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BUSINESS ADMINISTRATION

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BUSINESS ADMINISTRATION

THEORY, PRACTICE AND APPLICATION

Editor-In-Chief

Walter D. Moody

General Manager, the Chicago Association of Commerce,
Author, "Men Who Sell Things."

Managing Editor

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Editorial and Educational Director,
La Salle Extension University

This work is especially designed to meet the practical every-day needs of the active business man, and contains the fundamental and basic principles upon which a successful business is founded, conducted and maintained. To those looking forward to a business career, this work forms the basis for a practical and systematic course in "Business Administration"

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LA SALLE EXTENSION UNIVERSITY
CHICAGO

BUSINESS ECONOMICS

¶ This treatise has been especially prepared by E. L. Bogart, Ph. D., Associate Professor of Economics, University of Illinois, and Author of Economic History of the United States; Hon. O. P. Austin, Chief of Bureau of Statistics, Department of Commerce and Labor; and John Bascom, D. D., LL. D., former President University of Wisconsin. It is supplemented by the writings of recognized experts in the production, preservation and distribution of wealth. The treatment is modern, popular and authoritative. The volume contains many timely and practical suggestions which can be applied with profit to any business. It is also arranged to serve as a quick reference work, and includes a complete table of contents, a comprehensive index and test questions.

WALTER D. MOODY,
Editor-in-Chief.

INTRODUCTION TO BUSINESS ADMINISTRATION.

BY WALTER D. MOODY.

General Manager, The Chicago Association of Commerce.
Author of "Men Who Sell Things."

"*The recipe for perpetual ignorance is: Be satisfied with your own opinion and content with your knowledge.*"

Business a contest of wits

This is an era of the greatest commercial activity the world has ever known. The development of business is one of the marvels of the new century. A few years ago science, as a factor in commerce, was little known and less appreciated. The amazing advantages to business of intellectual attainments were utterly without recognition. Today, however, business has become a contest in which the quickest perception wins, thus transforming the counting room into a battle ground upon which brain matches brain for supremacy and success.

Success—educated enthusiasm

Ah, that enchanting word, S-U-C-C-E-S-S. It does not require a magic key to unlock the door to business efficiency. There is nothing mystic, nothing mysterious in the applied method of the really resourceful men in this day of great successes, of marvelous achievements in business enterprise. The sum total is contained in two words, words that electrify, nevertheless. EDUCATED ENTHUSIASM.

Changing conditions make opportunities

The most formidable barrier to progress has always been the senseless opposition of those to whom it would be of the greatest benefit. Changing conditions are the order of the day, for enlightenment has worked wonders. In olden times, a man of affairs was obliged to guard his property and his loved ones by building a moat around his house and posting sentinels in and around his estate. The time is not long past when, because of prejudice, perversity or ignorance, many men believed that opportunity knocked only once at any man's door. Today, thanks to deeper insight, most men believe that life itself is opportunity; that the very air we breathe is opportunity; that each new day presents broader opportunities for accomplishing more because of better directed energy. This is not alone the accepted dogma of the man who is making his way in the world. It is the creed, doctrine, tenet or religion, whichever you may care to term it, of the great captains of industry everywhere.

New ideas count

The more successful the man, the more does he think, study, plan, as a part of his daily occupation in the development of the affairs in which he is interested. Newer and better ways to get things done is the business standard employed today by successful men in all lines. Only yesterday if a man of genius advanced a new idea, he found himself ridiculed and his innovation opposed on all sides because it was a new idea. Today, it is different. The man of ideas counts in the trend of affairs as he has never counted before.

Must keep step with changing times

Everything has a subjective reason. Progress is acting as a mighty dynamic force in changing men's viewpoint of life and things. Suppose the stroke oar on a varsity crew, while in a race against an opposing crew from a competitive institution, should suddenly stop rowing in harmony

with his associates and begin to row backwards—that crew would not get very far without trouble. Suppose a lawn mower should be reversed and forced to run backwards—there would not be much progress made in cutting grass on that lawn. Varsity crews and lawn mowers must move forward. Business men must advance with the times.

A great merchant in Chicago tells a good story of his youth. He was a member of a state regiment of militia. On a certain occasion, his company was sent out on dress parade. An old maiden aunt, with considerable colonial blood in her veins, took much pride in her nephew and his company. While reviewing the parade, she was suddenly heard to exclaim: "Why, every single man in that company is out of step excepting my nephew." Most men who fail to get on in the world do not realize that success lies in keeping step—in making progress with changing conditions. They generally make the mistake of thinking that the world and everything in it is out of harmony with themselves.

New ideas worth searching for

A business man of successful experience realizes that ideas—newer and better principles of conducting business—are of the greatest value, and he also knows that it pays him to search for them. The same old way of doing things cannot longer be successfully employed month after month and year after year as under the old regime. The business man must be modern, up-to-date. The physician or lawyer finds that to compete successfully he is compelled to search without ceasing in order that he may comprehend the advancement in treatments or procedures. "To the man who fails belong the excuses."

Demand for trained men

President James, of the University of Illinois, was asked if there was any demand from business houses for college-bred men. His reply was: "The demand has been far in excess of the supply since courses in business administration were established in our institution seven years ago. Each year has brought many more requests than we have men to recommend." Ten years ago President James would have been ridiculed for advancing this new idea for the establishment of a school of commerce in connection with a university. Today, commercial schools are a part of the regularly established courses of nearly all of the great universities of our country. Men trained in the theory, practice and administration of business will always occupy the best positions and will always command the greatest salaries.

Value of new ideas in business emergencies

All men fail at times in the accomplishment of satisfactory results in the various enterprises in which they are engaged, without being able to give an explanation. The principles that have been applied successfully for many years seem apparently to have counted for nothing. It is frequently evident that in such cases a very insignificant thing, a mere oversight perchance, has been the direct cause of the failure. To be able to put the finger on the precise cause of the lack of success in one's method would locate the cause of the disaster. Then it is that a real appreciation of new ideas is fully realized.

Men paid for what they know—not for what they do

Failure is more often chargeable to a refusal to learn by mistakes how to avoid them than it is in making them. Experience is a good teacher, but who can deny the value to be gained in learning from the experience of others, for we cannot all have the same experience or the same view of similar experiences. There are many pathways to success, but the road of individual experience is narrow and rugged. It is a commonly accepted fact that for every ten dollars a high-salaried man draws, he receives nine dollars for what he knows and one dollar for what he does. On the same basis the successful business man, employing a large force of other men, realizes that his own greatest worth, as applied to his affairs, lies not so much in what he can do himself as how much he can encourage

his employes to do. In either case, his own personal knowledge is the power behind the throne.

Knowledge in excess of present needs necessary

The man who would secure the largest net return from his individual effort in the field of endeavor, and he who would realize the greatest possible advantage from the efforts of those under his command must, of necessity, possess knowledge—indispensable perception far in excess of the needs of the moment. Discernment, like a bank account, soon runs out if it is overdrawn or if it is not continually replenished. In business the "checking system" of knowledge is the sort of account that pays best—not the "savings account system." Knowledge that is simply corked up and allowed to accumulate cobwebs and rust can avail nothing. The sharpest vinegar is procured by constantly replenishing the old stock with new.

90% failures vs. 10% moneymakers

Reliable statistics prove that only about ten per cent of all people who engage in business are successful and make money; the other ninety per cent become insolvent and fail. That is, they do not actually encounter the sheriff, or go into the hands of a receiver, but they fail nevertheless to succeed in the sense of making money, and what other possible reason can anyone have for engaging in business if not to accumulate money?

Failures due to lack of intellectual capacity

Why do so many fail? Ask any credit man and he will tell you that it is not because of the lack of capital, or other material resources, but it is due primarily to a lack of intellectual capacity, the sort of brains that dig and work and sweat until they find a way to accomplish things; brains that go to the bottom of things; brains that are always looking for better results; brains that never abandon a problem until they have found a way to solve it. A friend once told me that he inquired of the manager of a house employing some three hundred traveling men how many salesmen they had. The manager replied, "Three." My friend asked, "How's that? I am told your force of traveling men numbers nearly three hundred." "Ah, that is quite different," replied the manager; "we have two hundred and ninety-seven traveling men, but only three salesmen." Quite likely that manager's estimate was intended to be taken figuratively rather than literally, but it serves to illustrate the fact that in this great United States there are millions of men, young, middle-aged and old, who are content to plod along in a mediocre sort of way, heedless or unmindful of the fact that opportunity, knowledge, possibilities, are calling, calling, calling to them to come up higher. There are hundreds of thousands of other men engaged in business who sit idly by while their trade, like the sands in the hour glass, slowly ebbs away, and eventually is absorbed by their more progressive business neighbors.

Moneymaking and business literature

There is still another vast army of business men—salesmen, clerks and wage-earners of all classes—who are beginning to catch a glimpse of the dawning of a new business era, the greatest the world has ever known, an era impregnated with possibilities and opportunities for those who are ready with wicks trimmed and oil in their lamps. To the earnest latter class which is really desirous of profiting by the experience of others, there is no need of elaborating the possibilities embodied in this course of reading in Business Administration. This set of books, containing valuable business data on many subjects, thousands of pages telling the story of success illustrated by trained men whose names are respected everywhere, is intended to reach all classes. There is absolutely nothing in print that can even approach or can begin to compare with it in value as a reference library for business men or excel it as a complete course of instruction for any man desirous of making the best of his possibilities and opportunities in the kaleidoscopic age through which the business world is now moving.

Practical ideas best

The more practical the ideas, the better the basis for good work. Not long since, business men generally pooh-poohed the idea of employing in the conduct of their business anything new, which was taken from the writings and experience of others, such as is contained in this remarkable series, contributed to by some of the brightest minds in the business world today. There is, however, in these days unmistakably a hungering and thirsting for just this new sort of literature. It fills a long-felt need—fills it exactly, completely, satisfactorily. Being the author of a work on salesmanship which has had a countrywide circulation, I have been literally besieged by business men everywhere asking me to recommend books treating of successful business methods, and have been chagrined to find how limited was the supply. The man who formerly was prejudiced against such sources of information must now step aside and make way for progress or unite with the popular demand for more education and better methods.

Cannot afford vs. can afford

Show me the man who says he has no patience for such things, and I will show you a man, like the stroke oar and the lawn mower, who does not believe in moving forward in progress. Show me the man who says he has no time to read of new methods and principles, and I will show you the one who utterly fails to perceive that familiarity with business literature of this kind means pecuniary advancement. Show me the man who says he cannot afford to invest in such a set of books, and I will show you one who apparently CAN afford to waste his energy in misdirected effort—that energy and effort which are to every wage-earner and tradesman both his stock in trade and his invested capital.

Failures unnecessary

Someone has said, “There are three kinds of people in the world—the Can’ts, the Won’ts and the Wills. The first fail at everything; the second oppose everything; the third succeed at everything.” I would add a fourth kind—the largest class of all—the Don’t Trys, the “Oh-what’s-the-use,” “It-doesn’t-interest-me” sort of people. Their name is legion; their fault is lack of confidence. Knowledge is the greatest inspiration of confidence to be found on earth. You may not personally be held in the hope-paralyzing bondage that produces the “Oh-what’s-the-use,” or “I’m-not-interested” germ, but if you are not, you are exceptional. Most people are, and that is the reason that such persons are just about what luck, good fortune or chance make them, succeeding if fortune favors them, failing if they are left to depend upon their own resources. Result: Nine fail where one succeeds.

It is very fortunate, indeed, for most men that so much of their happiness depends upon success. There is nothing on earth quite so terrible to think of as failure, especially that due to lack of effort, unless possibly it be the failure of a man who lacks the courage or initiative to try to make the most of himself, and thus lets his best opportunities escape him. And this last is really the most pitiful thing that can befall a man. It is well enough to plan opportunities, but if we had the wisdom to take advantage of such opportunities as naturally come to us, results would more often be found in the balance on the right side of the ledger. And so I am of the opinion that a clear explanation of why a very large class of people do not succeed is found in some of these expressions—“I don’t care,” “I can’t,” “It doesn’t interest me,” or “Oh, what’s the use.”

Basis of all business success

One of the great objects set forth in this Business Administration series is to supply the positive energy which begets courage, confidence, initiative and success. We want to make you feel the necessity of doing some reading, a little plain thinking, and to make as clear as possible the important things that are involved in the serious but very fine game of business.

With business becoming with each succeeding day more and more of a science, it is high time to understand what is essential to it. Speaking of the subject of “Organized Business,” a great authority recently said, “It is time even for business men to

understand business." Again, the purpose of this course in Business Administration is, if possible, to measure the power and principles of business, to trace their ramifications, define their elements, get hold of their vital fundamentals, and so comprehend them, both in technical detail and as a mighty unit. And I am confident we have done all this. I find that at the foundation, the machinery of business is simple, but whether it is plain or complicated, all who would succeed must make every effort to comprehend it thoroughly. All I care to emphasize at present is the great truth that knowledge, established and classified, is the basis of all business success. This is clearly established in this course of reading, and I am trying to incite your imagination in writing of its merits just as I would endeavor to enable you to realize it if I could talk to you personally right across my desk. The observant man can see clearly the things I am talking about, but to most men the mind's eye perceives not by observation, but only when the imagination is stimulated. So I would stir all men to look earnestly into these things, with a view to their personal betterment.

Business axioms simple to understand

Business is far more than business as it is commonly understood. It is a science, and it is the eager, practical minds of business men that we shall endeavor to convince first of that fact, and our reasons for addressing those principally concerned are especially good. Why? I have found that in writing about business whenever I was able to make the principles so plain that business men understood them, everybody else did, so it is to be expected that if business axioms can be made simple enough for business men to understand them, everyone will apprehend them. Everybody. And it is everybody that we are attempting to reach.

Knowledge is power

For nearly thirty centuries men have recognized the concrete wisdom of Solomon's proverb: "A wise man is strong; yea, a man of knowledge increaseth in strength." Yet we have been slow in making its application universal to the race. But we are beginning to understand that the power inherent in knowledge applies as well to commercial and industrial as to scholastic, political and social life, as well to the counting room as to the pulpit, as well to the shop as to the university, as well to the farm as to the bar. Knowledge is power and is the only source of real intellectual sovereignty that the Creator has ever entrusted to men.

In conclusion, I would say that these words are addressed to the business men of America, and this designation includes the banker and his clerks, the farmer and his sons, the lawyer and the law student, the financier and the man who sells bonds and stocks, the merchant and his clerk, the accountant and the bookkeeper, the manager and his assistants—the ambitious young men of the Twentieth Century type, contemplating the pursuit of any business, trade or occupation.

CONTENTS

BUSINESS ECONOMICS.

PRACTICAL ECONOMICS.

BY ERNEST LUDLOW BOGART, Ph. D.

[Born Yonkers, N. Y., 1870; A. B., A. M., Princeton University, 1890, 1896; Ph. D., University of Halle, 1897; Graduate Student, University of Halle, 1894, 1896-7, University of Berlin, 1894-5, Princeton University (Fellow), 1895-6, Columbia University, 1897-8. Assistant Professor Economics and Social Science, Indiana University, 1898-1900; Professor Economics and Sociology, Oberlin College, 1900-1905; Assistant Professor Economics, History and Politics, Princeton University, 1905-9; Associate Professor Economics, University of Illinois, 1909. Author of Economic History of the United States (Longmans Green & Co., 3rd edition, 1909), and several monographs and periodical articles.]

INTRODUCTION.

In the preparation of this text the author has endeavored to apply the principles of economic science to some of the more important problems of the modern industrial world, and especially those now confronting the people of the United States. He has attempted in doing this above all to make the text practical. The student or teacher of economics will recognize at once that the sections are arranged into groups corresponding with the traditional divisions of economic text-books into production and distribution (land, capital and organization, and labor), consumption, exchange, and the relation of the government to the individual. It is hoped that the text may not be without profit and interest to the general reader as well as the students of the La Salle Extension University.

I. THE MODERN INDUSTRIAL SYSTEM.

We shall probably get the clearest idea of the complexity of our modern industrial society if we contrast it briefly with the simpler state of social organization which preceded it. For this purpose we may take the English manor of the eleventh century. At that time England was a purely agricultural country, and the whole country was [Pg 2] divided into manors, of which the lord was regarded as the owner, under feudal conditions, while those who cultivated the land were his tenants. These tenants—villeins and cotters—worked on the lord's land two or three days in the week, and the rest of the time cultivated their own holdings. The whole of the land of the manor, both that of the lord and that of the tenants, was cultivated on an elaborate system of joint labor. The land was divided into strips of about half an acre each, and a man's holding might consist of a dozen or more of these strips scattered about in different parts of the manor. This was done in order to secure equality in the fertility and location of each man's land. At that time the prevailing method of agriculture was known as the three-field system, in which one field, comprising about one-third of the manor and containing a portion of the scattered strips of the lord and every tenant, was planted with wheat, a second field comprising another third of the cultivated land was planted with barley or oats, while the third field was left fallow. The second year saw the second stage of this three-year rotation, one-third of the manor lying fallow each year to recuperate from this exhausting method of cropping; artificial manures were unknown.

Now the significant characteristics of such a manorial society were three. First, it was economically self-sufficient, that is, practically everything that was needed or was consumed on the manor was produced there. There was no need of intercourse with the outside world and there was little contact with it. Salt, iron, and millstones were almost the only things that the inhabitants of such a manor had to buy from outsiders. Consequently there was no production of goods for a market, little money, and almost no trade. The few things that were purchased were paid for at prices fixed by custom. Secondly, agriculture was carried on under a system of joint labor, and under customary [Pg 3] methods which did not change from generation to generation. It is clear that as long as all the land of the manor was thrown together, for purposes of cultivation, into fields on which were planted wheat or barley or which lay fallow, no one individual could cultivate his land differently from his neighbors. Indeed, the holdings of the different tenants were not even separated by fences, but only by ridges of grass. On the land which lay fallow the cattle were turned out to graze; if any man had attempted to plant a new crop the third year, his neighbors' cattle would have devoured it under such a system. Production was regulated absolutely by custom, and no opportunity was given for the development of the inventiveness or initiative of the progressive individual. Thirdly, the tenants were personally unfree, that is, they did not have the liberty of moving freely from place to place, but were bound to the soil which they cultivated. A man could not freely choose either his occupation or his residence. There was no mobility or freedom of movement. Labor was wholly or partly compulsory, and on terms rigidly fixed by custom or by superior authority.

Such a society differs from that of today in almost every point, and offers a startling proof of how far we have progressed in the past eight or nine hundred years. For many of these characteristics, however, we do not need to go back to the English mediaeval manor; the plantation of the South two generations ago, with its system of slave labor, furnishes an illustration more familiar to most of us. With such a condition of industrial

development we may now profitably contrast our own of the twentieth century. The chief characteristics of the modern industrial system are the institutions of private property, of competition, and of personal liberty.

The institution of private property is so familiar to us and so fundamental in modern economic life, that we commonly regard it as a natural right. Nevertheless, private [Pg 4] property, like most other economic institutions, is the result of a long evolution. Primitive man can hardly have had the conception of private property, and when it did begin to emerge, it was at first confined to movables. Indeed we may say that on the mediaeval English manor the private ownership of land did not yet exist in the modern sense. It was found however that, when each cultivator was permitted to fence in his holding and to call it his own, he cultivated it much more carefully and produced much more. Inclosure led to private property in land and to individual freedom in its use. Today in the United States the possession and transfer of landed property is almost as easy as that of movables. Private property must be justified on the ground of social utility, because under this method of control so much more is produced than under any system of commercial ownership yet tried. But there are not wanting objectors who contend that limits should be placed upon this institution, and that the right of use, of bequest, and possibly of unlimited acquisition should be brought under social control. The beneficence of private property turns largely upon the existence of competition and individual liberty and to these we must now turn.

Competition is defined as “the act of seeking or endeavoring to gain what another is endeavoring to gain at the same time.” But competition in modern industrial life is not merely a struggle to appropriate an existing good. The very contest, as over the control of a market, may and probably will lead to cheaper and larger production, and thus to the benefit of society. Competition is a selective process in our modern economic society, and through it we have the survival of the fittest. “Competition,” so runs the proverb, “is the soul of trade.” There is, to be sure, a dark side to the picture, for economic competition involves the defeat of the weaker party, but this does not necessarily mean his destruction, for his very failure may sharpen his faculties and [Pg 5] secure his ultimate success, or at worst he may find employment under his successful rival. But here again it is being urged that competition is brutal and that we should go back to the mediaeval method of regulation by custom, or resort to combination and monopoly. We are now witnessing experiments in both directions, but competition still remains the controlling force of modern economic society, and bids fair to continue so. It should however be the function of society to raise the ethical level of competition.

Industrial liberty has been developed even more slowly and painfully than the institution of private property, and has in some instances not yet been wholly won. Slavery and serfdom have given way before the higher and more beneficent conception of freedom or liberty. We believe today that a man generally knows what is best for him and will utilize his opportunities to the best advantage; that by giving him a maximum of freedom the welfare of society will at the same time be best promoted. Consequently, in our modern industrial society, a man is given not only social and religious liberty, but is free to move, to choose his occupation, to produce and to trade, to associate with his fellows, and to expend his income as he will. But here again, while the prevailing rule is liberty, society has found it necessary to lay restrictions upon the abuse of this liberty. It is not enough even to regard the industrial world as a great game in which each may act as he pleases provided only he observes the rules of the game. A higher conception of responsibility and duty must accompany freedom of action if we are to secure the best results.

The term “industrial society” has already been frequently used and needs a somewhat fuller explanation. About the year 1760 there took place in England what is usually

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called the Industrial Revolution. A number of inventions were made which rendered it possible to use steam-driven machinery in the manufacture, first of textile and then of other goods. Manufactures were removed from the home, where they had hitherto been carried on, to the factory. Capital began to be used in large masses, machinery displaced hand tools, and the laborer ceased to own the implements with which he worked. Men, machines, and capital were massed in the factory and organized under the management of a new set of industrial organizers for the purpose of producing goods for a world market. The development of such an industrial society has been attended by the minute division of labor, by a growing separation of classes, by concentration of the population in urban centers, by the increasing cost and complexity of machinery, by the development of improved methods of transportation and of credit, by the combination of labor and of capital, by the enormous increase of production, and by the growing concentration of wealth.

The introduction of power manufacture completely revolutionized industry. The independent workman with his own tools was superseded by the factory, the small producer has given way in turn to the trust. With the introduction of expensive machinery it became necessary to organize capital on a large scale. Corporations with limited liability were organized for the manufacture of goods, the exploitation of mines, the building of railroads, and the carrying on of trade. As methods of production improved industry became more and more concentrated, and finally huge trusts took over the operation of combined plants. The business unit has grown increasingly larger, and the need and power of capital have become increasingly important. Capital has played a role of growing significance and has become more and more powerful in modern economic life. Indeed the name “capitalistic production” has been applied to modern industry because of the predominant importance of capital in all lines of wealth production. Impersonal, growing by sheer force of its own momentum, capital is often thought of as intensely selfish and even cruel. Abuses which have arisen in the development of modern capitalistic industry must be remedied, but attacks upon capital itself are misguided and rest upon a mistaken analysis of methods of production.

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Before the introduction of the factory system, under the so-called “domestic” system of industry, the laborer carried on his work in his own home, where he provided the raw material, owned his own tools, furnished the motive power—his muscles—and was his own master. Today every one of these conditions is changed—the work is carried on in the factory, the raw material, the tools, the motive power are all provided by the capitalist, the laborer contributing only his own more or less skilled labor, while the conditions under which he carries on his work are largely determined for him. He is no longer his own master. To protect himself against the growing power of capital the worker has organized with his fellows into trade unions. These seek to meet the monopolistic power of capital by exerting a monopolistic control over labor. While they realize that modern productive processes cannot be carried on without capital, they also insist that labor is equally essential. They claim that capital has received more than its fair share of their joint production and has exploited labor; consequently they insist that labor must now demand its just reward and enforce the claim by strikes and by raising wages. To enforce their monopoly, the policy of the closed shop is often enforced. The interests of capital and labor have thus often been made to appear antagonistic instead of complementary to one another. Frequently in their struggles the interests of the consumer have been entirely lost sight of.

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These conflicts in the productive processes of modern economic society have led many people to look to the state as the regulator of industry and to invoke state aid or state interference along many lines. Maladjustments in the labor contract, mistaken production, leading perhaps to speculation and financial panics, abuses of power by corporate interests, discriminations by railroads, and similar irregularities are made the

excuse for an appeal to state authority. Some would even go so far as to have the state take over and manage all productive enterprises; but socialism is as yet a protest rather than a constructive force. In the last analysis the state is the regulator of all industrial undertakings, for they all concern society. The state must hold the balance even and see that fair play is given to all groups and all classes; but the greatest amount of freedom compatible with economic justice must be sought for. It is a difficult question how far the state must interfere in the conduct or management of industrial enterprises in order to secure social justice. There is a decided tendency at present to a strengthening of the regulative power of the state for the protection of the weaker classes of society. And yet on the whole the institution of private property, free competition, and a maximum of individual liberty remain the fundamental conditions of our economic life.

But while under the system of individualism, industrial activities have been multiplied, wealth has been enormously increased, and human progress has been greatly advanced, many abuses and evils still remain. Many practical economic problems still await solution. Some of these have already been suggested in the preceding paragraphs; others remain to be presented. It is the purpose of this text to apply to some of the more important practical current problems of our modern industrial life the principles of economic science, and to endeavor to reach fair and just conclusions on controverted points.

II. THE AGRICULTURAL RESOURCES OF THE UNITED STATES. [Pg 9]

The land area of the United States, exclusive of Alaska and our island possessions, is a little less than 3,000,000 square miles, or an area somewhat less than the whole of Europe (3,700,000 square miles). Of this about 840,000 square miles, or a little more than one-fourth, still remains in the possession of the Federal Government and constitutes the public domain. The rest belonged to the original thirteen states, has been given to railways or to the states for educational purposes, or has been sold and given away to individual settlers. The policy of the Government in the disposition of the public domain has, on the whole, been to place it as rapidly as possible in the hands of cultivators, and also to use it as a fund to promote internal improvements and education. About 200,000,000 acres had been granted to railroads down to 1871, at which time land grants were discontinued, to secure their early construction. This policy has often been bitterly condemned, and it has been contended that the land should have been saved for actual settlers. It may however be said that without such grants the railroads would not have been built at as early a date as they actually were, and that without railroads the land was practically worthless, as it was too far removed from any navigable waterway to have access to a market. Moreover, the Federal Treasury lost nothing, for the sections of land alternating with those granted to the railroads were sold to settlers for $2.50 an acre instead of $1.25, the customary price for the public lands.

The grants of land for educational purposes have been generally approved. Upon such grants rests the establishment of our state agricultural colleges.

The unique and characteristic feature of the land policy of the United States has been the granting of land to the settler upon actual residence and cultivation for five years. [Pg 10] Such a grant of 160 acres is called a “homestead,” and since 1862 has been made to any citizen who is the head of a family or above the age of twenty-one years. In this way over 230,000,000 acres have been placed without cost in the possession of the actual cultivators. The newer public land states are peopled by proprietors, and there has never grown up in the United States a large class of rich land owners whose land is cultivated by a tenant peasant class, such as exists in England and parts of Europe. For this we must thank not only our land policy, but also the vast extent of unoccupied land that might be had almost for the asking.

Now, however, the public lands available for agriculture have been exhausted; practically all that remains is situated in the arid zone, and needs systematic irrigation before it can be made available for any use except that of grazing. There are still about 100,000,000 acres of choice land in Indian reservations, and as a consequence of the pressure upon this resource and also because of the unwisdom of the old reservation system, the policy has now been adopted of dividing these lands among the Indians in individual ownership, under careful safeguards, and of assimilating the Indians to the rest of the population.

The exhaustion of the fertile and well-watered lands of the Mississippi Valley has forced the later comers to have recourse to the arid soils in the almost rainless region west of the one hundredth meridian of longitude. The character of farming under such climatic conditions must of necessity be very different from what it is in the rainy districts, and the versatility and adaptability of the American farmer is well illustrated by the development which has taken place there. The first effort at the solution of the problem was in irrigation, a method which had been early practised by the Pueblo

Indians, and later and most successfully by the Mormon settlers in Utah. By 1900, according to the census, 7,539,545 acres were under irrigation. While most of the work up to that time had been done by private initiative, a demand arose for irrigation at government expense, in response to which Congress in 1902 provided for the building of irrigation works out of the proceeds of the sales of public lands. Regulation and conservation of the limited water supply by governmental authority, either state or national, is indeed essential to the success of irrigation and will probably be the policy of the future. [Pg 11]

A second and even more interesting development of American agriculture is the so-called dry-farming which is being successfully introduced into the semi-arid regions. Carefully selected seeds and plants of crops especially adapted to these climatic conditions are used, and then a very careful and intensive method of tillage is followed. The soil is plowed deep and thoroughly pulverized so that the roots can strike down to the deeper levels and absorb all the moisture available. Extraordinary results have already been attained, and the region that the older geographies labeled "The Great American Desert" bids fair to become one of the most flourishing districts in the country.

That part of the area of the United States which has already been reduced to private ownership is divided into 5,700,000 farms. As almost half of the land in these farms is uncultivated, being forest, waste land, or pasture, it is evident that there is still room for a great increase in the agricultural production of the United States without bringing additional land into the field. The average size of these farms is 146 acres, which looms large indeed when compared with the 20-acre farms of France and the 60-acre farms of Great Britain. The difference is of course due to the difference in the methods of agriculture and the character of the crops, the European conditions demanding intensive cultivation while our methods are still largely extensive.

A more important question even than the number and size of farms, from an economic point of view, is that of ownership. In 1880, when for the first time the federal census collected the statistics of farm tenure, the gratifying result was announced that three-quarters (74.5 per cent) of the farms in the United States were cultivated by their owners. The last census however showed that the proportion had fallen to 64.7 per cent in 1900, and alarm has been expressed that our democratic conditions of land ownership are giving way to a system of tenantry, that the ownership of our farms is being concentrated in fewer hands, and that methods of large-scale production in agriculture are crushing out the independent farmer as effectively as they have crowded out the small manufacturer and retailer in other fields. Correctly interpreted, however, the statistics seem to indicate that the growth of the tenant class marks the endeavor of farm laborers and farmers' sons to establish themselves as independent farmers rather than the fall of former owners to the rank of tenants. The great majority of the young men are laborers, the majority of those in middle life are tenants, while the older men are for the most part owners of farms. There seems to be a healthy progress upward in the advancement of wage laborers and farmers' children, first to tenancy, and finally, with increased ability and capital, to farm ownership. Moreover most of the rented farms are hired by negroes, the change in whose status from slave to tenant marks a great advance. [Pg 12]

Another change in our farming population that has been viewed with considerable misgiving is the movement from the farm to the city and the decline in the proportion of the agricultural population to the whole. Indeed the change has been startling, as the United States has passed from a primitive agricultural stage of development to a highly organized manufacturing and commercial stage. From 86.3 per cent of the population in 1820 the percentage of those engaged in agriculture fell steadily until it reached 35.7 [Pg 13]

per cent in 1900. Many persons have thought that such a movement indicated the desertion of our farms owing to the greater attraction of the cities, and the disappearance of a healthy agricultural population. It has indicated rather a great improvement in the arts of agriculture, whereby one person today, working with improved machinery and better knowledge, can produce nearly three times as much as his grandfather did. The labor set free has gone to the cities—cities of over 8,000 inhabitants now contain one-third of our population as compared with one-thirtieth one hundred years ago—and there produces the thousand and one things which contribute to our modern well-being. A smaller number can now raise all the food necessary to feed the population; that the rest are free to do other things must certainly be counted again, though the conditions under which work in the factory and life in the city are at present constructed leave much to be desired.

Writing about 1865 an eminent English traveler, Sir S. Morton Pets, apologized for calling the United States an agricultural country; today he would be spared this worry, for the Census of 1900 gave the net value of products of the farm as $3,764,000,000 and of pure manufactures as $5,981,000,000. Indeed since 1890 the value of the manufactures of the country has been larger than of the farm products, and the United States now ranks as one of the leading manufacturing nations of the world. Nevertheless the value and amount of the agricultural products are stupendous; the United States leads all countries in the production of dairy products, corn, and wheat, and the greater part of the lumber, meats, tobacco, and cotton which enter into the world's trade come from her forests and fields.

While the territory of the United States is well adapted by nature to the cultivation of a great variety of agricultural products, as a matter of fact only four branches of [Pg 14] agriculture showed a total product in 1900 of more than one million dollars. These were the raising of live stock, and the production of hay and grain, cotton, and dairy produce. The regional distribution of these products was fairly well marked, over half of the live stock and of the hay and grain farms being situated in the North Central States, nearly half of the dairy farms being located in the North Atlantic division, while practically all the cotton is confined to the southern zone; the same may also be said of tobacco and sugar. The semi-arid region of the West is given over almost exclusively to stock-raising. Iowa and Illinois lead as agricultural states.

The character of agriculture in the United States, as in all new countries, has hitherto been extensive, that is, a small amount of labor and capital has been applied to a relatively large amount of land, and only the cream of the soil has been skimmed off, as it were. Where labor is dear and land is cheap this is the most economical method for the farmer; and, although European critics have severely criticized our system of "earth butchery," whereby the fertility of the soil has been exhausted by constant cropping, with no effort to restore the exhausted properties by fertilizing, the practice has been justified by the conditions which produced it. Already the practical exhaustion of the free public domain has had the effect of raising the price of lands in the Middle West, and this in turn will cause a more careful and intensive system of cultivation. In other words, as our social and industrial conditions approach those of Europe more closely, we may expect our agricultural methods to do so also. One of the most serious practical problems now confronting the American farmer is the change from the old, wasteful, extensive methods to the new, careful, intensive methods of farming. Those who cannot make the change will complain of the unprofitableness of agriculture, but to those who successfully meet the new conditions the future offers much greater rewards than even [Pg 15] the era of free land could produce.

It has been said that the year 1887 marked the beginning of a new stage of development in American agriculture—that of reorganization—because in that year Congress passed

the Experiment Station Act. This marked the application of the principles of experimental science to agriculture on a more comprehensive and systematic scale than had ever been attempted before. Stimulated by the increased activity of the government experiment stations, the agricultural colleges have expanded their work. They are offering practical courses to the farmers, and in co-operation with the railroads, some of them have recently been sending out special lecturers, with moving laboratories, to bring the teachings of science as close home to the producers as possible. Finally, the wonderful work being done by Burbank and others in selecting and crossing, by travelers for the federal Agricultural Department in securing plants from all over the world suited to our varied climatic conditions, and by the experiment stations and agricultural colleges in spreading the new knowledge among the farmers and putting it into actual practice—all these departures promise to revolutionize agriculture, and to make it, as one writer has said, a learned profession.

The production of cereals is the most important branch of agriculture, comprising corn, wheat, oats, barley, rye, buckwheat, and rice. Since the building of the trunk railroads, by which the western territory was given access to a market, the progress of cereal production has been extremely rapid, nor does there seem to be any observable slackening. With the introduction of improved varieties of spring wheat, cereal production is being pushed further up into British Canada and our own Northwest. The center of cereal production has moved steadily westward, from eastern Indiana in 1860 to eastern Iowa in 1900. With the practical exhaustion of unoccupied land suitable for [Pg 16] grain-raising in the United States, it is clear that the future extension of the industry depends rather upon improvements in the methods of agriculture than upon the addition of new lands. The very practical problem here presented to the American farmer if he wishes to maintain his supremacy in the world's markets is being nobly and successfully met by the agricultural experiment stations. They are teaching the farmer how to increase his yield of wheat, for example, by scientific seed selection and more careful methods of tillage, from an average of 12.5 bushels per acre for the whole country in 1900 to treble that amount.

Of the separate crops corn is by far the most important, representing 60 per cent of the total value of all cereals produced in 1900. Most of the corn is fed to stock throughout the so-called "corn belt" and comes to market in the form of pork and beef. Although corn is very nutritious and is a favorite article of diet in this country in various forms, astonishingly little of it is exported. The development of a foreign market still awaits the enterprise of the American farmer and food manufacturer.

The production of live stock is essentially a frontier industry, and while it will probably always be carried on in the semi-arid grazing districts of the West, which can be reclaimed for agriculture only at considerable expense, it already shows a relative decline. Owing to the great growth of the population the domestic demand now consumes almost all the meat produced and the exports are declining. This is one of the reasons for the recent rise in the price of meat. The industry is extensive. Quite the opposite is true of the dairy industry, which is intensive, being carried on for the most part in the vicinity of large cities where land is expensive. The changing character of agriculture and the fact that it is itself a business enterprise demanding a knowledge of market conditions and business methods is well illustrated by the nature of the dairy [Pg 17] industry. Dairies are inspected and must conform to certain standards, the milk must be sterilized and shipped, often by special trains, to the cities. Over a third of the butter and practically all of the cheese is now made in factories instead of on the farm, so that it is a question whether the latter at least should not be classified as a product of manufacture rather than of agriculture.

Of the last of the four important branches of agriculture, namely cotton-raising, there is not so much to be said. Owing to the intensive nature of its cultivation, machinery has never been applied on a large scale to its production, as was done in the case of hay and grain. The wasteful methods that prevailed before the Civil War in the South have been largely corrected, and the tendency to sterility of the soil has been met by the increased use of fertilizers. The statistics of cotton crops for the past thirty years do not indicate any decrease in productiveness, and show that the point of diminishing returns has not yet been reached. A peculiar and interesting feature about cotton production is that it is largely in the hands of tenants. The old slave plantations of the South have been broken up into small holdings and many of these are operated by tenants, negroes and whites, who are too poor or too improvident to buy the land outright. The main problems connected with cotton culture are labor problems; and the question has often been anxiously asked whether the free negro will produce as much as the former slave. This can now be confidently answered in the affirmative, though it yet remains to be seen whether he can be made as efficient a producer as his white competitor. Upon the answer to that question depends not merely the future of cotton production, but the economic salvation of the negro himself. The constantly expanding use of cotton goods assures a brilliant future to the cotton-growing states of the South, for not merely is there an assured market in America and Europe, but the primitive peoples of Asia and Africa may be depended upon to absorb increasing quantities of cotton fabrics. [Pg 18]

Hand in hand with the heedless extensive methods of agriculture in the past went wasteful use and even destruction of our forest resources. The annual cut of lumber in the United States is today about forty billion feet board measure; at this rate of consumption it is estimated that the present available supply will last only 35 to 50 years. It will doubtless surprise most readers to learn that about three-quarters of the annual wood cut is consumed as fuel, probably half of our population still depending upon wood instead of coal for fuel. The rapid exhaustion of our forest supplies, with the attendant effects upon moisture, floods, etc., has brought the question of forest preservation to the front as a practical economic problem. We have been squandering the heritage of our children and efforts are now being made to repair some of the loss before we are declared bankrupt. In 1898 the Federal Government began practical work in the introduction of forestry; this received a great stimulus in 1905 when the care of the national forest reserves, embracing over 60,000,000 acres, was put under the control of the Forest Service. Over 150 trained foresters are employed, who manage the forests on the public lands and co-operate with private owners in the introduction of scientific forestry. Several states have taken up the movement, and there is every indication that scientific methods of culture such as prevail in Prussia and other European states, will supplant our destructive denudation of the land. That it is high time to devote attention to the better conservation of this natural resource is made evident by the high and increasing price of lumber.

There is one other natural resource the conditions of whose supply resemble those of forestry and of agriculture in general; this is the fisheries. With careful use, providing for depreciation, and restoring the elements destroyed, all of these should prove inexhaustible and should continue to furnish man with food and lumber for all time. But as in the case of the other two industries, so with the fisheries, we have been using up our capital and declaring enormous dividends at the expense of the future. The value of the annual catch of fish is $40,000,000, which is exceeded only by that of Great Britain. The problem of the better conservation of this resource has been taken in hand by the Federal Government, through the Fish Commission, and much has been done to repair our early prodigality by restocking lakes and streams with fish. More stringent fish and game laws have also been passed by most of the states, designed to prevent the extermination of the supply. [Pg 19]

III. THE MINERAL RESOURCES OF THE UNITED STATES.

The natural resources of any country may be divided into two broad groups, which call for different treatment and give rise to very different problems. There are, on the one hand, resources which are exhaustible but which can be restored again; and on the other, resources which, once exhausted, can never be replaced again by human agency. Under the first head come the soil, the forests, the fisheries, and even the water power, for all of these can be made to yield steady returns to man for thousands of years, if used intelligently. Under the second head belong coal, petroleum, natural gas, and all the minerals; man may discover substitutes, he may economize in the use of these substances, but he can never augment their supply. In the previous section we considered some of the problems that arise in the use of the soil in agriculture, and those connected with our forests and fisheries. For the most part they had to do with the intelligent use of these agencies and the restoration or repair of the elements destroyed. In this section we are met by a very different problem, namely, the conservation of a limited supply of resources and their most economical application to the needs of mankind. [Pg 20]

We can distinguish two contrasting answers to this problem, one careless and optimistic, and the other pessimistic and fearful of the future. According to the former point of view we should not borrow trouble of the future; man's career has been one of constant progress; when he has been confronted with a difficulty he has invariably met it. Indeed necessity has been the most prolific mother of invention. If our coal supplies are exhausted, man will devise means of utilizing the heat of the sun, the force of the tides, the motion of the waves, the stores of electrical energy in the air, all of which will yield inexhaustible supplies of heat and energy. If our stores of iron should fail, some enterprising inventor would surely discover a practicable and commercially profitable method of extracting aluminum from clay. New sources of raw materials will undoubtedly be discovered before the old ones give out, and we may confidently expect that, while the material bases of a high civilization may shift somewhat, they will never crumble and fall.

The other school has sounded a louder note of alarm. At the present rate of consumption the coal and iron deposits of Europe and America must soon be exhausted. The supplies of copper, lead, and other metals in favorable locations are also being consumed at an alarming rate, and no other known supplies are in sight. Within the past century scientific knowledge and engineering skill have combined to unlock the storehouses of the geologic ages, and now like prodigals we are dissipating our fortunes. To treat these exhaustible sources of supply as permanent sources of income, without regard for the future, is based upon unsound theory and must lead to reckless practice.

As so often in opposing counsels, there is an element of truth in each of these contrasting points of view. But the safer plan is not to wait until we have exhausted our natural resources before remedying the evil, but to heed the warnings now. A long step in this direction was taken in May, 1908, when a conference of the governors of all the states, together with college and railroad presidents, business men and others, was held at the White House upon invitation of President Roosevelt. As a result of this gathering a National Conservation Commission was appointed, which will make an exhaustive investigation into the amount and rate of consumption of the natural resources of the country and suggest measures for their better utilization and preservation through [Pg 21]

national, state, and local action. In line with this movement two other commissions have been established, one on inland waterways and one on country life. As a result of the national awakening we may expect to see a more rational use made of the gifts of nature, and a better organization of our national life. Heretofore the ideal of our business men has been to exploit, one might almost say pillage, the stores of nature as rapidly as possible; it was a pioneer stage of industry, inevitable but wasteful. From now on the new conception must be the restoration where possible of exhausted elements, as of the soil and the forests, and the careful use of the non-renewable stores of wealth so that at least we shall not make them engines of destruction, as in the case of floods and devastation occasioned by careless hydraulic mining in the West. Let us now turn to a more detailed consideration of the separate items in our inventory of national wealth.

Our modern civilization may be said to rest upon coal, for upon its possession depends man's ability to utilize most of the other items of his wealth. Passing over its utility as a fuel to heat our houses, without coal it would be impossible to smelt the iron needed in all our industries, to drive the machinery, to run our locomotives or steamboats, or in a word to carry on the manifold activities of our industrial life. [Pg 22] According to the United States Geological Survey there are 335,000 square miles of coal-bearing strata in this country, but the larger part of it is too thin or impure to be useful for industrial purposes; it serves in many localities however as domestic fuel, as in the case of the lignite deposits of the Northwest. An estimate of Professor Tarr places the coal-producing area in the United States at not over 50,000 square miles. At the present rate of consumption—over 350,000,000 tons in 1905—it has been estimated that the anthracite coal deposits will last for only fifty years longer, while we have only enough bituminous coal for one hundred years.

The large deposits of coal in England and their early development gave that country a great advantage over Europe. But as long ago as 1861 Professor Jevons, a noted English economist, sounded a note of alarm: he prophesied that because of the superior size and character of the coal deposits of America, industrial supremacy must inevitably pass to this country. His prediction has already been verified in the case of coal and iron production, and will probably soon prove true of textiles also. The coal deposits of the United States are thirty-seven times as great as those of England, but at the present rate of mining are threatened with exhaustion at no distant date. It has been estimated that there are in China coal deposits capable of supplying the world with fuel for another thousand years. But such estimates are, in the present state of our knowledge about China, the merest guesses, and if true would seem to point rather to the future industrial supremacy of that country in the world's markets.

Two-thirds of the coal mined in the United States is obtained from the Appalachian field, extending from New York to Alabama, Pennsylvania being the largest coal-producing state in the Union. [Pg 23] In the iron and steel industries most of the coal is coked, as it is better for blast-furnace use in this form, giving greater heat and containing less sulphur or other injurious substances than coal. Owing to the smaller bulk and cost of transporting ore, most of the iron and steel industries are situated in the vicinity of the coal supply, as in Pennsylvania, Ohio, Alabama, etc.

Petroleum or coal-oil is closely allied to coal in its origin and distribution and must be classed with it as a most important product, not only for industrial uses, but also because of the contributions it has made to the comforts of living. In its production the United States ranks first, being closely followed by Russia; together these two countries furnish over 90 per cent of the world's supply of petroleum. Enormous economies have been effected in its production and distribution, which is done by piping the crude oil underground to the refineries. For illuminating purposes it is the

cheapest form of artificial light; as a fuel it is supplanting coal, where the latter is dear or its cost of carriage high, as on ocean steamers. Finally, the construction of light and convenient gasoline motors has given it great importance as a source of motive power. Natural gas is closely related to petroleum, but the supply has been so reduced by rapid and reckless use that it has but a limited economic outlook and is of local significance only.

Of all the metals iron must be considered the most useful for man, far surpassing the so-called precious metals in economic importance. Its great value is so evident that its production and use have often been taken as a criterion of the material progress of a community. Iron is the only metal that can be welded, and is accordingly of great significance, whether in making strong machinery, as the shafts of ocean steamships or the framework of a twenty-story building, or, in the form of steel, the most delicate surgical instruments or watch springs. Judged by the test of iron ore production the [Pg 24] United States ranks high, for it turns out about four-fifths of the world's supply; all of this is used for domestic consumption, in its own blast furnaces, though much of it is afterwards exported in the form of pig iron or structural iron or steel. Though iron is universally distributed throughout creation, it must occur in large beds or deposits before it can be profitably mined. "The most favorable situation of an iron ore for profitable extraction is near good coking coal for smelting and limestone for a flux, as in the Birmingham district of Alabama; and in such a situation even low-grade ores can be worked profitably. Unless this is the case, iron ore cannot be extensively mined excepting under conditions of great abundance and economical methods of transportation, as in the Lake Superior district, where thick and remarkably uniform beds of good ore occur in such a position that water transportation to the market is possible. Where these conditions do not exist, iron-mining is feasible only on a small scale for the local market. Thus, in the Rocky Mountains there are almost inexhaustible supplies of iron, often of a high grade, which are at present of no value whatsoever."[1]

The most wonderful iron-mining region in the United States and probably in the world lies in the northern part of Michigan and Minnesota, where five ranges or lines of hills contain immense deposits. These lie so near the surface that they can be dug out of open pits at a cost of from 10 to 50 cents a ton, against $1 a ton in a shaft or underground mine. Three-quarters of the iron ore produced in the United States is mined in this district. Its proximity to the lake ports makes possible its transportation to the iron and steel manufacturing centers at very low rates. Machinery has been applied on an immense scale to the work of mining, loading and unloading the ore. Steam [Pg 25] shovels scoop up the ore from the open pit, filling cars at the rate of almost one a minute; the work of loading this into the ore ships at the ports is equally expeditious, only about two hours being required to load an ore ship of 6,000 tons, while the work of unloading is performed for the most part by an endless chain of buckets and traveling cranes. By these means an ultra-intensive exploitation of these magnificent deposits is taking place and it is a question whether they will not soon be exhausted. "But the Americans," writes Professor Leroy-Beaulieu, a friendly but keen critic of our industrial development, "relying on the constant good-will of nature, are confident that they will discover either new and productive ranges in this district, or rich deposits in other districts."

The precious metals have received more than their fair share of attention, for the industrial progress of the world is much less dependent upon their presence in large and easily obtained quantities than it is upon the more common metals. Nevertheless they are of importance both in the arts and especially because of their use as money. In their production the United States stands second, being surpassed in the output of gold by the Transvaal in Africa and in that of silver by Mexico. The production of these metals has always in the world's history proceeded spasmodically, and a speculative spirit has

usually been present. More recently, however, scientific geological knowledge and improved metallurgical methods are removing the industry of gold and silver mining from a gambling venture to a legitimate industry. The practical problem at present confronting American gold-mining companies is to reduce expenses, some of the principal bearings having for some years shown signs of exhaustion, as for instance in the Cripple Creek district of Colorado. There is always a chance however that new gold fields may be discovered to make good the exhaustion of the old. In the case of silver, on the other hand, the metal is found in such abundance that the present rate of production seems almost indefinitely assured; a slight increase of the price or improvements in the art of extracting the metal will at any time bring enlarged supplies on the market. Africa, Australia, and the United States produce almost all the world's supply of gold, Colorado being the leading state in the last-named country. Mexico and the United States together produce over two-thirds of the world's silver, the leading rank in this country being held by Montana.

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Among the other metals copper is by far the most important. In primitive civilizations, before the art of smelting iron had been discovered, copper was indispensable as it was so easily malleable; in Homeric times, for instance, armor, utensils, money, etc., were made of copper or alloys of copper (bronze and brass). After an eclipse of some centuries copper has again risen to the front rank by reason of its qualities as a conductor of electricity. The new use of electricity to transmit power and the development of electrical industries has greatly increased the demand for this metal and has caused a great expansion in its production. Here again the United States holds first rank, contributing over half of the world's copper supply. As in the case of iron the northern peninsula of Michigan is the most important center of copper production, with Montana a close second and Arizona contributing most of the remainder. Like petroleum, copper production is controlled by a small number of operators, five mining companies alone furnishing one-half of the American supply. It is far from being monopolized, however, as petroleum is, for new and rich supplies lie just on the margin of profitable working and will always be brought into the market whenever the price is artificially raised. One reason for American pre-eminence, aside from the rich stores of the metal, lies in the progress made in the art of refining it by the electrolytic process, considerable foreign ore being brought here to be treated by this method.

Nature has not blessed the United States so abundantly with the minor metals, lead, zinc, and aluminum, while almost all the tin used here has to be imported.

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It is apparent from even this brief and hasty survey of the mineral resources of the United States, comprising those extractive industries which once exhausted can never be restored by man, that this country is wonderfully well equipped with the material means of civilization. Minerals and metals are remarkably abundant and accessible. The wonderful material progress of the United States during the nineteenth century is abundantly explained by this fact, though due credit must also be given to the enterprise, industry, and genius of those who developed these natural resources. The industrial supremacy of the American nation seems well assured, founded on such a stable material basis. We of this country have been rather inclined to boast of our industrial progress and our material bigness, whereas it must now be apparent that we owe much, if not most, to the bounty of nature. We should therefore see to it, in a proper spirit of humility and thoughtfulness, that we do not waste our heritage, but hand it on as nearly undiminished as possible to our children.

There is one other asset in our national wealth which has already contributed much to our progress, and is destined to play an even more important role in the future—and that is our water power. In colonial days, before the invention of the steam engine and the use of coal, this was of prime importance and determined the location of many a

town, most of them being located at the “fall line” of the rivers, where water power was obtainable. With the invention of the steam engine and the use of steam as a motive power, industry became less dependent upon water power and moved away from the rivers to the vicinity of coal mines. Now again has come another swing of the pendulum, and with the rise of electricity as a motive power and the harnessing of our streams and waterfalls for the creation of electrical energy, we are beginning to value more highly this source of power. Here again we find the United States wonderfully blessed as compared with other countries. “It is probable,” says Shaler, “that, measured in horse power or by manufactured products, the energy derived from the streams of this country is already more valuable than those of all other lands put together.” The total amount of direct water power used by manufacturing establishments in 1900 was 1,727,000 horsepower.

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Prior to 1890 the largest use of water power was in its direct application to machinery at the immediate point of development. Since that time, however, the use of electricity as an agency whereby the energy developed by falling water can be transformed and applied to the driving of machinery has entirely changed the conditions under which the power of our streams can be utilized. The practical possibility of transmitting electrical power over long distances—for example, over 200 miles from the Sierras to San Francisco—has removed the necessity of building factories immediately adjacent to water powers, but permits its utilization where most convenient and often where the lack of coal has made the use of steam power impracticable. The best-known example of the development and transmission of electrical energy for industrial purposes is the case of Niagara Falls, but more striking illustrations may be found on the Pacific coast, while the existence of enormous opportunities on the Atlantic seaboard give brilliant promise for the future of manufacturing in this region. So valuable indeed are these sources of power now seen to be that there is danger that their control may be monopolized by a few shrewd and far-sighted individuals before the general public awakes to a realization of their importance. It has recently been asserted in a reputable magazine that there is a “water power trust” already organized for this purpose. The opportunities for wealth-getting have hitherto been so great in this country, and the great task of the American people has thus far been so exclusively the task of developing its wonderful natural resources, that we have grown careless of our common rights and have permitted the monopolization by private individuals of a number of limited resources of this character. One of the great practical problems of the future is that of securing the growing value of these natural monopolies to the whole people, without at the same time retarding the energy and industrial development of the American people.

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IV. CAPITALISTIC PRODUCTION.

Modern production is usually called capitalistic because it involves in its processes the use of a large amount of capital. In a primitive stage of culture man appropriated directly from nature's bounty the food and shelter which he required. But today man has adopted long and roundabout methods of producing goods, involving numerous steps between his first efforts and the turning out of the finished articles. He invents tools and machinery to assist him in his work, and while he multiplies the processes of production he also enormously increases the results. Capital has become absolutely indispensable in modern production and is yearly playing a more important role. At the same time various problems, born of the new conditions, have arisen, such as the growth of large-scale production, the elimination of the small producer and the independent artisan, the growth of trusts, the rhythmic recurrence of speculative periods and industrial crises, the relations of labor and capital, and others similar in character.

The most striking phenomenon of the nineteenth century was the great industrial progress of the more developed nations; this is best shown in a table taken from Mulhall's "Industries and Wealth of Nations," which follows:

Growth of Manufactures in the Nineteenth Century. [Pg 30]

Countries	Millions of Dollars.			
	1820	1840	1860	1894
United Kingdom	1,411	1,883	2,808	4,263
France	1,168	1,606	2,092	2,900
Germany	900	1,484	1,995	3,357
Austria	511	852	1,129	1,596
Other States	1,654	2,516	3,455	5,236
Europe	5,644	8,341	11,479	17,352
United States	268	467	1,907	9,498
Total	5,912	8,808	13,386	26,850

Extraordinary as has been this universal growth, the development of manufactures in the United States has been still more marvelous, both absolutely and in relation to other branches of industry Between 1850 and 1900 the population and the products of agriculture both trebled; but the value of manufactured products increased twelvefold and that of capital invested in manufactures nineteenfold The United States, though politically younger than the countries of Europe, is industrially one of the most advanced The application of labor-saving machinery and of improved and economical methods of production and distribution has probably proceeded further here than in any other place Nowhere can we study to better advantage, therefore, than in America the problems that have grown out of this advanced capitalism

The causes of this rapid industrial development are enumerated by the census report as five in number: the agricultural resources of the country, the mineral resources, the highly developed transportation facilities, the freedom of trade between states and territories, and the absence of inherited and over-conservative ideas We have already

considered the wonderful agricultural and mineral resources of the country, and have seen how greatly the American people are indebted for their industrial prosperity to the bounty of nature. The magnificent system of inland waterways, comprising over 18,000 miles of navigable rivers, and the railroad system, with over 200,000 miles of track, facilitate a rapid and cheap exchange of products. The enormous domestic market afforded the American manufacturer, larger in consuming capacity than that in any other country in the world, has permitted the economic production of goods on a large scale and a consequent reduction in cost. Foreigners have often asked the question why, if freedom from tariffs and trade restraints has been a good thing within the United States, freedom of trade with other countries would not prove equally advantageous. In answer to this, James G. Blaine, formerly Secretary of State, wrote, "It is the enjoyment of free trade and protection at the same time which has contributed to the unexampled development and marvelous prosperity of the United States." Finally, the absence of tradition and of over-conservative ideas handed down from a former and more primitive system of industry has been a great boon. There have been developed traits of energy, inventiveness, and ingenuity, which, aided by a universal system of compulsory free education, have contributed greatly to the material progress of the people. [Pg 31]

The system under which the production of wealth in a modern industrial nation is carried on is usually called the factory system, and to this we must now turn, for it is in the factory that the utilization of machinery and capital finds its greatest development. The term is not easily defined, but we may adopt the description given by the late Carroll D. Wright: "A factory is an establishment where several workmen are collected for the purpose of obtaining greater and cheaper conveniences of labor than they could procure in their own homes, for producing results by their combined efforts which they could not accomplish separately, and for preventing the loss occasioned by carrying articles from place to place during the several necessary processes to complete their manufacture." The essential elements in such a system are the minute division of labor, the large use of labor-saving machinery, the increasing specialization and localization of industry, and the concentration of production in fewer and larger establishments with consequent increase of product and reduction of cost. [Pg 32]

The division of labor may mean either the separation of occupation or the division of a process into minute parts. An illustration of separation of occupations may be found in the manufacture of a carriage: one factory produces hubs, another wheels, a third axles, a fourth the body, a fifth manufactures upholstery, a sixth the hardware, and a seventh (the carriage factory, so-called) assembles the parts and places the completed product on the market in the form of a carriage.

As an example of an extreme division of labor the slaughtering and meat-packing industry offers a classical example, though in this case the use of complex machinery is not involved. "It would be difficult," writes Professor Commons,[2] "to find another industry where division of labor has been so ingeniously and microscopically worked out. The animal has been surveyed and laid off like a map; and the men have been classified in over thirty specialties and twenty rates of pay, from 16 cents to 50 cents an hour. The 50-cent man is restricted to using the knife on the most delicate parts of the hide (floorman) or to using the axe in splitting the backbone (splitter) and, wherever a less skilled man can be slipped in at 18 cents, 18½ cents, 20 cents, 21 cents, 22½ cents, 24 cents, 25 cents, and so on, a place is made for him, and an occupation mapped out. In working on the hide alone there are nine positions, at eight different rates of pay. A 20-cent man pulls off the tail, a 22½-cent man pounds off another part where the hide separates readily, and the knife of the 40-cent man cuts a different texture and has a different 'feel' from that of the 50-cent man. Skill has become specialized to fit the anatomy." [Pg 33]

Usually, however, when the division of labor becomes as minute as that described, the routine-like process is handed over to a machine. Indeed Mr. John A. Hobson states as a law of machine industry the fact that as soon as a process becomes perfectly automatic and mechanical a machine is invented which can do the work better and more rapidly than human hands. Hand in hand, therefore, with the subdivision of labor goes the extension of labor-saving machinery. Labor becomes relatively of less importance than capital in the new methods of production, and man becomes a machine tender rather than an independent producer. There are practical benefits and disadvantages connected with this system. Many writers insist that the effect on the worker is narrowing in the extreme, but Professor Marshall points out that his labor as tender of a machine demands a higher order of intellectual development than that of a handicraftsman, and that he has more leisure, while the product of the present system is immeasurably greater than under the old hand methods. The manufacture of products by machinery has in turn required the making of machines by machinery, as the complex machines of today could not be turned out by hand methods. A characteristic feature of the modern factory system therefore has been the growth of the machine trades, which supply the equipment of the new industry.

With the growing specialization of industry there has gone on an increasing localization in some favored spot or locality. Thus most of the collars and cuffs (85 per cent) manufactured in the United States are made in Troy, N. Y.; 64 per cent of the oyster canning is carried on in Baltimore; 54 per cent of the gloves are made in Gloversville, N. Y.; 48 per cent of the coke in Connellsville, Pa.; 48 per cent of the brassware in [Pg 34] Waterbury, Conn.; and 46 per cent of the carpets in Philadelphia. While there are undoubted advantages in such localization and specialization in a particular industry, such as reputation, growth of special skill, etc., there are also offsetting disadvantages, as the complete prostration of the whole community if the particular trade upon which it depends is disastrously affected by trade depression or by a shifting of the industry to some other locality.

More striking than the concentration of manufactures in particular places has been its concentration in a few large establishments and under the control of fewer individuals. Without entering into the discussion, as yet, of the trust problem, we may at this time take up the earlier and important tendency of industry to be conducted on a large scale. This concentration into a relatively smaller number of establishments has been going on pretty steadily since 1850 and shows no signs of abatement at this time. In the case of the iron and steel industries, cotton manufactures, and leather goods, the movement is positively startling, an actual decrease in the number of establishments having occurred in the half century. This is most marked in the monopolized industries. At the same time there has gone on an enormous increase in the size of the individual plant, in the capital employed, the number of men employed, and the value of the product. Almost the only industries which have not yet displayed this tendency are those which are essentially local in their nature, as grist mills, cheese and butter factories, etc. But in general it is characteristic of manufactures in the United States. The same tendency has been manifest in the countries of Europe, though there a system of well-developed and fairly vigorous hand trades has resisted the movement and made the development in this respect much less rapid than in this country.

Large-scale production is more profitable than production on a small scale in all [Pg 35] industries which are subject to increasing returns. By this is meant that the return in product for each additional dollar’s worth of labor and capital employed grows greater the larger the scale on which the enterprise is conducted. When this is true the big enterprise will be able to undersell the little enterprises and eventually to drive them out of business. This is true not only in the competitive industries, but also in those which enjoy a legal or a natural monopoly, as street railways, gas and water plants, etc.,

all of which show an irresistible tendency to consolidation. Before drawing any conclusions as to the desirability of such a movement, let us examine some of the economies of large-scale production. The most striking and the most important is the economy in fixed capital. Concentration is a result of machine production. As machinery becomes more expensive, the breaking up of the processes of manufacture into small parts requires more complex and detailed machinery; a larger outlay is requisite for an up-to-date plant. Thus the average amount of capital invested in each iron and steel establishment in the United States increased from $47,000 in 1850 to $858,000 in 1900. The head of a steel company in Pittsburg recently testified before the Industrial Commission that to build and equip a plant for the manufacture of iron and steel under modern conditions would call for an investment of from $20,000,000 to $30,000,000. It is clear that under such conditions of expensive machine methods a small plant would have little chance of existence. Steam railways afford another good illustration of an industry in which enormous economies are effected by the concentration of a number of small, independent lines under one unified control. Every machine is utilized to the utmost; there is no needless duplication of machinery such as would occur if several small plants divided up the business, while expensive machines to carry on relatively small processes can be profitably installed. [Pg 36]

But other economies than those in the use of capital are present in large-scale production. A large concern can hire more expensive and better managers, can afford to experiment with new methods, can effect a more minute and economical division of labor, as for example in the slaughtering business above referred to. A striking economy can also be effected in the utilization of what were formerly waste products, and still are in small concerns. This has been carried furthest in the oil-refining and meat-packing industries; a recent statement of Swift and Co., for instance, alleged that the dividends on the stock were paid out of the by-products, such as neatsfoot oil, land fertilizer, glue, fats, etc. Owing, however, to the generally wasteful methods prevailing in the United States not so much attention has been given to this point as in England and Germany. A final economy may be mentioned that can be secured by a large business, namely, carrying on allied or subsidiary processes. Thus the Standard Oil Company builds its own pipe lines, makes its own barrels, tin cans, pumps, tanks, sulphuric acid, etc.

Such an extension in the size of the single establishment would of course not have been possible if improvements in the arts of communication and transportation had not at the same time immensely widened the market. As long as the market was local, and a factory could afford to send its goods over only a limited territory there was of course a fixed limit to the expansion of that industry. Now, however, when markets are often world-wide and the demand for goods has so enormously increased, while the modern railway and steamship can transport goods cheaply and quickly half around the globe, enterprises can be expanded and carried on on a scale commensurate with the expanded market and improved methods. It is clear then that the tendency to production on a [Pg 37] large scale is the logical result of machine methods, that it secures great economies, and that in industries of increasing returns it is absolutely inevitable.

But not only in manufacturing is this movement observable. More recently concentration in large establishments has revolutionized the retail trade. Department stores have supplanted the small shops because they can buy on better terms, get transportation cheaper, offer a greater variety to the customer at a lower price, and save time and trouble to the customer. The growing ease of communication with central shopping districts, the rapid changes in fashion with the consequent large variety which only a large establishment could afford to carry—all these factors have helped along the movement. There are limits to such a movement, for small tradesmen will always hold the repairing trades, and the sale of perishable goods; thus there are no businesses

so scattered as the small stores of the "butchers and grocers." But on the whole we may safely conclude that the small storekeeper is doomed now just as the small manufacturer was two or three decades ago. In the carrying trade country carriers and a few cabmen in the cities are the only survivals of the small independent business; the steam railroad and the electric railway have driven the small carrier out of business. In agriculture alone, where concentration is strictly limited by the necessity for intensive cultivation, and in professional and personal service, where the very nature of the business prevents it, is there little or no development in the direction of large-scale methods.

The industrial and social effects of this development have been marked in all countries. In the United States the main attention has been given to the organization and development of machinery, and a wonderful industrial advance has followed the movement. The economic readjustments have consequently been made with comparative ease, and the labor set free by the invention of new machines has been [Pg 38] reabsorbed in the same or other industries. Consequently the social effects have not been so marked as to call for special emphasis; as the same question presents itself, however, in connection with the more recent trust movement we may profitably defer its discussion to the next section.

There is one other characteristic feature of modern capitalistic machine industry which deserves special mention, especially as its development has been carried furthest in the United States. Reference is made to the system of standardization and of interchangeable parts. In no single feature is the contrast between modern machine methods and those of the old hand trades greater. By standardization is meant the production of so-called "standard products" according to some acceptable size, form, or shape. In the manufacture of screws or iron beams, or even ready-made clothing, for example, certain dimensions and sizes which are best adapted for general use, are selected as standard sizes and these are then turned out in large quantities by automatic machinery. The advantages of such a system, in cheapness, quickness of delivery, ability to replace a single broken part, etc., are numerous and manifest. "The possibilities of standardization are strikingly shown in a recent international incident. The Egyptian Government desired a bridge for the Atbara at the earliest possible moment; inquiry was made of the English bridgemakers, but no promise of prompt delivery could be secured. Within twenty-seven days after the tender of the contract was made to an American firm the bridge was ready for shipment. The feat, not a remarkable one, was due to the standardization of bridge material. This in itself was a guarantee of quick delivery and construction."[3]

Standardization was followed by the system of interchangeable parts, according to which each part of an intricate machine or product is made exactly like the same part in [Pg 39] every other machine. The parts can thus be turned out in large quantities and "assembled" at a single operation. From the standpoint of the consumer or user of the machines thus made, the great merit of the system lies in the fact that he can quickly and at small expense duplicate any broken part. It is today applied to almost every product of large consumption, from agricultural implements and steam engines to watches and nails. By producing machinery on this plan it has been possible for American manufacturers to extend their trade very materially in foreign lands. It was recently reported in the newspapers that Mr. E. H. Harriman had expended $65,000,000 in standardizing the equipment on his railroad systems; while this sum is enormous, it will undoubtedly be justified by the increased economy of repairs and operation.

V. TRUSTS AND MONOPOLIES.

We have already seen how production upon a large scale has superseded production upon a small scale in most important branches of manufactures. We have now to inquire whether production upon a large scale is in turn to be supplanted by single consolidated enterprises, by those combinations of capital known as trusts. Under one of these three conditions industry must be carried on; few people wish to revert to the stage when production was carried on in small establishments, but warm controversy and difference of opinion still exist as to whether centralized management by a single company or combination offers superior advantages to production by independent competing establishments. The concentration of production in a few large establishments has been followed by the consolidation of these larger units into a single whole. Since the days of Adam Smith capital has tended to combine for the purpose of fixing prices, and these combinations have passed through several phases. The earliest [Pg 40] form is the agreement of independent concerns to fix prices, as was done by the American railroads in their early traffic agreements. The next step was to divide the field, as has been done by the French railways and the American express companies. A third phase of combination was the pool, which attempted to regulate the output rather than to fix the price or divide the field. Railway, whisky, beam, and other pools were organized for this purpose, but all broke down because of the difficulty of enforcing the agreement and the temptations to each member to break it secretly for the sake of the large profits obtainable. By this time it had become clear that if a real permanent consolidation of interests was to be secured by the competing enterprises some closer form of combination must be devised which could not be broken at will by any member. An industrial union and not a loose confederation must be attained. Accordingly the next step was taken in 1882 by the formation of the Standard Oil Trust, so called because the constituent concerns handed over their business to the complete control of a central board of trustees, receiving in return trust certificates which entitled them to dividends. Similar "trusts" were formed in the whisky, sugar, and other industries, but were speedily declared illegal by the federal Supreme Court. By this decision the form of combination was changed, but the movement was not at all checked. The next phase and the last was the establishment of holding corporations, which are organized to buy up and hold the stock of a number of individual corporations, which still retain their corporate existence. In this way unity of control is secured, to which is added a certain flexibility; but it is really the trust under another legal form. Where pooling and combination by means of holding companies have been forbidden by law, as in the case of railroad companies, actual consolidation has often taken place, though when trusts are spoken of the other form of combination is more [Pg 41] often meant. From the point of view of business organization the holding company is simply an extension of the principle of the corporation, and to a consideration of this we must therefore turn.

There are three classes of establishments by which industry is carried on—those that are the property of an individual, those which belong to partnerships or firms of unlimited liability, and those belonging to corporations of limited liability. The usefulness of the individual system is of course limited to small undertakings, where but little capital and credit are necessary; this form of organization still dominates the field in agriculture, in the small retail trade, and in the repairing industries. The partnership is a joint undertaking by two or more individuals, and makes larger enterprises possible, but as each individual is liable for all obligations of the firm or his partners his personal liability is greatly increased. While it is well adapted to certain

undertakings, as moderate mercantile establishments and professional firms, owing to a certain elasticity in the contractual relations of its members, it is not suited to large industrial ventures, both because of the excessive personal liability, and because of the necessity of dissolving the partnership upon the death, withdrawal, or insolvency of any member. The advantage of the corporation lies in the fact that it has a continuous existence, and that the liability of the shareholders is limited to the amount of capital actually contributed by each; it is well adapted to modern enterprise because it permits the summation of large amounts of capital from a number of small savers and centralizes the use of this capital in the most economical manner. There may thus be concentration of management without concentration of ownership. The federal census of manufactures in 1905 showed that, although less than one-quarter of the manufacturing establishments were organized as corporations, yet they produced three-quarters of the total manufactures in money value. In the field of transportation, corporations are in almost exclusive control, most banks and insurance companies are organized under this form, while mercantile and industrial undertakings are being more and more generally organized as corporations. Not merely are most of our business enterprises being conducted under corporate form and organization, but most recently, as has been already pointed out, there has been a movement to combine individual corporations into larger concerns, or trusts. The trust is usually thought of as a monopoly and, while not necessarily so, it usually does exercise monopoly control; but for the present we shall consider the trust problem from the standpoint of business organization, deferring to the end of the section the discussion of monopoly.

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The trust movement may be said to have begun with the formation of the Standard Oil Trust in 1882, but down to 1898 its progress was slow. Beginning with the revival of prosperity in 1898, however, there ensued a veritable stampede of business managers to enter into combinations. During the next three years 149 large combinations, with a capital of over $3,000,000,000, were formed. The movement spent most of its force by 1902, though it is by no means at an end yet, as the recent floating of the Dry Goods Trust indicates. A few figures from reliable authorities will make clear the extent of the movement. According to the New York Journal of Commerce, industrial (i.e., manufacturing and commercial) and gas trusts were organized in the United States between 1860 and 1900, not including combinations in banking, shipping, railroads, etc., as shown in the accompanying table.

Another more recent list by John Moody[4] gives the number of “industrial” trusts organized down to Jan. 1, 1904, as 318; these have acquired or control 5,288 plants, and have a total nominal capital of $7,246,342,533. A movement so general and widespread, and of such gigantic proportions, must have had some powerful and intelligible causes behind. For it was not confined to the United States, but was equally observable in such industrial diverse countries as England, France, Germany, Russia, and other European nations.

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Decade.	Number Organized.	Total Nominal Capital.
1860-69	2	$ 13,000,000
1870-79	4	135,000,000
1880-89	18	288,000,000
1890-99	157	3,150,000,000
Total, 40 years	181	$3,586,000,000

The most important and general cause was the desire to secure the legitimate economies of large-scale production. A combined or federated industry may secure even greater economies than a single large factory. These have been concisely stated as follows[5]: “The cost of management, amount of stock carried, advertising, cost of selling the product, may all be smaller per unit of product. A large aggregation can control credit better and escape loss from bad debts. By regulating and equalizing the output in the different localities, it can run more nearly full time. Being acquainted with the entire situation it can reduce the friction. A strong combination has advantages in shipment. It can have a clearing-house for orders and ship from the nearest source of supply. The least efficient factories can be first closed when demand falls off. Factories can be specialized to produce that for which each is best fitted. The magnitude of the industry and its presence in different localities strengthens its influence with the railroads. Its political as well as its economic power is increased.”

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Many of these economies of production are not new to these trusts, but have been secured equally by large-scale manufacturing establishments. Some of the savings, especially in buying raw material and marketing their products, are peculiar to the trusts and mark a more efficient mode of organization than mere concentration of industry in single large establishments. Thus, it has been found possible to dispense with a great number of traveling salesmen, of whom it was said that 30,000 lost their positions in the year 1898 alone. When the whisky trust was formed only twelve of the eight distilleries entering into the combination were kept running, but as these were the largest, best located and best equipped, and were run at their full capacity, they were able to turn out as much as all had done before and at an immense economy. The saving of cross freights by having an order filled from the plant most conveniently located is considerable; Mr. Gates estimated the saving of the American Steel and Wire Company in this single point at $500,000 a year. Such an economy could not be secured by a single establishment, no matter how well organized or on how large a scale. The specialization of particular factories to do special processes is well illustrated by the organization of the United States Steel Corporation.

The growth of this latter combination is an example not only of consolidation, but of the integration of industry, that is, the grouping together under one control of a whole series of industries. From the mining of the ore and coal, through the processes of carrying it to the furnaces, coking the coal and making the pig iron, manufacturing the latter into the finished forms of iron and steel products, and down to the marketing of the latter, every step is carried on under the control of the United States Steel Corporation. The assets of the company were stated as follows soon after its organization, and illustrate the magnitude and scope of its operations:

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Iron and Bessemer ore properties	$ 700,000,000
Plants, mills, machinery, etc.	300,000,000
Coal and coke fields	100,000,000
Railroads, ships, etc.	80,000,000
Blast furnaces	48,000,000
Natural gas fields	20,000,000
Limestone properties	4,000,000
Cash and cash assets	148,251,000
Total	$1,400,281,000

In addition to economies due to improvements in methods of organization, production and marketing, another cause for the sudden and vigorous outburst of trust promotion in the years 1898-1902 may be found in the profits to be secured by promoters and organizers. After the successful launching of the first few trusts, with their undoubted economies and advantages, the movement was taken in hand by professional promoters, who organized combinations, often with the help of underwriters, in every branch of industry where there was any promise of profit. That many of these were artificial or premature is evident from the financial results: of the 183 industrial combinations enumerated by the census in 1900, one-third paid no dividends whatever after their formation and another one-third paid no dividends to the holders of common stock. As an indication of the profits obtained by the successful trust promoter may be cited the testimony given before the Industrial Commission in the case of the Tin Plate Trust stating that this promoter realized from $2,000,000 to $3,000,000 profit from the undertaking. When to this is added the profit obtained by the owners of the constituent plants, which were usually taken over by the trust at an exorbitant valuation, it is clear that the stimulus of financial gain was probably stronger in many cases than that of economy in production. The bill was of course paid in most cases by the investing public, which absorbed large amounts of industrials in the years of their active promotion.

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Other causes have sometimes been adduced to explain the growth of combinations, such as the tariff and railroad freight discriminations, but these are too local in their influence to explain adequately the world-wide movement toward combination. Trusts exist in free-trade England, and in Germany where freight discriminations on the state-owned railroads are practically unknown. It is, however, true that in the United States both these factors have been of decisive importance in building up certain powerful trusts. “There can be no doubt,” said the conservative report of the Industrial Commission, “that in early times special favors from railroads were a prominent factor, probably the most important factor, in building up some of the largest combinations. The receipt of discriminating favors from railroads has been conceded repeatedly by representatives of the combinations themselves.” The Standard Oil, beef, coffee, steel, and other trusts may be cited as illustrations. In the matter of the tariff Mr. Havemeyer’s statement that “the mother of all trusts is the customs tariff law” may be set down as the rather peevish utterance of a disappointed beneficiary; but there is no doubt that combination has been made easier behind the tariff wall. Instance the sugar trust itself, the leather, steel, tin plate, and others.

Let us now turn to some of the effects of industrial combinations, which we may classify according as they bear upon competitors and producers of raw materials, labor, and consumers. As the number of competitors is reduced the fierceness of competition among those remaining in the field is greatly increased, for the value of the prize to the

successful enterprise is correspondingly greater. It is not surprising therefore that at times this rivalry should have assumed unethical if not actually illegal forms. The practice by some trusts of fixing prices below cost at some strategic point in order to crush out a troublesome competitor, and then correspondingly raising them elsewhere so as not to sustain any loss, is serious because so subtle. Prof. John B. Clark regards this as so serious an evil that he would have the Constitution amended in order that power might be given the Federal Government to prevent it. The producers of raw materials, as cattlemen, crude oil and coal producers, sugar and tobacco growers, and others, complain that the prices at which they sell their products are dictated to them by the trusts, which are practically the sole purchasers of what they have produced. They claim that prices are depressed to the lowest point possible and that every gain from increase of demand goes into the pockets of the trust managers. It may of course be answered that the trust cannot depress prices below the point at which a living profit can be secured by the producer of the raw material or he will stop producing, but there is no doubt but that the monopoly power possessed by the trust in such cases will sometimes be used to the disadvantage of those whose product it alone buys.

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The effects upon labor of the organization of capital in combined industries and under centralized control are more complex. As trusts have superseded single corporations because this mode of industrial organization was more economical, we must expect to find that one of the economies was the displacement of labor. The discharge of traveling salesmen has already been spoken of; with the consolidation of various plants under one control other high-priced men were let go—managers, superintendents, etc. The same thing was true at the other end of the industrial scale and thousands of workmen, usually the least efficient and capable, were deprived of work. The natural consequences of these combinations and economies were not clearly apparent at the time, because they were happily coincident with a period of business expansion and prosperity which reabsorbed into the industrial organism most of the displaced workers. Another phase of the relation between trusts and labor is that of their effect upon wages. In general it may be said that there are only two sources out of which an increase of wages can be paid, and these are the profits of the business organizer and manager or the increased product of the business itself, and of these two only the latter can serve as a permanent source of higher wages. Now it is pretty evident that labor has not been in a position to force the trust magnates to forego their profits. On the other hand, wages in industries carried on by industrial combinations have risen, and it must therefore have been because there was more produced and consequently more to be divided. If the inefficient workers were discharged and only the best ones retained by the trusts, here is one explanation why they could afford to pay high wages—they paid more because they got more done. As yet labor has not admitted that it is unable to cope with these industrial combinations; it has however demanded that it be allowed to combine on a national scale and to bargain collectively for united labor with combined capital.

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The discussion of the effects of trusts upon the consumer leads at once to the discussion of their effects upon prices, for it is through the agency of price that the trust touches the ordinary man. The advantages claimed by trust organizers are economies of production and lowered cost; but the vital question to the consumer is whether lowered cost increases profits or reduces prices. On this point the Industrial Commission reaches the following conclusion: “that in most cases the combination has exerted an appreciable power over prices, and in practically all cases it has increased the margin between raw materials and finished products. Since there is reason to believe that the cost of production over a period of years has lessened, the conclusion is inevitable that the combinations have been able to increase their profits.” Moreover the power over prices was greatest during certain periods when the control of the combinations was greatest. The problem therefore resolves itself into the question, are trusts monopolies?

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While a categorical answer cannot be given to this, it may safely be affirmed that all trusts try to be monopolies. Nor is it necessary to control the production, sale, or purchase of a commodity absolutely in order to exercise monopoly power; the control of 50 or 60 per cent may suffice to secure virtual monopoly. The purpose of a monopoly is so to fix the price that it will obtain the maximum net profit. It is conceivable that this result may be attained by lowering the monopoly price below the point of the competitive price, but this is unusual. In general a monopoly price has meant a high price, and a high price has meant a restriction of the output. Where that has been the result of trust control, society has been injured, for not only has it not shared in the economies of production but it actually gets less and has to pay more than it would have done under competition. It may be said, however, that even in the case of the greatest monopoly there is always the specter of potential competition threatening its profits, while the possibility of substituting some other commodity for the monopolized article protects the consumer from too great extortion and keeps the price within limits. Absolute control over price is never exercised by any monopoly. Nevertheless, we may fairly conclude, in the words of Henry D. Lloyd, that "monopoly is business at the end of its journey," control over prices is the object of combination.

There remains to be considered another charge of monopoly which has been brought against the trust, the monopoly of opportunity or the suppression of individual initiative. It is no longer possible, it is claimed, for the man of small means, even with good talents, to engage in business for himself: he must accept some subordinate position in a corporation where his individuality is checked and his power of initiative does not find free play. So far as this is true it would seem to be the result not so much [Pg 50] of the trust movement as of large-scale production. We have seen that the tendency of machine production is to enlarge the business unit and to call for the investment of constantly larger amounts of capital in up-to-date establishments. Some writers even point out that the average business man who engages in business on his own account fails, and that he should therefore be grateful if more efficient producers offer him a remunerative and steady salaried position. Without insisting upon this point it may still fairly be noted that there are large fields of enterprise that lie outside the area of monopolistic control. "Large-scale production is best adapted to articles that can be turned out in large quantities according to uniform patterns and standards; individual initiative is still free in those lines of production that call for artistic ability or appeal to individual tastes, or which, like agriculture, are dependent upon variable conditions."[6]

There are, however, other evils connected with trust organization and management that are more easily remediable and that call for legislative regulation. "The evils of combination, remedied by regulative legislation," concludes the report of the Industrial Commission,[7] "come chiefly from two sources: (1) the more or less complete exercise of the power of monopoly; (2) deception of the public through secrecy or false information." Various remedies have been suggested to meet the first class of evils, those of monopoly, generally in the direction of strengthening the powers of the Federal Government. We have however no lack of legislation on this subject already: thirty-four states and territories have passed anti-trust laws, and the federal Anti-Trust Law of 1890 explicitly provides that "every contract, combination in the form of a trust or otherwise, or conspiracy in restraint of trade or commerce among the several states, or with foreign nations, is hereby declared illegal." The severe restrictive measures of the [Pg 51] states have been largely nullified by the loose legislation of three or four "charter granting" states, in which 95 per cent of all the trusts have accordingly been chartered, while the federal enactments have been found very difficult to enforce. It is not easy to define or to prove monopoly or conspiracy in restraint of trade. The second class of evils has been met by statutes requiring publicity and more definitely fixing the responsibility of corporation officials. Such measures of control must be the first step toward intelligent regulation, and are to be commended as thoroughly reasonable. The

establishment of the federal Bureau of Corporations with power to “investigate” industrial corporations engaged in interstate commerce has already led to the publication of some valuable reports. We must first proceed along the lines of publicity and intelligent information before we attempt more drastic remedies.

VI. SPECULATION AND CRISES.

An unavoidable element of risk enters into all modern business. In the old handicraft stage of industry goods were made upon order; demand preceded supply very definitely, and there was little possibility of mistakes in production. Nowadays, as we have seen, production is for a distant and often uncertain market. It is carried on by machine methods and roundabout processes; sometimes the result is a very remote one and the uncertainty of success is correspondingly great. Production is not based upon order, but upon a forecast of the possible demand, upon a future market. Chance and change are inseparable from productive enterprise—natural chances from the elements, political changes, as war or unfavorable legislation, industrial mistakes or sickness or death of oneself or others, and economic changes, as the invention of a new machine or a change in fashion. These are the unavoidable incidents in industry and are not under [Pg 52] the control of the individual business. Some of them, however, are so regularly recurrent that they can be foretold on a large scale for any industrial society, and can be guarded against by insurance. Everyone recognizes the desirability of having such risks as those of fire, shipwreck, lightning, death, etc., assumed by certain individuals or companies who make a business of such risk-taking. A small premium is paid by the individual for protection, and he is freed from anxiety from mischance and is able to devote his whole energies and capital to his business; the insurance company has specialized in this one department and by equalizing the chances over a wide field has practically eliminated them. In doing this it performs a service of recognized and undoubted social value.

There is another kind of risk-taking the social utility of which is not at first sight so clear. Among the chances of productive enterprise are those due to the rise and fall in the prices of the raw materials, the labor, and the finished product between the time when the process of production is begun and the time when it is completed. Every farmer, every manufacturer, every student even who invests capital in his own education, is to some extent a speculator. Along certain lines he can protect himself by insurance, but that is not possible in all. Is there no way, then, by which he can guard himself against price fluctuations and assure himself of the legitimate gains of his business? This, it may be answered, is the function of the speculator in modern business, and in performing this service he is benefiting society in much the same way that the insurance company does. We must, however, clearly distinguish between legitimate and illegitimate speculation; we are discussing only the former.

One way in which the speculative risk attaching to price fluctuations is reduced for the manufacturer and assumed by the speculator is by the establishment of a continuous [Pg 53] open market, as the stock and produce exchanges. If a miller, for instance, engages to deliver flour a year hence and expects to begin milling in six months, he must know at what price he can buy his wheat when he needs it, or his anticipated gain may be turned into a loss by an unexpected rise in the price of wheat. He is able, however, to buy a "future" in wheat on the produce exchange from some broker who makes a specialty of this business. He buys his needed wheat now for delivery six months hence, and on the basis of this price is able to accept an order for his flour a year from now, allowing himself a fair profit as a miller but wholly eliminating the speculative risk of price fluctuations. Or a building contractor, before making an estimate of the cost of erecting a structure, will secure options at definite prices from dealers on the materials he will require. So, too, in the iron and steel business it is customary for manufacturers to contract in advance for materials at the same time that they accept orders for the

delivery of the finished products. In all these cases the business of dealing in futures is assumed by a particular class, who have developed a special skill and ability in forecasting price variations, and who can do so very accurately. It is not a matter of luck or chance, but the result of wide knowledge and careful study. “To foretell the price of wheat one must know the rainfall in India, the condition of the crop in Argentina, must be in touch as nearly as possible with every unit of supply that will come into the market.” Sometimes the speculators make mistakes, but they are certainly less apt to do so than men who are without their special talent and training.

The social value of this service lies in the equalization of demand and supply between the present and future that is thereby effected. Let us take as an illustration the case of the miller cited above. If at the time he accepts the order for flour the price of wheat is high, he will be inclined to charge a high price. But the wheat broker, foreseeing that [Pg 54] there is going to be an abundant crop six months hence, engages to sell him his wheat for future delivery at a low price, and he is thereby enabled to sell his flour at a lower price. At the same time the price of the wheat on hand at the present time, instead of being held and sold at famine prices, is consumed for present needs at moderate prices. The operations of the wheat brokers in such a case have a very steadying influence on prices, preventing the oscillation between very high prices in times of scarcity and very low prices in times of glut. It must be admitted that dealings in futures are highly speculative; “but it must be remembered that it is not merely the dealings in futures, but the future itself, that is uncertain. If such dealings can be confined to the men most competent to make accurate predictions, their tendency will clearly be to lessen the uncertainties of business.”[8] But closely connected with legitimate speculation or risk-taking by a specialized and trained class, there is, as our stock and produce exchanges are actually conducted, a large amount of illegitimate speculation, and to this we may now turn for a brief consideration.

The facilities offered by the open markets on the exchanges and the practice of dealing in futures are taken advantage of by many who, without any special training or opportunities of knowing the market, simply bet on the price movements. Brokers are willing to buy and sell produce or stocks for their customers if the latter will put up with them a margin of about 10 per cent to protect them from loss. It is therefore possible for a person with little capital and no knowledge to speculate on a margin, buying what he does not want and selling what he does not own. In practice it is impossible to distinguish between those dealings in which actual delivery is intended (legitimate speculation) and those in which no such delivery is contemplated (gambling), and consequently most efforts to regulate transactions on the exchanges [Pg 55] have failed to accomplish their purpose. The purification of their methods would seem to lie with the members of such exchanges themselves. The contention has often been made that these fictitious transactions in such commodities as wheat or corn or cotton create an artificial reduction in prices, since the professional gambler usually sells short or “bears” the market, and that this injuriously affects the farmer. This is manifestly untenable, since every fictitious sale must be balanced by a fictitious purchase. What actually takes place is simply a bet between the two parties to such a transaction on the actual course of prices and of itself does not affect prices, except in the unusual case of a “corner.” There is, however, great possibility of evil in the presence of a crowd of uninformed speculators, for they can greatly increase the power of an unscrupulous operator who can persuade them to follow his lead. Their presence, too, increases the temptation to such a man to rig the market. Under present conditions the abuses of speculation are more in evidence than the economic advantages. How to confine speculation to the small group of risk-takers who have special training and aptitude for it, and to prevent gambling on the stock and produce exchanges is one of the economic problems of the day.

One of the most striking phenomena of modern industry is the frequent and violent convulsions of business known as crises. They are characteristic of all commercially advanced countries and are generally most marked in those countries which are most advanced. They are a product of modern methods of capitalistic production and are essentially a phenomenon of the nineteenth century. A crisis in its last analysis is the result of a lack of adjustment between production and consumption, due primarily to mistakes in production. It is significant that crises usually occur in periods of business prosperity when credit is easy, prices high, and employment general. Such a period of [Pg 56] business prosperity and rising credit may have been begun by a series of good harvests. The demand for manufactured commodities increases, prices rise, manufacturers enlarge their factories or engage in new enterprises, wages and profits go up. Many speculators, seeing the rise, and thinking it will continue, borrow money to buy goods with the expectation of selling again at a profit. Credit operations are expanded to a dangerous extent, and when at last a shock to confidence occurs the house of cards collapses and a painful liquidation and readjustment of industry ensues. The state of trade, in the words of Lord Overstone, "revolves apparently in an established cycle. First we find it in a state of quiescence—next improvement, growing confidence, prosperity, excitement, over-trading, convulsion, pressure, stagnation, distress, ending again in quiescence."

The immediate occasion of a crisis is always a shock to credit or confidence. Such a shock, begun perhaps by the failure of a bank or merchant, creates a demand for ready money. No one is sure that his neighbor will remain solvent. Everyone accordingly tries to secure himself against loss by enlarging his cash reserve and thus lessens the supply for others. Now modern industry is carried on by means of credit. There is at no one time enough money in the country to meet all obligations expressed in terms of money. Considerably over three-fourths of the larger commercial transactions in the United States are carried on by means of credit. If everyone tries at the same time to get actual cash, there is simply not enough money in the country to go around. This increase of demand and diminution in the supply of money forces up the interest rate on short-time loans. Money—actual cash—is needed by many people to meet immediate engagements and they are willing to pay almost any price for it. In the last panic the rates for call money went up to over 100 per cent and in many cities in the United [Pg 57] States clearing-house certificates and other substitutes for money were issued for use in ordinary retail trade. But even at high rates money can often not be borrowed. Many merchants and manufacturers are compelled to sell their goods at a sacrifice in order to obtain it. Vast quantities of goods and securities are thrown on the market just when investors and consumers feel least able to purchase. The result is a fall in prices. Such a fall in prices lowers profits. Enterprises have been started and engagements made on the supposition that prices would continue at the old high level. When they fall it is impossible to pay interest out of current earnings. Foreclosures and readjustments take place. There is a general liquidation and reorganization of industry. When interest contracts have been adjusted, then the effect on wages begins to be felt. As long as a manufacturer is struggling to maintain his credit he will keep his factory going, but when he has failed and perhaps been foreclosed, then the factory stops. Men are thrown out of work, and wages—the price of labor—fall. Labor troubles usually mark the end of such a period of readjustment.

This stage marks the end of the crisis and the beginning of a period of depression or "hard times," which continues for a longer or shorter period. The panic of 1893 was followed by a long-continued depression which lasted until 1897, a period which was marked by low prices and slack work. In 1898 began a revival of business and an era of marked prosperity set in which continued for almost ten years, interrupted only slightly by a "Wall Street panic" in 1903. In October, 1907, a severe crisis occurred, recovery from which, however, has been remarkably rapid. The periodicity which has attended

crises in the past is so marked—occurring as they have at intervals of about ten years—that many writers consider them inevitable. As the easiest way to answer this question we may take up three main theories as to the causes of crises. [Pg 58]

A much quoted, but now generally discredited, theory is that of W. S. Jevons, a noted English economist, who ascribed crises to sun-spots. Every ten years and a fraction there occur outbursts of electrical and heat energy on the sun, which we call sun-spots. These result in increased heat waves, which affect the crops on the earth, causing enlarged harvests in Europe and the United States and drought and famine in India and the tropics. The large harvests and good prices start a wave of prosperity and speculation, which culminates inevitably in a panic and depression, until a recurrence of the heat phenomenon starts the cycle again. The theory states some undoubted facts, but no causal connection between sun-spots and crises can be traced, as the latter are too irregular and the two do not always coincide. Were this theory true crises would be beyond human control.

A second theory, or group of theories, are those which attribute crises to over-production. Under modern conditions of industry a small group of men direct industry and determine what shall be produced. They try to estimate future demand and to adjust production to consumption, but they often make mistakes. They divert capital into unproductive industries, they produce the wrong things and create a comparative glut in certain lines, and when they cannot sell their goods at a profitable price they fail and precipitate a crisis. Industry must then be reorganized and frequently control be put in the hands of other men. A variation has been given this theory by the socialists, under the leadership of Rodbertus, who insist that the reason that there is over-production is because of the institution of private property. Since the capitalists own all the tools of production they pay the laborers only starvation wages. The latter cannot possibly buy all that is produced and commodities consequently heap up in the warehouses until they are thrown upon the market to be sold at any price. Then a panic occurs and a readjustment of production. [Pg 59]

The last of these theories regards a crisis as essentially due to a failure of credit. It is seen that a large part of modern industry is carried on by borrowed capital, by roundabout processes and for a distant market and not upon order. That is, the success of a business depends upon its ability to sell its goods when produced. Now the aggregate volume of transactions that can be carried on in a year, so runs the theory, depends upon the efficiency of the credit system; that is, in general, upon the freedom with which banks are willing to loan money to people who engage to repay it in the future out of their ventures. If for any reason the banks reduce this accommodation the amount of business that can be transacted upon borrowed capital is lessened. Either some transactions must stop or prices must fall. Either of these events causes commercial disaster. The contraction of credit makes it impossible to get the goods into the right hands, and so we have the phenomena of over-production in a great many lines. As exchange and transportation have developed and markets widened, crises have become more universal. According to this theory, they are inseparably connected with the use of credit and can be controlled only by a more careful granting of credit by the banks to industrial managers. Another phase of the credit theory is presented by those who insist that the cause of crises is the rhythmic overestimation of the profits to be secured out of certain lines of production, or their over-capitalization. The new enterprises are financed by the banks on the basis of this mistaken over-capitalization, their organizers engage to pay rates of interest which they cannot earn, and the crash inevitably follows. This is often called the over-capitalization theory, and is essentially psychological in its character.

There is no doubt as to the truth contained in this last theory. It helps to explain the rhythmic periodicity of crises. After every period of business depression confidence revives and hope is renewed; overestimation of the success of new ventures is inevitable. Then follows a mistaken investment of capital in certain lines of production, as in railroads in 1884, and a relative over-production at profitable prices of certain commodities. The true explanation seems to be found in a combination of the over-production and over-capitalization theories. [Pg 60]

The practical problem that presents itself in this connection is the question as to whether it is possible to prevent the recurrence of crises. In view of the explanation just given it would seem that they must be regarded as unpreventable as long as industry is carried on under the competitive capitalistic system of production and the modern credit system. Moreover, crops differ in amount from year to year and probably always will. Human production and human genius are unequal. Crises may be regarded as the price a progressive society pays for its advance, and they may be expected to recur pretty regularly at periodic intervals. Their disastrous effects may, however, be greatly lessened by wise currency legislation, by greater care in granting credit, and by greater wisdom in the direction of individual effort.

VII. THE MODERN WAGE SYSTEM.

We have already characterized the modern system of industry as capitalistic, that is, as involving the use of expensive and complex machinery in factories under the control of the capitalist managers of industry. As we have seen, such a system has caused an enormous increase in the production of wealth; it has also raised the general standard of comfort and the level of wages, and has relieved labor to a considerable extent of the deadly strain of hard manual toil that was characteristic of preceding systems. The factory system, under which capitalistic production is now carried on, may also fairly be credited with other beneficial results: as steadiness and punctuality are essential, it [Pg 61] has on the whole led to increased sobriety and temperance; the work in general is healthier, being performed under better sanitary conditions than under the old domestic system; the intellectual status of the workingman has been raised, as vastly more intelligence is required of a skilled machine operator than of the old-time hand laborer; and finally the general well-being of the working class has been improved, as they have shared in the larger production made possible by machine methods. But, on the other hand, the new processes and methods have been accompanied by great abuses, though never so great in this country as in England. Long hours, the employment of women and children, the weakened economic position of the laborer, fluctuations in production, liability to be without employment, industrial accidents, the abolition of personal ties between employer and employe, the crowding of workmen into a small space to work by day and their concentration in city tenements by night—these are some of the problems for which the factory system must be held responsible. The condition and position of labor have been vitally affected. So far we have considered mainly the problems connected with the organization and use of capital. We must now take up the various questions connected with the relation of labor to capital and to the capitalistic system of production.

One of the most vital factors in the situation—which we must frankly admit at the start —is the existence in modern industrial society of a distinct wage-earning class. It is perfectly obvious that under present conditions of production great capital or great ability is necessary in order to become the manager of an industrial enterprise. Most laborers do not possess either the one or the other of these, and although there are fortunate examples of industrial leaders who have risen from the ranks, the general rule is, once a wage-earner always a wage-earner. The number of those who can achieve [Pg 62] industrial independence is moreover growing smaller as business becomes more specialized and centralized. The laborer therefore belongs to a class, which is rapidly developing what the German socialists call class-consciousness, that is, the feeling that he belongs to a distinct industrial group with interests different from and often antagonistic to those of other groups or classes. In his struggles with employers over wages this antagonism of immediate aims obscures the deeper mutuality and interdependence of their really complementary interests and not infrequently leads to a feeling of hostility, finding expression in strikes and labor agitation.

In the transition to the factory system Mr. John A. Hobson[9] points out that the position of the laborer has been one of increasing dependence in the following five important points: (1) The ownership of material—at first the worker owned this and made it into the finished product, but now he has only a passing interest in a small part of the process of working it up. (2) Ownership of tools—he retained these up to the time of the introduction of machinery, but now seldom owns them. (3) Control of productive power—with the displacement of hand labor and muscular power by steam-driven

machinery, he no longer owns even this. (4) Relations between workers and employers —they were formerly on an equality; under the guild system the master and the apprentice had the same social position; now the laborer has sunk in the scale, or the employer has risen, until the only bond between them is, as Carlyle said, the "cash nexus." A case was recently instanced where a workingman who had been working in a factory met his employer for the first time at the end of seventeen years. (5) Workplace [Pg 63] —until the establishment of the factory system this had always been the home; now it is the factory, and there is a complete divorcement between work and the home.

Another characteristic of modern industry from the labor point of view is the existence not merely of a wage-earning class, but, more fundamental, of the wage system. "It is characteristic of the modern industrial system," writes President Hadley,[10] "that a laborer who owns no capital, though nominally free to do what he pleases, must actually find some property owner who will give him enough to keep him alive during the period which must elapse between the rendering of the labor and the sale of the finished product. Under such circumstances, the laborer almost inevitably submits to the direction of the property owner in deciding how his labor shall be applied. Laborers without capital must necessarily work on this basis; even those who have small amounts of capital habitually do so. Such advances of capital are known as wages." Here we have the essence of the wage system in a nut shell. The laborer sells his labor to an employer for a stipulated wage. He has a commodity, his labor, consisting of a certain amount of strength and skill, which he is free to dispose of on the market to the best advantage, as the owner of any other commodity might do. Legally, labor is property. Owing, however, to the fact that all modern production requires capital, the only buyer of his labor is a capitalist, who directs the way in which the labor shall be applied. Such a condition, as well as some peculiarities of the commodity labor leave the laborer, indeed, only "nominally" free. In theory the labor contract is a perfectly free contract, entered into voluntarily by both employer and wage-earner, and the courts have generally insisted that this theoretical freedom must be maintained. In practice various modifications of the theory have taken place: legislation has been passed protecting laborers from bargaining away their rights, and trade unions have [Pg 64] been formed to bargain collectively for a group of laborers. In the last analysis, however, the laborer must support himself by the sale of his labor; society guarantees him neither a living nor even the right to work. He is a bargainer in a competitive industrial world and he must assume the responsibility of providing for himself and his family by securing work. Just what is involved in such a statement is perhaps best brought out by comparing the modern wage system with previous systems of labor.

The first historical system of labor, aside from that in the family, was that of slaves. In this case the labor was forced, and being given under coercion was probably very inefficient; but the laborer was at least assured of a minimum of food, clothes and shelter. Slavery was the main source of manual labor in the ancient world, and did not disappear in England until the eleventh century. The feudal system of the Middle Ages was characterized by serfdom, according to which the laborer was bound to the soil and was compelled to render his lord certain services. Gradually serfdom was broken down and the wage system took its place, although remnants of serfdom remained in England until the eighteenth century. Four centuries before this, however, the disintegration of the feudal society had already begun, the serfdom of the agricultural laborer was commuted into regular money payments, and the artisan bought or otherwise secured his freedom from feudal exactions. In the towns industry was regulated by the guilds, and while at first they were distinctly beneficial, in time they became monopolistic and oppressive. Power was lodged in the hands of the wealthy traders and merchants and they legislated in their own behalf against the growing class of laborers, as did the wealthy land owners against the agricultural laborers. The Statute of Laborers and other acts sought to fix wages and to prevent the freedom of the laborer in moving about or [Pg 65]

choosing his own occupation. Not indeed until the nineteenth century were the last of these old regulative laws repealed and the modern labor contract recognized in law and practice as a free contract. “The growth of labor,” says Brentano, has been “from the system of authority to the system of contract.” The system of authority, by which rates of wages, length of apprenticeship, and other details of industry were fixed by some superior authority, was found to be restrictive, uneconomic and unjust, and it gave way to the principle of economic freedom. According to the newer theory, first given effective voice by Adam Smith, in 1776, the individual should be left to himself, as he knows his own interest better than does the most enlightened government. The freest scope was given to the powers of individuals and each was to be the unlimited master of himself and his possessions.

It has since been found necessary, however, to modify both the theory and practice of this extreme individualism in order to protect the interests of various classes of society, especially the laborer. The legal theory still is that “today the labor contract is perfectly free: either side may make whatever contract he can get the other side to sign. Not only this, but either side may freely combine to demand any form of contract from the other side, as mere combinations alone are now made perfectly legal.”[11] In practice, however, this complete freedom has been greatly modified by factory acts, acts restricting the hours and conditions of employment of women and children, anti-truck acts, laws providing for weekly payments, guarding of machinery, limiting the hours of labor, and on the other hand prohibiting intimidation and molesting. For the most part these laws have applied to women and children, who are thought less capable of guarding their own interests, and to a much less degree to labor contracts made by men, who have been considered better able to make equal contracts with employers. But concerning certain conditions of employment it has been realized that even adult males are not capable of securing equitable bargains, and along these lines the nominal freedom of the labor contract has been decidedly abridged. The attitude of the courts toward such legislation shows that they have declared many laws unconstitutional on the ground that they infringe upon the right of free contract, but in the long run seem inclined to uphold as much of this restrictive legislation as seems necessary to obviate the undoubtedly evil results that flow from this real inequality of employer and laborer.

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It is a very vital and important practical economic problem that presents itself in this connection. How far shall we carry this regulative principle, or how far shall we insist upon the principle of freedom? Many labor leaders are again asking for an effectual control of the labor contract, not by the action of trade unions, but by the direct legislation of the state. What shall be our attitude to this demand? Before we can fairly answer this question we must consider somewhat more fully the character of the bargain that takes place between an employer and an individual workman, and the nature of the commodity that the laborer has to sell.

It has already been stated that the commodity which the laborer brings upon the market is his labor, that is, himself, his time, and his energies. But these wares are peculiar and differ in several important respects from ordinary marketable commodities. In the first place, labor is like a perishable commodity which must be sold at once if the owner is not to incur loss. The laborer has usually little if any capital by which to support himself in case he cannot find work, and may be compelled to make a forced sale of his labor, that is, to accept unduly low wages. In this respect then he is at a disadvantage in bargaining with his employer. A second peculiarity of the sale of labor is that the laborer and his work are inseparable. The seller of an ordinary commodity disposes of it absolutely when he makes a sale. “It matters nothing to the seller of bricks whether they are to be used in building a palace or a sewer; but it matters a great deal to the seller of labor, who undertakes to perform a task of given difficulty, whether or not the place in which it is to be done is a wholesome and a pleasant one, or whether or not his

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associates will be such as he cares to have." The person who buys this labor necessarily directs the application of it to the task in hand, and thus controls very largely the place, the sanitary and social conditions, the hours, the character, and safety of the work. In the third place, the superior knowledge and intelligence of the employers gives them an advantage in bargaining with their employes, while the reluctance of employers to "spoil the labor market" often prevents that freedom of competition which is supposed to secure to the laborer his full share of the product he helps to produce.

In view of these facts we may fairly conclude that workmen are inferior to employers as bargainers and that protective legislation is necessary in order to put them on a real equality. "When laborers have to make a forced sale of their labor, their freedom of contract is more nominal than real. When women and children stand individually before the manager of hundreds of thousands of capital, it is possible that there may be little freedom and less equality in the contract by which they sell their services."[12] It is clear that between two parties of such unequal knowledge, resources and ability as a laborer and his employer the labor contract cannot be entirely free and equal. While trade unions, by combining isolated workmen into formidable and unified groups, have immeasurably increased their bargaining strength, yet legislation has also been found necessary to remedy the disadvantages already enumerated. It is realized that "there is no greater inequality than the equal treatment of unequals." In the opening section of this text attention was called to the fact that economic freedom or liberty was one of the corner stones of our modern industrial society. But freedom can best be secured by securing equality and responsibility. Factory legislation and labor laws are designed to correct the inequalities imposed by nature or involved in the very nature of capitalistic production. Direct interference by the state in the freedom of contract is justified as leading to a more real and certain equality and liberty. But while we may thoroughly approve the principle of labor legislation it is difficult to know at what point we should stop. A leading American authority on the law of labor has stated[13] that "the industrial laborer at least is beginning to be a privileged class in the law." On the other hand, it was possible for Disraeli to say as late as 1875, after the passage of the Employers and Workmen Act by the British Parliament, "for the first time in the history of this country employer and employed sit under equal laws"—so recently were the legal disabilities removed under which the English workmen had suffered up to this time.[14] The pendulum has swung so rapidly and so far in labor's direction in the last generation that it is a fair question how far it will—or should—continue to go.

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VIII. LABOR ORGANIZATIONS AND COLLECTIVE BARGAINING.

As modern capitalistic production caused the growth of a distinct wage-earning class and brought about a sharp separation between employers and laborers, and as the latter [Pg 69] were thrown upon their own resources under the prevailing theories of free competition and free contract, it was inevitable that they should organize to secure their interests as a class. The growth of labor organizations has been greatest in those countries where the laborer has been forced to depend mostly upon his own efforts for protection and improvement, namely, in England and the United States. On the continent of Europe, on the other hand, where the individual has been accustomed to look to the government for the redress of industrial grievances, there has been a much less vigorous and spontaneous development of such organizations. They are a product of the nineteenth century and had their origin in modern machine production.

The growth of labor organizations in the United States has proceeded hand in hand with the industrial development of this country, and has been especially rapid since the Civil War. Two distinct types of trade unions may be noted—the local and the national (or international) unions. The former, which comprises members who live and work in the same locality, is the primary unit, and dates back to the beginning of the century. Each local union, even when subordinate to a national organization, is a self-governing unit, and is absolutely democratic. Its relation to the national body has been well compared to that of one of our states to the United States. The first national union was not formed until 1850, but now these far surpass the locals in importance. Their government is representative, as they are made up of local unions. The great majority of the national trade unions are bound together in the powerful federal organization, the American Federation of Labor. The membership of this body numbers considerably over 1,000,000, while the railroad unions, which are not connected with it, claim about 125,000 more. Probably not far from 1,500,000 persons in the United States belong to labor organizations, which is about 10 per cent of the total working population or about [Pg 70] 15 per cent of those engaged in trade and transportation, manufacturing and mechanical pursuits. While this does not seem a very large proportion and is not as large as the membership of British trade unions, yet it must be remembered that they constitute on the whole the elite of the labor world and exercise an authority and power out of proportion to their numbers. Many other workmen, who do not themselves belong to the unions, follow their lead and are directly affected by their actions.

Historically the two most important national organizations in this country have been the Knights of Labor and the American Federation of Labor, and they represent such different principles that it will be worth while to describe them. The Knights of Labor was organized in 1869 as a local union of seven garment cutters and had a meteoric career, counting a membership of 730,000 in 1886, the year of its greatest strength. It was a national amalgamation of mixed local assemblies composed of workers of all trades who lived in the same locality. It held the theory that the interests of all members of the laboring class are identical and must be cared for at the same time, if possible, by political action, by co-operation, and by education. In 1886, however, it entered upon a series of disastrous strikes; later it came into conflict with trade unions which had not joined its ranks and were opposed to its policies; and finally it became entangled in politics. As it lost in influence and strength its place was taken by the American Federation of Labor, which was its very opposite in organization and government. This latter body is a “confederation of trade and labor unions,” each trade being organized separately into local unions which are given great autonomy, these unions alone being

represented in the national body. Only matters of general interest come before it, all local trade matters being left to the local unions. In 1903 it claimed a membership of 1,745,000.

[Pg 71] More important than the history of labor organizations is a knowledge of their objects and methods. The primary purpose is of course to control the conditions of labor and to substitute the principle of collective bargaining for individual contract. As one of the most effective ways to secure this result they aim at a more or less complete monopoly of the labor market. This they may do by bringing all workers in a trade within the union or by preventing non-union men from working. The first of these is called the inclusive method,[15] and if successful makes the union the sole seller of the kind of labor controlled by its members. It is a monopoly of the laborers against the employers and is sought to be enforced by inducing men to join the union either by persuasion or coercion, the latter finding expression in the strikes against the employment of non-union men and the insistence upon the "closed shop." The other form of monopoly consists in the exclusion of new members from the trade and in a control of employment; this is a monopoly of a small group against their fellow-workmen. It is enforced by regulating the entrance to the trade, making it difficult or expensive, or by limiting the number of apprentices. Sometimes, as in the Chicago Building Trades in 1900, they have united with their employers by means of "exclusive agreements" to raise wages and prices of the finished products at the same time, and thus jointly to mulct the public. Such efforts to monopolize the labor market have their counterparts in the organization of capital, as we have seen. In practice such a labor monopoly has sometimes been used to improve and elevate conditions, just as sometimes a capitalistic monopoly has reduced prices below the competitive point. In general, however, we must condemn monopoly on principle in the competitive field and insist that freedom and opportunity be given to all on as equal terms as possible. Of the two forms of trade [Pg 72] union monopoly, the former alone, which endeavors to make it all comprehensive and to enforce generally union conditions, can be economically justified.

"The establishment of a standard rate of wages may perhaps be said to be the primary object of trade union policy. Without the standard rate the trade union, such as it is, could have no existence."[16] The purpose of the union is to substitute collective bargaining for individual agreements and thereby to improve the condition of its members. But if a single bargain is to determine the pay of a large number of men, there must be a common standard. In every employment on a large scale the men are necessarily grouped together and their pay is determined by a common rule. This is true even in non-union shops. It is generally assumed that the standard rate of labor organizations means a uniform wage for each member, but this is not the case; it means rather a uniform rate of pay to all for the same performance. In the case of piece work, it could manifestly not mean anything else; but a large number of labor leaders object to piece work. They insist that a standard wage means a minimum wage, and that by the establishment of such a minimum the whole standard of efficiency and the plane of competition are raised, as the employers cannot then afford to hire any but competent workmen. The question immediately presents itself as to what is to become of the older or partially disabled men, who are no longer able to earn the standard or minimum wage? In England they are practically guaranteed a subsistence by the union; in this country the union not infrequently exempts them from the provisions as to the standard wage. When the rule is enforced there is certainly a real hardship for these men. But [Pg 73] from the employers there comes the more serious complaint that the effect of the standard wage is to reduce to a dead level the efficient and the inefficient; that it is a maximum wage and that the efficient and industrious are prevented from earning more than a fixed amount. There is undoubtedly a great deal of truth in this charge; the man who hastens the pace is said to be taking "blood money," and sometimes a maximum wage is set which the members are forbidden to exceed. On the other hand, it may

fairly be said that while the union regulation of wages does tend to produce greater uniformity, the union rate is usually higher than the competitive rate would be, that is, wages are leveled up, not down; and finally, that territorial variations make the local rate conform to local conditions.

A reduction in the hours of labor has been even more strenuously urged by progressive labor leaders in the United States than an increase in wages. “Organize and control your trade and shorten your hours,” is their contention, “and wages will take care of themselves.” Their arguments in favor of a general shortening of the working day are twofold. In the first place, owing to the intensity and strain of work under modern machine methods, the worker cannot work efficiently more than eight or nine hours a day. The work is too exacting and the strain on the attention too great; it is a noticeable fact that most of the accidents in industrial establishments occur in the last hour or two of the working day. Not only that, but the laborer is entitled to his share of industrial progress in the form of more leisure, giving him time for a better family and social life, affording opportunity for intellectual improvement, and permitting the development of more rational and higher wants. With the improvement in the condition of the laboring classes, will go the elevation of society as a whole.

The second argument in favor of shorter hours put forward by the trade unionist, is economic rather than social. He argues that a “reduction of hours will diminish the supply of labor in the market, and so will raise its price. It will make room for the unemployed, and so will remove the depressing influence of their competition.” There is involved in this contention the familiar lump-of-labor argument of the trade unionist: there is just so much work to be done, and if some men do each a little less there will be more for others. By shortening the hours of labor of everybody employment will be made more general, and the work will be better distributed. Now the economists in general have supported the trade unions in their demands for a shorter working day, but they have done so because they believed that the product of industry would not thereby be diminished. They have seen that when the hours of labor were reduced the laborer was less rapidly worn out physically, that he could work more rapidly for a short time, and that his increased leisure and pay, if rationally used, made him a more intelligent and efficient worker. In other words, a reduction in the hours of labor from 15 a day to 12, to 10, and even in some cases to 8, was not attended by a parallel reduction in the output, but the latter remained about the same. This is the great economic justification of the shorter working day, and as long as this can go on without materially affecting the product of industry it must be approved. If, however, the latter is decreased there will be less to divide and then the relative disadvantages of a smaller dividend must be weighed against the advantages of increased leisure. Of course the point to which the number of hours can be reduced without lessening the product can only be determined by experiment, and will differ in different trades, but it is inevitable that until this point is reached the pressure of the trade unions for shorter working days—or for more holidays or half-holidays—will not be successfully resisted.

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Turning now from theory to fact, we find that there has been a great improvement in the condition of labor in this respect. At the beginning of the nineteenth century the almost universal working day was, as McMaster tells us, from sun to sun. As factories grew up the habits of agricultural labor were carried over into industrial occupations, and working days of 16 and 18 hours were not uncommon. In 1903 the average length of the working day in the United States was 9.6 hours. This great reform may fairly be credited to the efforts of organized labor itself, for without their insistence and struggles it is unlikely that it would have been voluntarily granted by employers.

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The limitation of output results almost necessarily from the above-mentioned practices of the unions: reduction of hours, prohibition of piece work, and the standardization of

wages all tend to restrict the output of the individual worker. But some of the unions have gone further and have directly limited the amount that could be produced during a given period by the laborer. This has been particularly true of British unions and is the subject of common complaint by English employers and writers, but illustrations may easily be found in the United States. Thus in Chicago in 1900 "the lathers limited a day's work to twenty-five bundles of lath, for which they received $3; they had formerly done thirty-five bundles for a daily wage of $1.75. Plasterers were limited to thirty square yards a day; the steam fitters were permitted to lay only ninety feet of steam pipe per day; but the plumbers had the most objectionable rules and restricted materially the amount of work that could be done in a day."[17] These rules were defended by the unions on the ground that they were necessary in order to secure [Pg 76] careful work and to prevent the "rusher" for setting the pace for a fair day's work. The practice has not been uncommon, especially in the sweated trades, for an unscrupulous employer to pay a few particularly able workmen to put extra speed into their work and so set a pace that the other workmen would be compelled to maintain. This was especially objected to by the unions in the case of team work. They claimed that when all the workmen had come up to the new standard, particularly in piece work, the wages were reduced so that even by working at the higher rate of speed, they could only make a fair wage. One of the rules of the Chicago carpenters' union provided that "any member guilty of excessive work or rushing on any job shall be reported and shall be subject to a fine of $5." Whatever the excuse it is clear that such limitations cannot be economically justified. Not only does such dawdling undermine the industrial efficiency of the worker, but it is unfair to the employer. If the latter bargains for the union rate of wages and the normal working day, he is entitled to a full return of the laborer's best efforts. Otherwise there is no fairness in collective bargaining. "So far as labor leaders are concerned," said Mr. John Burns, the English trade unionist, "we are all strongly opposed to the restriction of production; we are all in favor of better and more conscientious work."

Laboring men have never been quite able to divest themselves of their old antipathy to labor-saving machinery. They generally regard the introduction of a new machine as a displacer of men, a creator of unemployment, a depresser of wages. Some unions have successfully resisted the introduction of machinery into their trades, as the stone cutters in Chicago,[18] but in general they have recognized the impossibility of this attitude. In general they now demand that when machinery is introduced it shall be operated by union men and their wages shall be fixed so as to give the workers a share of the [Pg 77] increased production.

The policies and methods of the trade unions thus far discussed are those of a militant nature, but the fraternal objects of these associations, though less conspicuous, are none the less important. Labor organizations generally; have insurance and benefit features, by which sick, injured, or unemployed members are assisted. This is particularly true of the English organizations, which developed these features before the rise of the militant new unionism. They often possess large funds and have been rendered thereby more conservative and responsible. The educative effect of trade unionism among the members is marked; some of them possess libraries and all of them promote discussion and thought upon economic problems, while the administration of their affairs often gives valuable training. The older unions did much to encourage co-operation among their members, but today the tendency is to limit their activities to the essential one for which they are organized, namely, collective bargaining.

Intelligent unionists realize that they can secure the various objects for which they strive only by substituting collective bargaining for contracts between employers and individual laborers. Where this plan is accepted by employers, representatives of the two sides agree upon wage scales, usually for a year; during this period the chief task

of union officials is to see that the agreement is lived up to, and if possible to add to their membership and strengthen the union. In the United States relatively few trades have adopted this method as a general practice, the employers still being able to dictate wages and conditions of employment in most of them, while the unions are still struggling for recognition, if not for existence. Employers insist, in refusing to make collective bargains with the unions, that, as they run all the risks, they must be [Pg 78] permitted to manage their business as they see fit and without interference from the business agent of the union. In reply the unions insist that hours, wages, and conditions of employment are as much their business as that of the employer. The latter also urges that the trade unions as at present organized are too irresponsible and before they ask for collective bargaining should be incorporated, so that they could be sued for breach of contract if guilty of such. As yet, however, the unions have preferred their present position of irresponsibility and immunity and have almost invariably refused to be incorporated.

"In the minds of a large section of the public," writes President Hadley,[19] "labor unions are chiefly associated with strikes. It is believed by many who ought to know better, that such organizations exist for the purpose of striking, and that if the organizations were suppressed, industrial peace would be secured. The first of these ideas is a distorted one; the second is wholly unfounded." Strikes are, however, a necessary concomitant of collective bargaining. If the representatives of a union cannot come to terms with an employer, they may compel their members to refuse to sell their commodity, labor; such a concerted refusal to work is a strike. The "right to quit work" has been regarded as a sacred one by trade unionists, but it involves social consequences of great importance. For the workingman, it means loss of wages and demoralizing idleness; to the employer, idle capital, loss of profits, and depreciation of plant; and to the consuming public, inconvenience and annoyance together with curtailed production. Quite aside from all acts of violence and lawlessness, by which they are too often accompanied, there is involved an enormous money waste. According to a report of the Department of Labor, losses from strikes and lockouts in the United States from 1881 to 1900 amounted to $449,342,000 or an average loss per establishment involved of about $3,500.

The public is awakening to the realization that it suffers the greatest injury as the [Pg 79] innocent third party to every industrial dispute, and is insisting that the industrial peace be kept or more reasonable methods of settling differences be found than a strike or lockout. Such a method is found in conciliation and arbitration. In the older and more strongly organized unions strikes are infrequent and methods of joint discussion and agreement are increasingly resorted to. Boards of conciliation are often provided for, which endeavor by means of conference and concession to prevent a dispute from arising; they succeed best where both employers and employes are organized. Should the dispute come to a head, however, provision is usually made for its reference to a board of arbitration, which may be selected by the disputants themselves or may be created by the state; in the latter case the acceptance of the award may be voluntary or compulsory. In the United States most of the successful boards have been those selected by the parties to the dispute; the state boards have usually the power only of investigating the causes of the trouble, but this in itself has proved of considerable value in more than one instance, notably in the case of the Anthracite Coal Commission. Compulsory arbitration is being given a thorough trial in Australasia and seems to be meeting with success there. In this country, however, the trade unions are strongly opposed to compulsory or enforced governmental arbitration. Writing of Great Britain, Mr. and Mrs. Webb assert that the principle of arbitration, having been found inconsistent with collective bargaining, is fast going out of favor. It would seem from the experience of both England and the United States that the chief virtue in these

methods lies in the habit of joint conference and conciliation between the representatives of labor and capital.

IX. WOMEN AND CHILDREN AT WORK.

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While women and children have always assisted in the work of the home, it was not until the development of the factory system that they began to work for wages outside of the family. From the earliest days the preparation of food, spinning and weaving and making up of garments, and other branches of domestic economy had been the peculiar tasks of the housewife. With the removal of the textile industries from the home to the factory and the invention of light-running machinery, many women followed them and employment was found also for young children. Thus with the inception of the modern factory system and machine production there arose the problem of woman and child labor. In England the evils of the early factory system were incredibly bad. "The beginning of the present century," wrote President Walker,[20] "found children of five, and even of three years of age, in England, working in factories and brickyards; women working underground in mines, harnessed with mules to carts, drawing heavy loads; found the hours of labor whatever the avarice of individual mill owners might exact, were it thirteen, or fourteen, or fifteen; found no guards about machinery to protect life and limb; found the air of the factory fouler than language can describe, even could human ears bear to hear the story." Conditions were never so bad in this country as in England owing to the later development of the system and prompter legislation against its evils, and especially to the scarcity of labor which compelled employers to make the conditions of labor more attractive.

The field of employment for women has been a constantly expanding one. When Miss Harriet Martineau visited the United States in 1840 she found only seven occupations open to women, namely, teaching, needle-work, keeping boarders, work in the cotton mills, type-setting, book-binding, and domestic service. Since that time the area has widened until there is scarcely an occupation in which women are not found except those closed to her by law or by physical inability. The number of females 10 years of age and over engaged in gainful occupations was 2,647,000 in 1880 or 14.7 per cent of the total female population; this number more than doubled in the next twenty years, being 5,319,000 in 1900 or 18.8 per cent of all. The largest number employed was in domestic and personal service, and next to that in manufacturing and mechanical pursuits, though even in that branch they were most numerous in the traditional branches of woman's work, as dressmakers, seamstresses, etc. It is nevertheless in the manufacturing industries that the most serious evils connected with woman and child labor are found. The problems differ greatly in different sections of the United States: in the Atlantic states the greatest proportion of women as compared with men find employment and give rise to special problems of women's work; in the South child labor is more conspicuous; while in the West both woman and child labor are of relatively small importance.

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An interesting question suggests itself at this point: Is the increase in the employment of women at the expense of men? Are the women crowding the men out of their occupations and taking their places? At first inspection the statistics of occupations would seem to lead to an affirmative answer, for the percentage of women breadwinners increased from 13.5 per cent of all such in 1880 to 16.6 per cent in 1900, while that of the men fell from 80 to 77.3 per cent, and that of the children remained about the same. The cause of the change in the proportion of the sexes was not due, however, to any falling off in the number of men, but to the great influx of women into the ranks of wage-workers. In some lines of employment, like those of bookkeepers, stenographers, typewriters, clerks, etc., there has undoubtedly been an encroachment

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and men have been displaced. But on the other hand, many occupations have been opened to men during the last fifty years that were unknown before. Such have been the expanding fields of railroad construction and operation, the steel industry, the utilization of electricity, and other similar lines. In most of these the muscular effort involved or the character of the work have kept women out, but in other lines where special rapidity or lightness of touch are required the women outnumber the men, as in the manufacture of cotton goods, hosiery, hats and caps, etc. The development and improvement of machinery has of course favored the employment of women. Mr. John A. Hobson[21] asserts that "in modern machinery a larger and larger amount of inventive skill is engaged in adjusting machine-tending to the physical and mental capacity of women and children." He concludes that if the exploitation of these forms of cheap labor had not been prevented by factory legislation and by public disapproval, "the great mass of the textile factories of this country [England] would have been almost entirely worked by women and children." As a matter of fact one of the reasons for the great expansion of woman labor in the United States as well as England is because it has been found cheaper than man's labor. We are thus brought face to face with a fundamental question in the discussion of the problem—why are women paid lower wages than men?

As to the fact there is no doubt; one comparison taken from the Census of 1900 will be sufficient to illustrate it: the annual average earnings of men in mechanical and manufacturing industries were $490, and of women $272 per annum. The more important question is why this difference exists. A number of reasons suggest themselves at once. In the first place women are less efficient than men and produce [Pg 83] less; hence they are paid less. In some industries, particularly those requiring physical strength, women cannot compete successfully, and those are usually the highest paid employments. Other well-paid industries are regarded by men as essentially their own and social pressure is applied to keep women out. Then, too, woman's ambition to attain industrial efficiency is not so great, owing to her expectation of marriage and release from industrial life. Women are more often absent from work owing to sickness and domestic claims upon their time; this irregularity of employment tends to reduce their efficiency. But even in employments where the efficiency of men and women are admittedly equal the women receive lower wages in the majority of cases. According to a report of the Bureau of Labor, out of 100 cases where the women did the same work as the men and did it as well, they received lower wages than the men in 80. This leads to the consideration of a second group of causes, which have to do with woman's standard of living. One reason why she receives less is because she is able and willing to live on less. Physiologically, Dr. Atwater has said, man needs one-fifth more nutriment than woman. Women's wages are less because of their somewhat lower cost of subsistence. But even aside from this fact, the frequent partial dependence of women upon other members of their family for support makes them willing to accept less and consequently reduces their wages. The average American workingwoman is young, only about twenty-two and a half years old, and after the age of twenty-five is reached the number declines rapidly. That is to say, working girls regard their employment as a temporary affair, remaining only about five years on the average in the store or factory; during this time they often live at home with their parents and are content to receive a wage much smaller than a man would require as head of a household.

The third reason is, however, the most important, because it explains at the same time [Pg 84] the low economic position which woman occupies in the industrial world. The narrowing of the field within which women can readily find employment has the effect of greatly intensifying the competition within that field. There is also a great reserve army of potential women wage-earners, whom a slight increase of wages or force of circumstances—loss of employment by the male members of the family—will bring into the field as competitors. There is, in other words, a constant over-supply of labor in

most women's industries, which does not exist in any men's industries except the most unskilled. Women exhibit, furthermore, a comparative lack of mobility from one industry to another, as well as from one locality to another. According to Professor Smart, women are so unready to leave home that their pay on one side of narrow Scotland is 50 per cent lower than on the other side. In the same way, the flow of labor from one occupation to another, which tends to equalize the advantages and rates of pay of different employments, is far feebler among women than among men. Finally, there is little organization among women. Their individualistic, almost jealous, attitude to one another prevents their combination and united action, while their submissive acceptance of what is offered leads to apathy. They have only infrequently formed unions and endeavored to substitute collective bargaining for individual action. Women are therefore industrially in much the same situation as unskilled, unorganized male laborers, and the remedy in both cases would seem to be the same—education and organization.

The presence of a large supply of cheap woman labor undoubtedly has a depressing effect upon men's wages, and consequently upon the standard of life of the whole laboring class. George Gunton[22] is authority for the statement that "in proportion as the wife and children contribute to the support of the family the wages of the father are [Pg 85] reduced." The family wage tends to remain the same whether it is earned by the father alone, or by the father with the assistance of his wife and children. It is, however, not quite clear in most cases whether the men's wages are low because the women and children work, or whether the women and children work because the men's wages are low. It may fairly be concluded, however, that the evil effects of low wages for women are not confined to themselves but are felt by all with whom they come in competition.

What conclusion shall we draw then, in view of all these facts, as to the desirability of employment of women? The fact of their low wages and industrial dependence is not sufficient to lead one to condemn it. These are transitional phenomena and can be remedied. Women have always worked—on the farm, in the home, in making household supplies. When this work was taken over by the factory woman became a wage-worker in the modern sense. "The census records in respect to the labor of women, therefore, read in the light of collateral facts, are a history of industrial readjustment rather than a record of the relative extent of the employment of women, and it is impossible to say, so far as the census figures are concerned, whether a larger proportion of women are actively engaged in labor today than formerly or not. The one fact which is clear is that factory or shop work is displacing home work, and that this readjustment of industrial conditions is leading to the employment of women outside the home in constantly increasing numbers."[23] The effect of this readjustment has been to increase greatly the production of wealth. The production of household supplies was removed from the family to the factory when it was handed over to machinery and done better and more cheaply. If the work of women thus released were expended for no useful purpose society would gain only in the increased leisure of the women. But if [Pg 86] these then took up other new lines or set men free from old employments so that they could turn to still different ones, then the production of goods could be greatly increased. "Without women's help," says Mr. George L. Bolen,[24] "their work in stores and offices would be done by men taken from other employment. The latter's present work would have to be stopped to that extent, lessening the quantity of goods produced by men. The effect would be the same as if a farmer had to stop plowing two hours before noon to go to the house and cook his dinner.... Women behind the counter, and at the typewriter, release men for work that women cannot do." From the standpoint of woman herself, industrial independence must be regarded as a great gain. Set free from the necessity of contracting marriage for the sake of a home, and of depending upon mere sex attraction to attain that end, she will develop her capacities more fully and when she does enter upon marriage will do so as a result of mutual attraction. The

entrance of women into gainful occupations must be regarded as an essential step in their own progress and the improvement of society.

Quite different must be our attitude towards child labor, which can only be condemned as a waste of labor power and as stunting the development of the children. The Census of 1870 stated for the first time the number of children at work in the United States; there were 739,164 between the ages of 10 and 15 years, of whom 114,628 were employed in manufactures. During the next decade the number increased over 58 per cent to 1,118,356 children at work in all occupations. The disclosure of such an undesirable tendency called forth restrictive legislation in most of the states and the number declined materially by 1890. Since 1890 however there has been a reversal of this tendency back to the conditions of 1880, owing chiefly to the industrial development of the South, where almost no factory legislation exists as yet. In 1904 there were 1,752,187 children at work between the ages of 10 and 15 years, or almost one-fifth of all the children of those ages. The evils connected with child labor are the long hours—usually 11 or 12 hours a day where no restrictive legislation exists—and the exhausting and often dangerous work. The effect on the health of the children of monotonous and exhausting toil before their muscles are set and their frames knit up is thoroughly bad; they are stunted and deformed and prematurely aged. Many of the occupations, too, in which child laborers are most numerous, are dangerous or injurious, as tin can factories, saw mills, paper box factories, type foundries, and tobacco establishments. Second only to the physical effects of child labor is the mental and moral injury suffered not merely by the child but also by society in depriving these youthful laborers of a thorough education. While it is well that children should be kept busy, there is no compensating reward either in money wage or preparation for adult life in such monotonous, profitless drudgery. The influence of the competition of children upon wages is leveling, and their employment indicates either a willingness on the part of employers and parents to exploit this cheap and defenseless form of labor, or a backward state of civilization. Such an evil can be cured only by determined public opposition, by the passage of laws forbidding all labor by children under a certain age, say 15 (except possibly in agricultural or housework), compelling school attendance, and providing for careful inspection. Most of all is needed an aroused public conscience.

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Labor legislation is the most effective method of improving the conditions of employment, and to a consideration of this subject we must devote the remainder of this section. We have already seen that the fundamental principle of our modern wage system is freedom of contract. This is guaranteed in our federal and state constitutions as both a personal and a property right. As a result of this fact the courts have generally declared unconstitutional any legislation, designed to protect the interests of labor, that seemed to abrogate this freedom of contract or that savored of class legislation. Efforts to improve the condition of labor by legislation have therefore met with especial obstacles in this country. On the whole, however, means have been discovered of evading these constitutional restrictions when it has seemed clearly demanded by the welfare of society, and the history of labor legislation in this country is one of fairly steady progress. The early laws were practically confined to imprisonment for debt, mechanics' liens, the hours of education of children employed in factories, and similar matters. Nothing noteworthy was accomplished until 1866 when Massachusetts passed an eight-hour child labor law for children under fourteen; in 1874 she passed a ten-hour law for women and children under eighteen, engaged in manufacturing establishments, and in 1877 enacted the first factory inspection act, which has since been copied in about twenty-four states, and without which mere legislation is of little avail.

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The factory acts may be divided into two classes, those that endeavor to secure the safe or healthful manner of conducting a business, and those that attempt to limit the

occupations, the hours, and the methods of payment of the workers. Under the first head come such matters as fire protection, ventilation, guarding of machinery, inspection of boilers and mines, etc. Such legislation and inspection have in many states been extended to churches, schoolhouses, hotels, theaters and public buildings. The second group includes those laws which are usually meant when factory acts are referred to. In England there has been a very steady development and extension of such legislation, beginning in 1802, when Peel's Act tried to protect the health and morals of the pauper apprentices in the cotton mills; this was extended to all young people in textile industries in 1833, to women in 1844, then to all large industries in 1864, and to smaller ones in 1867, and finally in 1878 these various provisions were codified into a complete factory act, regulating the health and safety of the laboring people generally. In the United States the movement was considerably later and has not been so uninterrupted. But today laws limiting the number of hours of labor to eight have been passed by the Federal Government and fifteen of the states for all those engaged on public works. Attempts to fix the hours of labor of adult male workers have usually been declared unconstitutional, for the reasons stated above, except in especially dangerous or unhealthful occupations, as bakeries, mines, smelters and similar lines. Consequently the men have been forced to rely largely upon their own efforts for the redress of industrial grievances; in this fact lies one explanation of the growth and strength of labor organizations in this country. On the other hand, legislation in behalf of women and especially children—wards of the state—has usually been held constitutional by the courts, and has had a more extended application. About twenty of the states have regulated the length of the working day for women and children. Special child labor laws limit the age below which employment is illegal, usually between ten and fourteen years of age; and provide for a minimum of education before a child can be employed. About half the states provide for factory inspection to see that the provisions of the various acts are lived up to. In general we may conclude that by the passage of such legislation society has definitely decided that there are some conditions of employment that cannot be safely left to free contract or to collective bargaining between employer and employe, but that they must be regulated by society itself on the broad grounds of social welfare.

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X. UNEMPLOYMENT AND INSURANCE.

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The greatest problem in modern industry as well as the greatest curse to the laboring classes, is unemployment. While unemployment has always existed under all systems of labor, it assumed added significance when the introduction of the wage system threw every worker upon his own resources and made him responsible for the care of himself and his family. Modern industry is sensitive and unstable and its delicate mechanism, very likely to get out of order; credit and fashion, to mention no others, are factors that make for instability, and these are essentially modern. Professor Marshall is of the opinion that the factory system has not increased inconstancy of employment, but has simply rendered it plainer by localizing it. But whether more or fewer than in earlier times, the number of the unemployed in modern industry is appallingly great. It is not easy to estimate correctly the extent and amount of this evil and we accordingly find considerable variations in the statistical presentations of fact. In 1885 two investigations of the amount of employment were made, one by Carroll D. Wright, in his report as United States Commissioner of Labor for 1886, and the other by the Massachusetts Bureau of Labor in its report for 1887. Mr. Wright defines the unemployed very narrowly as "those who under prosperous times would be fully employed, and who, during the time mentioned, were seeking employment"; using the term in this restricted sense he concluded that 7½ per cent of the working population engaged in manufacturing and mechanical pursuits, and trade and transportation were idle during the year, which moreover he considered one of extreme depression. The Massachusetts statistics, on the other hand, were presented as indicative of general conditions in normal years and may safely be regarded as such. According to this report, 30 per cent of the total number of breadwinners in the state had been unemployed at their principal occupations on an average of 4.11 months in the year covered; some of these found work at other or secondary occupations. But the net result of the investigation was well put in the terse statement of the report, that "about one-third of the total persons engaged in remunerative labor were unemployed at their principal occupation for about one-third of the working time." At the lowest estimate the whole working population lost on the average almost one-tenth of their working time. The loss of such a proportion of the community's productive force, with all the demoralization attendant upon irregular or no labor, is evidence of a problem of grave import.

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Unemployment is such a broad term and covers so many different ideas that it will be well to classify the unemployed before proceeding further. They may be logically divided into the following classes: I. The temporarily unemployed, who comprise (a) those certain of work again, as efficient workmen who are temporarily out of work owing to seasonal variations, shut downs, etc.; (b) those without such prospect, a group which again divides into two groups, namely, (1) efficient and industrious workmen who have been thrown out of work by a change in fashion, the introduction of new machinery, foreign competition, a prolonged depression, etc., and (2) those whose work is essentially fluctuating and casual in its nature, as casual day laborers, charwomen, etc. II. The permanently unemployed, consisting in turn of (a) the "won't-works," as tramps, and (b) the "can't-works," or the defective and dependent classes generally. Such a classification renders much easier the analysis both of the causes and of the cure of unemployment.

The first question that presents itself in any discussion of the causes of unemployment is whether it is due primarily to personal causes, as inefficiency or intemperance, or to

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industrial causes over which the individual has no control. “Personal causes are those mental, moral, and physical defects which show themselves either in the inability and inefficiency of the workman or in his unwillingness to work. Here are included all the varieties of personal inaptitude, ranging from idiocy, intemperance, and vice to old age, sickness, and accident.”[25] Such a comprehensive definition includes many cases, of course, where no blame can be attached to the individual, and yet each one of these causes is personal, that is, it does not affect at the same time a whole group, as an industrial depression would do. Persons included in this group are always on the margin of employment; in bad times the first to be discharged, in good times they are the last to be employed. Nor is the cause of their lack of employment always easy to give; it may be itself the result of industrial accident or unhealthful occupation, or the result of heredity, evil habits and associations, and defective education. We may present two tables giving briefly the causes of poverty and unemployment. The first gives the causes of poverty ascribed by the charity organization societies of New York, Boston, and Baltimore to applicants for relief:

Causes of poverty: charity organization society records.[A]

Cause.	Per cent.	
Drink	13.7	
Shiftlessness and inefficiency	7.5	
Other moral defects	2.1	
Total, Character		23.3
No male support	5.0	
Lack of other normal support	3.6	
Total, Support		8.6
Lack of employment	23.5	
Insufficient employment	8.1	
Poorly paid, etc.	3.3	
Total, Employment		34.9
Sickness and death in family	21.1	
Insanity and physical defects	4.1	
Old Age	3.9	
Other incapacity	3.2	
Total, Incapacity		32.3
	100.	100.

[A] Warner, American Charities, Rev. Ed., 53.

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The first group of causes indicates misconduct, as the last group indicates misfortune; the other two shade off into industrial causes, though lack of employment—the largest single cause—may in turn be ascribed to any one of several remoter causes according to the bias of the investigator. This table is a record of the causes of failure on the part of those who have fallen behind or dropped out altogether in the race of life. At the other end of the scale stand the members of labor organization, on the whole, the elite of the labor world. The following table gives the causes of unemployment of 31,339 cases at the end of September, 1900, as reported to the New York Bureau of Labor Statistics:

Causes of idleness, members of trade unions, 1900.

Cause	Per Cent
No work	75.5
Bad weather	.5
Strike or lockout	13.0
Sickness	4.7
Superannuation	1.6
Other causes	4.7
Total	100.0

This table emphasizes very strongly the industrial causes of unemployment, three-fourths of which is ascribed to lack of work. In some cases, as the iron and steel [Pg 94] workers, where there is a regular two months' shut-down to make repairs, and the building trades where the inclemency of the weather usually prevents work during the winter, the lack of employment may be regarded as a vacation rather than a hardship, for the rates of pay are high enough during the remaining months to offset those of idleness. In other cases, however, as in coal-mining, there is a large reserve army of workers on hand and employment is secured for only one-half to two-thirds the time. In 1900, when the average number of days of employment was larger than it had been in ten years, the bituminous miners were employed only 234 days and the anthracite miners only 166 days in the year. This indicates a very bad organization of the industry. The same thing was formerly true of the London dockyards, where there was a reserve army of some 4,000 surplus workers. Of course the effect of this is to depress wages. The clothing trade is subject to seasonal fluctuations and the caprice of fashion, and offers very irregular employment. Machinery and improved processes were frequently spoken of by witnesses before the Industrial Commission as the leading cause of unemployment. If the general conditions of business are good at the time of the first introduction of machinery the displaced laborer is reabsorbed again and the hardship is not so noticeable. But if it coincides with a period of business depression the introduction of machinery appears to be the cause of a large displacement of labor, which might more truly be ascribed to industrial depression. This last cause is responsible for enormous suffering among the laboring classes, for the method oftenest resorted to by industrial enterprises to reduce expenses is the wholesale discharge of laborers, who are thus made to bear the burden of industrial disorganization. This was well illustrated by the economies effected by the railroads in the year 1908, in their general reduction of the labor force and of wages. But even in good years the [Pg 95] inconstancy of employment is startling. In the four years 1897-1900 the men in trade unions in New York State lost 16.2 per cent of their time from unemployment, which is almost exactly one day in every week. And these, it must be remembered, were skilled and efficient workers in organized trades. Finally, strikes are given as a cause of unemployment in the table; these are a peculiar feature of modern industry, and do not call for further discussion, except to point out that they are not as important as often represented.

The foregoing analysis of the causes of unemployment shows that they are deep-seated in the nature of modern industry, and that it would be unjust to the workingman to attribute them in any large measure to his incapacity or indisposition to labor. The care of the unemployable must of course be undertaken by society, and such persons prevented as far as possible from depressing the wages of competent labor by their competition. Exceptional periods of distress may and should be met by temporary relief measures. But what we may call the normal unemployment in modern industry, which amounts to 2-2½ per cent of the labor force, cannot be overcome by direct methods.

The remedy for this lies "in a better organization of employers and employes, more steady expansion of trade, and greater stability of industry and of legislation affecting industry. These are not problems directly of unemployment, but rather of taxation, currency, monopoly, immigration, over-production, and technical advances in industry. Their treatment must be undertaken, not primarily as measures of providing for the unemployed, but as measures for improving the conditions of business."[26] The problem of unemployment would thus seem to be a permanent one, bound up in the very nature of a dynamic society; it may be regarded as the price of progress. But the [Pg 96] question may fairly be raised as to whether the laboring classes should foot the bill, or whether the cost might not fairly be borne by society as a whole. This has suggested, as a solution of the problem, insurance of workingmen against unemployment, a discussion of which, however, must be deferred to the end of the section. Some methods of alleviation, if not of abolition, of the evils of unemployment may be suggested. Free public employment bureaus and agencies, national in scope and well integrated, would do much to secure a better adjustment of demand and supply in the labor market, and secure a better distribution of the labor force and greater mobility of labor. Better organization and mutual understanding on the part of both employers and employes is needed, to prevent the loss through strikes and lockouts. And finally, improved industrial and technical education is essential, whereby the loss in skill through the introduction of new inventions and machinery may be minimized, and the productivity of the laboring class be increased.

Among the measures of relief for unemployment due to accident, sickness, and old age, none is more important or more deserving of a hearing in the United States than that of insurance against these evils. The earnings of the average male wage-earner are so small—half of the number earn annually less than $436, and half of the adult male factory workers earn less than $400 a year—that the unemployment, sickness, disablement, or old age of the breadwinner must throw a large proportion of families so afflicted into a condition of periodic poverty. Any remedies that will alleviate the miseries caused by fluctuations in employment, industrial accidents, diseases incident to industry, etc., deserve a respectful hearing.

No adequate statistics of industrial accidents exist in the United States, but a recent estimate by F. L. Hoffman[27] gave the number of fatal accidents among occupied males in 1908 as between 30,000 and 35,000. An analysis of the reports of the New York [Pg 97] Bureau of Labor Statistics from 1901 to 1906, shows that of the total number (39,244) of industrial accidents reported in that state a little over 2 per cent were fatal, almost 17 per cent resulted in permanent disablement, and 81 per cent resulted in temporary disablement. More than half of the accidents in industry are the result of machinery in motion. Mr. Hoffman calculates that "it should not be impossible to save at least one-third or perhaps one-half by intelligent and rational methods of factory inspection, legislation, and control." Prevention of accidents rather than compensation to the workingman after they occur should be the aim of society, in order to avoid the wasteful loss of productive power, not to mention the suffering and misery entailed by such accidents. "Immunity, not compensation," has been the demand of the British trade unions. Of first importance then is careful factory legislation, safeguarding of machinery, and factory inspection. But here we are interested primarily in the question of responsibility and compensation. In the United States, legislatures and the courts have taken the position that the workingman was responsible unless he could prove the employer responsible for his injury. How impossible such proof is and consequently how intenable such a position, is clear from the following table, compiled by the German Government for purposes of accident insurance:

Accidents in German industries traceable to different causes.

Causes.	Agriculture (1891)	Industry (1887)	Mining (1887)
Fault of employer	18.2	19.8	1.3
Fault of injured workman	24.4	25.0	29.8
Fault of both	20.1	4.4	…
Fault of third person	2.8	3.3	4.3
Unavoidable or indeterminable	34.5	46.9	64.6
Total	100.0	100.0	100.0

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Statistics from both Germany and Austria show that a full half or more of all industrial accidents are due to causes for which neither employers, injured workmen, nor fellow employes are responsible, but which are incidental to the nature of the industry itself. But besides the danger of injury from machinery, there are numerous specially dangerous or injurious trades, in which injury by poisoning, disease, etc., is almost unavoidable as trade processes are at present conducted. These have been classified as follows: trades in which lead is a poisonous element, trades which produce other chemical poisons, trades in which lockjaw is an incident, trades in which the danger arises from injurious particles in the air, or from dust, processes that require a sudden change from heat to cold and vice versa, and those that require artificial humidity, and trades in which accidents are so frequent as to demand special legislation. Before we try to decide who in justice should bear the cost of sickness or injury arising from these causes, let us inquire as to the practice in the United States and in other countries, so as to have the data necessary for a fair conclusion.

The original legal doctrine regarding liability for accident in England and America, which is still practically unmodified in the latter country, was based on the principle of individual responsibility for acts of negligence. Briefly stated the common law doctrine is that an employer must provide reasonably safe conditions of employment, and that then the employe assumes the risks incident to the occupation, or arising from the carelessness of fellow-servants; moreover, even if the employer has been remiss, the employe cannot collect damages if he has been guilty of contributory negligence. These three doctrines—assumption of risk, doctrine of the fellow-servant, and contributory negligence—have been used practically to free the employer from all responsibility in cases where injured employes have sought to secure damages. Moreover, as has been shown above, many cases exist where it is impossible to fix the blame on either employer, employe, or a third party, and in such cases no compensation could be secured for injury under the law. The full rigor of the common law, which has worked out so unfairly for the workingman in modern machine production, has been modified in about twenty-seven states by statutes defining more exactly the duties of the employer, and repealing the fellow-servant doctrine in regard to railway employes and in a few states in regard to all mechanical industries. With these exceptions, however, the law of employers' liability has not been changed, and compensation for industrial accidents must be sought by injured employes through a suit for damages against the employer. In 1906 and again in 1908 Congress passed a federal employers' liability act, limited to common carriers, which, however, represents only development along the lines of negligence law. That is, we are still proceeding upon the assumption that in every accident which occurs somebody is to blame. We shall have to look to foreign countries for a practical application of the principle that the cost of accidents in modern industry should be made a charge upon the industry itself, and ultimately be incorporated in the higher price of the article produced.

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Germany was the first country to introduce the principle of compulsory accident insurance in 1884. Employers are there organized into associations and sections and are compelled to bear the expense of granting to injured workingmen compensation, which amounts to about two-thirds their average wages. England in 1897, by the passage of the Workmen's Compensation Act, adopted the principle "that a workman is entitled for all accidents of occupation to a moderate and reasonable compensation." Twenty-three countries, or practically all the advanced industrial nations of the world except the United States, have passed laws to compensate sufferers for all accidents of industry, thus placing the burden of industrial accidents upon the industry as such and not upon the laborer.

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As we have seen, sickness and old age are still more usual causes of poverty and unemployment than accident. All the arguments for compulsory insurance therefore apply with redoubled force to these evils. Germany was again the pioneer in the establishment of these forms of insurance. In 1883 sickness insurance was organized, being made compulsory for all persons with incomes under $500; the expense is borne one-third by the workers and two-thirds by employers, the main purpose being to secure a sufficient relief—amounting to one-half the wage—for a period of thirteen weeks. In 1889 invalidity and old-age insurance was introduced for the same class; contributions are made in equal proportion by employe and employer, the state contributing about $12 a year to each annuity. Pensions are granted after thirty years of payment or to those over seventy. In 1908 Great Britain passed a still more comprehensive measure, providing for pensioning all citizens of seventy years or over, who have been residents for twenty years, in accordance with a sliding scale based upon private income, the pensions ranging from five shillings weekly down to one shilling. The pensions were expected to cost $35,000,000 the first year, but will probably entail double that amount. Finally, insurance against unemployment was tried in Switzerland in 1893 to 1897, but was finally abolished, owing to abuses and difficulty of administration.

There are probably no more important practical economic problems than those connected with unemployment and workingmen's insurance. Slowly the conviction has spread that under present conditions of industry workingmen cannot fairly be held responsible for industrial accidents, and that with prevailing wages they cannot be expected to save enough to maintain themselves in sickness and old age. It therefore becomes the duty of society so to organize industry and legislation that the terrors of accidents, sickness, and old age, shall be reduced to a minimum.

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XI. MACHINERY AND INDUSTRIAL EFFICIENCY.

So far in the discussion of modern capitalistic production and of the various labor problems to which it has given rise we have not treated in detail the question of machinery and its effects on labor. We cannot, however, leave this subject without taking up this phase of it with considerable care. The advantages of machinery have been more often emphasized than the evils, so that we may profitably begin with the darker side of the picture. President Hadley[28] enumerates three evils which are charged against machinery, as now managed and operated: "1. That it displaces a large amount of human labor, thus taking income away from employes and giving it to employers. 2. That when it does not actually drive human labor out of use, it employs it in circumstances unfavorable to efficiency, health, and morals. 3. That under the best conditions it deprives the workman of independence, making him a specialized machine instead of a broad-minded man." We cannot do better than take up these points one by one.

In answer to the first charge President Hadley flatly denies that machinery has displaced labor, but insists that "there has been a most conspicuous increase of employment in those lines where improvements in machinery have been greatest," giving the expansion of railroads as an illustration. But it is not possible to generalize from this case without further analysis. The immediate effect of improved machinery, especially if suddenly introduced, is practically always to throw men out of employment. The extent to which this will occur depends on the suddenness and extensiveness of the change, but fortunately, as Professor Nicholson points out, new inventions seldom come suddenly or are introduced all at once on an extensive scale. It took almost a generation, for example, for American machine methods to displace Swiss hand labor in the making of watches. But when such a change does occur it hits hardest the least efficient and older men, those just on the margin of employment, for a man past middle life can rarely learn a new trade. The effect of displacement in causing suffering will also depend somewhat upon the mobility of labor, both the knowledge of new opportunities and the capital to make possible a change of location or industry, and improvements in the means of transportation. It can easily be shown that as a general principle the lump-of-labor theory is erroneous, namely, that there is just so much work to be done and that if machinery is introduced there will be less work for men to do. But there is this element of truth in it, that the question whether men will be reabsorbed in the same industry depends upon the fact as to whether the market for the goods produced by the new machine can be expanded. If the demand is elastic, that is, can be largely extended because of the fall in price brought about by the cheaper production, as in the case of cotton goods, then the displaced laborers will probably be re-employed to produce an enlarged supply. If, however, the demand is inelastic, that is, will not be expanded by reason of a fall in price, as in the case of salt or coffins, then the displaced labor will not be reabsorbed in the same industry but must look elsewhere for employment.

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The elaborate investigation of the Department of Labor in 1898 regarding the relative merits of hand and machine labor shows clearly the effect on the displacement of labor by the introduction of machinery. A few cases will serve as illustrations (see table on next page).

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Hand and Machine Methods Compared.

Year of production	Article produced	Different operations performed	Different workmen employed	Time worked.		Labor Cost
				Hours	Minutes	
1829-30	Wheat (hand)	8	4	61	5	$3.55
1895-96	Wheat (machine)	5	6	3	19	.66
1859	Boots (hand)	83	2	1436	40	408.50
1895	Boots (machine)	122	113	154	5	35.40
1850	Carpet (hand)	15	18	4047	30	20.24
1895	Carpet (machine)	41	81	509	1	.29
1891	Loading ore (hand)	1	1	200	0	40.00
1896	Loading ore (machine)	3	10	2	51	.55

These cases, chosen at random, all show an increase in the number of different men employed, and an immense saving in time and in labor cost. Nothing is indicated however as to the total amount of employment. Optimistic writers like Carroll D. Wright claim that if machinery has displaced labor in one direction it has created more employment for them in others. He shows for instance[29] that the per capita consumption of cotton in this country in 1830 was 5.9 lbs., while in 1890 it was 19 lbs., and gives similar figures for iron and steel, and railroad traffic. It will be noticed that all of his examples are chosen from industries in which the demand is elastic. Mr. J. A. Hobson, a more careful and conservative writer, draws less optimistic conclusions from a study of Great Britain. He says: "First, so far as the aggregate of manufactures is concerned, the net result of the increased use of machinery has not been to offer an increased demand for labor in those industries commensurate with the growth of the working population. Second, an increased proportion of the manufacturing population is employed either in those branches of the large industries where machinery is least used, or in the smaller manufactures which are either subsidiary to the large industries, or are engaged in providing miscellaneous comforts and luxuries."[30] It must be said, however, in modification of Mr. Hobson's inferences, that it may be accounted as a social gain if the demand for manufactured commodities can be met by the labor of a smaller proportion of the population, since the energies of the rest are then set free for professional or artistic or similar pursuits. A study of the census reports of Great Britain seems to show that this is what has happened in that country. [Pg 104]

The amount of labor is not the only factor to be considered; the regularity of employment, as we saw in the last section, is of hardly less importance. "Another danger of an entirely opposite kind," says Professor Nicholson[31] , "lurks in this immense power of machinery, which is continually showing its reality and remedies for which will, it is to be feared, be the fruit of long years of tentative adaptation to the new environment. What all sensible workingmen desire, what the advocates of the trade unions say is their chief object, is to get a "steady sufficient wage," but it has been proved inductively that great fluctuations in price occur in those commodities which require for their production a large proportion of fixed capital. These fluctuations in price are accompanied by corresponding fluctuations in wages and irregularity of employment. But fluctuations in wages and discontinuities in employment are two of the greatest evils which can befall the laboring classes." We have already seen how modern capitalistic methods of production may lead to over-production and to a crisis. We now see how machine methods may cause unemployment or irregular employment.

The men displaced directly by new machinery, those thrown out of work by industrial depression resulting from over-production in machine industries, and finally those irregularly employed in the new occupations supplying luxuries—all of these may fairly attribute their suffering in large measure to machine methods.

"The second great charge made against the factory system is that it displaces a higher grade of labor by a lower grade; sometimes substituting the work of women and children for that of men; sometimes substituting work under conditions physically or morally unhealthful, for work under healthful conditions; sometimes substituting specialized and mechanical work for diversified occupation which contributes to general intelligence." The point as to the labor of women and children has already been discussed. The charge that factory labor is physically unhealthful may in general be denied. Mr. Wright, in an elaborate defense of the factory system in the Tenth Census, concluded that the conditions of work in the modern factory are much more conducive to good health than those under the preceding domestic system, while morally they are far superior. The qualities demanded by the machine production of the modern factory are punctuality, steadiness, reliability, and sobriety, and it therefore makes against intemperance and immorality. So far as these exist in factory towns, they are the result of town life rather than of manufacturing. It must, however, be said that while the factory system is not inherently unhealthful, the high pressure at which operatives of steam-driven machinery are compelled to work, particularly in this country, may and often does wear him out prematurely. This again is partially offset by a shortening of the hours of labor. [Pg 105]

The final charge against the factory system is monotony of work. Many writers, from Adam Smith down, take the view that it is more stupefying to make a small part of an article, say the sixty-fourth part of a shoe, than to make the whole article. Professor Marshall, who has considered the subject carefully[32] , concludes that while it takes away manual skill, it substitutes higher or more intellectual forms of skill. "The more delicate the machine's power the greater is the judgment and carefulness which is called for from those who see after it." But after all there is less danger from monotony of work than from monotony of life, and the cure for this would seem to be in an increase of machinery rather than in its abolition. [Pg 106]

Let us now try to summarize our conclusions on this intricate question. The first effects of the introduction of labor-saving machinery is to displace particular laborers; these suffer real injury, though they are often reabsorbed in the industrial organism. The social gain is undoubted, for the improved methods lead to lower prices and thus to an increase in the real wages of labor. To the improvement and wider use of machinery we must indeed look for the ultimate relief of the human race from exhausting toil. Says a socialist writer: "On mechanical slavery, on the slavery of the machine, the future of the world depends.... All unintellectual labor, all monotonous, dull labor, all labor that deals with dreadful things, and involves unpleasant conditions, must be done by machinery. Machinery must work for us in coal mines, and do all sanitary services, and be the stoker of steamers, and clean the streets, and run messages on wet days, and do anything that is tedious or distressing." If labor today has a complaint to make against the use of machinery, it is that labor has not shared sufficiently in the improvements thus far effected. But the evil here is connected with the inequitable distribution of wealth, not with the methods of its production. In justice labor should share in the technical improvements which characterized the nineteenth century and will revolutionize to a still greater extent the industries of the twentieth. The practical question in this connection is as to the best method for labor to secure its claim to a share in the increased production. One answer, to which we will turn next, is by increasing its efficiency through better industrial education and training.

The subject of industrial education has recently been receiving considerable attention in the United States and the needs and shortcomings of our country in this regard have been described. Under modern methods of production, with their extreme specialization of labor and extended use of machinery, it is practically impossible for a worker to secure an adequate knowledge of a trade in the actual practice of it. In former days boys acquired training in their trades by the system of apprenticeship under the immediate charge of a master of the craft. The system of apprenticeship has today almost disappeared; boys are taken into shops as helpers, not as apprentices, and receive practically no systematic instruction in their trade, especially in a modern large establishment. In consequence of these facts it is insisted that school instruction should be given to make good the absence of shop practice; that a general system of industrial education should be developed to give our workingmen systematic training in the various trades. The superiority of the opportunities for industrial education on the continent of Europe, especially in Germany, have been frequently emphasized, and their industrial advance has been credited in large measure to this fact. We can probably not approach the subject better than by explaining the systems in these other countries and then comparing them with that of the United States.

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Beginning with Germany as the country in which industrial education has received the greatest attention, we find there three different kinds of schools, which we may call the lower, middle, and higher. The lower group includes artisan and specialized trade schools, and is intended to be a substitute for the apprenticeship system. While they have an important influence on the general industrial efficiency of the nation, they concern chiefly the small handicrafts. The middle group comprises the trade schools (gewerbeschulen), of which the most famous are the weaving and dyeing schools at Chemnitz; other branches taught are soap-boiling, milling, building, pottery, etc. These are the schools that provide technical instruction for the large manufacturing industries, and are consequently of great importance; they train the foremen, superintendents, managers, and heads of establishments rather than the workingmen. The higher group is formed of the technical high schools or technological institutes, where are trained the scientific experts. The importance of the German system lies in the development of the last two groups rather than in provision for the training of the workmen. Germany's recent industrial advance must be credited to the training of the officers, not the rank and file, in the industrial army, to the development of managerial ability rather than of manual skill.

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In England the last twenty years have seen a marvelous development in industrial education, brought about in part by the "made in Germany" agitation. The English system differs from the German in educating working-class boys, while at work in the mill or at the forge, into foremen, managers, etc., mainly by means of evening classes in trade or technical schools. The German system, on the other hand, trained men who already had a superior general education. These schools are regarded as stepping stones for the more ambitious and intelligent young workingmen. They give a practical grasp of the subjects, but do not teach actual processes of manufacture, owing to trade union objections. They thus come between the lower and middle schools in Germany. The higher technical schools also exist and have recently been greatly expanded.

The system of industrial education in the United States may be said to resemble that of Germany more than England in that it supplies industries from above rather than from below, but it is in a very chaotic state as yet. The most important schools are institutes of technology and the technical departments of the universities, but these train men only for the highest positions. Provision for the industrial training of the workingman is almost lacking except in a few manufacturing centers. Thus there are a few trade schools resembling somewhat those in the Middle German group, as the textile schools at Philadelphia, Lowell, and a few other cities. Lower trade schools are found in New

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York City, but hardly anywhere else. That there is a distinct need of and demand for instruction of this character is shown by the enormous expansion of correspondence schools, a peculiarly American institution, which endeavor to give the training afforded by the English schools to the more ambitious young artisans.

So far in their industrial development the people of the United States have been immensely aided by two factors: the rich natural resources of the country, and the high quality of the labor. But as we have already seen, the natural resources are being either rapidly exhausted or monopolized. As to the character of the second factor, we may quote from the testimony of a recent careful observer, Dr. A. Shadwell[33] : “The American method of work in the industrial sphere is distinguished by the following features: enterprise, audacity, push, restlessness, eagerness for novelty, inventiveness, emulation, and cupidity. Employers and employed have exhibited the same qualities in their degree.”... But they suffer “from the national defect of want of thoroughness, which arises from the craving for short cuts.” Now that American industries are entering the markets of the world in international competition, it becomes important to correct any faults that will cause us to fall behind. So far the movement for better industrial education through the establishment of trade schools has met two obstacles in this country. The first is the hostility of the trade unions, which fear to see their control of the labor market disturbed by the annual turning out of hundreds or thousands of workers from the trade schools without any especial sympathy with trade union methods or policies. The other difficulty lies in the satisfaction with prevailing [Pg 110] methods, the belief that the American workman without training possesses skill superior to that of his European competitors, and a naïve national self-conceit in all things American. Now that we are for almost the first time in a hundred years measuring our industrial efficiency in foreign markets against our European competitors, we shall be compelled to take stock of all the items that make for industrial supremacy. There seems to be little doubt that when once this is fairly done, the need of a better system of industrial education will be recognized and met.

XII. PROFIT-SHARING AND CO-OPERATION.

Among the reforms suggested for remedying some of the evils incident to the modern wage system those of profit-sharing and co-operation occupy a prominent place. The separation of the community into capitalists and laborers, classes different in conditions and ideals, constitutes a menace to the peace and progress of industrial society. The wage system moreover is thought by many to have broken down the former intimate relation of employer and worker, and some scheme is needed to correlate their interests again and to bind them together. To secure this result profit-sharing is advocated. As defined by the International Co-operative Congress in 1897 this is "the agreement, freely entered into, by which the employe receives a share, fixed in advance, of the profits." It is not a change from the present wage system, but simply a modification of that system according to which the laborer receives a share in the profits in addition to his wages. The purpose is to identify the interests of the employes with those of their employer and thus to give him some of the same motives for energy, care, and thrift in the conduct of the business. Three principal methods of profit-sharing may be mentioned, though the variations are manifold. The favorite method in England and the United States is the payment of a cash bonus at the end of a fixed period, as a year. A second plan, which is the rule in France, is a deferred participation by means of a savings bank deposit, provident fund, or annuity, for the purpose of providing for old age and disability. The third plan, which has recently grown in favor in this country, is the payment in shares of stock of the company. [Pg 111]

The economic theory of profit-sharing is that by inducing greater care and diligence on the part of the employe he will himself create the fund from which he is paid. It is claimed by its advocates that it increases both the quantity and the quality of the product and that it promotes greater care of implements and materials, thus reducing the cost at the same time that it increases the output. The classic example of this is the case of the original profit-sharing scheme, the Maison Leclaire, in Paris; the result of the first six years' experiment was a dividend on wages of $3,753 a year, derived entirely from the increased economy and care of the workers. In some cases, however, the object of the employers is to secure immunity from strikes and other labor disturbances and a greater permanence of the labor force; and participation in profits is conditioned on the men abstaining from joining a trade union, or on uninterrupted service. In these cases the deferred participation plan is used. The advantages claimed for the system are not merely the increase in product already spoken of and the greatest efficiency of the worker, but also the improvement in his material and moral standards, and the promotion of industrial peace by lessening discontent and friction. The main basis for the system, since it is economic and not philanthropic in its nature, must of course be the increase in production brought about by its adoption.

More weighty, however, appear the objections against profit-sharing, which seem to have had sufficient force to cause the failure of a number of ventures in this direction. [Pg 112] In the first place, the relation between the increased effort of a single workman and the success of a general business is so remote, especially in our complicated modern industry, that it is unlikely to act as a very powerful stimulus. But even if it should, the savings thus effected might be swept away by the poor business management of the employer. "It is quite possible that the workman who, in the hope of earning 'bonus to labor,' has done work 10 per cent in excess of the normal standard, may, even under a liberal scheme, find that, instead of receiving an addition to his normal wages of, say, 7 per cent, the bad management of his employer has reduced his bonus to so low a level

that he has to be content with a supplement equivalent to only 2 per cent on his wages, or that, as has been the case in a large proportion of the schemes ... no bonus whatever is forthcoming."[34] It is undesirable to make the earnings of the laborer dependent in any way upon the fluctuations of business or the ability of the employer. The ordinary wage system has at least the merit that the reward of the laborer is made dependent only on his own efforts. The lot of the modern worker is too unstable and employment too unsteady to add a new element of uncertainty in wages. If the laborer has really earned the premium, say labor leaders, why not add it to his wages instead of adopting this roundabout method. The sliding scale, or a system of premiums or bonus payments for increased output, would be better than profit-sharing, and is rapidly spreading.

This leads to the second objection, which is that profit-sharing paralyzes the efforts of the laborers to better their own conditions through trade unions, strikes or other methods. The trade union attitude was vigorously stated by President Gompers of the American Federation of Labor in his testimony before the Industrial Commission[35]: "There have been few, if any, of these concerns which have been even comparatively [Pg 113] fair to their employes.... They made the work harder, longer hours, and when the employes of other concerns in the same line of trade were enjoying increased wages, shorter hours of labor, and other improvements, tending to the material progress of the worker, the employes of the concern where so-called profit-sharing was the system at the end of the year found themselves receiving lower wages for harder work than were those who were not under that beneficent system." As long as the system is viewed with suspicion by the laborer or used as a weapon in industrial bargaining by employers, the plan is foredoomed to failure. But even were it managed in the proper spirit, it is after all applicable to only a comparatively few industries, those, namely, in which labor makes up the largest part of the cost of production. In most modern industries capital plays such an important role as compared with labor that the field for this plan is comparatively limited.

In the actual practice of profit-sharing there have been many interesting experiments, and not a few failures. It may be said to date from 1842, when M. Leclaire, a Parisian painter and house decorator, introduced it into his business, and has since spread over France and England; it has met with little success in the rest of Europe. In the United States the movement has also been more recent and of smaller proportions. The reason for this is suggested by President Hadley as follows[36]: "Where the laborers under the old wage system are not working up to a high standard of efficiency, there is more chance for the success of profit-sharing. This seems to be the reason why it works better on the Continent than in England, and better in England than in America." It was estimated in 1900 that there had been in the entire world some 500 experiments in profit-sharing, of which about 400 were still in existence: a more conservative estimate [Pg 114] would place the latter number at about 300.

More radical than profit-sharing, which involves only a change in the method of payment of wages, is co-operation, which involves a change of management as well. Its final goal, in the minds of its advocates, is the radical modification if not ultimate abolition of the present wage system. While profit-sharing is paternalistic and is directed to an increase of production, co-operation may be said to be democratic, and to aim at a more equitable distribution. Under this plan the laborers hope to divert to themselves the large amount of profits which they now see going into the possession of their employers. By eliminating the manager or enterpriser they hope to save his profits for themselves. Two different kinds of co-operation are usually distinguished—distributive or consumers' co-operation, and producers' co-operation—which we may profitably take up in turn.

Successful consumers' co-operation may be said to have originated in Great Britain when twenty-eight Rochdale workingmen founded their famous society of Equitable Pioneers. The success and growth of this remarkable experiment, starting with a capital of £28, to a great system of 8,000 members with a capital of £200,000 in 1874, is a most romantic story. It was largely imitated and retail co-operative stores sprang up all over England. In 1864 the English Co-operative Wholesale Society was started, for the purpose of the joint purchase of supplies for the retail co-operative stores on better terms than these could secure singly from ordinary wholesalers. It effected large economies and was successful from the beginning; by 1901 it had a capital of £2,500,000 and acted as purchaser for over 1,000 retail societies. From buying, the society soon passed to making its own goods and now manufactures directly a long list of commodities. In 1868 the Scottish Wholesale Society was inaugurated upon [Pg 115] practically the same plan. Consumers' co-operation has met with considerable success in Europe also. In the United States, however, experiments of this kind have in general had only a brief existence. It is impossible to say how many such societies exist today as no adequate statistics on the subject exist. Trade union stores in New England, the grange stores of the Patrons of Husbandry and later similar ones of the Sovereigns of Industry, and a few sporadic movements since in different parts of the country, show what has been attempted. The reasons for the lack of success in this country are not hard to find. Co-operation requires a willingness to take considerable trouble for small economies, which American workingmen, with their generally high wages, have not yet been willing to take. It also requires a considerable degree of homogeneity in thought and interests on the part of a people, which is naturally less present in the United States with its large admixture of foreign population than in England or the countries of Europe.

The methods of the Rochdale Society will serve as an illustration of the way in which the savings effected by co-operation are distributed among the members. Any one might become a member upon payment of one shilling and was then entitled to trade at the store. The prices charged were those current in the town, but purity of goods was assured; cash payments were an essential feature. At the end of the year the profits were divided among the members in proportion to the amount of their purchases. On the other hand, it may be noted that no attempt was made to, introduce profit-sharing with the employes, who are paid ordinary but good wages only. Other forms of consumers' co-operation are those which undertake to supply insurance, or credit, like the co-operative insurance companies, banks, and building and loan associations. The latter especially have had considerable success in the United States and have helped [Pg 116] many a laborer or man of small means to the ownership of a home.

Producers' co-operation differs from that just described in that it is a union on the part of laborers to do away with the employer and to secure for themselves the profits. The object of the first is to lower prices for the co-operators as consumers; the object of the second is rather to secure higher prices for themselves as producers by eliminating the profits of the industrial manager. They hope to perform his function by their collective effort, and to manage as well as labor; indeed, by diminishing friction and strikes they even hope to increase the profits. Examples of successful co-operation of this sort are not numerous, as it has great difficulties to contend with. Most of the experiments have failed, though recently it would seem that the movement is making substantial though slow progress, especially in France and England. Most of those in the latter country, however, seem to be of simple industries, as agriculture and dairy-farming. The most notable example of successful productive co-operation in the United States has been furnished by the coopers of Minneapolis, who organized a shop of their own in 1868 and have steadily increased their business since that time. Other instances often cited are the wood-workers in St. Louis and boot and shoe companies in Massachusetts.

More recently there has been a considerable extension of co-operative creameries, cheese factories and similar businesses of a simple kind.

The advantages of co-operation are summed up as follows by President Walker.[37] From the laborer's point of view: "First, to secure for the laboring class that large amount of wealth, which ... goes annually in profits to the employer. Second, to secure for the laborer the opportunity to produce independently of the will of an employer.... In addition to these, the political economist beholds in cooperation three sources of [Pg 117] advantage. First, co-operation would, by the very terms of the case, do away with strikes.... Second, the workman would be incited to greater industry and to greater carefulness in dealing with materials and with machinery. Third, in no small degree frugality would be encouraged." To these may be added other advantages, mostly realizable, however, in consumers' co-operation. Saving in store-room, clerk hire, advertising, book-keeping, etc., is effected, while above all, the practice of cash payments saves all loss from bad debts. The initial success of the Rochdale pioneers was in large part due to the economy in this line, as a system of long credits burdened the retail trade of England at the time they began. In this country the large department stores have introduced this system and have thus been able to give their customers lower prices, and by so much have lessened the motive for consumers' co-operation. The educative effects of successful co-operation upon the participators in developing habits of thrift, careful management and a knowledge of business principles, is one of the chief advantages of the system. The ultimate ideal of enthusiastic co-operators does not, however, stop short of a mere saving in price. The goal is stated as follows by the Right Relationship League of America, which has several co-operative stores in the Northwest: Consumers' co-operation is merely the first step which "will lead next to co-operative production, next to public ownership of natural resources and finally to complete industrial and economic equality, social and political right relationship—the Kingdom of God on Earth."

The defects of co-operation have already been suggested in the account of their failure. In the first place, the importance and need of intelligent and efficient management are usually underrated by workingmen. They are unwilling to pay high salaries and as a consequence lose the best men and secure inefficient service. Co-operation has [Pg 118] therefore succeeded best in retail trade where the processes are comparatively simple, or in those branches of production where industry counts for most and management for least. But even if it were possible to secure an efficient and progressive manager for a co-operative shop, it is found very difficult for a man chosen by the workmen to enforce discipline among them. A second disadvantage is the difficulty of securing capital. Where, as in many branches of large-scale manufacturing today, the average investment of capital amounts to more than $1,000 per employe, the impossibility of obtaining this by the contributions of the workers is obvious. Nor are capitalists usually willing to lend to such organizations, as the risks are too great. To meet this difficulty Ferdinand Lassalle, a German socialist, proposed that the state should advance the necessary capital to associations of workmen. But the experience so far with productive co-operation would seem to suggest that the social benefits would not equal the waste of public capital. There is danger also that if successful the co-operative associations would tend to become monopolies; they are profit-seeking societies and would probably not differ materially in their methods from ordinary joint stock enterprises.

It seems impossible, therefore, to expect from co-operation a final solution of the labor problem, such as John Stuart Mill, for instance, hoped for. Where successful, it has succeeded in distributing profits among a larger number of persons than would otherwise have received them. Its educative and moral effects, moreover, in the appeals which it makes to higher motives and to character, are of the highest value. But as an industrial system of enterprise it cannot supplant the present system as long as the

manager of industry is needed. Today he performs a useful social service and profits are his pay therefor. If he is to be eliminated, society must first be raised to a higher plane of efficiency, intelligence, and morality. But just because it makes these high demands upon the members of the laboring class, attempts at co-operation should receive all reasonable encouragement. [Pg 119]

XIII. PROBLEMS OF DISTRIBUTION.

So far we have discussed for the most part those economic problems that center round the production of wealth, such as the use of natural resources, large-scale production, trusts and monopolies, labor organizations, unemployment, industrial education and co-operation. Now we shall consider briefly a few of the problems that are connected with the distribution of wealth. Professor Blockmar[38] says that the three great problems of economic society are: "First, how to create the largest amount of utilities or wealth; second, how justly to divide this amount; and third, how to make the product minister to the permanent rather than to the transient well-being of society." The first problem we have already discussed; the second forms the subject of the present section; while the third will be taken up in the next section. Within the last century the center of interest in the practical application of economic principles has decidedly shifted from production to distribution. The earlier writers in economics, as shown in the mercantile lists of the seventeenth and eighteenth centuries, even Adam Smith, were chiefly interested in methods of increasing a nation's wealth. With the introduction of the factory system and the opening up of vast natural resources by improvements in mining and transportation, the production of wealth has enormously increased, and now the question of the method of its distribution or division is felt to be more pressing.

Under the term distribution two different processes are included, which should be distinguished before going further. The first is called functional distribution, and concerns the distribution of the product of industry or the income of society, among the different factors of production. That is to say, land, labor, capital and managerial ability [Pg 120] have contributed in varying degrees to the production of a certain amount of current wealth, and the problem of functional distribution is to ascertain how the net product resulting from these joint efforts is divided. How much goes to rent, how much to wages, how much to interest and how much to profits? The second kind of distribution is the division of the wealth of society among individuals or families; this is personal distribution, and raises the question of poverty and great wealth. In discussing these problems, however, we must remember that wealth production and distribution takes place in modern society under conditions imposed by the social order in which we live; these were defined as competition, private property and personal liberty. If any modifications of the processes of distribution were desired, it would undoubtedly be necessary to alter these fundamental institutions.

John Stuart Mill held that production was governed by natural laws, which could be ascertained and stated, but that distribution was artificial and hence that it was not possible to discover constant and certain laws governing it. Beginning mainly with Mill, the ethical question has been more and more asked as to what share each factor in production ought to get, not merely what he does receive. "Hence the question is rising more and more as to what should be the basis of division, and many proposals have been made. It is proposed that laborers combine to get a larger share. Hence we have trade unions, Knights of Labor, etc. It is proposed that capitalists and landlords give a larger proportion of the produce to the laborers than they are able to secure by mere private struggle. Hence we have proposals for profit-sharing and various charities. It is proposed that laborers combine to be their own capitalists and landlords; hence we have all sorts of co-operative and communistic experiments. It is asserted that the wealthy classes have so much power in their hands that private co-operation cannot [Pg 121] succeed in competing against them, and hence it is proposed that all the people, through government (municipal, state, and national), secure all the means of production

(capital and land, so far at least as land is used for production), and operate them collectively for the equitable good of all, the people thus being their own employers, capitalists, and landlords. Hence we have municipalism, nationalism, socialism. It is claimed that capitalists and landlords have been able to secure, and are today able to maintain, their large share in distribution, only through the favoritism of the Government. Hence we have proposals for free trade, the single tax,... the extreme proposals of the very great minimizing of the state in individualism, or the abolition of the Government in anarchism."[39] In view of this very imperfect list it is not too much to say that most of the economic problems that are stirring society today are connected with the distribution of wealth.

The first question that suggests itself in the discussion of functional distribution is as to whether it is actually governed by natural law, so-called. It is observable that the amounts which go to rent, to wages, to interest, and to profits are regularly quite constant. What determines this? The socialists contend that natural distribution is the only just method and insist that the state should regulate this just distribution; they are not clear, however, as to what this natural method is. Henry George uses the same phrase when he says, "the just distribution of wealth is manifestly a natural distribution of wealth, and this is that which gives to him who makes it and secures to him who saves it." All such statements beg the question for they all turn on the use of the word natural. Many modern economists are inclined to assert that the question of distribution is not an ethical one, not a question of what ought to be but of what is. Thus Professor [Pg 122] Tetter says[40] : "Distribution in economics is the seasoned explanation of the way in which the total product of a society is divided among its members. It is a logical question and not an ethical one." And Professor Clark writes, "There is, in short, a deep-acting natural law at work amid the confusing struggles of the labor market." It will not be possible, in the brief limits of this section, to take up all the theories as to the way in which this distribution is effected among the claimants to a share of the product, but a few of the more important practical results may be stated. We shall take up the four different factors in turn.

Rent is usually defined as the return for the use of natural objects and agencies. Rent has usually been low in the United States because of the large amount of land and other natural agents available. In general it may be said that when any factor of production is relatively abundant in comparison with the other factors, its share of the product will be small.[41] Henry George, however, argues that as the amount of land is limited and is now practically all taken up, the future will see a constantly increasing demand for land, and hence the landlords will absorb most of the future income of society. This is true of most of land and other natural agents especially in demand, as choice sites in our cities, anthracite coal mines, etc. The practical problem that suggests itself is, do we wish private property in land? The socialists answer no, but the individualists insist that the best use has been and can be made of land only by reducing it to private ownership. In practice, however, even in modern individualistic societies, the absolute and unregulated use of land by the owner is restricted in various ways.

Interest is the amount paid for the use of capital. From the time of the church fathers in [Pg 123] the Middle Ages down to the present-day socialists, interest and the private ownership of productive capital have formed favorite objects of attack. The justification of interest lies in the fact that men prefer present goods to future goods—a bird in the hand is worth two in the bush—and interest is the difference in value between the two at the present moment; it is time value. The justification of private property, on the other hand, lies rather in its expediency than in any inherent and unalterable law of nature. It has developed with civilization and has been, without question, a fundamental cause of material progress. But moderate individualists even, as John Stuart Mill, have attacked the institution of inheritance while leaving the main edifice of private property

untouched. They would limit absolutely the amount of bequest or, as President Roosevelt advocated, would use inheritance taxes as a means of breaking up large fortunes.

Profits are the reward which the manager of a business receives for his services in organizing and superintending the business. This share of the social income was the last to be recognized by economists, and its rightfulness is even yet denied by the socialists. They insist that profits are really the earnings of labor which have been withheld from the laborer by the superior skill and economic strength of the capitalist manager; they are institutional robbery, the exploitation of labor. It is not possible to take up the arguments on this point, but it may be said in a word that the manager of business contributes a needed service to the work of society just as truly as the laborer does, and receives his earned reward in the form of profits.

Wages are the reward of labor. It is often assumed that wages are lower than they should be, that the laborer in some way is deprived of a portion of what he has rightfully earned. It is worth while inquiring briefly how the share of labor in the [Pg 124] distribution of the social income is determined. Various theories have been developed to explain the distributive process, of which we may notice three. The oldest in point of time and the most pessimistic theory held that wages were fixed by competition and the growth of population at the bare subsistence minimum, a bare starvation level. If by some happy chance wages were raised above this point, then the population would speedily multiply and the increased competition thus brought about among the laborers would depress wages again to the lowest amount sufficient to support a family. Under the name of the "iron law of wages," this theory is still put forth by the socialists as the explanation—together with the institution of private property—of wages. Historically, however, this theory has happily been proven untrue, as the advance in the standard of living among the working class during the past century testifies. It has now been almost wholly superseded by the so-called productivity theory,[42] which asserts that wages depend upon the productivity of labor; that the laborer gets what he produces, and that this share is assured him by the working out of the competitive process under free competition. If this theory is true, there can be no ethical question raised; if labor is dissatisfied with its share, then it must increase its productive efficiency. As a matter of fact wages have always been high in the United States because labor has been relatively scarce compared with land and capital, and consequently its marginal productivity has been high. The third theory says that wages are a result of bargaining, of competition in the labor market, a question of supply and demand. Under these circumstances it is largely a question of economic strength between labor and capital, and if labor is well-organized, alert, and able to drive a good bargain, then wages will be high; otherwise they will be low. While there is an element of truth in the last theory, [Pg 125] the second one seems the truest explanation of general wages; certain it is that no monopoly power of labor, however great, could permanently maintain wages at a level higher than the actual produce of labor. The element of truth in the first theory is that wages can never, for any length of time, fall below the cost of subsistence.

Of more practical interest are questions connected with the personal distribution of wealth. In this connection arise such problems as the increase of large fortunes, the causes of poverty, and similar questions. The boast of our Republic has long been that here opportunity was open to all, that wealth was widely diffused, and that such inequalities of fortune as characterized the nations of the Old World were happily lacking. In the fifty-five years, 1850-1904, the per capita value of all property in the United States exactly quadrupled; how has this increase been distributed? Unfortunately we have no complete statistics on this point, yet reliable estimates by authoritative writers all tell the same story—of great concentration of wealth in the possession of a comparatively few rich families. In 1893 Mr. George K. Holmes

concluded from a study of the statistics of farm and home ownership in the United States that "91 per cent of the families of the country own no more than about 29 per cent of the wealth, and 9 per cent of the families own about 71 per cent of the wealth." A more accurate and satisfactory statement can be drawn from the income-tax returns for Prussia, which tells almost the same story with regard to income. The table on the following page is condensed from an article by Professor A. Wagner:

Distribution of Income in Prussia, 1902 [Pg 126]

Income	Per cent of persons	Per cent of income
Below $214	70.7	33.0
$214 to $714	25.8	34.9
Over $714	3.5	32.1

According to these figures over two-thirds of the persons—heads of families or single adults—had only one-third of the income, while 3½ per cent had another third. Another striking fact shown by the table is the large proportion of persons receiving incomes of less than $214 a year, the minimum taxable income. It shows the poverty of the mass of the people as well as the concentration of wealth among the few rich. In the United States, where the natural resources have been so much richer than in Germany, a similar table would probably show a much smaller proportion under the Prussian minimum, but on the other hand it would probably show a greater concentration of income in the hands of a few. Europe has as yet no billionaire. The great fortunes of the United States have been made possible by the unrivaled opportunities for the exploitation of rich natural resources, the appropriation of natural monopolies, and to special privileges and opportunities in manufactures and transportation. The importance of monopoly privileges in the distribution of wealth is well shown by the results of an investigation made in 1892 by the New York Tribune into the sources of the fortunes of millionaires. It was undertaken to show that protection was not the main cause; but while it proved this, it showed clearly that most of them were built up on monopoly. "Of the 4,047 millionaires reported, only 1,125, or 28 per cent, obtained their fortunes in protected industries.... About 78 per cent of the fortunes were derived from permanent monopoly privileges, and only 22 per cent from competitive industries unaided by natural and artificial monopolies.... Furthermore, if the size of fortunes is taken into account it will be found that perhaps 95 per cent of the total values represented by these millionaire fortunes is due to those investments classed as land values and natural monopolies, and to competitive industries aided by such monopolies."[43] It is essential to the stability of our democratic institutions that all special privileges be absolutely prohibited, and that monopoly be brought under strict government control and regulation. Improper methods of wealth accumulation should certainly be prevented. [Pg 127]

The opposite question of poverty has already been discussed and some of the causes of poverty pointed out. It will be sufficient here to try to answer the question which has often been asked: Are the rich growing richer and the poor poorer? Though the first part of the question has just been affirmed, the second part may be denied. The nineteenth century has witnessed a vast improvement in the condition of the laboring man, who has shared in the increasing wealth which he has helped to produce. Wages have steadily increased, the hours of labor have been reduced, and the material well-being of the wage-earner is greater today than it has ever been before. It has more than once been pointed out by writers on this subject that with an equal distribution of wealth no one would be well-to-do, while many others insist that inequality in itself is a

desirable thing. Greater diffusion of wealth can come about only by very slow processes, and permanent plenty can be secured only by a great increase in the accumulations of capital and the efficiency of each worker. Any suggested reform, therefore, that would weaken the motives to thrift and industry must be rejected.

XIV. SAVING AND SPENDING.

The goal and purpose of all economic activities is the satisfaction of human wants. The object of production is consumption. We work because we desire and need various things which we can get only if we produce them or earn the money to buy them. In this section we take up some of the problems connected with the rational use or consumption of the wealth which is continually being produced. We have seen something of the conditions under which it is produced, and the manner in which it is distributed; we must now study the not less important subject of its application to human needs and desires. The great question is, how can we get the largest and most rational return for a given expenditure? Before trying to answer this question, it will be helpful to present a summary statement of actual expenditures in different places:

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Expenditures for Different Purposes.

Items	United States 1903	New York City	Great Britain	Prussia	Average
Food	43.1	43.4	51.4	55.0	48.2
Clothing	13.0	10.6	18.1	18.0	14.9
Rent	18.1	19.4	13.5	12.0	15.8
Fuel and light	5.7	5.1	3.5	5.0	4.8
Miscellaneous	20.1	21.5	13.5	10.0	16.3
Total	100.0	100.0	100.0	100.0	100.0

From this table it is seen that practically half of the income of average working-class families is expended for food, and five-sixths of it goes for the bare necessaries. It is therefore of the utmost importance that this be spent wisely. The remaining one-sixth, included here under the head “miscellaneous,” comprises such items as education, care of health, comfort, mental and bodily recreation, etc. It is manifest that this group can be expanded in only one of two ways: either by enlarging the total income, or by economizing on the other items by a wiser and better-ordered expenditure. The former question has already been discussed; here we are concerned only with the latter. Dr. Frederick Engel, a Prussian statistician, laid down certain laws with regard to consumption: as the income of a family increases a smaller percentage is spent for food and a larger percentage for education, health, recreation, etc.; while the percentage spent for clothing, rent, fuel and light remains approximately the same. A higher civilization and culture for the mass of the people can only be secured by expanding the group of culture expenditures. As long as these remain unsatisfied for the ordinary family we cannot claim to have attained our economic goal. The author of a recent study of conditions in New York City, where the cost of living is high, concludes that a “fair living wage for a workingman’s family in New York City should be at least $728 a year, or a steady income of $14 a week.”[44] The actual earnings are certainly below this figure.

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One of the problems which has often proved very puzzling is the relation between saving and spending. At what point should one stop spending in order to save? If the satisfaction of our wants is the object of production, why should we save at all? This is the point urged by the author of a specious little book called “The Fallacy of Saving.”

The problem can be most easily solved by a more careful analysis of terms. In the popular view, saving involves the withdrawal of goods or money from use, while spending means putting them to immediate use. The spendthrift is proverbially popular. "If the rich do not spend, the poor die of hunger," said Montesquieu. Saving may take the form of hoarding or withdrawing things from use, but nowadays this is practised only by misers; saving ordinarily takes the form of investment in some productive enterprise, either directly or through a bank. In this way a demand is created for goods just as truly as though the money had been spent for a dinner or a suit of clothes. Saving is spending, but it is spending for the future rather than the present; it usually causes the production of permanent material goods rather than transient or immaterial pleasures. Another cause of the confusion of ideas on this subject is that we always [Pg 130] speak of money and thus lose sight of the acts of production and consumption that lie back of the money transfer. We see that money is transferred by spending and think that it increases trade. Consequently, when a prodigal spends his money foolishly, it is excused on the ground that it makes employment and puts money in circulation. We forget that it would have been "put in circulation" just as effectively if he had not spent it, but had placed it in a bank. If we look back of the money transfer, we see that usually there has been a foolish or wasteful expenditure, sometimes an absolute destruction of wealth. A fire which burns down valuable buildings is an absolute social loss, even though employment be given to masons and carpenters in putting them up again.

A third confusion of ideas that exists in the popular mind is due to an over-emphasis of the desirability of work for its own sake. The man who "makes work" is thought to be doing a desirable thing, even though this results from the unnecessary destruction of useful things. Now the real goal of all rational economic endeavor is not production for its own sake, but consumption; not work, but the gratification of wants. Every destruction of durable commodities which lessens the power to gratify wants is a loss to a community and no juggling with words can make it anything else. If it gives employment to labor, that means that the labor has been diverted from the production of other things to which it would have been devoted. Edward Atkinson several years ago calculated that every year fires destroyed property in the United States to the amount $150,000,000.[45] That workmen are employed to reproduce the buildings, etc., can surely not be reckoned as a social gain. There is great danger in a commercial age like ours of forgetting that work is not an end in itself, but simply a means to an end. But it may be argued that unless these men had been given employment of this sort, [Pg 131] they would have starved. It is conceivable that during or after a revolution industry would be so interrupted that ordinary employments would not be open. But in ordinary times such a statement is simply an assertion of the fallacious lump-of-labor theory, that there is just so much work to be done and no more. New wants are continually pressing for satisfaction, waiting only for the prior ones to be satisfied before they urge their claims. So soon as the old ones are satisfied, additional employment is provided in meeting the newer desires. The aim of society is to expand continually the circle of gratified desires. As durable goods and agents are accumulated by the process of saving, this becomes increasingly possible in every progressive society. Useless destruction involves sheer waste and cannot be justified on any grounds.

On the other hand, saving is socially necessary in every industrially developed community in order to furnish the requisite capital for the continued production of wealth. Professor Marshall has estimated that every year one-fifth of the wealth of a nation is used up in the processes of manufacture and production; just to keep machines, factories, railroads, and other instruments of production up to the point of efficiency and restore loss and depreciation would therefore require considerable saving. If the nation is to grow wealthier and is to accumulate additional capital, manifestly still more must be saved. This is done in all progressive countries. Saving is

carried on by individuals, however, and not by nations, and the motives that lead to it are personal. The most important is probably the desire to provide for wife and children or other relatives; next to that is the wish to lay by sufficient for one's old age. In our individualistic society, where each family forms an independent unit and is assumed to be self-supporting, it is very desirable that habits of thrift and saving be developed. [Pg 132] Both from a social and a personal point of view therefore saving must be approved, though it is undesirable that it should proceed so far as to prevent spending for the gratification of essential present needs.

But what shall we say about expenditures for luxuries? Here the spending is for the gratification of a want, though it may be out of proportion to the results. What shall be our attitude to it? This question is not so easy to answer as the other. Three different schools have given as many answers to the problem of luxury: the first condemns it utterly; the second approves it wholly; and the third takes an intermediate position between the two extremes. Luxury is condemned by the first school from three points of view: as a question of individual morals, it is regarded as debasing and enervating, thus preventing the highest development of the human faculties; as a question of economics it is condemned as wasteful; and as a question of right and justice it is incompatible with an equitable distribution of wealth. It is upon this last point that the opponents of luxury lay the greatest emphasis. As the quantity of existing wealth is insufficient to satisfy even the primal wants of the large majority of our fellow-creatures, we should endeavor to increase this available store as much as we can, and should refrain from drawing upon it in a reckless manner in order to gratify superfluous wants. Furthermore, the productive powers that we can use are, as a matter of fact, limited; and therefore, if the wealthy classes divert a portion of these forces towards the production of articles of luxury, there will be so much the less available for the production of those staple articles that the masses require for their consumption. In the case of a Robinson Crusoe this would be perfectly clear: if he devoted several months to the polishing of a diamond for ornament, he would have to go without a house or other improvements he might have made in that time. Or, if he forced his man Friday to spend half his time polishing diamonds for him, Friday might be compelled to go [Pg 133] without sufficient clothing or food or housing. The same thing is true of organized society, only the truth is hidden by the phenomena of exchange. It has been estimated[46] that the annual consumption of wealth in the United States is divided somewhat as follows: necessaries, six billion dollars; luxuries, three and one-half billion (of which $900,000,000 go for liquor and $500,000,000 for tobacco); capitalistic uses, three and three-quarter billion. It is manifest that if the expenditure for luxuries was curtailed or abandoned, there would be more to devote to the other categories.

The opposite school replies to these arguments that luxury is an indispensable stimulus to progress; that really all economic progress is first manifested in the form of a need of luxury, and that luxury therefore is a necessary phase of its development. Since luxury is wholly relative, every want or need is, on its first appearance in the world, regarded as superfluous; first, because no one has hitherto wanted it, and secondly, because its production probably requires a considerable amount of labor, on account of man's inexperience and the inevitable gropings in the dark that attend all beginnings. The decencies of life today and even the necessities were once regarded as luxuries—chimneys in houses, shoes, forks and knives, linen for the body, bath tubs, etc. If all luxury had always been sternly suppressed when it made its appearance, all the needs that constitute civilization would have been nipped in the bud, and we should still be in the condition of our ancestors of the Stone Age. Civilization depends on the multiplication of wants. Economic progress is a process of converting superfluities into conveniences, and conveniences into necessities.

The attitude taken by practically all economists today is intermediate between these two extremes. Moderate luxury is justified, but lavish and indiscriminate luxury is disapproved of. This justification of luxury rests upon purely economic grounds. In so far as personal consumption is the objective point of production, the prohibition of luxury would act as an impediment to enterprise. If the desire to enjoy luxuries stimulates the productive powers of economically important members of society, it is justifiable as a necessary motive force. The introduction of luxuries and the consequent raising of the standard of living seems often the only way to secure progress. If the mass of the people live on the minimum of cheap food, multiply as long as cheap food is to be had, and spend little for comforts and luxuries, then most of the labor of such a community must be spent in obtaining food for the masses. Such is the condition in India and China. But if a large part of the community has a higher standard of living, it will exercise self-restraint in the increase of its numbers, and the whole level of intelligence and comfort will be raised, as in France or Switzerland or New England. On the other hand, it is urged that "failure on the part of any family to secure the necessaries of life is injurious, not only to it, but to the whole community. Under-consumption means under-nutrition and loss in industrial efficiency. If permitted to continue it must inevitably undermine the standards which make a family self-supporting and self-sufficient and reduce its members to dependency. The general interest requires, therefore, acceptance of the maxim: the consumption of luxuries should be deferred until all are provided with necessaries.... This suggests that no one is justified in spending income for a luxury for himself or his family that will afford less happiness than would the same income spent for someone else."[47] [Pg 134]

But the difficult question at once suggests itself: How can the surplus incomes of the rich be used so as to provide for the needs of the poor, without undermining their independence or permanently lowering their earning power? It has been suggested that there should be a socialization of luxury; that the rich should use their wealth for the construction of public art galleries, libraries, parks, baths, etc., which would thus gratify as great a number as possible. The feeling is growing in the United States and in the world that wealth is a social trust, and that the ownership of wealth imposes upon a person certain moral obligations. While every man has a legal right to spend his surplus income as he pleases, he is morally bound to spend it in such a way as to increase the welfare of the whole community. [Pg 135]

Let us now finally take up the problem of economy in consumption. It is said that an American family will waste enough food for a French family to live on. The farmer who leaves his implements out in the rain or his cattle without proper shelter, is guilty of waste. We all waste clothing by frequent changes in fashion. Such waste is as much due to a lack of knowledge and training as to carelessness. The single example of the consumption of food will illustrate this point. "If we place the average income of an American family at $500—and it will not greatly exceed that figure—then nearly $250 of this amount is expended each year for food. Waste occurs in any or all of the following ways: (1) needlessly expensive foods containing little real nutriment are used; (2) there is a failure to select the foods best suited to the needs of the family; (3) a great deal is thrown away which ought to be utilized; (4) bad preparation of the food causes it to lose much of the nutriment which it does contain; (5) badly constructed ovens diffuse heat, instead of confining it, and cause enormous loss of fuel. We shall state less than the truth if we estimate that fully one-fifth of the money expended for food is absolutely wasted, while the excessive expenditure often fails to provide adequate nutrition."[48] The remedy for such a waste as this clearly lies in the teaching of domestic science in our public schools to the daughters and future wives of the workingmen. As the ordinary household expenses, as shown above, absorb from 80 to 90 per cent of the ordinary income, the training of the housewife, under whose control they fall, is almost as imperative as that of the wage-earner. [Pg 136]

The economic evils of intemperance have already been partially stated in the objections to luxury. There is, however, one additional objection to the excessive use of intoxicating liquor which is not true of most indulgences: it diminishes a man's productive powers. It is harmful in its effects upon both consumption and production. Other items of consumption appear, however, not so clearly under the immediate control of the consumer. The housing accommodations in many of our large cities have often been unsanitary and unworthy of being called homes. Legislation has been necessary to compel the erection of better tenements and prevent the exploitation of helpless people. So too it has been found necessary to legislate against loan-sharks, in order to protect people against their own improvidence and ignorance. In addition to legislation against positive evils, we must of course look to education as the great remedy of waste in consumption.

There is one other phase of the subject of consumption that may well be mentioned before leaving this subject. Owing to the constant pressure of the consuming public for cheap goods, many articles are produced under conditions dangerous to the health, morality and well-being of the operatives, as in the case of the "sweated trades." To remedy these evils consumers' leagues have been started in many places, the members of which pledge themselves not to buy goods or to trade in stores where the conditions of work are not up to certain prescribed standards. They realize that as consumers they [Pg 137] owe a duty to other members of society not to exploit them. While this method has proven a fairly effective method of protest in some cases, it cannot be looked to as a solution of this evil. But it emphasizes the fact that the interests of all members of society as producers and consumers are closely interdependent, and that the progress of society requires the improvement of the condition of all.

XV. MONEY AND BANKING.

Probably on no subject has there been such confused thinking or have such widely varying views been held as on that of money. There is, however, substantial unanimity of opinion on the important points among economists today, though in practice there still remain many unsolved problems. The modern industrial system has already been characterized as one of capitalistic production, of large-scale enterprises with extended use of machinery. Not less fundamental are the processes of valuation and exchange made possible by the use of money and credit; and also by the machinery for the geographical distribution of goods, our railroads and steamship lines. The modern stage of economic development has been described by Hildebrand as one of "credit economy," as opposed to those of barter and money economy, which preceded. It is inconceivable that the modern complex system of exchange could be maintained without the extended use of money and credit. Without attempting to define these terms or to trace their historical development, we may proceed at once to state some of the problems to which they have given rise.

The first question that suggests itself is, what determines the value of money? The generally accepted answer may be briefly stated: it is, that the value of money depends, other things remaining the same, upon its quantity. According to the quantity theory an increase in the supply of money will cause a fall in the value of each unit, just as an [Pg 138] increase in the supply of wheat or cotton will cause a fall in the value of each bushel or bale. Conversely, a decrease in the quantity of money will cause a rise in the value of money. It is simply an application of the general law of value to money. The phrase "other things remaining the same" is however an important one, for it assumes that the amount of business and the methods by which it is conducted will remain substantially unchanged. Of course if an increase in the amount of money is accompanied by an equivalent expansion of trade, the one may offset the other and the value of money remain unchanged. Now, inasmuch as the prices of all goods and services are measured and expressed in terms of money, it is clear that a fall in the value of money means a rise of general prices; the value of each commodity is now expressed in terms of a larger number of less valuable units or dollars. Prices will be high if the quantity of money in circulation in a country is large; they will be low if the quantity is small. To the question, which is better for a country, high prices or low prices, it may be answered that it is a matter of indifference, provided only that there is enough money to do the work of exchange efficiently and that fluctuations are prevented. Just how much constitutes enough is, however, a matter of contention. In the undeveloped sections of our country, where capital is scarce and banking facilities undeveloped and where most of the people are debtors, there has always been a demand for cheap and abundant money. Capital and money have been confused and the need of one has led to a demand for the other.

It is not a matter of indifference, however, whether prices be rising or falling, that is, whether inflation or contraction of the currency is taking place. A period of falling prices means hardship and injustice to debtors and producers of goods, as farmers, manufacturers, etc. Having contracted obligations and engaged in the production of [Pg 139] commodities with the expectation of a given price, they find their goods worth less when ready for the market and themselves confronted with a loss instead of the anticipated profit. Under such circumstances a contraction of the currency and falling prices means lessened production of wealth. Consequently many writers, and even so good an economist as President Walker, have urged that a slow steady inflation of the

currency would promote trade and “give a fillip to industry.” The monetary history of the United States is filled with attempts to realize this in practice: colonial and revolutionary bills of credit were first issued; when these were forbidden by the new Constitution resort was had to issues by state banks. When the Federal Government began the issue of greenbacks and restricted the use of state bank notes, the inflationists looked to this source for assistance. After the defeat of the Greenback party, they turned finally to the coinage of silver, which was now falling in price, and the question of bimetallism in the United States was made a practical political issue.

Down to 1870 practically all the nations of Europe and America had the system of bimetallism at ratios of 15½ or 16 to 1. About that date the great increase in the supply of gold and the fall in the value of silver led one country after another to abandon the latter and to adopt the system of gold monometallism. This was vigorously resisted by many persons and several fruitless efforts made to secure a system of international bimetallism. Failing that, the friends of silver in this country endeavored to secure independent action by the United States alone, and were ultimately successful in obtaining the purchase by the Federal Government of practically the entire silver output of the country during the years 1878-1893.

Development of the Manufacturing Industries in the United States, 1800-1905.

Fiscal Year, ending June 30—	Population June 1.	Wealth.		Production of wool.[B]	Raw wool imported.
		Total.	Per capita.		
		Dollars.	Dollars.	Pounds.	Pounds.
1800	5,308,483	…	…	…	…
1810	7,239,881	…	…	…	…
1820	9,638,453	…	…	…	…
1830	12,866,020	…	…	35,802,114	669,883
1840	17,069,453	…	…	52,516,959	9,898,740
1850	23,191,876	7,135,780,000	307.69	…	18,695,294
1851	23,995,000	…	…	…	32,607,315
1852	24,802,000	…	…	…	18,343,218
1853	25,615,000	…	…	…	21,616,035
1854	26,433,000	…	…	…	20,228,035
1855	27,256,000	…	…	…	18,599,784
1856	28,083,000	…	…	…	14,778,496
1857	28,916,000	…	…	…	16,505,216
1858	29,758,000	…	…	…	…
1859	30,596,000	…	…	60,264,913	…
1860	31,443,321	16,159,616,000	513.93	75,000,000	…
1861	32,064,000	…	…	90,000,000	…
1862	32,704,000	…	…	106,000,000	42,131,061
1863	33,365,000	…	…	123,000,000	73,931,944
1864	34,046,000	…	…	142,000,000	90,464,002
1865	34,748,000	…	…	155,000,000	43,877,408
1866	35,469,000	…	…	160,000,000	67,918,253
1867	36,211,000	…	…	168,000,000	16,558,046
1868	36,973,000	…	…	180,000,000	24,124,803
1869	37,756,000	…	…	162,000,000	39,275,926
1870	38,558,371	30,068,518,000	779.83	160,000,000	49,230,199
1871	39,555,000	…	…	150,000,000	68,058,028
1872	40,596,000	…	…	158,000,000	122,256,499
1873	41,677,000	…	…	170,000,000	85,496,049
1874	42,796,000	…	…	181,000,000	42,939,541
1875	43,951,000	…	…	192,000,000	54,901,760
1876	45,137,000	…	…	200,000,000	44,642,836
1877	46,353,000	…	…	208,250,000	42,171,192
1878	47,598,000	…	…	211,000,000	48,449,079
1879	48,866,000	…	…	232,500,000	39,005,155
1880	50,155,783	43,642,000,000	850.20	240,000,000	128,131,747
1881	51,316,000	…	…	272,000,000	55,964,236

1882	52,495,000	…	…	290,000,000	67,861,744
1883	53,693,000	…	…	300,000,000	70,575,478
1884	54,911,000	…	…	308,000,000	78,350,651
1885	56,148,000	…	…	302,000,000	70,596,170
1886	57,404,000	…	…	285,000,000	129,084,958
1887	58,680,000	…	…	269,000,000	114,038,030
1888	59,974,000	…	…	265,000,000	113,558,753
1889	61,289,000	…	…	276,000,000	126,487,729
1890	62,622,250	65,037,091,000	1,038.57	285,000,000	105,431,285
1891	63,844,000	…	…	294,000,000	129,303,648
1892	65,086,000	…	…	303,153,000	148,670,652
1893	66,349,000	…	…	298,057,384	172,433,838
1894	67,632,000	…	…	309,748,000	55,152,585
1895	68,934,000	77,000,000,000	1,117.01	272,474,708	206,033,906
1896	70,254,000	…	…	259,153,251	230,911,473
1897	71,592,000	…	…	266,720,684	350,852,026
1898	72,947,000	…	…	272,191,330	132,795,202
1899	74,318,000	…	…	288,636,621	76,736,209
1900	76,303,387	88,517,306,775	1,164.79	302,502,328	155,928,455
1901	79,003,000	…	…	287,450,000	166,576,966
1903	80,372,000	…	…	291,783,032	177,137,796
1904	81,752,000	107,104,211,917	1,310.11	295,488,438	173,742,834
1905	83,143,000	…	…	298,915,130	249,135,746
1906	84,216,433	…	…	298,294,750	201,688,668
1907	85,817,239	…	…	311,138,321	203,847,545
1908	87,189,392	…	…	…	125,980,524

Fiscal Year, ending June 30 —	Production of cotton.[B] (500-lb. bales, gross weight.)	Manufactures of cotton.					
		Thousands of spindles in operation on Sept. 1st.			Thousands of bales of domestic cotton taken by mills.		
		In Southern States.	In Northern States.	Total United States.	In Southern States.	In Northern States.	Total United States
	Number.	Thou-sands.	Thou-sands.	Thou-sands.	Thou-sands.	Thou-sands.	Thou-sands.
1800	73,222	…	…	…	…	…	…
1810	177,824	…	…	…	…	…	…
1820	334,728	…	…	…	…	…	…
1830	732,218	…	…	…	…	…	…
1840	1,347,640	181	2,104				