legislation. The first enactment passed in the interest of women was the New Hampshire ten-hour law of 1847. This was passed largely as a result of the campaigning of "The Female Labor Reform Association of Manchester" and it actually preceded the first British act on the subject. The act of Parliament, however, was enforced, while the pioneer American enactment was disregarded.*

Very early in the development of the factory system women workers began to protest against the long hours exacted of them. The first factory operatives were daughters of New England farmers, artisans, tradesmen, and even professional men. Many of them worked in order that brothers might be educated. They were independent of spirit and confident of the respect of the community. As early as 1828 girl workers in cotton factories in Paterson, New Jersey, went on strike in order to voice their protest against a change in the dinner hour and to express their desire for the ten-hour working day. Six years later girls

* "Woman and Child Wage Earners," 10:80.

employed in the textile mills of Lowell, the model factory city of early New England, assembled to hear an address on the necessity of organization for the purpose of securing the eight-hour day* From these pioneer days of industry the question of working hours has never become quiet. Constant improvements in machinery were made and the production expected of the individual worker became accordingly greater. In March, 1836, the girls of Amesbury were told that they must tend two looms in the future without any increase in pay. They went on strike.† In spite of the success of a number of their historic efforts at trade organization it soon became plain that alone and unaided women could not hope to obtain a reasonable adjustment of their working hours. In consequence, relief was sought from legislative rather than from union activity. The first demands for state action came, however, almost exclusively from the organized workers themselves, who at that time sought protective laws for men as well as for women.‡ It has been noted that New Hampshire passed the first ten-hour day for women. The next year Pennsylvania and Maine passed similar laws. The Pennsylvania Act of 1848 established the ten-hour day as the legal working day in textile and paper factories. But special contracts requiring a longer number of hours could be made. Seven cotton factories in Allegheny City stopped work on July 4, on the ground that they could not continue profitably on the ten-hour basis. On August 28 they

* *Op. cit.*, page 27.

† *Idem*, page 35.

‡ *Idem*, page 80.

resumed operations, but with wages reduced sixteen per cent.* On the whole, moreover, it is true that these first laws were not enforced. The states were not entirely aware that special machinery was essential to the enforcement of industrial legislation. They imagined that local authorities could enforce factory laws. Furthermore, the popular American doctrine that laws might be effectually repealed by a failure to provide for their observance was also at work. Then as now the interests which could not prevent the passage of a law found the power to prevent its enforcement. Not until 1879, when Massachusetts showed the way, had an American state passed an enforceable law for the purpose of limiting the hours of labor of women.† In 1908 the Oregon ten-hour law for women was upheld by the United States Supreme Court. By 1920 there were only six states which had failed to place restrictions on the hours of labor permitted women in industrial employment. An admirable statement of the present liberal attitude toward such legislation was formulated by the President's Industrial Conference, which in its final report dated March, 1920, said:

"Women cannot enter industry without safeguards additional to those provided for men, if they are to be equally protected. The danger of exploiting their physical and nervous strength with cumulative ill effects upon the next generation is more serious and the results are more harmful to the community. Special provision is needed to keep their hours within reason, to prohibit night employment in factories and workshops, and to exclude them from those trades offering particular dangers to women."

* "Factory Legislation in Pennsylvania," page 20.

† "Principles of Labor Legislation," page 233.

The number of employments included in the prohibitions of the laws are those which the legislatures regard as dangerous to health. Domestic service and agricultural labor are not limited in the United States. The laws of Pennsylvania, for example, include "any place . . . where work is done for compensation of any sort with the exception of private home and farming."*

In one aspect of this limitation of the working hours of women the United States has been notably backward. That is the failure to prohibit night work. Night work, injurious to all, is peculiarly dangerous to women because, as repeated investigations have shown, women in addition to their factory labor carry on the responsibilities of homemaking. Many who are employed during the night by industry care during the day for their homes and their children. So notorious is this evil that as a result of a conference of fourteen leading European powers held at Berne in 1906, the abolition of night work for women was recommended. By 1912 the principal European nations which were party to this conference had enacted legislation outlawing night work for women.† Some forms of night work for women were forbidden by the laws of thirteen American states by 1920, but generally speaking the United States is in this respect a backward nation.

In addition to laws limiting the hours of labor for women and children society has been compelled to pro-

* "Principles of Labor Legislation," page 236.

† *Idem*, page 273; also "The Employment of Women and Children and the Berne Conventions of 1906," Harrison & Sons, London, 1919.

vide other means of protection. Some industrial processes are so inherently dangerous that it has been deemed advisable to exclude women and children from them. Striking examples of legislation of this kind were the effectual prohibition of the use of phosphorus in match manufacturing and the prohibition of the employment of women and children in mines. Phosphorus caused one of the most terrible of occupational diseases—"phossy jaw"—a disease to which men also are subject, but unlike European countries the United States was able to end this evil only by the indirect method of imposing a prohibitive tax on matches containing white phosphorus and forbidding their import or export.* Some European countries have also prohibited the use of white lead in industrial processes, but in this matter the United States has failed to act. Regulation of dangerous industrial processes was built up on laws designed to protect women and children, but at the present time many of these hazards are recognized as equally dangerous to men. In one way the necessity of safeguarding women against destructive labor in factories has been used unfairly against them. The Women's Bureau of the United States Department of Labor has pointed out that women are excluded from a number of industrial processes which are quite as dangerous to men as to women.† Thus, for example, women are not permitted by the laws of some states to be employed on polishing and grinding machines because of the danger

* "Principles of Labor Legislation," page 355.

† "The New Position of Women in American Industry," page 32.

of tuberculosis. The reasonable public policy in a case such as this is to devise methods of removing the dust hazard, which is quite as much a menace to men as to women. Women have been excluded from trades on the specious ground that their health was especially jeopardized when as a matter of fact men desired merely to escape their competition. In consequence the present tendency is toward reconstructing the industrial process so that it may be carried on without danger to either sex rather than excluding women from it.

In another respect society has intervened to protect women. Massachusetts in 1911 passed a law forbidding the employment of women two weeks before and four weeks after childbirth in industry or commerce. Four other states have enacted similar laws, but the United States as a whole is far behind European countries in this respect. The minimum standards as to these matters formulated by the International Labor Conference held at Washington in 1919 are more over in advance of any legislation which has proved acceptable to an American state. One of the tests both for the number of hours during which women may safely work and for the industrial processes in which they should be permitted to participate is obtained as a result of scientific inquiry. It is now to a certain degree possible to measure fatigue and hazard and to fix standards on the basis of observation, although in these affairs social philosophy is still a more important guide than physiological science. A number of states, and also the federal government in so far as it participates in industry, have, however, begun

to approach such questions by the road of scientific investigation.

Women's wages have been traditionally low. Women were employed in industry because they were cheaper than men. In the home they had worked without payment. In domestic service their wage was ridiculously small. In New England during 1808 servants were paid seventy cents a week on the average and fifty cents a week in 1815.* The competition of textile factories raised the level of wages so that by 1849 the wages of servants ranged from \$1.25 to \$1.50 a week.† The wages of domestic servants were supplemented by board and lodging, however, and that was of first importance. Manufacturing industries did not create a low wage system: they merely took advantage of the system which already existed. The clothing industry, which as early as 1828 began to establish "sweat shops,"‡ was one of the worst offenders. Mathew Carey reckoned in that year that of the eighteen to twenty thousand working women in Baltimore, Philadelphia, New York, and Boston, at least twelve thousand could not earn by constant employment, sixteen hours out of the twenty-four, more than \$1.25 weekly. Carey estimated in 1831 the annual income and expenses of the average sewing woman as follows:

Forty-four weeks' wages at \$1.25.....	\$55.00
Lodgings, 50 cents per week.....	\$26.00
Fuel, 25 cents per week, but say only 12½..	6.50
	32.50
Remains for victuals and clothes.....	\$22.50

* Sixteenth Annual Report, Mass. Bureau of Statistics of Labor, pages 228, 238.

† "Woman and Child Wage Earners, Vol. 9, page 179.

‡ *Idem*, page 127.

The wages paid in the textile mills were a distinct advance. The average weekly wage in Massachusetts cotton factories in 1831 was said to be \$2.25. At the same time the average wage in New York and New Jersey was placed at \$1.90. At Lowell, where conditions were esteemed especially good, women's wages were said to be from \$1 to \$3 weekly in addition to board. The wages paid in the textile mills, low as they were, were higher than the customary rates in familiar vocations. They tended, moreover, generally to raise the rates at which women were compensated. None the less, industry, after having drawn women out of the home, failed on the whole to provide equivalent support for them. The wages of women were not intended generally to maintain them. They supplemented the support provided in the family, although often at times, as in Lowell, the rate of factory pay was actually sufficient for the independent support of the women employed. But, commonly, industry has paid women less than their maintenance. It has been parasitic to that extent. During the winter of 1908 and the spring of 1909 the field work for the study of the Condition of Woman and Child Wage Earners in the United States was done. The situation in twenty-three industries in seventeen states was investigated. A comprehensive picture of the wages paid women was obtained. At that time nearly seventy-three per cent of the women employed in industry, eighteen years old and over, got less than \$8 a week, and nearly ninety per cent got less than \$10 a week.* At that time \$8 a week was the least at which an American woman could support her-

* "Woman and Child Wage Earners," Vol. 18, page 23.

self in health and decency. In spite of this two-fifths of the women investigated earned less than \$6 a week. One-eighth earned less than \$4 a week. Industry which employed women was obviously parasitic.

Women employed in industry, taken in the mass, have never earned living wages in this country. The textile industry notably has paid family wages, that is, each worker has been paid so little that only the united efforts of all available workers sufficed to support the family. Women seemed unable successfully to challenge this state of affairs and consequently, beginning in 1910, a few American states have intervened. Minimum wage laws were passed. The minimum wages set for different industries have usually been higher than what was previously paid but low in themselves. The year 1919 is counted a period of extremely high wages. During the first four months of that year an investigation of the wages paid in the corset industry in Massachusetts was made. "Of the adult workers, those eighteen years of age and over, 62.1 per cent earn less than \$12 a week."* In spite of the fact that the inquiry was made at a time when wages generally were reputed to have attained unprecedented levels in this country, the Massachusetts Minimum Wage Commission was compelled to state in its decree "that the wages supplied a substantial number . . . were inadequate to supply the necessary cost of living and to maintain the workers in health." The commission accordingly fixed a wage of \$13 a week for experienced employes. Thrift is preached to the poor. The figure allowed for saving was 37 cents a week. If the women

* Massachusetts Minimum Wage Commission, Bulletin 21.

were employed every week in the year, a condition altogether rare, they would not at this rate be able to accumulate \$20 annually. Minimum wages, in spite of the greater liberality of some commissions, such, for example, as the District of Columbia body, are indeed minima! They are designed to maintain physical life in more or less discomfort and that is all.

But the employment of married women is far more serious in some of its effects. Industry transferred woman's work from the home to the factory. Much of industry did pay men such small wages that it was necessary for women to continue at work in the factories in spite of the burden of childbearing. That was a partial result of the family wage system. It has had good effects as well as bad ones. The employment of women after marriage has done much to dethrone the tyrant husband and father who was so prominent a figure when the first feminists were dreaming of the liberation of women. Nothing has been of greater importance in the social and economic enfranchisement of woman than her capacity to earn wages. Industrial necessity accomplished what could have hardly been achieved in any other manner. It brought good in its train. When factory owners began to attract women to their establishments, human freedom took a step forward. Not that the industrial promoters had any desire to help the cause of liberty. So far as their writings show, they were not even aware that their conduct had such an effect. But while women were more free because of their industrial employment, children suffered from the lack of maternal care. How serious a factor this has been was first indicated with

clarity in the studies made by the federal Children's Bureau.

Inadequate wages paid men have been shown by the Children's Bureau studies to bear a very clear relationship to the infant death rate. In Manchester, New Hampshire, for example, a textile city, among families in which the fathers' earnings were less than \$494 a year, the infant death rate was 262.4 per thousand. When the fathers' earnings had risen to \$1,092 or more a year, the infant death rate had fallen to 53.2 per thousand. In other words, the child of a man who earned at least \$1,092 a year had five times a better chance at life than the child of the man in the lowest wage group.* The low wage groups, moreover, comprise by far the largest number of families. It is therefore fair to say that the children of the men employed in industries die needlessly because of the scanty incomes of their fathers, or because of conditions generally accompanying such small earnings. It was found † that "the babies of working mothers in Manchester had a higher infant mortality rate than the babies whose mothers were not gainfully employed." Furthermore, it was found that "insufficient or low earnings on the part of the father appear to be the most potent reason for the mother's going to work. Where the fathers earned less than \$450 a year, 73.3 per cent of the mothers were gainfully employed during some part of the year after the baby's birth. With each rise in economic status, the propor-

* U. S. Children's Bureau, *Infant Mortality Series No. 6, 1917*, page 16.

† *Op. cit.*, page 47.

tion of babies with mothers gainfully employed falls but does not really reach a small proportion, 9.6 per cent, until the group with fathers earning \$1,050 a year and over is reached." When women were gainfully employed during the year before the baby's birth, the death rate was 199.2 per thousand. One child in every five died. When women were not gainfully employed, taking all wage groups, low and high, the mortality rate was 133.9 per thousand.* When the employment the year after the baby's birth was studied even more striking results were found. The death rate for the babies of those gainfully employed was 220.9; of those who did not have to work, only 122.0.† Other studies made by the Children's Bureau in this country and by the Local Government Board in Great Britain give a more general basis for these conclusions. The forced employment of women in industry has taken an enormous toll of child life. How great this loss has been is incalculable, but the rates learned by the most scrupulous study show that it must have been vast and appalling. That great source of waste indicates a part of the effects of the industrial system on the worker's family.

This takes no account, however, of underfeeding and the stunted development which comes therefrom. Studies made of urban children have indicated that as high as fifteen to twenty per cent of the entire child population are underfed or are suffering from defects attributable to imperfect nutrition.‡ How many chil-

* *Op. cit.*, page 50.

† *Op. cit.*, page 52.

‡ *Standards of Child Welfare*, U. S. Children's Bureau Publication No. 60, page 238.

dren were underfed during the years before factories congregated people in cities no one knows. It is, however, hardly probable that so many actually suffered the pangs of hunger. Studies of health among rural children of the present time show on the other hand that country children suffer from more remediable ills than do the city bred. It is probable, therefore, that defects which arise from an imperfectly balanced dietary were more common prior to the industrial revolution. This is to be attributed to the fact that all classes are now able to obtain a far more varied diet than was possible before the development of cold storage and rapid transportation.

Industry has thus had divers effects upon the home of the worker. It has taken his wife and his children and through their toil with the aid of machines created fabulous wealth. It has given the worker's wife and daughter an income, but not sufficient to support them. It has been a parasite on the labor of women and children. It has killed babies by depriving them of a mother's care. It has depressed childhood by taking away the opportunity for life out-of-doors. But the same industry has contributed mightily to the social and economic enfranchisement of women. It has broadened woman's life and given her greater independence of man. It has provided the wealth through which later generations are freeing childhood of the immemorial burden of production. In its promise, at any rate, it has been gain for the family.

CHAPTER IV

WAGES IN INDUSTRY

INDUSTRY transferred the work of women and children from the home to the factory. The workingman's wife and children perforce forsook their home in order to obtain employment. To the extent to which women and children were drawn from domestic industry to factories it is accordingly fair to say that machinery entered and broke the circle of the workingman's home. Industry has also augmented vastly the sum of national wealth and income. It is important, therefore, to ascertain how these changes have affected the standard of living, the earnings and the comparative wealth of the manual workers of the nation. Have employees of industry been paid a living wage? Have wage earners had a fair share of the increased income made possible by the factory system? Have mechanics and laborers been able to obtain justly proportionate shares of the wealth in whose creation they have played so essential a part?

In attempting to answer these questions it gives perspective to recall the way of life of mechanics and laborers during the decades prior to the industrial revolution. In spite of the rising tide of political democracy, social distinctions were well fixed at the beginning of the nineteenth century. As late as 1773 students

at Harvard had been rated according to their social status.* The differences between the rich and the poor were wide and deep. The clothing of the workingman is known from the descriptions given by those who advertised for the return of their run-away servants and redemptioners. Workingmen and boys generally wore leather breeches. These as well as the rest of his apparel were made at home or in the neighborhood. Professor Bidwell quotes a manuscript prepared by Governor Treadwell of Connecticut in 1802 or 1803, which discussed clothing in detail.† Men commonly had two suits, one for work and the other for society. For summer the working costume consisted of a "check homespun linen shirt, a pair of plain tow cloth trowsers, and a vest generally much worn, formerly with but more modernly without sleeves; or simply a brown tow cloth frock and trowsers, and sometimes a pair of old shoes tied with leather strings and a felt hat, or an old beaver hat stiffened and worn white with age. During winter wool and buckskin were substituted for linen and tow cloth. Shoes were of the roughest sort, home-made from the hides." Clothes and food were provided by home manufactures. Weeden relates the story of Mrs. Mary Moody Emerson, aunt of the great Emerson and herself a woman of culture and distinction. She was born about the time of the Declaration of Independence. She had ten dollars a year in cash. It was used for food and charity. Salt, molasses, rum, tea and coffee were the

* "Economic and Social History of New England," by William B. Weeden, page 739.

† "Rural Economy in New England," by Percy Wells Bidwell.

principal articles purchased by small farmers at the beginning of the industrial revolution. Life was hard. The pioneer cabins are perpetuated in the rude huts now frequently seen in the Appalachian mountain ranges. These were built of logs or of slabs. They were cold, ill-ventilated, dark and wretchedly crowded. Privacy seems to have been a luxury unknown among the poor. It still is, to a lesser extent. H. N. Slater, the son of Samuel Slater, told William B. Weedon that when his father was recruiting labor for the first cotton factory he had found a man named Arnold with a family of ten or eleven living in a rude cabin chiefly of slabs, with a chimney of stone. Yet Mrs. Arnold liked her home. She stipulated that Samuel Slater must provide a house equally good for her.

The chief articles in the diet of one family whose record has been obtained were milk, corn bread and bean porridge.* That family was far above the average in intelligence. Two of the sons became professional men of wide distinction. Felt,† who is quoted by Bidwell, said: "For more than a century and a half (i. e., up until almost 1800) most of them had pea and bean porridge, or broth made of the liquor of boiled salt meat and pork mixed with meal, and sometimes hasty pudding and milk—both morning and evening." Beef, pork, and mutton were supplied by the farmer's own herds. Most of the meat was dried, salted or pickled. The common bread of the country was a mixture of rye and cornmeal. Fruits and vegetables were fairly abundant. Apples furnished cider,

* Weedon, 862.

† "Rural Economy in New England," page 350; "History of Ipswich," page 30.

the favorite beverage of colonial New England. Maple sugar and honey were obtained on the farm.

The wages paid those first Slater employees varied from 80 cents to \$1.40 a week, according to H. N. Slater's memory. In 1801 carpenters were paid about a dollar a day in Massachusetts.* Laborers were paid from sixty to ninety cents a day. Painters seem to have had about sixty cents. Some teachers were paid \$30 a month. Substantially the same wage level was maintained between 1800 and 1815, according to the late Carroll D. Wright's summary of this report. In the Memoir of Samuel Slater an article by Z. Allen intended to show wage levels in 1825 is included. The wages quoted are designed to show the high rates paid in the United States in comparison with those which then obtained in England and France. This was a part of the tariff argument, and the figures given are accordingly perhaps high. None the less, the wage rates are fairly significant. The table for the United States, abbreviated, is as follows: †

A common laborer earns per day.....	about \$1.00
A carpenter.....	" 1.45
A mason.....	" 1.62
A farm laborer (per month and found).....	" 8.00 to 10.00
A servant maid (per week and found).....	" 1.00 to 1.50
Best machine makers, forgers, etc., per day..	" 1.50 to 1.75
Ordinary machine makers, forgers, etc., per day.....	" 1.25 to 1.42
Common mule spinners in cotton mills.....	" 1.08 to 1.40
Common mule spinners in woolen mills.....	" 1.08
Weavers on hand looms.....	" .90
Boys of 10 or 12 years of age, ditto, per week	" 1.50
Women in cotton mills, per week, average..	" 2.00 to 3.00.
Women in woolen mills, per week, average..	" 2.50

* Wages and Prices: 1752-1860—16th Annual Report, Mass. Bureau of Statistics of Labor, page 219.

† "Memoir of Samuel Slater," page 340.

The figures reported in McLane's documents* vary somewhat for different establishments and different parts of the country. A Philadelphia cotton mill reported for 1832 that 15 men averaged \$7 a week and that 65 women and 46 boys averaged \$1.50.

But before the industrial revolution the laborer and artizan seldom lived by wages alone. If he was a redemptioner, his master was responsible for his support. If he was a freeman he tilled the soil as well as followed his trade. The villages of the New England towns were homes of artizans who were also farmers. The villagers had lots of from two to ten acres and in addition more distant fields. The mechanical trades—carpentry, cobbling, tanning, blacksmithing, and milling—were, in the words of Professor Bidwell, “usually only auxiliary occupations, by-industries of agriculture.” The connection between agriculture and the mechanical trades was well described from his own observation by Tench Coxe † as follows:

“Those of the tradesmen and manufacturers who live in the country generally reside on small lots and farms, from one acre to twenty; and not a few upon farms from twenty to one hundred and fifty acres, which they cultivate at leisure times, with their own hands, their wives, children, servants and apprentices, and sometimes by hired laborers or by letting out fields, for a part of the produce, to some neighbor who has time or farm hands not fully employed. This union of manufactures and farming is found to be very convenient on the grain farms; but it is still more convenient on the grazing and grass farms, where part of almost every day and a great part of the year can be spared from the business of the farm and employed in some mechanical handicraft or manufacturing business. Those persons often make

* “The Manufactures in the U. S.,” Vol. 2, 1832, page 220.

† “View of the United States,” pages 442-443.

domestic and farming carriages, implements and utensils, build houses and barns, tan leather and manufacture hats, shoes, hosiery, cabinet work and other articles of clothing and furniture, to the great convenience of the neighborhood. In like manner some of the farmers, at leisure times and proper seasons, manufacture nails, potash, pearlash, staves and heading, hoops and hand pikes, ax-handles, maple sugar, etc. The most judicious planters in the Southern States are industriously instructing their negroes, particularly the young, the old, the infirm and the females, in manufactures: a wise and humane measure."

Professor Bidwell concluded from his investigations that as late as 1810 practically none of the employees of the New England factories depended exclusively for their living on their income derived from manufactures. The industrial population was even then only beginning to be differentiated from the great mass of agricultural workers. In the undifferentiated industrial life nearly everybody had enough to eat. The variety was narrowly restricted and many of the things eaten were doubtless hard to digest. At times pioneers are reported to have been near the starvation line. Travelers who called at such cabins in the wilderness brought back word that they had been refused food because of the scarcity. But on the whole the testimony points in the other direction. Of the food they had, they had enough. There was probably little underfeeding, although there was undoubtedly—if modern surveys of regions which reproduce colonial conditions may be taken as guides—much malnutrition. The cheap land, however, gave men a sense of freedom if it did not always raise their level of living, and therefore it gave them contentment with a comparatively low standard of life. Measured by the quality and variety of housing,

of food, of clothing, the workers of days before factories had been developed in this country were worse off than are their descendants. On the other hand, if instead of quality and variety, quantity and regularity of income are the measuring rods, the workers of 1800 were vastly more prosperous than are their successors who live during the first decades of the twentieth century. For as long as men raised sheep, and women spun and wove wool, clothing was attainable. Farmers do not face the hazard of unemployment in the degree of industrial workers. The farmer may lack a market for his products but he is never without the need to provide crops for himself, his household, and his livestock. In so far, therefore, as industrial workers were also agricultural workers, they had a security of life at a low scale which is quite beyond the grasp of modern industrial workers. Horace Bushnell, however, who remembered the earlier period, said of it:

"No mode of life was ever more expensive: it was life at the expense of labor too stringent to allow the highest culture and the most proper enjoyment. Even the dress of it was more expensive than we shall ever see again."

Because of this undifferentiated industrial life wages actually paid at the beginning of the industrial revolution are hard to compare with the present levels. So long as artisans had even small plots of land, so long as it was usual to possess a cow, a pig and chickens, and to tend a garden, the blacksmith or the tailor or the shoemaker was not solely dependent on his wages. He had supplementary sources of income. Modern industry with its congestion in cities has taken away

these perquisites. The nominal wages now paid must purchase many things which the predecessors of the present wage earners "found" for themselves. Nominal wages in 1830 must accordingly have been far lower than the apparent rates in 1921 before they could be equal. Nominal wages have clearly increased. The rates from 1840 to 1891 were calculated for the Aldrich Committee.* Relative wages were calculated in gold for all occupations of which the investigators had records. Taking five-year intervals the table is as follows, using the wage rates paid in January, 1860, as the base:

<i>Year</i>	<i>Simple Average</i>	<i>Average According to Importance</i>
1840	87.7	82.5
1845	86.8	85.7
1850	92.7	90.9
1855	98.0	97.5
1860	100.0	100.0
1865	66.2	68.7
1870	133.7	136.9
1875	140.8	140.4
1880	141.5	143.0
1885	150.7	155.9
1890	158.9	168.2
1891	160.7	168.6

The changes from 1890 to 1903 were reported in the Nineteenth Annual Report of the United States Commissioner of Labor, published in 1904. This report computed the average for 1890-1899. Reckoning from that as a basis the changes in weekly earnings per employee are as follows:

1890	101.0
1895	98.4
1900	104.1
1903	112.3

* U. S. Senate Doc. 52, Congress 2d Session Report 1394, Part 1, page 14.

An index number of wages was also published in the Monthly Labor Review of the U. S. Bureau of Labor Statistics for February, 1921. This table was figured on a currency basis during the Civil War. Farm wages are excluded. The rates quoted for 1920 were taken during the summer months and "probably represent the wage peak of the year." It is as follows, using five-year intervals:

<i>Year</i>	<i>Index Number</i>
1840	33
1845	33
1850	35
1860	39
1865	58
1870	67
1875	67
1880	60
1885	60
1890	69
1895	68
1900	73
1905	82
1910	93
1915	103
1920	234

It is obvious from these calculations, based as they are on wage rates without any reference to annual earnings, that the nominal wages paid have increased greatly during the industrial revolution. It is fairly safe to assert that real wages have also been augmented. The change from hand production to the factory system, however, it must be remembered, has been contemporaneous with a social revolution. In 1800 the employment of children was counted a discipline leading to virtue as well as a source of proper profit for their parents and guardians. At present the

employment of children in industry or agriculture is known to be a serious handicap to their normal development as workers and as citizens. Similarly, in 1800 the wife and mother was supposed to perform certain duties. A part, a very heavy part, of the burden of family support rested upon her. At the present time the employment of the mothers of young children outside the home is known to be evil. Because of the changes which the factory system has entailed, mothers and children can no longer safely share to the same extent in the maintenance of the family. Consequently society has been impelled to formulate a new standard in measuring wages. The wage earner today is supposed to earn enough to support in health, if not in comfort, himself, a wife, and three children under fourteen years of age. That standard of aspiration has seldom been realized in the United States so far as the great majority of workers in industry are concerned. Nominal wages have increased enormously, and real wages have advanced considerably, but at no time in the history of the United States have a majority of the male workers been able to support themselves and their families. It has never been possible for working-class mothers to remain in their homes since the factory system was entrenched. Not only is that true, but also, as was previously noted, numerous inquiries show that women employed in industry have been paid less than the minimum sum required to support the worker alone in health. Realization of this fact has resulted in the striking development of minimum wage laws for women during the last few years.

The Senate Immigration report printed in 1911 * offered illuminating evidence concerning the insufficiency of the earnings of male heads of households. Studies were made of different industries. The average annual earnings of the husbands at work in silk goods manufacturing and dyeing were reported to be \$668 for native white Americans and \$426 for the foreign-born. At that time the cost of supporting a family in New York City was between \$800 and \$900. It is manifest that on the average neither American men nor foreigners employed in the silk industry were able unaided to maintain their families. More than three-quarters of the male heads of families employed in this industry got less than \$600 a year, and more than ninety-five per cent got less than \$800, the minimum sum reckoned at that time to be needful for the support of a family of five in health. The manufacture of cotton goods affords interesting data for the reason that textile factories were the pioneers of the industrial revolution in the United States. The average annual earnings of the white American husbands in this industry were found by the Immigration Commission to be \$585, while the annual earnings of the foreign-born husbands amounted to \$461. The findings of various governmental reports has been summarized by W. Jett Lauck and Edgar Sydenstricker who undertook the study for the United States Commission on Industrial Relations. In "Conditions of Labor in American Industries," † a study recapitulating

* 61st Congress, 2d Session, Senate Document 633, Vol. 73, page 43.

† Page 61. See also U. S. Bureau Labor Statistics, Bulletin 75, pages 23 and 24, and Immigration Commission Reports, Vol. 19, page 226.

the important federal and state investigations into wages, the authors said:

"An examination of all authoritative data on annual earnings of workers during recent years appears to indicate that the following are warrantable conclusions:

"1. That fully one-fourth of the adult male workers in the principal industries and trades who are heads of families earned less than \$400, one-half less than \$600, four-fifths less than \$800, and less than one-tenth earned as much as \$1,000 a year.

"2. That fully a third of all male workers 18 years of age and over in the principal industries and trades, whether heads of families or not, earned less than \$400, two-thirds earned less than \$600 and about one-twentieth earned over \$1,000.

"3. That approximately a fourth of women workers 18 years of age and over who are regularly employed in the principal manufacturing industries earned less than \$200, and two-thirds earned less than \$400 a year."

This summary was made during 1914 and 1915 and it was designed to portray conditions which obtained at that time. The actual inquiries were made previously. The field work of the Immigration Commission, for example, was carried on during 1908 and 1909. None the less, wage rates collected by the United States Bureau of Labor Statistics and by some of the state labor boards indicate that the picture is fairly indicative of the facts in 1914. The war time changes in wages were so great, however, both in the United States and abroad, that it is essential to take into consideration the gains made since July, 1914. In some industries these have been notable. The average weekly wage for male wool sorters was \$14.97, according to the accounting of the U. S. Bureau of Labor Statistics in 1914. In 1920 the average wage became \$41.90.*

* *Monthly Labor Review*, March, 1921.

Since 1920, however, wages have been sharply reduced in the wool industry and elsewhere. Card tenders were paid on the average \$8.26 weekly during 1914. By 1920 their average had risen to \$24.88, but this too has been subject to the same general reduction. During 1919 a wage of slightly more than \$40 weekly was the least sum at which a family could be supported in health under urban conditions. A report of the Industrial Commission of Ohio shows the wages of employees of all the manufacturing industries of that state for 1919. Out of 932,808 male wage earners over 18 years of age, only 153,040 were above the \$40 mark. The vast majority got less than enough to support a family in 1919 at high price and wage levels, just as they had gotten too little for family support in 1914 on a lower price scale.* A rapid survey † of the wages and hours of labor during the year 1919 was made by the Bureau of Labor Statistics at the instance of the War Industries Board. This study summarized facts concerning more than 400,000 wage earners. It is accordingly one of the most extensive, if not one of the most detailed, researches ever made in this field. The average weekly earnings of men employed in industry amounted to \$25.56 during the two weeks studied. The average wage of women in industry was \$13.56.‡ The inquiry, however, was limited to a single payroll period and it was made at a time when some of the industries reported were maintaining high production while others were reducing their output. The

* *Monthly Labor Review*, February, 1921.

† Industrial Survey in Selected Industries in the U. S., 1919, U. S. Bureau of Labor Statistics, No. 265.

‡ *Idem*, computed from Table 5, pages 37-38.

figures collected by the National Industrial Conference Board, an organization of industrial associations, designed to present the point of view of employers, depict a similar situation.*

The National Industrial Conference Board reported that its inquiries showed that the wage level of March, 1920—which has been considerably lowered—was “from 82 per cent to 163 per cent higher than that of September, 1914, as measured by the full time weekly earnings.” But percentage increases reveal less than actual figures. The following table, based on the tables of the Conference Board’s report, shows the average full-time weekly earnings of the male employees of the industries cited:

	<i>September, 1914.</i>	<i>March, 1920</i>
Boot and shoe.....	\$14.51	\$28.70
Chemical.....	13.07	35.72
Cotton.....	9.91	24.87
Furniture.....	10.78	22.87
Hosiery and knit goods...	11.25	27.65
Leather tanning and finishing.....	11.01	30.18
Metal.....	13.99	29.79
Paper.....	13.10	28.82
Printing and publishing...	18.33	31.67
Rubber.....	14.99	36.32
Silk.....	11.10	28.98
Wool.....	11.11	28.70

The Conference Board, an agency of the manufacturers who gave these figures, noted in summary that the “average actual weekly earnings of male workers increased from \$11.11 in September, 1914, to \$28.70

* *Changes in Wages During and Since the War*, Research Report 31, September, 1920, National Industrial Conference Board.

in March, 1920." This was indeed a rise to the extent of 176 per cent, but it was almost as difficult for a husband and father unaided to support his wife and children on his own earnings in 1920 as it had been in 1914. Never, in fact, so far as is shown by the records which have been obtained, has the factory system in this country paid the average male worker a sum sufficient to support a family in health and comfort. Yet with the rise of industry the wealth of the country has increased beyond imagining. This is shown vividly by the following table: *

<i>Year</i>	<i>Population</i>	<i>Total Wealth</i>	<i>Per Capita</i>
1800	5,308,483		
1830	12,866,020		
1850	23,191,876	\$ 7,135,780,000	\$ 307.69
1860	31,443,321	16,159,616,000	513.93
1870	38,558,371	30,068,518,000	779.83
1880	50,155,783	43,642,000,000	870.20
1890	62,947,714	65,037,091,000	1,035.57
1900	75,994,775	88,517,307,000	1,164.79
1904	82,466,551	107,104,212,000	1,318.11
1912	95,410,503	187,739,071,090	1,965.00

Per capita wealth has been increased manifold but it has not brought ease to the workers in factories. It has been concentrated in the hands of a relatively small proportion of the population. The income of the nation has, in fact, come into the possession very largely of a numerically insignificant minority of people in eight industrial states. Together, New York, Massachusetts, Connecticut, New Jersey, Pennsylvania, Ohio, Michigan, and Illinois reported for 1918 more than half of the income of the United States.† About

* Statistical Abstract of the United States, 1919, page 750.

† Statistics of Income, Compiled from the Returns of 1918, under the Direction of the Commissioner of Internal Revenue, Washington, 1921; page 7.

160,000 people admitted incomes of \$10,000 or more. They constituted 3.61 per cent of those who had incomes large enough to make returns to the government, but they secured more than a quarter of all the income taxable. Under the old agricultural system in the South the economic distinctions between the classes were as great as those which have been achieved by the factory system, but they were no wider. So, while in this country that mechanical revolution which Alexander Hamilton and others sought with such enthusiasm has undoubtedly increased the sum of national wealth beyond all dreams, it has not hitherto provided the means for a comfortable or good life to those who bear its heavy burdens.

Furthermore, not until recent years has there been any considerable demand in this country that industry pay living wages to its workers. The cost of living doctrine began to emerge first as a preachment of social workers who needed an economic standard to apply to their "cases." Later it got the attention of legislatures when minimum wage laws for women were under consideration. Finally it received an ambiguous sanction from the government after President Wilson formally proclaimed the principles of the National War Labor Board as the basis for industrial adjustments. During the war the War Labor Board, the Shipping Board and other public agencies utilized the principle of the cost of living in fixing wages. In writing the rules for the Railroad Labor Board, Congress also enjoined the federal adjusters to take the cost of living into consideration, although at the same time Congress said that the market rate must also be a factor. The market

rate, the price paid in similar industries, is often below the cost of living level, as the Railroad Labor Board discovered when during the summer of 1921 the wages of unskilled laborers were readjusted downward. Even then in the case of the railroad workers, which so far as the federal law is concerned is unique, the rule of the living wage has been mitigated by the pitiless principle of supply and demand.

In a condition as changing as that of the late autumn of 1921 it is impossible to reckon with any precision the general level of wages. Reductions have been so numerous and unemployment is so widespread that earlier estimates are rendered obsolete. The executive of the American Federation of Labor has guessed that the total wage reduction during the season of depression which began in the autumn of 1920 reached by August, 1921, a total of a billion dollars. The calculation may be well made. No one is in a position to deny it. Certain is it that the unorganized workers have been unable to resist wholesale wage revisions and that in those trades where unions were not powerful, readjustments were made without any clear reference to the sum required for the support of a family under American conditions. Trade unions furthermore have not generally been strongly entrenched in the trades affected by the mechanical revolution. Factory workers have accordingly especially suffered from the consequences of the depression of 1920 and 1921.

Those trades which were well unionized were on the other hand able to insist that the cost of living be used as one criterion of wage adjustments. The

clothing makers, who were powerfully organized, secured an investigation of wages and prices and obtained a settlement which took full account of the necessary expenses of living. But they were exceptional among factory workers. During prosperous times the clothing workers and other vigorous unions have gone a step further in demanding not only living wages but a share in the profits of their industry. The locomotive engineers in their contention with the Western railroads were notable exponents of this point of view. But in recent times, except for a period during the World War and immediately thereafter, workers have been more numerous than jobs in most industries. The market rate and not the cost of living has been the chief influence determining the level of wages. Abundant immigration from Europe, however valuable its social and political consequences may have been, has tended to keep full the reservoir of "surplus" workers and has made possible the continuance of a low wage system. Even with the losses of the period of hard times, there seems, however, not to have been a complete return to the conditions of 1914. Some of the advances were retained as increments to the slow progress of earlier years toward the economic enfranchisement of the working population of America.

CHAPTER V

HOURS

MEN, women, and children worked at least twelve hours a day in the early factories. The routine of agriculture was followed by industry.* M. Plimpton of Southbridge, Massachusetts, reported to the Secretary of the Treasury that the regular shift of work was on the "average 12 hours a day, 11½ months in the year." This was widely the custom. Stephen Randal, Jr., of Randal's Mills, North Providence, reported "12 hours each day the year through." W. A. Andross for the Eagle Manufacturing Company, Hartford county, Connecticut, replied, "Twelve hours a day, all the year." Reed & Watson, of Livingston, New York, said, "Twelve hours per day the whole year." In Pennsylvania, even in early days, the working hours were especially long. Roland Curtin, who owned the Eagle Iron Works of Centre county, West Pennsylvania, reported that the "monthly hands work during the whole year except at meal hours."

These bits of testimony are thoroughly typical. The working day everywhere was at least twelve hours, exclusive of meal times, although this was sometimes shortened to 10½ hours during the winter. Whatever

* Documents Relative to the Manufactures in the United States. Executive Documents, 1st Session, 22d Congress, 1831-1832.

its other sins may be the factory system did not inaugurate the long working day, which is an inheritance from other times. But without mitigation the new order of "labor saving" industry continued the working hours of the farms. James Montgomery,* superintendent of the York factories at Saco, Maine, estimated in 1839, almost a decade after the reports previously quoted, that at Lowell the factory hours averaged $73\frac{1}{2}$ a week during the year and that in the Middle and Southern states the shift was longer.

The rebellion against long hours of toil began, in fact, before the industrial revolution. In 1791 the Journeymen Carpenters of Philadelphia struck against the master carpenters. By agreement they decided: "That in the future, a Day's Work amongst us, shall be deemed to commence at six o'clock in the morning and terminate at six in the evening of each day." † This demand for a twelve-hour day in place of the shift from sun to sun seems, albeit, to have been received with no more favor in 1791 than the eight-hour day is accorded by many employers at present. The movement for the shorter work day was historically an attempt of a politically and socially disfranchised class to obtain leisure and comfort. During the early decades of the nineteenth century the political franchise was extended to men who had previously been without vote. They found, however, that without education they were hardly able to utilize the political power which seemed to have been bestowed upon them. Consequently they passionately sought education and

* "History of Labor in the United States," 1: 172.

† *Op. cit.*, 1: 69.

the leisure which is prerequisite to learning. "Must a man, because he is poor and a mechanic, go through the drudgery of day labor in the hot and weary days of midsummer without respite?" asked the *Boston Transcript* in 1832.* Answering its own question, the paper continued: "But let the mechanic's labor be over when he has wrought ten or twelve hours in the long days of summer and he will be able to return to his family in season and with sufficient vigor, to pass some hours in the instruction of his children or in the improvement of his own mind."

The character of the opposition to the ten-hour day at that time was set forth by the merchants and shipowners of Boston during the ship carpenters' strike of 1832, when they said in an address to the public that "the time thus proposed to be thrown away would be a serious loss to this active community" and "the habits likely to be generated by this indulgence in idleness in our summer mornings and afternoons will be very detrimental to the journeyman individually and very costly to us as a community." They feared also that if the carpenters obtained the ten-hour day the example "will probably be followed by thousands who are now contentedly and industriously pursuing their avocations, and thus produce incalculable injury to the whole people." The essence of their reasoning was to be found in the fact that the merchants and shipowners, who, as representatives of the property holders, had always governed Massachusetts, could not understand that common working men

* February 20, 1832; quoted in "History of Labor in the United States," I: 324.

were rising to a new status. They feared also that if the carpenters secured their demand the factory workers would be disquieted and the long day there too would be jeopardized.

It is significant of the industrial development of this country that the first protests against the long working day came not from the employees of factories but from the members of old crafts, who developed trade union organization. The New York City bakers * thus in 1821 led a movement for the abolition of Sunday work in their trade. Members of the building trades were prominent in the earlier campaigns for the shortening of the work day, as in recent years they have been conspicuous among the beneficiaries of the movement. Occasionally there were stirrings among the factory girls of New England or Pennsylvania, but the agitation for shorter hours was chiefly in the hands of social reformers and of trade unionists who did not represent workers in factories. Steadily throughout the nineteenth century the demand for a shortening of hours of labor, however, grew in strength. The progress of legislation regulating the hours of labor of women and children employed in industry has been touched in a previous chapter.† As early as 1832 the New England Association of Farmers, Mechanics and Other Workmen pointed out that since "a large proportion of the operatives in our factories are and must continue to be a helpless population, it is indispensable that they be put under the unremitted supervision and

* "History of Labor in the United States," I: 162; quoting *American Federationist*, XX: 518.

† Chapter III.

protection of the law of the land." The factory owners who through tariffs and by other devices had so consistently sought and obtained the protection of the law for themselves were able to thwart this and similar efforts to extend the protection of the state to factory workers. In time, however, the organized trade unionists, having created the American Federation of Labor, and having adopted a new philosophy, decided against the policy of seeking a shortening of their own working day by legal enactment. The unionists preferred to obtain their demands by direct negotiations with their employers, on the theory that progress in that manner would strengthen their organization while legislative aid might weaken unionism. Since May 1, 1886, the eight-hour day has been one of the primary objectives of the American Federation of Labor.*

The argument for the shorter working day has changed in form through succeeding generations, but essentially it has been the same. The negative argument has been the need to protect workers against the physically devastating effects of too long hours of work. On the positive side the goal has been to provide enough free time to enable workers to develop as normal human beings. As long as the great majority of workers were disfranchised it mattered little to the state whether they possessed the unoccupied time in which to become intelligent citizens. Disfranchised folk need not think about public affairs. But that position no longer applied when universal manhood and womanhood suffrage obtained. More persuasive with the courts, when the short working day was under con-

* "History of Labor in the United States," 2: 376.

sideration, has been the health argument. This has been enormously developed by recent scientific researches.* In his introduction to Miss Goldmark's classic study Dr. Frederic S. Lee summed up the scientific attitude when he said:

"Industrialism has been quick to accept the achievements of science in inanimate things, but slow to recognize the teachings of physiology with regard to man himself. Methods and machines have been revolutionized but the human element has not been eliminated. The man or the woman or the child is still essential to the method and the machine, and while the inanimate agent demands more and more of him, his fundamental physiological powers are probably not so very different from what they were when he built the pyramids and made papyrus. He may sharpen his attention, shorten his reaction time, and develop manual skill; scientific management may step in and direct his powers more intelligently, but sooner or later his physiological limit is again reached on a new plane. Try as we will, we cannot get away from the fact that so long as machines need men, physiological laws must be reckoned with as a factor in industrialism."

Fatigue is the new element which has entered the discussion of the short working day. The cause of fatigue is a toxin,†—the subject is still largely a *terra incognita* of science—which, unless eliminated by normal rest, eventuates a number of evils, including diseases, accidents, economic waste, probably industrial unrest—if that be counted an evil—and possibly racial degeneration. The factory system was sought by the pioneers because it was "labor saving," and yet it has entailed new and more harassing strains than those ordinarily experienced under the old manual scheme of production. Among these Miss Goldmark pointed

* See "Fatigue and Efficiency," by Josephine Goldmark; "The Human Machine and Industrial Efficiency," by Frederic S. Lee.

† "Fatigue and Efficiency," page 11.

out speed, complexity, monotony, piece work and overtime, and such influences as noise and mechanical rhythms. The long day of agriculture was probably an evil. Certainly the last few generations have witnessed the efforts of millions in every industrial country to escape from country life. But harmful as twelve hours and more are in rural labor, their fatiguing effects are greatly accentuated in factories because of these new stresses of industrialism. Any one who has ever seen the inside of a textile factory, a machine shop, or even a telephone exchange, must be at least dimly aware of the increased intensity of work due to modern mechanical methods. The more progressive states and the labor unions have sought to mitigate this by establishing the eight-hour day, and some, with the Saturday half-holiday, have inclined to the forty-four hour week, while a rare pioneer has experimented with the six-hour day. Strictly from the standpoint of health there is perhaps no unvarying formula which may be applied. Dr. Lee, who on these matters is as well qualified as any, has said:

"One is treading on dangerous ground if he attempts to predict an optimum working day without an analysis of the work itself. The fact is unmistakable, however, that most of the reliable evidence at present points toward an approximation of the eight-hour working day as affording for a considerable variety of occupations and for conscientious workers the best condition for high productivity." *

American states have regulated the hours of labor for three different groups.† First of all, the work-

* "The Human Machine," page 36.

† *Harvard Law Review*, Vol. 29, pages 353-373, by F. Frankfurter.

hours of women and children were shortened by legal enactment. Later, the hours of all workers employed in dangerous or peculiarly unhealthful employments were determined by the law; and finally, a beginning has been made toward the state regulation of the hours of work in industry generally.

The state's right to interfere in behalf of workers has been grudgingly conceded by the courts after long struggles and many contradictory decisions. The procedure in many of these cases has been extremely interesting. One of the historic episodes was the invalidation of an eight-hour law for women by the Illinois Supreme Court in 1895.* The court there held that the attempt of the state to protect women against a working day which the legislature thought to be dangerous to their health was a "purely arbitrary restriction upon the fundamental right of the citizen to control his or her own time and faculties." The suit which resulted in the annulment of the law was in fact brought, however, not by women who wished to work long hours but by paper box manufacturers who wished to employ them for longer periods than the law sanctioned. That method of attack upon legislation designed to safeguard wage earners has been thoroughly characteristic of the long struggle. Manufacturers who insisted upon protection for themselves by way of tariff measures and with other legal devices have continued to contest the right of their employees to the safeguards of the law and by an ironical extension of the principles of liberty have sued in the name of workers for a freedom which in fact was oppression.

* *Ritchie v. People*, 155 Illinois 98.

For years after legislatures were first persuaded of the need to protect workers against hours of labor which jeopardized health, and which denied the leisure prerequisite to normal social and political life, the courts continued to offer a refuge for those employers who by an amazing inversion of reality essayed to preserve for their employees such fictitious rights. Courts trailed legislatures. Now, however, the United States Supreme Court has in notable cases affirmed the power of legislatures to regulate working hours. The California Act, limiting the work of women in certain industries to forty-eight hours per week, was upheld by the Supreme Court, which thereby marked a period in this development.* One of the most significant aspects of this change in the positions taken by courts is to be found in the increasing reliance put upon scientific testimony concerning the actual consequences of industrial employment upon workers. The shift in method was manifested in the nature of the arguments offered by Louis D. Brandeis when the United States Supreme Court sustained the constitutionality of the Oregon ten-hour law for women employed in any mechanical establishment, factory, or laundry. Courts previously had been relying on what was called "common knowledge" concerning the effects of industry upon workers, as they applied the principle of the freedom of contract and determined the application of the police power in these affairs. But it has been observed that this "common knowledge" was often "popular error," and accordingly in the Oregon litiga-

* *Miller v. Wilson*, 236 U. S. 373; *Bosley v. McLaughlin*, 236 U. S. 385.

tion Mr. Brandeis—later Justice of the United States Supreme Court—assisted by Miss Josephine Goldmark, publication secretary of the National Consumers' League, summarized the extant scientific literature upon the issue before the court in order to set forth what was in reality the world's experience.* Again in 1914, by similar reasoning, the United States Supreme Court sustained the Oregon ten-hour law for labor in factories.† Regulation of the hours of men's labor by legislation is developed far less than that for women. The explanation of this is to be found in the attitude of the American Federation of Labor, which has generally opposed the state regulation of men's hours of labor because of the fear of weakening union organization, and in the further fact that public opinion is not awake to the desirability of restricting men's hours of work.‡

One of the illuminating discoveries concerning the effects of fatigue has been that workers often produce more in a short working day than in a long one. The most interesting finding of this nature was obtained in consequence of an inquiry by the United States Public Health Service. Two plants, one working on the ten-hour system and the other using the eight-hour shift, were the basis of perhaps the most painstaking study ever made in this field. In summary it was reported that "a comparison of the eight-hour and the ten-hour system leads to the conclusion that the eight-hour system is the more efficient." This

* *Müller v. Oregon*, U. S. 412, 1908.

† *Bunting v. Oregon*, 243 U. S. 246, 37 Supreme Court 435, 1917.

‡ "Principles of Labor Legislation," 248.

greater efficiency was evidenced by a steady maintenance of output during the shorter day as contrasted with a declining output during the ten-hour day, the reduction of lost time to a minimum under the eight-hour system, and the prevalence of an artificial restriction of output under the ten-hour system, and also by other data obtained in the course of the inquiry.*

This conclusion, which is supported by some of the findings made by investigations carried on by the British government, has been challenged by the National Industrial Conference Board, an organization of American employers' associations. In a study entitled "Practical Experience with the Work Week of Forty-Eight Hours or Less," the Conference Board stated that more than 87 per cent of the plants which reported showed that a reduction of the work week to forty-eight hours or less was accompanied by a decrease in the weekly output per worker. It should be noted that the Conference Board merely asked questions of manufacturers, while the United States Public Health Service made a long and scrupulous study of two establishments using the eight-hour and the ten-hour shifts. The Board, however, drew attention to the fact that in many of the factories concerning which it made inquiry "the output was limited almost entirely by the speed of machines." In such a case it is inevitable that a reduction in running time be followed by a reduction in output. The Board gave support to the conclusions of the Public Health Service investigators, on the other hand, by reporting that where handwork predominated

* Public Health Bulletin No. 106, page 26. Comparison of an Eight-Hour Plant and a Ten-Hour Plant.

—that is, where the human worker was more nearly free to express himself—"it was possible to increase the hourly output of workers, in some cases to the extent of entirely compensating for the loss in working time or even of exceeding the previous weekly production."

It is impossible to say generally whether the eight-hour day, so long the goal of union labor and social reformers, is economically more productive than the longer working day. Experience seems to differ widely. It must, albeit, be remembered that the public argument for the short working day is not grounded in the belief that men and women and children produce more in eight hours than in nine or ten or twelve. It does not matter from the standpoint of social statesmanship whether eight hours produce more or less than ten or twelve. As a consequence of the experience of this country in the war incidentally it became apparent that, given the motive, the productive capacity of the country could be enormously increased without condemning industrial workers to live in evil conditions. Enough can be produced. The need to shorten hours arises from the necessities of workers as individuals and as members of the community. Normal family life is not to be attained when men and women pour all their energies into the tasks of industrial production. No more are men and women stripped by toil of every resource of intelligence and energy able to share in the social and political activities of a free republic. The feeling of the public in this matter was stated by the President's Industrial Conference in its report of March, 1920, as follows:

"The problem of hours has undergone a fundamental change through the introduction of large scale factory production and the growing concentration of our population in cities. Men and women can work relatively long hours at work which is interesting, which calls upon their various energies, which gives some opportunity for creative self-expression. Work which is repetitive, monotonous and conducted under the confining indoor conditions of even the best industrial plant, especially where the plant is located at a distance from the homes of the workers, makes much more exacting physical and nervous demands. If the inevitable conditions of modern industry do not offer variety and continuing interest, the worker should have hours short enough for more recreation and for greater contact with his fellow workmen outside of working hours."*

The changes made subsequent to the Armistice have been so widespread that it is difficult to estimate correctly what are the prevailing hours of labor in American industry. In the highly organized trades the eight-hour day generally obtains. This is characteristic of the mines, of the railroads—except in the operation of trains—and of the building industry. In the manufacturing industries only slightly affected by unionism the nine- and ten-hour working days are popular. In a few trades such as the men's clothing industry the forty-four hour week has been established. Some light was thrown on the question of working hours by an industrial survey made by the United States Bureau of Labor Statistics during the first months of 1919.† In the twenty-eight industries studied it was reported that for the payroll period investigated the average hours worked per day were 7.6

* Report of the Industrial Conference called by the President, March 6, 1920, pages 32 and 33.

† Industrial Survey in Selected Industries in the United States, 1919, Bulletin No. 265, U. S. Bureau of Labor Statistics.

hours for male workers and 7.5 hours for female workers. But this average reveals almost nothing of the normal working day in any industry, for the reason that the total number of hours worked by an individual during a week was divided by the number of days and the result was given as the average. This took no account of lost time. A man might have been employed twelve hours a day for the three days during which work was given him and his average would have been six hours daily, a totally misleading indication of his real routine. This is shown by the tables given for individual industries and processes, where the average working time varies widely. Ethelbert Stewart, United States Commissioner of the Labor Statistics, used to quote a colored preacher whose children were afflicted with badly deformed legs. Some were bowed inward and some outward. But the sensitive preacher resented sympathy and argued that his children's legs averaged as well as any. So, too, do the working hours of the establishments covered in this extensive industrial survey. But the individuals are not bettered by that. Male blowers in the blast furnaces of the Eastern district were thus shown to have been employed 13.9 hours on the average during the period studied while male door operators employed in the open-hearth furnaces of the same industry on the Pacific Coast averaged only 7.2 hours a day. With such variations it means little to say that the male employees of the iron and steel industry in the United States were employed, during the short time investigated, 7.8 hours per week day.

The last great industry which has retained the long

working day of a century ago is steel. The twelve-hour day and the seven-day week as recently as the spring of 1921 have measured the working periods exacted of a large number of the employees of the steel industry.* In the study of the entire industry made by the Federal Bureau of Labor Statistics in 1911, it was found that nearly fifty per cent of the workers were employed on the twelve-hour shift. The study made by John A. Fitch during 1920 indicated that not much change had been made during the years following. In the spring of 1921 the United States Steel Corporation announced that it hoped and expected the twelve-hour day would be abolished.

Not less serious than the long working day is night employment. This existed from the very beginning of the factory system in this country and to some extent before the mechanical revolution, but unlike the twelve-hour day it was not borrowed from agriculture. In the draft of his proposal for the establishment of a powder factory in the United States, in 1801, E. I. du Pont mentioned to his French backers that four powder mills then in operation in Pennsylvania worked night and day.† Night work has grown greatly with the factory system. In some so-called continuous industries, such as certain steel processes, it is perhaps inescapable. In the steel industry it has, however, been accompanied by enormously long hours of work. Often the men on the night shift have been engaged thirteen hours, while those on the day work

* See *The Survey*, March 5, 1921, page 783 and following. .

† E. I. duPont de Nemours & Company, page 168.

were employed eleven. Night work in itself is a serious menace to health.

Admitting the probable necessity of night work under various circumstances, Dr. Lee insists that:

"It should be borne in mind that from the standpoint of the human machine night work is always abnormal. Man is a diurnal, not a nocturnal, animal, and any attempt to change his innate habits in this respect are bound to interfere with his physiological processes. Man's body needs the stimulus of sunlight and is adapted to the atmospheric conditions of the day. Some of his physiological processes exhibit a regular curve of variation through the twenty-four hours, one of the best known being that of bodily temperature, with its gradual rise during the day to a maximum in the late afternoon, and a gradual fall to a minimum in the early morning. . . .

"There is a general consensus of opinion that night work is more deleterious to health than is day work, and this opinion is supported by incontestable evidence; but at the present state of our knowledge it is hardly possible, nor indeed for our present purpose is it necessary, to differentiate between the deleterious effects *per se* resulting from such conditions as the attempted imposition of an unphysiological rhythm and the lack of beneficial sunshine and the deleterious effects resulting from the fact that under our social conditions the day's recuperation of the night worker is rarely equal to the night's recuperation of the day worker. Night work entails a diminution of sleep."*

Most European industrial countries forbid night work for women and some American states have taken the same course. The first International Conference on Labor Legislation expressed the general conscience of the civilized world as follows:

"Women, without distinction of age, shall not be employed during the night in any public or private undertaking or in any branch thereof, other than an

* "The Human Machine and Industrial Efficiency," by Frederic S. Lee, pages 61 and 68.

undertaking in which only members of the same family are employed." *

Children are more generally safeguarded from the effects of night work, but so far almost nothing has been done in this country to protect men.

The factory system also developed enormously the habits of Sunday work. In continuous industries seven days' work are not to be avoided. In other lines public convenience insists upon uninterrupted service. Transportation cannot now be stopped for Sabbath observance, although for a number of years the railroads did not operate on Sunday. In an estimate made in 1913 on the basis of reports made by the Massachusetts, New York, Minnesota, and the United States Bureau of Labor Statistics, John A. Fitch reckoned, taking the entire country and including the non-industrial as well as the industrial population, that a total of over 4,500,000 people were engaged in seven-day labor.† Sunday work deprives this vast number of people of leisure and at the same time, through creating excessive fatigue, is a menace to health.‡ The trade unions have in numerous instances sought laws providing one day's rest in seven. In the United States the federal government and six states had by January, 1920, made enactments embodying this principle. Only the statutes of Massachusetts, New York, and Wisconsin apply to factories and mercantile establishments generally, and even these exclude numerous classes.

* *The American Labor Legislation Review*, 9, page 535.

† "Rest Periods for Continuous Industries." *Op. cit.*, 3: 53.

‡ "The Human Machine and Industrial Efficiency," page 47.

The laws of the other states and of Congress on this subject are narrowly restricted.

The early Sunday laws in this country, of which there were many, were designed to protect the Sabbath from man. The more recent laws have been aimed at the protection of man from industry. Both types have been sustained by the courts.* The practical consequence of such a law in the case of the really continuous industries is to enlarge the working force by one-sixth so that all may have one free day a week and at the same time the establishment be kept fully manned. The advantage of a weekly day of rest even from the material standpoint of production was made apparent by the inquiries of the British Health of Munitions Workers' Committee, which in the midst of the war reported:

"If the maximum output is to be secured and maintained for any length of time, a weekly period of rest must be allowed. Except for quite short periods, continuous work, in their view, is a profound mistake. On economic and social grounds alike this weekly period of rest is best provided on Sunday." †

Machinery, the labor saving invention, thus through the exactions it has levied upon human nature, has convinced public opinion of the need of shortening the hours of toil. During many decades, however, the duration of work was not shortened by the factory system. Instead, to the long hours of agriculture were added night work and Sunday work. Now the tide has turned and while adequate leisure and even suffi-

* "Principles of Labor Legislation," 1920 edition, page 278.

† U. S. Bureau of Labor Statistics, Bulletin 221, page 8.

cient rest for the great majority are objectives still to be realized, already science has provided the sanction and industry itself has supplied the means for the establishment of a more wholesome and happier way of life.

CHAPTER VI

REGULARITY OF EMPLOYMENT

NOT less important in the lives of workers than the fatiguing and destructive effects of excessive and unphysiologic hours of labor, is the periodical denial of the opportunity to work at all. That is a distinct product of the mechanical revolution. Industry makes irregular demands for human labor. Seasonal needs, the cycles of business, changes within industries, these and other factors tend to make the employment of workers in industry seem to be almost capriciously uncertain. Unemployment for wage earners means a cessation of income and dire anxiety. Changing seasons and cycles of business are obviously, however, not new phenomena. "Manufacture" was irregular in its demand for workers before the first power factory was established. Business cycles were not unknown to the economic observers of the eighteenth century. Nevertheless, in reality machine industry did of itself give rise to the modern phenomenon of unemployment.

The explanation of this is in part to be found in the fact that the factory system demanded specialization and a division of labor among its workers and that it segregated operatives in cities. As has been observed previously, early American artisans—in so

far as they were freemen—were not dependent upon a single vocation. Tench Coxe described workers who were gardeners and small farmers when they were not following their trade. When the demand for shoes failed, the shoemaker, for instance, was not totally unemployed. He had other work. The produce of his garden, his chickens and pig and cow, the possession of a home for which he paid little or no rent, gave him a security which his great-grandchildren entirely lack, unless they, too, dwell in small villages. "Hard times" oppressed the land long before factories were founded, but the American laborer and mechanic was certain of shelter, of food, and of clothes, poor in quality as these often were. Poverty of course existed. Never, perhaps, has been the time when there were no poor, but it was chiefly the poverty of the sick, of the widowed, of the unfit. Enormous variations in the opportunity to work did not then curse the great mass of the population. Agriculture, by which the overwhelming majority of the people lived, is seasonal, but in this country it knew little unemployment. For most life passed at a low but unvarying level. Conditions were endured which would appear intolerable to-day to the descendants of those who were pioneers, but life was secure and if there was for the majority small hope of attaining ease there was less anxiety over sudden economic disaster or over the continuance of life itself.

Unemployment and the fear of unemployment are twin evils created by the factory system. Industry destroyed man's old sense of safety, and in the United States little has been done to make good this great

loss. The possibility of being workless and without income hangs over the great majority of wage earners. The factory worker of to-day knows only a fractional part of the trade he pursues. He knows little else that he could turn to account. He must live by his trade or not at all. In order to obtain employment he must ordinarily reside in congested cities, where the possibility of subsidiary means of support are denied him. Usually he does not own the house or the tenement he lives in. He neither cultivates nor harvests the vegetables and fruits which his family consumes. If he is able to eat eggs or to drink milk he obtains these articles from dealers who are themselves far removed from the scene of actual production. His clothes are bought, not made at home. The modern factory worker must retain his job if he wishes to continue alive, and yet he knows from bitter experience that at recurrent intervals, regardless of zeal or fitness, many men and women will not be employed. His constant question is "Am I next to go?" That condition, unemployment and the more harassing dread of unemployment which it engenders, are among the most serious reproaches which the conscience of humanity must level at modern industry.

The conventional attitude toward unemployment regards it as one of the inescapable evils of mankind. It seems to be a blight sent to distress the race, an ill inevitable because it appears to be the result of some obscure law of nature. That position, never rational, has now few informed defenders. In his distinguished book "Unemployment: A Problem of Industry," Sir William H. Beveridge (page 14) made it apparent that

unemployment is a normal and not an abnormal manifestation of industry. Irregularity of production is a part of the expected routine. This conclusion is rendered plain enough by a consideration of the varying sums of the products of industry. Studies recently made show the fluctuations in the actual physical volume of the products of American manufacturies during the years from 1899 to 1919. These decades were, on the whole, marked by tremendous expansion, but year by year there were violent ups and downs. The figures giving these variations are not merely indices of production. With as great vividness they show the course of employment and unemployment. As Professor Day points out, "The years 1902, 1905-7, 1912, 1916-17, were years of especially large production; 1900-01, 1908, 1911, 1914, 1919, years of particularly low production." * A tremendous slump in production occurred during 1908. This threw millions of men and women out of work. In his interesting attempt to reckon the ebb and flow of employment in American cities, Hornell Hart,† speaking of the period between 1902 and 1917, said:

"The number of unemployed in cities of the United States (entirely omitting agricultural labor, for which no reliable data are now available) has fluctuated between 1,000,000 and 6,000,000. The least unemployment occurred in 1906-1907 and in 1916-1917, while the most occurred in 1908 and in 1914 and 1915. The average number unemployed has been two and a half million workers, or nearly ten per cent of the active supply."

* Edmund E. Day, *"The Review of Economic Statistics,"* January, 1921; page 20.

† "Fluctuations in Employment in Cities of the United States, 1902 to 1917," by Hornell Hart. Helen S. Trounstone Foundation, Cincinnati, Vol. 1, No. 2.

This conclusion is similar to the opinions of most students of the subject. The number of employees in New York state factories at the time of inspection were, for example, compiled for the years 1901 to 1909 inclusive. Marked differences are found. The decade was one of remarkable growth but there was a large decrease in employment during 1908. Fewer workers were employed in New York factories during 1909 than during 1906. More than eleven per cent of the factory population, or 128,874 individuals, was thrown out of work in 1908.* These variations are characteristic. "We find in the industrial centers of this state," said the New York State Commission on Employers' Liability and Unemployment of 1911, "at all times of the year, in good times as well as in bad, wage earners able and willing to work who cannot secure employment." The Bureau of Labor Statistics study made during March and April, 1915, showed that in sixteen Eastern and Middle Western cities 15 per cent of the families having policies in the Metropolitan Life Insurance Company were suffering from unemployment. A similar study made during June and July, 1914, in twelve Rocky Mountain and Pacific Coast cities had reported 15.3 per cent unemployed, a striking demonstration of how widespread the condition of unemployment was during those years.† Unemployment by its undulations registers the movement of the business cycle, with its veering swings from prosperity to depression. Industry may in time be stabil-

* Report of New York State Commission on Employers' Liability and Unemployment, Third Report, 1911, page 4.

† U. S. Bureau of Labor Statistics, Bulletin 195.

ized so that these cyclical fluctuations cease to deny the opportunity of work to millions, but for the immediate future at least this process must be expected to continue. At the beginning of 1921 the United States Employment Service sent out questionnaires and on the basis of the information thus obtained estimated that 5,000,000 wage earners were unemployed during the summer of 1921. The American Federation of Labor made a similar estimate.

Not only do these cyclical fluctuations of business and industry deprive millions of the opportunity to work and to earn but there are also seasonal variations in the demand for workers which result in an enormous burden of underemployment and unemployment. Certain occupations are inherently seasonal. Agriculture is the perfect example, but better far than industry, agriculture, except in the harvest fields, cares for its own. The seasonal character of many industries diminishes the actual earnings of the people employed. The number of wage earners employed in the manufacturing industries of the country varies greatly by months. The Census of 1910* recites the figures for 1909 and 1904. During 1909 Hornell Hart estimated that there were on the average 2,100,000 persons, excluding agricultural workers, unemployed. The variations for the months among those who had jobs were great. The census showed that November was the month of high employment. January was the low month. In November the manufacturing industries gave employment to approximately 800,000 more workers than in the preceding January. From month

* "Manufactures," Vol. 8, page 276.

to month there were violent changes in the demand for workers. A difference of more than thirteen per cent marked fluctuating requirements of the manufacturing industries during 1909. During 1904, when according to the Hart reckonings 2,400,000 workers were on the average unemployed, the difference between the high month and the low month, October and January in this year, was upwards of seven per cent. The census figures for principal industries show with even greater clarity the seasonal demands for human service and the accompanying unemployment. The iron and steel trade has been called the barometer of industry. During December, 1909, certain establishments in this industry employed 283,629 workers. In March, however, nearly a quarter fewer, or only 215,076 had been hired. In foundry and machine products there was a difference of nearly twenty per cent in the number of those employed in January and December. These, moreover, were the more stable industries. Others showed very wide variations. Brick and tile manufactures employed 104,930 in July, 1909, but only 38,312 in January. Glass manufactures employed 40,222 in July and 81,665 in December. February, March, April and May are the heavy months in the tanning industry in New York.* Fluctuations in advertising reduce the sizes of newspapers and the numbers employed. These are not the extreme cases. The sugar and molasses industry, which shows the widest differences, employed only 3.5 per cent of the people in February who were on its payrolls in Novem-

* New York State Commission on Employers' Liability and Unemployment, page 4.

ber. These differences month by month are not abnormal expressions. Seasonal demand is characteristic. Thus it happens that in fat years as well as in lean, there are week by week vast numbers of workers who are unable to secure employment.

Industry is subject to other variations, not attributable to business cycles of prosperity and depression or to seasonal demands. Industries rise in importance and then go down. The experience of the war exemplified this perfectly. When the Armistice came thousands of workers were engaged in making gas masks. Vast numbers were employed in other forms of the munitions manufactures. Suddenly the need for gas masks stopped and all those whose lives had been devoted to that purpose were suddenly cast adrift. Less dramatically this process continually recurs. The automobile industry grew enormously during the decade ending in 1910, but the census of that year showed 71 industries which decreased their labor force during the decade. This waxing and waning of production is one of the persistent facts of industrial organization.

Unemployment and irregular employment result in low and variable earnings. The earnings of cotton mill workers, even during years when the factories work relatively regularly, vary widely. A family of six wage earners together thus earned \$32.75 one week and the following week only \$17.70.* The greatest irregularity of earnings was found to be experienced both in the Southern and Northern mills. The experience of a Fall River family, consisting of three

* "Woman and Child Wage Earners," Vol. 16, page 156.

wage earners, epitomizes the situation. The period from May 1, 1908, to April 30, 1909, was covered by the inquiry. During the first week of this period the joint earnings of this family were \$7.66. The second week the total income was \$2.30. The third week it had risen to \$22.02. The last nine weeks of the year studied there was no income at all because there was no work. The average weekly income was \$19.52, and the total for the year was \$839.51.* The textile industry, however, is counted among the more stable. Figures obtained from New York trade unionists showed that on the average union workers were losing about a fifth of their normal earnings because of unemployment and underemployment.† Theoretically, for instance, stage hands at that time earned on the average \$720 a year. Their actual average earnings were some \$432 annually. Trade unionists in the clothing and textile trades worked at pay rates which normally would have produced an average income of \$975.66 a year. The actual average was \$710.

This marked reduction of annual earnings is one of the outstanding consequences of irregular work. These decreases and the fluctuating earnings entail many serious consequences. Undernourishment of the worker and his family, harassing anxiety, enforced idleness and drifting—these are some of the influences which rack millions of workers. No more pathetic figure is to be found than the strong, skillful craftsman, eager for the opportunity to work and to earn, and

* "Woman and Child Wage Earners," Vol. 16, page 246.

† New York Commission on Employers' Liability and Unemployment, page 8.

yet sentenced to idleness while his dependents suffer. The picture of such men skulking in their own homes after futile searches for employment, while their wives go out in pursuit of odd tasks as domestic servants in order to keep the family together and avoid the dread appeal for charity, is desolate beyond words. Precariousness of existence for wage earners is one of the clear consequences of the industrial revolution. The premature work of children and the forced employment of mothers—these, too, are the gifts of irregular industry. The strong endure anxiety and deprivation while the weak and the less fortunate are forced to seek public aid. Involuntary unemployment was a factor in the situation of more than one-fourth of the cases closed by the New York Charity Organization Society during the year of the report of the New York State Commission on Unemployment of 1911.

Migratory and casual workers existed long before the factory system. In a certain sense, of course, the pioneers were themselves migratory workers.* Wandering gangs of navvies were employed clearing the forests in the South, digging canals and building levees,† at the very moment when the factory system was being developed. The itinerant Irishmen, incidentally, were counted of less economic value than the negroes owned on the plantations, and they fared far worse. Their status was assuredly lower than that of the casual who is to-day employed in building a

* "One Thousand Homeless Men," by Alice Willard Solenberger.

† "American Negro Slavery," by W. B. Phillips, page 301.

factory or a railroad. None the less, in a peculiar way modern industry has created a new class of wandering workers. Construction work, specialized agriculture, itself a by-product of modern industry and highly seasonal occupations, have enlarged this class of laborers who are employed from day to day and often only by the hour. The logging industry demands its casuals, as do the various branches of construction. In ordinary years thousands of workers pass many months of idleness in cheap hotels and lodging houses of the great cities. Seattle, Chicago, Kansas City, New York, are the great gathering places for this unfortunate class of semi-employed workers.

The human cost of irregular employment is incalculable. The purely economic loss is also enormous, as studies of "labor turnover" have shown.* In addition to the direct cessations of employment, a constant change of workers adds its burdens to the waste of industry. Ninety shops in the New York cloak, suit and skirt industry employed on the average 1,435 workers for the year ending July 31, 1913, but during that time a total of 4,858 persons were hired. An incessant stream of workers passed through these establishments. Various estimates of the incessant loss from labor turnover have been made. A study of costs of electric railway service showed that the expense of training a trainman on a Milwaukee electric railway was not less than \$217.29. The Jeffrey Manufacturing Company reckoned that the cost of breaking in a new man averaged about \$100. The Dennison Manufacturing Company reckoned the cost of replacing

* "The Turnover of Factory Labor," by Sumner H. Slichter.

experienced workers in its establishment at \$50 each.* The amount of actual damage which inexperienced workers do combines with their smaller productivity to augment the cost of labor turnover from the standpoint of the employer. The difference in the accident rate of experienced and of inexperienced workers, as shown by a number of street railway studies, is great. The total cost to American industry of labor turnover must approximate a sum comparable to the German indemnity. The endless "hiring and firing," an essential part of the insecurity of the present, affects workers in various ways. Earnings are stopped during the time of unemployment before a new job is obtained; the finding of work involves expense, and earnings are apt to be low while the new tasks are learned. In addition the worker is demoralized by the constant shifting.

The unending movement of men and women in and out of establishments is in part the cause and in part the result of a constant excess of workers. A group of woolen mills employing between 11,000 and 13,000 hired 18,214 workers in 1907; in 1908, 12,932; in 1909, 18,225; in 1910, 15,188, the size of the force, as Mr. Slichter has pointed out, undergoing relatively little change during these years. This turnover is the motion which measures the extent of the reservoir of labor. Exclusive of farm laborers this unemployed reserve ranges year by year from one million to six million workers, according to the reckonings of Hornell Hart. The army of available workers is increased

* "The Turnover of Factory Labor," by Sumner H. Slichter, page 132.

through immigration. The migration of European peoples to the United States has been largely an ill-regulated response to America's industrial demands. In part it has been a movement stimulated by employers of labor, who have generally been discontented with the higher level of wages paid in this country. Immediately after the Civil War, for example, the American Emigrant Society was organized to supply American employers with imported workers. The expression of the purpose of this original society was more frank than is now customary. An employer desiring workers had only to make his needs known. The company charged a fee of \$1 on application for workers and on their delivery charged \$10 for each skilled worker, \$6 each for agricultural workers, \$5 each for house servants and \$5 each for boys learning a trade.* Congress was induced as early as the Civil War period so to frame laws as to attract immigrants to this country. The history of most of the great industries is a history of successive waves of immigration.

Real need for workers to man the growing industrial establishments has competed with the desire of employers to have a full reserve of labor. From the days of the American Emigrant Society until the Immigration Act of 1921 was passed there was no break in this effort to pour new workers into the reservoir of American industry.† Between July 1, 1900, and June 1, 1918, 14,298,018 immigrants came into this country ;

* "Social and Industrial Conditions in the North During the Civil War," by Emerson David Fite, page 192.

† Statements of Inter-racial Council, 1920, estimating a need of 4,000,000 additional workers in the United States and urging renewed immigration from Europe.

and yet, as Professor Lescohier has observed, in every day and month when these millions were coming idle men and women have vainly sought work in every city and town of the United States.* This reserve labor has rendered employment irregular at all times for many; it has kept earnings low for the reason that the law of supply and demand steadily operated against wage-earners—once the free lands were exhausted, removing the competition which the early manufacturers had faced; and it has increased the sum of unemployment during hard times. "Extra" workers are the characteristic expression of a system of industry which demands a supply of idle men and women to be held in waiting for the time of maximum production. In the cotton mills work is irregular, among other reasons, because ordinarily there have been more workers than jobs. Consequently, as previously noted, the average weekly income of the worker is seldom or never the same, and the Commissioner of Labor was impelled to report to the United States Senate in 1911, following the investigation at Fall River, Massachusetts, that "in the entire study there was not one individual found whose earnings were sufficient to support a normal family according to the fair standard."

The measures proposed to deal with the numerous evils and maladjustments summed up in the term irregular employment are many. They are of three varieties—ameliorative, informational, and preventive. Until comparatively recently, little statistical data concerning employment in the United States existed and even now precise information is available only for a

* "The Labor Market," by Don S. Lescohier, page 9.

few states and cities at specified intervals. The great effort has been to obtain facts so that on a diagnosis of reality valid social statesmanship might be built. The only sound means of obtaining a continuing picture of the fluctuations of employment are to be found in the establishment of a public employment service. For public employment offices serve the dual function of connecting workers with opportunities for employment and of obtaining current knowledge concerning the demand for workers and the supply of those in search of employment. In this country the national labor exchanges of Great Britain have been the general model although opinions differ as to whether the work should be done by the states or by the federal government. Prior to the World War the United States had made no real effort to create an employment service. During the summer of 1918 the United States Employment Service was established. The primary object of the organization was to supply workers to the war industries, and when the war was over Congress reduced the service to impotence. It marks a beginning, however, and through the stimulus it gave to state and municipal employment offices, advanced greatly the idea of a system of public employment exchanges. Valuable contributions to the knowledge of employment conditions in this country were obtained through the federal service,* especially of the waste involved in a hapless distribution of migratory workers to the harvest fields. The public employment service, whether national, state, or municipal, is of value also

* See Annual Reports of the Director General, U. S. Employment Service.

in that it removes the heavy toll exacted by private employment agencies upon those seeking work. The tax upon the opportunity to earn, levied by those who make a commodity of jobs, has been a serious evil in the industrial life of the nation.

The establishment of public employment offices has been the first long step in the abolition of unemployment, for although an employment service cannot increase the sum of work in existence at any time, it does render more available the existing jobs and it supplies data on which policies may be built. The methods used to regularize industry and so to modify fluctuations in employment differ according to the industry. From the standpoint of the public the most promising program has been that of postponing public works from times of prosperity to seasons of depression.* In a few cities and states the policy of deferring public improvements until hard times, in the belief that such a policy would tend to mitigate some of the effects of the depression, has been developed. This program calls for foresight but it involves no extraordinary expenditures on the part of the public. Unnecessary improvements are not undertaken, but needed work is postponed and reserved for the time of want.

Industries, and especially individual firms, have in places made efforts to stabilize employment and to create unemployment insurance funds. One of the first instances of this in the United States was the experiment made by a Boston shoe factory, where previously workers had been employed on an average about 100 days a year. By means of a selling campaign and

* See *The Survey* for January 8, 1921, page 530.

through other devices the demand for shoes was more widely distributed throughout the year. A Cleveland clothing firm also was conspicuously successful in stabilizing the production of clothes. The Dennison Manufacturing Company, of Framingham, Massachusetts, has also been a notable pioneer in the stabilization of employment. The method used in this case was to develop certain standard articles which could be manufactured far in advance of their time of sale. Efforts are now being made to devise a system of removing irregularity from the coal industry. The country was shocked in the autumn of 1919 when the United Mine Workers in the bituminous fields demanded a six-hour day and a five-day week. The demand seemed less preposterous, however, when it was learned that never in the history of the industry had the miners had the opportunity to work as many days and hours as their demand involved.* By the development of storage and marketing facilities and in other ways it is possible for the more intelligent industrial manager largely to reduce irregular employment. Detailed suggestions were formulated for a number of industries by the President's Conference on Unemployment during October, 1921, and an interesting proposal for modifying the extremes of the business cycle was offered.

Less intelligent and more selfish employers have, however, little native interest in the human consequences of underemployment and unemployment and consequently it is not possible to rely solely upon the initiative of the managers of industry. Methods have to be devised both to stimulate employers to reduce un-

* See *The Survey* for November 22, 1919, page 151.

employment and to relieve the necessities of those for whom work is not provided. One of the most interesting attempts to create stimuli of this character was expressed in a bill introduced in the Wisconsin legislature during 1921. This measure frankly was modeled on the insurance principle which has been found useful in the reduction of work accidents. Each industry and each business would by this proposal be compelled to insure against unemployment just as insurance against industrial accidents is now exacted. Workers actually unemployed would be given relief in accordance with the familiar principles of the British unemployment system. The insurance rate which the individual concern would pay would be based on the risk it presented. The natural desire of the insurer to reduce the premiums would accordingly induce him to endeavor to decrease unemployment in his own establishment. The Wisconsin bill would create a board competent to advise individual establishments concerning the most effectual means of stabilizing production and employment.*

The goal to be reached is the elimination of irregular work or, at least, of irregular income. The road to be traveled is plain and still the distance to be overcome is great. Consequently during the future, immediate and perhaps distant, much reliance must be found in a system of unemployment insurance. Great Britain has in this field the largest amount of experience. In this country neither the individual states nor the United States have actually created unemployment insurance systems although a growing public

* See *The Survey* for March 19, 1921, page 880.

opinion supports the proposal. Every individual has in American theory hitherto been able to provide personally against the irregularities of work. The long rolls of the charity organization societies during times of depression show how fallacious that assumption has been. Nor is the belief that trade unions are able adequately to assure their members against unemployment well founded. Out of 111 national organizations affiliated with the American Federation of Labor only the Cigar Makers' Union has developed an extensive national system of unemployment insurance.* It is inconceivable that workers as individuals or as members of trade unions should be able to provide adequate insurance against the emergency of unemployment. Earnings are too low and too irregular to sanction such a hope.

Unemployment must be relieved by the agency which created large-scale industry. Each industry must bear its own burden. The government which has so consistently aided the managers and owners of the factory system must give its own guidance and direction to the healing of this chronic disease of contemporary civilization. The belief of practical statesmen on this matter, so long neglected in the United States, was clearly expressed by the first International Labor Conference held under the auspices of the League of Nations at Washington, during 1919, in the recommendation that every member nation of the league establish "an effective system of unemployment insurance, either through a government system or through a system of government subvention to asso-

* "Principles of Labor Legislation," page 442.

ciations whose rules provide for the payment of benefits to their unemployed members." Insurance will not of itself eradicate unemployment, but it may supply the stimulus to action without which relief might be indefinitely postponed. The resources with which to provide for the needs of the individuals unemployed are abundant. Through mechanical industry society has been enabled to produce more than can be consumed normally. The factory system has with its storehouses brought a security to society. But the individual worker has not been permitted to share in this cessation from anxiety concerning positive want. Statesmanship surely owes to the workers whose efforts have made possible the creation and the accumulation of material possessions, so characteristic of modern society, a program of remedial action which will render economic security a common possession.

CHAPTER VII

HAZARDS OF INDUSTRY

INDUSTRIAL accidents and diseases are, paradoxically speaking, among the most hopeful indications of the factory system. This is true because the recent necessity to pay—even though inadequately—for the damage done workers by industry has showed the almost unsuspected potentialities of social control. Insurance against work accidents gave, and continues to give, enormous impetus to a positive movement for safety. This effort to achieve safety by avoiding the conditions which result in mishaps has foreshadowed the range of society's power to determine an environment. Workmen's compensation laws created the force which induced men to seek to discover ways of reducing the frequency of accidents. The insurance rates paid so vary that the factory which is safe for workers had low premiums, while a dangerous plant must pay highly for its hazards. This money stimulus has become a genuine incentive whose social product is the modern safety movement. Humanitarianism has also, of course, been a factor in the prevention of accidents, but the superior influence has been the insurance rating.

The development of industry greatly increased the number and variety of work accidents and diseases,

although industrial hazards existed long before machinery was first put to work. Seafaring, fishing, pioneering, historically were conspicuously dangerous enterprises. The work of laborers on canals and public roads and in other large-scale construction was tremendously costly in human health and life. It has been observed that wandering gangs of navvies were at times hired to perform heavy labor in the South because the owners of negro slaves were unwilling to risk their property at such dangerous labor. Service in the line of duty maimed and killed men a hundred years ago, or thousands of years ago for that matter, but the injuries done were probably less frequent or less obvious than those which result from present-day industry. At any rate, the situation gave rise to no considerable body of literature. Until recent years, moreover, accidents suffered or diseases developed in the course of employment were purely individual disasters for which neither employers nor the state were legally responsible. The hazards of the sea were traditional. A mishap there to a man or a ship was euphemistically termed "an act of God" by way of indicating possibly the lack of legal liability which the owner of the vessel felt for the victims of the disaster. Traveling even on land was extremely dangerous. To go from New York to Charleston in 1800 was as risky as exploration of remote regions of the world to-day.

Workmen suffered injuries in the course of employment, but during the early years of the republic, instead of compensating for their trouble the state was more inclined to punish them for their misfortunes. About the time the factory system was getting its

roots well planted in this country, the jails were filled with debtors. Upwards of a thousand were in the New York bridewell during the course of a single year. The man who was injured and who suffered unemployment thereafter almost inevitably fell into debt. Society had no mercy for him. If an unfriendly creditor chose to have him imprisoned, such a victim of industry had no other recourse but to go to jail. The hundred years and more which have bounded the industrial revolution have also measured a complete change in public sentiment so far as these matters are involved. The change is probably due in no small way to the fact that the workers, unenfranchised a century ago, have now risen to a new political and social status, in which they refuse to endure the iniquities of the former era.

Until 1837 the legal relationship between an employer and an employee did not differ from the relationship between strangers. No especial liability for injuries to his workmen was borne by an employer. "If A was hurt solely by B's neglect (and not by his own fault), B was bound to compensate A whether A was an employee or not." * As industry was created in larger units, and as man's safety became more dependent on the conduct of others over whom he had no control, the menace of industrial accidents became increasingly recognized. The old common law principles suggested by the legal rules of contributory negligence, fellow servant's negligence, and the assumption of risk became inadequate. Men began to see that just as

* First Report New York Commission on Employers' Liability, 1910, page 11.

unemployment was a witness of the fact that industry is irregular in its demand for human service, so, too, industry year by year inflicts a certain number of injuries and deaths upon those employed. The impersonal system of production, and not a fellow worker, became in the eyes of the public and finally in the minds of the legislators and courts the moving cause of the injury. Having understood this, the public followed its logic and began to create a system of insurance against work accidents designed to lift a part of the burden inflicted by industry from the shoulders of the wage earners. This principle has been widely accepted in the United States and very interesting practical consequences have followed from it. The Illinois Supreme Court has, for example, lately held that a heat stroke may be an industrial accident within the meaning of the state compensation act. An engineer employed at a municipal pumping station died on a very hot day from heat stroke. The excessive heat of the engine was declared to be a contributory cause of the man's death and compensation was paid. Another recent case involved a man who was killed by one of his fellow workers. The fact that the killing occurred during the course of employment brought the episode within the scope of the compensation law and induced the court to uphold the payment of insurance to the widow.*

The change marked by such decisions as these is one of the most notable in the history of the United States. It is doubtful whether any new policy was so rapidly

* Proceedings of the Casualty Actuarial and Statistical Society of America, November, 1920, page 112.

accepted once a beginning of success had been attained. The first permanent compensation legislation was enacted by Washington and Kansas on March 14, 1911. Wisconsin, whose law was the first to become effective, acted on May 3, 1911. Within the decade following 42 states and 3 territories have enacted workman's compensation statutes and the United States government has amended the federal act to include all civil employees.* The rapidity of this development was almost revolutionary but the causes which produced it were great. A familiar comparison collates the number of those killed and injured by industry and by wars. Cumulatively, the casualties of industry are incomparably more numerous. Frederick L. Hoffman reckoned that the probable approximate number of fatal accidents among American wage earners during 1913 could be conservatively placed at 25,000 and the number of injuries involving disability of more than four weeks at 700,000.† This was the estimate of an insurance statistician. One of the most recent accountings is that of the American Red Cross.‡ A study of insurance tables and of government figures led to the conclusion that industrial accidents now cause the deaths of more than 22,000 persons annually in the United States. Of every 10,000 Americans employed during 1918, seven were killed. The fatalities in industry during that year alone thus were forty-five per cent of the number of Americans killed in

* Comparison of Workmen's Compensation Laws of the U. S. and Canada, by Carl Hookstadt, Bulletin 275, U. S. Bureau of Labor Statistics.

† U. S. Bureau of Labor Statistics, Bulletin 157, page 6.

‡ American Red Cross News Release, June 5, 1921.

battle during the World War. The number of serious injuries suffered in the course of service is appallingly large. During 1919, for example, the American Red Cross calculated that some 3,400,000 disabilities due to industrial accidents were suffered by workmen and that during the year over 680,000 workers were laid up for four weeks or longer from non-fatal industrial accidents. The reckoning of the Red Cross was reduced to the following table, showing the number of industrial accidents resulting in death during 1918: *

INDUSTRIAL ACCIDENT DEATHS IN THE UNITED STATES, 1918.

<i>Industry Group</i>	<i>Men Employed</i>	<i>Total Accidents</i>	<i>Rate per 10,000 Employed</i>
Total.....	30,106,256	21,356	7.1
Coal Mining.....	762,425	2,580	33.8
Metal Mining.....	182,606	646	33.4
Iron and Steel Employees	527,150	603	11.4
Quarries.....	68,332	125	18.3
Smelting (not iron) and Ore Dressing.....	61,708	77	12.5
Steam and Street Rail- ways.....	1,839,229	3,569	19.4
Fisheries.....	67,036	201	30.0
Navigation.....	147,478	457	31.0
Lumber Industry.....	635,638	953	15.0
Building.....	2,413,283	3,039	12.5
Watchmen, Police, etc..	176,974	133	7.5
Telephone and Telegraph	134,071	67	5.0
Electricians	134,071	102	22.5
Draymen, Teamsters, etc.	407,557	408	10.0
Agriculture.....	10,613,083	3,715	3.5
Manufacture	5,145,656	1,286	2.5
Other Employed Males..	6,789,939	3,395	5.0

This estimate is subject to the criticism applicable to all attempts to portray precisely the general situation in this country. As the Bureau of Labor Statistics has pointed out, the records of deaths and injuries are

* Estimates based on the U. S. Labor Statistics Reports and accident rates of large industrial groups in insurance companies.

so variously tabulated by different state authorities that it is difficult, if not impossible, to combine state reports with any certainty that the sum will be statistically exact.* For single industries and individual states, however, the facts are well known. Accidents in coal mining are, for example, reported by the Bureau of Mines, while railroad casualties are recorded by the Interstate Commerce Commission. Uniform reporting by the states is prerequisite to an adequate comprehension of the full implications of industrial accidents, but even now the situation has been explored sufficiently to render plain the things which must be done in order to repair in so far as is possible the damage inflicted. Nothing obviously requites a man for the loss of a hand or a leg or an eye, or of his skill. Still less can money make good the loss of a life. But insurance can compensate in part for the money losses which result from industrial accidents.

At the last survey it was reported that about seventy per cent of the employees of the country were protected by compensation insurance. About eight million employees, including agricultural laborers, are not covered by such insurance, and in addition to these about 1,400,000 interstate railway employees are without protection. Agricultural workers are scarcely protected at all, despite the fact that while their rate of casualty is low the absolute number of deaths due to farming pursuits is estimated to be greater than that attributable to any other division of labor.† The de-

* *Monthly Labor Review*, January, 1921, page 159.

† Comparison of Workmen's Compensation Laws of the United States and Canada, up to January, 1920, by Carl Hookstadt, page 33.

gree of protection accorded by the laws of various states also differs widely. Although no two states have identical compensation provisions, Mr. Hookstadt has pointed out that two factors generally operate in determining the amounts to be paid. These are the loss of earning capacity suffered and the resultant social need. The old conception of punitive damages which was involved in the common law has been completely wiped out. Compensation plans, ignoring the moral question of negligence, seek impersonally to provide for contingencies which may be foreseen. The actual scale, varying with the degree and duration of the disability suffered, is usually based on the earning capacity of the injured worker. It ranges from 50 to 66 $\frac{2}{3}$ per cent of the wages paid at the time of the accident.

In all of the United States, except in a few Southern states, workmen's compensation is now well established. Many of the laws are inadequate, but the principle has at least been asserted. Provision against industrial disease is much less advanced. In many ways industry gives rise to disease among workers. Specific poisons, such as lead compounds, are absorbed and produce disability, disease, and even death. Physical contact with other classes of substances result in specific affections, such, for example, as anthrax. Fumes and dust incident to work eventuate in tuberculosis and in other respiratory diseases. The constant use of particular muscles occasions other maladies. In addition to these a wide miscellany of sicknesses, such as caisson disease, must be attributed to industry. The very scope of production under modern conditions has

exposed workers to new perils. In addition to these ills, which can be clearly traced, fatigue and strain prepare the way for many other diseases not inherently connected with an occupation.* Fatigue, it has been suggested, may be accounted as one of the chief causes of disease.† Speaking from this point of view, Sir George Newman, the distinguished public health authority, observes that “whilst at first sight accidents, poisoning, and a high occupational death rate are impressive, it cannot, I think, be doubted that the less dramatic side of the problem is the more important—namely, the lost time and incapacity due to ill health. For this is so widely prevalent as to be almost universal, in all districts, at all ages, in all trades. There is a vast mass of wasted life and energy due for the most part to preventable maladies—in their turn largely attributable to remediable conditions of industry or to the neglect of hygiene.” ‡ What Dr. Newman says of England probably portrays fairly the conditions in this country. A study made by the Bureau of Labor Statistics of workmen’s sickness and death benefit organizations of New York showed that the entire membership averaged 6.3 days’ sickness.§ The United States Commission on Industrial Relations said in its final report that “each of the thirty-odd million wage earners in the United States loses an average of nine days a year through sickness.” || The

* “Fatigue and Efficiency,” by Josephine Goldmark.

† “The Human Machine and Industrial Efficiency,” page 79.

‡ “The Health of the Industrial Worker,” by Collis and Greenwood.

§ Report of the Illinois Health Insurance Commission, 1919, page 13.

|| Final Report, Commission on Industrial Relations, page 202.

Illinois Health Insurance Commission, whose report is one of the best American studies in this field, remarked concerning this estimate that "the data obtained from our various investigations warrant the conclusion that this is only a slight overstatement of the average time lost." *

Disability due to disease which arises out of occupation is accordingly probably far more common even than industrial accidents. Still, it has been found extraordinarily difficult to give protection against the full range of industrial diseases in workmen's compensation systems.† Only a few states attempt to compensate workers disabled by sickness and these have been able to reach only a few individuals. The benefits of the law are extended chiefly when the disease manifests itself in some sudden bodily derangement or if it can be traced to a definite time and place, or if the employer has neglected to provide safeguards which might reasonably have been expected to have prevented the injury.‡ The measures proposed to combat the human suffering and the national losses due to occupational diseases are general health insurance, and preventive and protective health activities by individual plants and industries, and by the various branches of the government.

It should be possible with the growth of public opinion to extend compensation insurance systems or else to ally them with health insurance so that the human wastage of industry may be prevented. To do this

* Illinois Health Insurance Report, page 11.

† "*American Labor Legislation Review*," by John B. Andrews, 8: 311.

‡ Bureau of Labor Statistics, Bulletin 275, page 53.

effectively, as Dr. Royal Meeker, chief of the scientific division of the International Labor Office has pointed out, workers injured in any way by industry must be restored as completely and as quickly as possible; money benefits must be paid so that the worker and his family may live during the enforced idleness; retraining must be provided those who cannot be returned to their former tasks; the opportunity for work should be sought through a proper public employment system; and facilities for continuing medical care must be accorded the injured worker to the end that recovery may be attained. When these things are done, society, which created the modern industrial system for its own comfort and service, will have begun at least to atone for the injuries done millions of workers by the incidental grind of a machine system of production.

CHAPTER VIII

THE STATUS OF WORKERS

THE rise of the factory was coincident with a political and social revolution. In attempting to estimate the effects of mechanical industry upon the well-being of workers, it is accordingly necessary to distinguish between these two influences. It is manifestly impossible to say what might have happened to workers had waterpower and the energy of steam never been harnessed to machines, but it is entirely clear that even prior to the invention of the basic machines which served to create the beginnings of the factory age the position of wage workers in society had begun to be altered. Political and social tendencies were conspicuous, even though they had not already borne their full fruit when the first factories were built. These liberating political and social movements followed the logic of their own nature in spite of the sometimes conflicting influences generated by the new industrial system. The position of workers to-day is consequently the resultant of these diverse forces.

Artizans, mechanics, and laborers were largely unfree when the foundations of the first factories were being dug. No wage earner, unless he was also a property-owner, could vote. South of Mason and Dixon's line artizans were slaves or indentured servants. In Penn-

sylvania much work was done by the so-called redemptioners, the German immigrants who paid for their passage overseas by giving four years' labor or more to employers who advanced the funds required for emigration. Industrially the United States was half slave and half free at the end of the eighteenth century and the first President of the new nation was himself the master of an establishment where under the ancient handicraft system cloth was fabricated by bondswomen.* Artizans of various crafts were offered for sale, the black men as slaves and the white as indentured servants. The unfree worker who quit his appointed tasks could be disciplined, and the man who ran away might be arrested and returned. The free workers of the Northern states were not represented politically and, if one may judge by the expressions of members of Congress and of delegates to constitutional conventions where suffrage was being considered, they were not highly regarded. The social and political status of workers has been revolutionized. Universal manhood and womanhood suffrage obtain and while in practice casual laborers and negroes are often deprived of the vote, race and a wandering life, rather than caste or property distinctions, maintain the barriers.

In the North the first manufacturers were often artizans who with money loaned by merchants or farmers were able to begin business in a small way. Reporting for Connecticut in 1832, H. L. Ellsworth, for example, informed Louis McLane, Secretary of

* "A Documentary History of American Industrial Society," 2: 324.

the Treasury, that "many of the manufactories are small and carried on by the owner and his family, with little additional help." * The figures submitted by Mr. Ellsworth substantiated this statement. Establishments employing three, four, five and six operatives were characteristic. In the north, merchants in the larger towns were the chief possessors of wealth. The rise of factories created a new and property-holding class, who in time were to dispute the supremacy of the merchants. The artizans who became the proprietors and managers of factories were obviously enormously bettered by the mechanical revolution but it is not with the well-being of those who rose to affluence that society is now chiefly concerned.

The fortunes of the men and women who did not emerge, and who in the mass have no prospect of emerging, are immediately significant. Not only, however, do the artizans and laborers of to-day enjoy political and social rights which were denied their forefathers, but also for them education has become general. A hundred years ago workers yearned vainly for the dignifying influences of a system of public schools. To-day attendance at school is compulsory, and certainly in the larger cities the opportunity for education is all but universal. The laborer of to-day thus not only exercises political privileges which were denied his predecessors four generations ago, but also through education he has been assisted in utilizing more intelligently the political opportunity accorded him. In saying this one does not forget the confusions and

* Executive Documents, 1st Session, 22d Congress, "The Manufactures of the United States," Vol. 1, page 977.

imperfections of the political and educational systems which have been created. Each falls far short of the desires of generous men and women, but each marks a vast advance over what existed at the beginnings of the factory age, and each has had a potent influence in determining the status of workers. In truth, it may be added that, with all their defects, the public schools and the democratic political system occasion much of the hope of the present. In them lies the inspiration and the avenue to release from unredressed evils. These gains, however, are mainly attributable to the political tendencies which exploded in the American and French revolutions. Had there never been a factory system, it is possible that manhood, if not womanhood, suffrage would have been established, and even popular education might have come. Such a leader as Thomas Jefferson was an advocate of these things. But how did industry itself affect the position of those workers who continued to be laborers and artizans?

In general it is fair to say that the factory system has depressed the economic status of artizans and elevated the position of laborers. The experiences of the shoemakers or of the iron molders illustrate this. The extension of markets and the gradual adoption of machinery both tended to degrade the quality of the work done by journeymen cobblers. Prices were reduced in a competitive market and artizans found themselves in an impossible rivalry with factory-made goods and with the products of semi-skilled workers who were able and willing to live at a lower standard. Machinery hastened the process of substituting laborers

for artisans.* This has been accomplished unequally and at various times in different industries. As late as 1851 all labor on shoemaking was handwork. The McKay sole-sewing machine, introduced in 1862, however, did in one hour what the journeyman had required eighty hours to accomplish. At a stroke the skill of the shoemaker for manufacturing purposes was rendered obsolete. The spectacular development of the labor organization known as the Knights of St. Crispin, following the Civil War, was the protest of these craftsmen against the loss of a market for their skill, the substitution of laborers for craftsmen, and the consequent reduction of wages. The artisan able to perform all the operations of his craft has tended to disappear in many trades. Shoe factories ultimately divided the cobbler's work into many operations. Yet the manufacturing system itself created a demand for a new kind of skill. Specialized operations, such, for instance, as cutting, require an expertness in a limited field scarcely attained by the general workers of the handicraft days. The iron molders are an example of belated transfer from a handicraft to a machine basis of operation. The long and bitter struggle between the Iron Molders' Union and the National Founders' Association arose over the question of the installation of machinery and the resultant wage changes.†

With a few exceptions, such as printers, artisans

* "American Shoemakers, 1648-1895," by John R. Commons, *Quarterly Journal of Economics*, November, 1909.

† "The National Founders' Association," by Margaret Loomis Stecker, *Quarterly Journal of Economics*, 30: 352.

whose trades have been revolutionized by the invention of machines have been unable to maintain their relative position in the industrial community. It is indeed a curious and significant fact that the craftsmen of to-day are very largely men whose trades have not been seriously affected by the introduction of machinery, and that these handicraft workers compose the backbone of organized labor. The building trades workers have nearly the same skill as that attained by their forefathers, and the building trades workers are the most powerfully unionized. Other groups which have obtained great power are chiefly those who under machine conditions have still been able to acquire skill. The railroad brotherhoods are among the most potent labor organizations in the country. The strength of the railroad unions is to be found in the fact that locomotive engineers and trainmen are possessed of a peculiar skill which is not quickly imparted and which is not widely distributed. The miners are another instance of men securing skill and solidarity under new conditions. The clothing makers have completed a cycle. Tailors originally ranked in the aristocracy of artizanship. The introduction of machine methods and the extension of the competitive market made conditions worse for the workers, who largely lost their skill as journeymen to become specialists in particular operations. Trade union organization has in their case very recently restored much of the dignity and of the economic advantage which belonged to journeyman tailors. The textile industries, which first felt the influence of the factory system, show from the standpoint of craftsmanship as well as from that of reward

a striking degradation of labor. The workers in the cotton and woolen and silk mills have never been able to effect a powerful organization for their own protection. New groups of workers have successively invaded this field. The skilled workers who first as craftsmen and afterwards as machine tenders were displaced by immigrants and others willing to work for lower wages suffered seriously by this change. Yet both for the daughters of American farmers who were attracted to the early mills and for the peasants of Europe who were subsequently drawn into the textile factories, the shift in the basis of the industry from a hand to power-machine process meant an advance. Again and again this contrast is found. Journeyman artisans were injured by machinery, while laborers were lifted to a higher level of living when they were drawn into new work. The reluctance of skilled workers to submit to changes which implied the sacrifice of the cunning of their hands as well as losses in income has been one of the tragic phases of the industrial revolution. It has been a struggle in the main to preserve status, and it has been a losing struggle. Old values were ruthlessly destroyed and those who suffered saw for themselves too often no compensation.

Men and women became machine tenders. Impersonal motors determined the speed of human effort. The leisurely quality of handwork was lost. Specialization at endlessly repetitive tasks performed at a high speed injected a new factor into the toil of men and women. Repetition of a single process eliminated the joy of the worker who has a sense in creation in his work. For most machine tenders the craftsman's

pleasure of performance does not exist. Some trade union leaders and some manufacturers, however, now regard the matter without misgivings. They assert that repetitious work can never be rendered truly interesting. Happiness, accordingly, must be found outside of work. Consequently, they contend that hours should be shortened so that leisure may exist, and wages should be raised so that leisure may be enjoyed. That idea is in itself a child of the machine age. So far as men can now see there is in truth no prospect of a change from repetitious labor. The most productive factories are those in which standardization is furthest advanced. Such was the experience of the World War, during which much progress was made toward placing industry more completely on a foundation of machinery. With mechanical processes the United States can now produce more than it can consume, as was shown during 1918, but with a return to manual production it would be impossible to provide for the necessities of the population. It is improbable that the kind of pleasure in work of which William Morris was the prophet can ever be restored in factories where men and women spend their days and nights in the continual repetition of a single set of operations. The normal human mind is wearied by monotony. Hence it is true that relief and recreation, as well as rest, must be had beyond the working hours.

From this standpoint it can hardly be argued that the factory system has brought joy or dignity to workers. The hours of labor were longer before machinery imitated the deftness of human hands, and many tasks had almost infinitely to be repeated from

the days when galley slaves propelled the vessels of their conquerors. But the impersonal beat of machinery has made demands, never before approximated, upon the men and women who serve it. In the textile industry, for example, the rate of production is determined by the speed of machines. It is impossible for the workers tending the separate operations to influence the rate.* Human beings are subordinated not immediately to the will of other men—although, of course, some human will decides the rate at which the engines move—but to the motion of machinery. That this has deleterious effects on the body as well as upon the spirit of man seems probable from the researches of Philip Sargent Florence and others for the United States Public Health Service.† The rhythm of such machines as lathes in certain operations appears, furthermore, to drive workers onward regardless of the accumulating poisons of fatigue, and regardless even of their ability in some such cases to alter the speed of the machine.

Not less influential than power machinery itself in affecting the status of workers has been the corporate form of organization which industry, trade and transportation have taken. In 1830, when the factory system was well established, industry seems principally to have been in the hands of individual owners whose establishments were small. Certain Lynn shoe manufacturers reported in 1832‡ that their real estate and buildings varied in value from \$200 to \$2,000. Fac-

* National Industrial Conference Board Report on Working Week of 48 Hours or Less.

† U. S. Public Health Service, Bulletin 106.

‡ "The Manufactures of the United States," Vol. 1: 232.

tories with only two or three employees were common. An establishment with a hundred workers was large. In such circumstances the relationship between the manufacturer and his employees was similar to that which subsisted between the old master workman and his journeymen. The enactment of legislation designed to facilitate the growth of corporations tended to destroy this relationship. The corporation, and later the trust, created a new industrial environment, which influenced powerfully the position of workers. In the report to Secretary McLane in 1832, the accounts of ninety Pennsylvania iron manufactories are listed. Altogether they represented an investment of \$3,200,000. The United States Steel Corporation alone was valued at \$2,430,546,962.56 on December 31, 1920.* S. Smith & Company's rolling mill and nail factory at Pittsburgh employed twenty-five men and six boys in 1832. The United States Steel Corporation had 267,345 on its rolls in 1920. The rolling mill of 1832 was managed by the owner. There were more than a hundred thousand stockholders of the United States Steel Corporation during 1921. Most owners can have little share in management.

In 1914 nearly a third of all wage earners engaged in manufactures worked in establishments employing 500 or more persons. Only about 13 per cent of the wage earners were employed in factories using twenty workers or fewer, according to the 1914 census of manufactures. The number of these small factories is large, composing as it did in 1914 upwards of 70

* Nineteenth Annual Report, United States Steel Corporation, Report to Stockholders, 1920.

per cent of the entire number of industrial establishments in the country, but the proportion of workers employed is very small. On the other hand, enormous organizations are common. Corporations employing as many as 10,000 workers excite little comment, while the more conspicuous concerns utilize the energies of thirty, forty, fifty, and even a hundred thousand men and women.

Great power over the lives and fortunes of the men and women employed is possessed by the directors of such enterprises. Many large corporations have created cities, in which their factories are situated and their workers are housed. Often the corporation owns the entire community.* In many of the "satellite" towns, workers employed by the dominant industry occupy houses owned by their employers, buy food and clothes and other necessities of life at stores owned by the employers, send their children to schools maintained by the employers, worship in churches established by their employers, and finally are buried in cemeteries located upon their employers' land. Many of the communities in which employers have provided the essential utilities of living, it must be admitted, are on the whole far more comfortable and decent than the localities which have been neglected. But while one is scrupulous in refraining from suggesting censure of those who have come into this great industrial power, it is impossible to refuse to observe the fact. The relationship between such companies as the United States Steel Corporation, the General Electric Company, the United

* Testimony before United States Commission on Industrial Relations, dealing with Lead, S. D.

States Rubber Company, the Ford Motor Company, the International Harvester Company, American Woolen Company, to cite only a few, and their employees, is a new social phenomenon. In theory the humblest citizen worker enjoys all the political and social rights of the richest and most potent industrial magnate. But the economic status of the employee of a large corporation is not, save in the industries where trade unionism has reached maturity, one of independence.

A new stratification, without albeit the loyalties of the older feudal system, has been created by the factory system. A few men, often one man, can exercise a determining influence on the lives of tens of thousands of his fellow citizens.* In the case of the United States Steel Corporation a small group of men having membership on the board of directors were able, during August, 1919, to compel 66,711 men to work twelve hours a day and to conform their entire existence to that obtrusive fact. A few directors and their local representatives in the management can, through their political affiliations, deny to their employees the constitutional rights of free speech and free assemblage.† That is not an unparalleled development in history, but it throws light on the changes in the position of workers accomplished by the rise of the factory system. The political revolution which tended to liberate the enthralled workers of the eighteenth century has been in part checkmated by the industrial revolution whose unconscious drift has been toward servility instead of freedom.

* *The Survey*, March 5, 1921, page 811.

† *Idem*, November 8, 1919.

In part this has been the inevitable consequence of the system of incorporation with limited liability. Nearly three-quarters of the industrial workers of the country are employed in establishments owned by corporations. Only about five per cent work in factories owned by individuals.* It is difficult for any except the largest stockholders to exert any influence upon the policies of the companies in which their money is invested. The ownership of many of the most important corporations is widely distributed. The American Telephone and Telegraph Company, for example, reported over 150,000 stockholders in 1921. Corporations are often managed by officers who are responsible to distant owners. Absentee ownership has, so far as industrial conditions are concerned, resulted in irresponsible ownership. Some of the most serious industrial controversies of recent years are the consequences of this system.† Discussing the copper strikes which were prevalent in Arizona during the summer of 1917, the President's Mediation Commission observed that "distant ownership, wholly apart from its tendency to divorce income from the responsibility for the conditions under which it is acquired, creates barriers against the opportunity of understanding the labor aspects, the human problems of industry, and solidarity of interest among the various owners checks the views of any one liberal owner from prevailing against the autocratic policy of the majority."

The Arizona copper mines presented during the war

* Abstract of the Census of Manufactures, 1914, page 374.

† Report of the President's Mediation Commission and of the Congressional Investigation into the Colorado Coal Strike of 1913-1914.

an aggravated case, but it is widely true that the irresponsibility of owners under a system of corporate production has menaced greatly the welfare of the workers employed. Men and women are employed by overshadowing corporations whose widely scattered owners lack influence, and too often interest, in the conditions of work and of life created. Nothing has happened in recent years to justify any belief that industry would be operated in smaller units and that ownership would become identical with management. The tendency for the immediate future seems fixed in the opposite direction. So far as the material conditions of work are concerned, the escape lies through governmental regulation, as already partially developed in safety codes, and to an extent through trade union agreements. The liberty of the individual worker employed in such enterprises cannot be secured except through the agency of unions. The benevolence of the good employer may provide better material conditions than any union could exact or any government compel, but in the face of the overshadowing size of modern corporations nothing except a banding together of workers into associations competent by their numbers and the intelligence of their leadership to meet their employers upon equal grounds can nourish that freedom and independence characteristic of farmers who are secure in the possession of their own lands. Economic security is the prerequisite to political liberty, and unionization is the only apparent refuge of the workers who are unwilling to trust their fortunes to others.

This conclusion arises from the very nature of

modern large scale industry. Light was thrown on the matter by the remark of Mr. John D. Rockefeller, Jr., at the first industrial conference called by former President Wilson. The younger Rockefeller said: "Surely it is not consistent for us as Americans to demand democracy in government and to practice autocracy in industry." The statement is true, but it is also true that present industrial organization is an offshoot of the family system rather than of governmental forms. The early factories, it has been noted, were family affairs. A master workman, assisted by his family and a few outsiders, comprised the entire personnel of the organization. To Mary Wollstonecraft, the pioneer of feminism and of suffrage, the husband and father was in the home the spiritual equivalent of the tyrannical king in the nation. Women and children had few legal rights which the male head of the household need respect. That family life was not on the whole unpleasant when Queen Victoria was a child is, incidentally, perhaps to be explained by the fact that human customs are often more amiable than laws. The almost absolute power which the father and husband possessed in the household at the end of the eighteenth century has been the model upon which American industry was unconsciously organized. Instead of having a few workers, a somewhat enlarged family, the modern manager, who is the heir of the master workman, may, in such an extreme case as that of the United States Steel Corporation, control the lives of well on to a million people. While it is true that workers, even in the largest establishments, are employed upon a contract rather than upon the status

basis, it is also not to be denied that in its power to impose conditions such a corporation exerts the same kind of authority exercised in other generations by the male head of the house.

Yet it may be conceded that at its worst this overweening power which the modern employer has obtained as a joint product of the old family system and the new integration of industry is not more difficult to endure than was the petty tyranny of many a master mechanic in the old days. The occasional memoirs of apprentices both in this country and in Europe, whence the beginnings of our civilization were borrowed, betray no trailing clouds of affection for the old order. Rousseau assuredly was as keenly irritated by his master as any modern workman is likely now to be by an inconsiderate foreman. Nevertheless, an industrial system which results in organizations employing as many as a quarter of a million workers manifestly cannot operate on the plan of an eighteenth century family. Good employers are, of course, preferable to bad ones, but whether the head of a great organization is good or bad, workers need the protection which only the possession of recognized rights assures. Industry is thus a battlefield on which the ideas embodied in the older family system are contesting for supremacy with that other group of principles which are incorporated in the American theory of self-government. The logic of the family has ruled industry to a large extent, but increasingly the logic of politics is demanding recognition. If self-government is right on the political field, self-government is right in industry, for the same arguments arise in each case. Self-government, the logic of poli-

tics, means among other things the recognition of trade unionism.

Society has been reluctant to concede the right of industrial self-government because of the double social standard. In an enlightening bit of testimony before the United States Commission on Industrial Relations, John H. Walker, then president of the Illinois State Federation of Labor, set forth the situation from the standpoint of the trade unionist. Mr. Walker said that the double economic standard was the fundamental cause of industrial unrest. Asked what he meant he replied:

"A workman is not supposed to ask anything more than a fair day's wage for a fair day's work: he is supposed to work until he is fairly tuckered out—say eight hours—and when he does a fair day's work he is not supposed to ask for any more wages than enough to support his family, while with the business man the amount of labor furnishes no criterion for the amount they receive. People accept it as all right if they do not do any work at all, and accept it as all right if they get as much money as they can. In fact, they are given credit for getting the greatest amount of money for the least amount of work. . . . The average worker feels that he is a nonentity, a tool to be used by those who own industries."

The condition to which the union leader pointed is so much a matter of custom that few are ever aware of the diversity of standard. The working man is still to many a thing to be used. That he should aspire to the sort of life enjoyed by the more fortunate seems astounding to some. The dignity of labor is a commonplace, and yet when, the other day, a street cleaner in his white uniform entered a large hotel in New York, he was arrested for disorderly conduct. It mattered

not that his mission was a perfectly proper and lawful one—that of obtaining a theater ticket. His clothes were against him. The man was taken to a police station, and, strangest of all, not a single newspaper which recounted the episode appeared to find anything extraordinary in it. Apparently it is so much a matter of custom that men in working clothes must not obtrude themselves upon the attention of the residents of a metropolitan hotel—much less entertain the same desires—that no commentator saw in the event anything worthy of remark.

The double standard is a relic of the old inequality. As long as some men had a servile status, others more privileged were able successfully to assert that dual principles must be applied. Servile workers were not measured by the same tests which more fortunate folk applied to themselves. That idea of inequality, of a duality of standards, has lingered. As much as anything else it retards the acceptance of the logic of politics by industry.

Trade union organization is itself, however, a measure of the present position of workers. In the strictly manufacturing branches labor organization is relatively not powerful, although the garment-making industry is thoroughly unionized. The railroads, which are both a product and a cause of the industrial revolution, are almost completely unionized. This also is true of the coal mines, which bear a similar basic relationship to industry in general. On the other hand, in such a fundamental industry as iron and steel, unionism hardly exists. The automobile industry, likewise, is singularly free of unionization. In general, it is accurate

to say that between four and five million American workers are enrolled in trade unions,* and that these workers, although only a minority of the total industrial population, are so distributed that they are able to exert great influence upon industry. In most trades the state of the labor market is the measure of the power of unions. If labor is scarce, the unions are able to exercise considerable power; on the other hand, when workers are abundant the unions are scarcely able to retain the advantages they gained during the fat years. So far, no industrial code to temper this struggle has been developed. The nearest approach to a code was the statement of principles adopted by the employers and the trade union leaders who formed the National War Labor Board. This was a war-time expression and patriotism moved the leaders to more generous action than has ever been recorded during peace. The President's Industrial Conference of March, 1920, attempted less formally to crystallize current ideas concerning industrial justice. Congress in the Esch-Cummins Transportation Law also approached the subject.

As to the growing or disappearing cleavage of the classes it is difficult to form a balanced conclusion. The old barriers separating the classes have been broken down, but new barriers have been erected. Alexander Hamilton would feel at home in the New York of to-day. He would observe social contrasts not less marked than those with which he was familiar. The theory of the rights of workers and of employers has radically changed, but the distance between the

* Annual Report of the American Federation of Labor, 1921.

humblest tenement dweller and the family living on a hundred thousand dollars a year is still sufficiently great to satisfy the aristocratic tastes of many of the founders of the American republic. The ideas concerning the separation of the classes have changed, but the distances are not less marked. Industry has created great wealth. The total value of the products of American manufacturing establishments in 1919 was upwards of sixty-two billion dollars.* The number of industrial establishments had not comparably increased. For all industries, 288,376 were counted in 1919. In 1850, 123,025 establishments were recorded, with a total output estimated to be worth slightly over a billion dollars. The products of manufacturing establishments increased in value sixty-two-fold during those years, while the number of establishments was hardly more than doubled. That change—the enormous increase in absolute wealth, and comparatively slight increase in the numbers of establishments—gives an index of the change in status which the workers have experienced as a result of the industrial revolution.

That very fact, however, has produced a far-reaching result. Because of the vastness of the size of industrial organizations the individual worker is dwarfed into insignificance, but so many workers have become conscious of personal impotence that great mass movements have come into existence. Workers have a solidarity now which is unprecedented in the history of Western civilization. Trade unionism, socialism, and a score of variant doctrines have welded together millions. Unity, even for the vaguely defined purposes which

* Census of Manufactures, Press Release, May 24, 1921.

are the ends of trade unionism, has made an enormous difference in the position of workers. Industrially, the individual artizan counts for less than did his great-grandfather in a New England village, but in the mass artizans count for more than ever before. The consciousness of power, even of dormant power, is an emboldening and dignifying influence. Success in the World War admittedly was within the reach of that group of nations whose working people were most determined upon victory. Every statesman realized that and in the end the workers understood it. The crisis crystallized what had before been dimly perceived and at the same time it bred a new spirit. The worker of to-day knows that he has obtained insecurity in exchange for the comparative assurance which belonged to his forebears. He knows that when he is employed, however, he lives more comfortably than did his ancestors, and he is convinced that security is also within his reach. Labor is no longer docile. Political recognition has been gained, but it seems to be an imperfect tool, since final power appears to rest in the economic rather than in the political realm. For that reason unrest does not abate with the passage of years. Workers in the United States have not clearly defined a program of action for use during a long period, but they cherish a fundamental purpose. Through union on the industrial and political fields they evince a determination to win for themselves, their women and their children, a share in the better life which the mechanical revolution has brought within view. Few who contemplate the present fruits of the factory system will challenge the faith that it is possible to lift high the

level of living of those who now with such inadequate rewards bear the heavier burdens of production. The people who, by the use of sovereign power, created a new industry, can, by that same sovereignty, distribute more equitably the wealth obtained. How that is to be accomplished is not entirely clear. Counter currents still surge and add confusion to an era of transition, but of the general movement there is no uncertainty. Factories were built to increase human welfare, and it lies within the hollow of the hand of this nation to fulfill that historic desire.

THE END

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