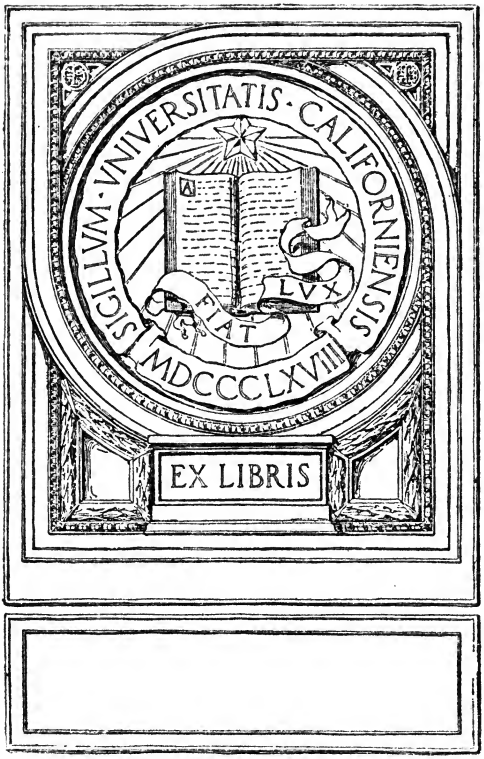
ELEMENTS OF ECONOMICS
FOR
HIGH SCHOOLS
BY
S. SALTER, A.M.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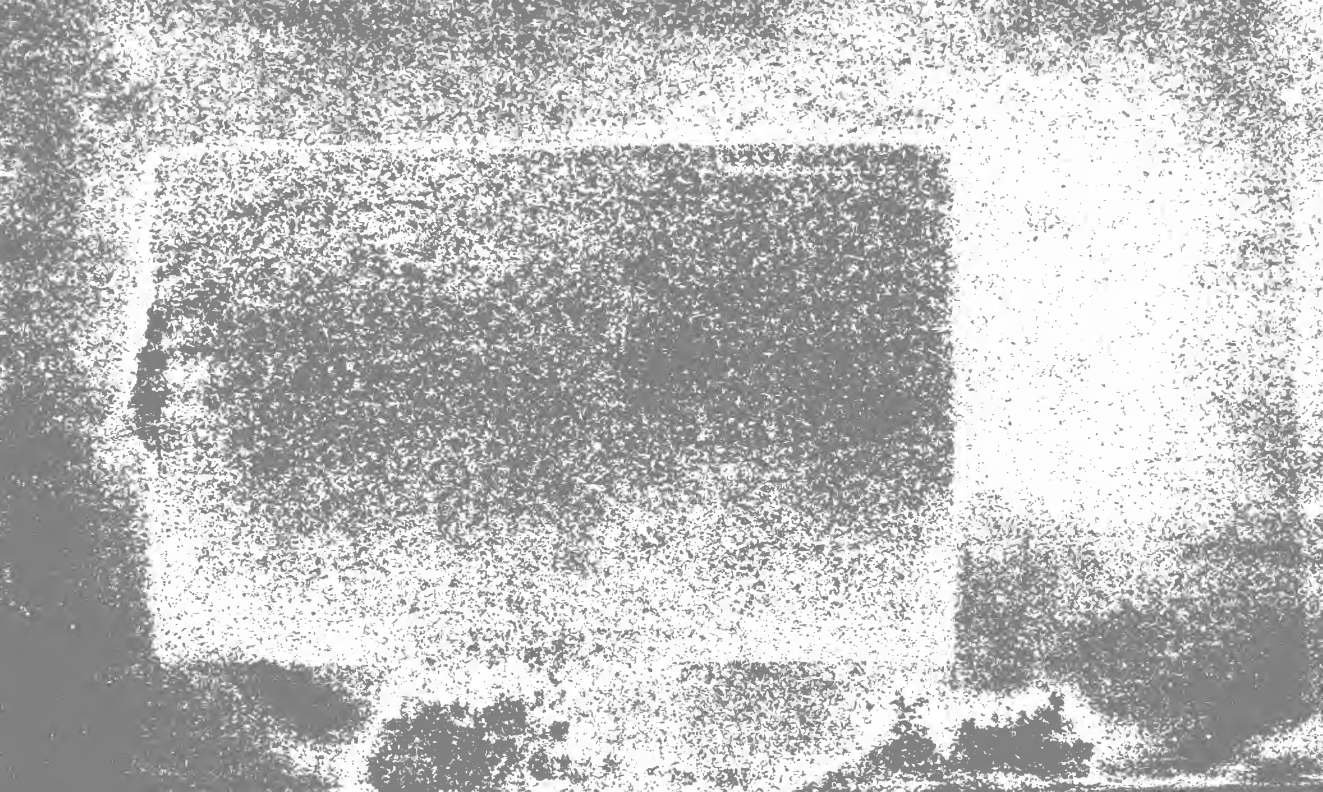

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U. S. PARKER, A. M.

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ELEMENTS OF ECONOMICS

CHAPTER I.

Outlines of Economic History.

1. SCOPE OF ECONOMICS. Economics, or Political Economy, is the science which treats of men's efforts to get a living. It is one of a new group of sciences called the social sciences. Man had not yet emerged from barbarism when he began to make a more or less systematic study of the facts and forces of nature, and the crude elements of some of the sciences of nature and of mathematics began to develop. The facts and forces involved are so vast and their secret workings lie so deeply buried that the natural sciences are not yet complete; but considerable progress along these lines had been made before man began a systematic study of his own social activities. The Greek philosopher, Aristotle, made a careful study of the governments of his time, and his book on politics contains many sensible conclusions on the general principles of government. But his work was fragmentary, and very little more was done towards working out the science of government during the next twenty-two centuries. Not until the nineteenth century did any systematic work on government appear worthy of the name of a scientific book. And the science of economics is equally new. The first great work upon the subject, Adam Smith's Wealth of Nations, appeared in 1776. But it was quite crude, and not till well into the nineteenth century did the subject begin to assume a real scientific shape.

During the last half century great thinkers have turned their attention to man's social activities, and several social sciences have been roughly worked out. There are six great social institutions around which man's activities center, the home, the church, the school, the club, the state, and business. Each of these is an institution, since it is organized, each having its own peculiar organization. In the home are the father, the mother and the children, each having their duties to perform and all working towards the common happiness

and development of all. The church is likewise organized, and has its special function to perform. Each of these institutions, its organization, its functions, and the principles that should guide men in their associated efforts in each of the institutions, would constitute a social science. History is sometimes classed as a social science, but it may be doubted that history can be called a science. There are indeed many great principles which history teaches, but they would be included in some one or more of the definite social sciences. History is rather the tracing of man's activities along all lines of effort, including the six named above, together with the growth of language, literature and art, and man's mastery over the secrets of nature. The range of subjects is too vast and our knowledge of the field as a whole too limited to enable us to treat history as a science, which is a body of laws. But it is a social study. Men are attempting to study man's general social activities as a whole and reduce them to a scientific treatment, and the name of this newest of the social sciences is Sociology. But as yet the vastness and indefiniteness of the subject has prevented the formulation of any very definite science of man's social activities in general.

Of the six institutions named above, the two that are now studied most, both in school and out of it, are the state and business. In the study of the state, which is man's political organization for the purpose of government, the school is usually included, since the schools are under public management and the political organization controls the schools in a general way. The study of business from the broad viewpoint of social activity, is the study of economics. At first sight the two subjects, civics, or the study of government, and the study of economics may seem entirely distinct and separate. But as a matter of fact the two run together at several points, and our school texts on the two subjects overlap considerably. This causes unnecessary duplication and should be avoided if possible. The study of the structure and workings of government are sufficiently distinct from man's activity in gaining a living, so that no trouble arises under those two groups

of topics. But as soon as we begin to consider what the government is doing to benefit the people in their efforts to gain a living we are led over into the field of economics. Such subjects as government control of monopolies and of railroads, minimum wage boards, and numerous other topics often treated in our text-books on civics, are parts of political economy, and cannot be understood until the principles of that science are understood, and should, therefore, be treated in economics rather than in civics. In the selection of topics from this border land of uncertainty, the author has been guided by the following principle: If the activity of the government along any line affects vitally man's efforts to gain a living, and a knowledge of the subject involves the principles of economics, the topic is included in the science of economics.

As society is at present organized in its efforts to gain a living, the principles of the science naturally fall into four groups, known as Consumption, Production, Exchange, and Distribution. Man craves certain things which satisfy his economic wants, and his action, prompted by this longing, can be reduced to certain laws, known as laws of consumption. To satisfy these wants, goods are produced, and the success of our efforts in this direction depends upon certain conditions, which may be reduced to laws of production. And since each man produces by himself only a few things that he wants, or maybe none at all, he must sell what he produces and buy what he wants; and this involves the laws of Exchange, or of Value. And since some of the people in our industrial society own the land, some own capital, and some own neither, and are therefore compelled to work for others for a living, a fourth group of topics arises called Distribution, which treats of the laws of wages, of interest, of rent and of profits. That is, society is now divided into four industrial classes, which overlap somewhat, land owners, owners of capital who do not themselves use it but loan it at interest, wage earners, and the business manager who organizes the land, labor and capital and sets them to work.

2. IMPORTANCE OF THE STUDY OF ECONOMICS. From the nature of economics it is apparent that the importance of studying it can hardly be overestimated. The securing of wealth is necessary to enable men to pursue successfully their vocation, to enable them to perform with satisfaction their activities in the higher walks of life. To secure wealth most readily, the principles of production must be followed; and to ensure that all classes participate in the material prosperity of the nation and thus have a chance to enjoy the higher things of life, there must prevail just principles of distribution. But this ideal condition does not prevail. There is much discontent in the world growing out of what many believe to be unjust conditions, and we have a vast number of problems demanding solution. Such problems as the control of monopolies, the settling of labor troubles, securing a living wage for the lower classes of laborers, improving the so-called "homes" of our "slum" districts, these and many other problems loom up before us and demand solution, and if they are not solved, and solved justly, our Republic is doomed. And who are going to solve these problems? The people. And if the people do not understand these economic problems, how can they solve them intelligently? Every citizen of the land should understand the essentials of economics, if he or she would not be a mere cipher in the great social work of lending a helping hand, and lending it intelligently. Our government must take hold of many of these problems, and in a republic the people must control the governments and decide how these problems shall be solved.

3. THE INDUSTRIAL EVOLUTION OF SOCIETY. The present organization of industrial society will be better understood if we approach it from the historical point of view and trace briefly the great changes that have come about since those primitive days when men were savages. In this chapter, therefore, we shall give a brief sketch of man's industrial development in general and of the special development of the United States.

Man is a reasoning being and he therefore tries to increase his

enjoyment by improving his surroundings and to lighten his work by doing things in better ways. Hence, man alone of all the animal creation progresses. In his progress in ways of gaining a living we can see five fairly distinct stages. The first was the hunting and fishing stage, when men got their living by hunting for roots, herbs and animals, and by catching fish from the streams and lakes. The second was the pastoral stage, when man had domesticated some of the animals, and roamed around with them in search of food for them. The next was the agricultural stage in which men learned to cultivate the soil and raise food for themselves and their sheep, cattle and other animals. In this age man first had a fixed abode. Then in the fourth stage, called the handicraft stage, men began to specialize in their work, and division of occupations resulted. Some continued to be farmers, but they no longer made all things they used, as in the previous stages; instead, the shoemaker, the carpenter, the blacksmith, the cabinet maker, the cloth maker and numerous others supplied society with goods other than agricultural products. Finally man become more inventive and the age of machinery and the great factory was ushered in.

There were causes for this development in this particular order. In each succeeding age man gained greater power over his own happiness. In the hunting and fishing stage man's living was uncertain. When he started out on a hunt he was not sure of finding anything. By some means, we know not how, man began to domesticate certain animals, and his living was more secure, for less depended on chance and more on his own planning. Then when he tilled the ground as well as kept his flocks and herds, his living was still more secure, for now nature was assisted in her efforts to produce the fruits of the earth. But he was as yet jack-of-all-trades and master of none, and life was crude at best. Then some with special liking for particular lines of work began to specialize, and each man could do better work and more of it, because he gained in skill by often repeating the same processes. As yet, however, man was trying to cope with nature with

very simple tools run by hand power; then with vast and complicated machinery run by steam, water-power or electricity, man greatly increased his productive powers, and he had more time and means to satisfy the longings of his intellectual and spiritual nature. Thus each age had its advantages over preceding ages.

The time of each of these five stages of progress is not definitely known, and was not the same in different parts of the world. In parts of South America and in Africa the natives are yet in the first stage, and some few tribes indeed are in a stage that apparently preceded the hunting and fishing stage, when men had not advanced sufficiently beyond the brute creatures to be able to kill them for food, but relied on roots and herbs. Following the develpoment in the portions of the world that first advanced, the time of each stage was roughly as follows. The first stretches far back into an unknown past and the time of its ending we do not know. When we catch our first glimpses of the progressive portions of the world some six or seven thousand years ago, in the Valley of the Nile and in the Tigres-Euphrates Valley, they were well into the agricultural stage, while the Asiatic tribes around them were in the pastoral stage, and Europe, except bits of Greece, was in the hunting and fishing stage. Roughly speaking, the handicraft stage covers the period from the dawn of history (about 5000 B. C. in Egypt and Chaldea) till near the close of the eighteenth century, or a period of nearly 7000 years. Only a small portion of recorded history, therefore, lies outside the fourth stage of man's development. After the fall of the Western Roman Empire in 476 A.D., the western portion of Europe, that is, all west of the Greek or Byzantine Empire, was thrust backward for some five or six hundred years, the handicrafts declined and man was nearly in the agricultural stage, for most people made nearly all the things they used, including tools and clothing. The handicrafts did not wholly die out in Western Europe, and remained in a crude state, ready to develop at the first opportunity, when the barons and knights became less turbulent and began to respect the rights of commerce to some extent.

4. THE FIRST TWO STAGES. The first two stages had several common characteristics and may be treated together. It was the long, dark night before the dawn. Man had no fixed abode and consequently progress was exceedingly slow and could not pass beyond the point of satisfying physical wants, first, because it took so much time to satisfy these wants with the crude means at hand, and, secondly, the desire for culture could not be satisfied, even if it could spring up, while men were roving around. Schools and books and authors cannot exist in that sort of a society. Much progress was indeed made during this long period, how long we do not know. A number of tools were invented, including the bow and arrow, fish hooks and lines, the stone ax, the rude bark canoe; and the art of striking a fire by friction had been learned, so that food could be cooked and the rude hut or tent warmed. When animals were domesticated a long stride forward was taken. To make this progress took thousands of years. These two stages roughly correspond to the Old Stone Age and the first part of the New Stone, or Polished Stone Age.

Each family was an independent industrial unit, supplying all its wants by the products of its own labor, the only division of labor being that within the family. For this reason there was practically no exchanging of goods, except now and then two individuals might barter a little, much as boys now trade pocket knives. But such barter would have little more importance to society than the bartering of trinkets among the boys today. Class distinctions came in during the pastoral stage, enemies captured in battle being enslaved, since they could be put to work tending the flocks and herds. But the slaves were not numerous and slavery played a small part in industry.

5. THE AGRICULTURAL STAGE. The agricultural stage was the dawn before the break of day. With a fixed habitation much progress could be made in a shorter time. Now rude huts or temporary tents naturally gave place to substantial dwellings, taking on more and more of the idea of architectural beauty. Buildings now satisfied

something more than physical wants, and men began to gather around them many material things that ministered in some degree to the higher tastes.

As yet the family was in the main independent, though a few trades sprang up quite early in the period, and they continued to multiply until the agricultural stage passed imperceptably into the handicraft stage. Until well towards the close of the period there was little trade and that was by barter. Now for the first time men gained their living by hard and constant toil. Hunting and fishing were not very hard work and it was intermittent. Tending flocks and herds is hardly work at all. But tilling the soil is work, and the strong naturally imposed the burden on the weak, and slavery became a prominent institution, and society became divided into two classes, landlords and slaves. There were but a few hired laborers and there were, therefore, no labor problems to solve. Near the end of the period the Age of Metals began. The first metal used for tools was copper. This is a soft metal and was no great improvement over polished stone, but it was some better, and would take a finer edge. As yet people were crude and ignorant, on the whole, though the elements of learning were developing among the leisure classes, and rude beginnings were made in the development of the art of representing ideas by pictures or symbols.

6. THE HANDICRAFT STAGE. The next great stage, which covers most of man's recorded history, is called the handicraft stage, though a better name would be the Age of Division of Occupations, since that is the distinguishing feature of the age. With division of occupations men were no longer jacks-of-all-trades, and by concentrating their energies on one occupation became more skillful, and forms of material wealth other than lands began to accumulate. Men were no longer independent of their fellow men, but were dependent on others for most of the things needed. Life was now more complex, and social relations became of more importance. Since men must dispose of their goods, and obtain many kinds of goods in return, ex-

change became an important phase of social relations. Barter would no longer suffice and money came into use to facilitate exchanges.

With division of occupations great changes came about in the industrial classes. Between the great landlords on the one side and slaves on the other, there grew up a great free industrial class. This industrial class consisted of hired laborers, small handicraftsmen and merchants. Problems of distribution became important and strikes began to trouble the industrial world. During this period, however, labor troubles were not serious, since most of the laborers in the skilled trades hoped some day to become employers of labor and hence they would not be very anxious to build up a strong labor organization which would antagonize their interests in later life.

The development of the trades and of commerce was parallel with the growth of cities and of city life. Real culture sprang up and great seats of learning flourished. In this period the mind first received special training and great differences in the intellectual power of men resulted. In the agricultural stage the great landlords were indeed intellectually superior to their slaves; but differences in intellectual power were small as compared with later times. Great minds began to grapple with the mysteries of nature, and the problems of life and of science and literature were born.

This growth of cities and of a great free industrial class, together with other forces, changed labor conditions in the rural districts. Slavery gradually changed into serfdom and the serf in time became free. Thus numerous classes took the place of the two great classes of the agricultural period. The noble still existed, but beside him arose the priests and the men of learning who guarded the religious and intellectual interest of the race. The priest and the men of learning were often the same, but in some countries they were different; that is, a learned class arose who were not of the priesthood. Beneath these two powerful classes, the nobles and the learned, including the priesthood, were the merchants, who often rivalled the men of the other two classes in wealth and power. Then came the

artisans, who were skilled laborers, and lastly the unskilled laborers in cities; in the country small farmers and hired laborers corresponded roughly to the two lower groups in the city.

In this age came great changes in tools. The soft copper was replaced by the much harder bronze near the beginning of the handicraft stage, or about 4500 B. C., and for three thousand years was the chief metal used for making tools and edged instruments. About 1500 B. C. iron came into use. Many small contrivances were invented to increase men's power over nature, such as the spinning wheel and the loom, the rude plow, the hoe, the sickle, carpenters' tools, the crowbar, and the pulley.

7. THE FACTORY STAGE. The transition from the handicraft, hand-tool using age to the factory stage was so sudden that it has been called the Industrial Revolution. It did not at once affect all handicrafts, or indeed the majority of them, but it affected a few trades which at that time were vastly more important than any others, considering the number of people employed. The trades first affected were the clothmaking and allied trades. It began in England in the last half of the eighteenth century with the invention of Hargrave's spinning jenny (1767), Cartwright's power loom (1785) and Watt's steam engine (1785). The age of machinery and the factory gathered the laborers together in larger groups. During the handicraft stage the business unit was small, something like our familiar cobblers' shops of today, with from one to half a dozen workers, including the master craftsman, who worked with his journeymen and apprentices and shared with them the hardships and the pleasures of the business.

But the Industrial Revolution put a great gulf between employer and employed, for the day laborer could little hope to become a capitalist employer, because of the great cost of a factory. Thrust from the little shop, with its light and its wholesome air and its easy-going pace, into the great factory with its foul air and its whir of machinery, men lost control over their actions and surroundings and became

part of a great machine which set a rapid pace for work. Small craftsmen, master-craftsmen and all, sank into the ranks of hired laborers, and a few energetic and able leaders became the employing class, and from the profits of large capital became immensely rich. Here indeed were materials for discontent among the laboring classes; thus the Industrial Revolution ushered in the age of industrial warfare between labor and capital. Social problems multiplied; child labor, starvation wages, the "slums," and hosts of others came crowding in upon the world. As if these evils were not enough to vex society, the business unit grew in size until monopoly in its various forms threatens to draw into the hands of a small portion of the capitalistic class most of the wealth of the world and leave the vast majority of mankind but a very small part of the advantage gained from all the labor saving machinery that has been multiplying since the Industrial Revolution began.

8. INDUSTRIAL DEVELOPMENT IN U. S. COLONIAL PERIOD TO 1815. When America was settled, Europe was in the handicraft stage, but conditions in the New World caused industry to revert to an earlier stage, to a condition similar to that in the transitional period between the agricultural stage and the handicraft stage. Most of the articles used by the colonists were made by the family, the wives making the clothing and the men making the furniture for the house and the tools for the farm, with the exception of a few iron tools requiring great skill, which were imported from England or made in the colonies by handicraftsmen. There were a few trades, such as carpentering, blacksmithing, shipbuilding, hatmaking and a few others, but the numbers engaged in them were small. The great body of the people were engaged in agriculture, and there were no great labor problems.

The causes of this reversal to an earlier stage of development were mainly four. (1) The cost of transportation made it cheaper to produce in America all except those things requiring superior workmanship, such as edged tools and articles of luxury used by the rich,

including fine clothing and furniture. (2) The intelligence and thrift of the housewife enabled her to compete with the clothmaking trades, in making the coarser garments, since she could use the same kinds of tools as those used by the handicraftsmen; and if she could not work quite so rapidly as they it was a by-industry with her. (3) Another cause which probably hindered the development of the handicrafts to some extent was the British policy of restricting trade and industry. But the importance of such restrictions is a matter of dispute among historians, some considering it a very important cause for the non-development of handicrafts in the colonies, especially of those making expensive articles requiring a high degree of skill in which there would be no competition with the farmers and their wives. Other historians think that British restrictions had little to do with it, and they attribute the meager development of the trades to natural conditions in America. (4) The chief condition hindering such development was the presence of an abundance of cheap land. Benjamin Franklin, whose judgment is certainly worth considering, thought that cheap land was the main thing that prevented the development of the skilled trades. When young men could become farmers and their own masters at little trouble and expense, they would not care to spend several years learning a trade and then work for someone until they could set up for themselves.

The Revolution did not materially change the conditions of things in America. A few industries started up under the stimulus offered by some of the states in the way of advertising in Europe for skilled workmen to help start the new machinery that the Industrial Revolution had produced in England, and by the offer of various rewards for setting up factories. But these efforts did not amount to much until after the embargo policy and the war of 1812 had afforded special inducements to capital to go into the manufacturing business.

9. DEVELOPMENT FROM 1815 TO 1861. The special inducement which attracted capital into manufacturing was the rise in prices caused by the decline in imports, which resulted from the embargo

policy and the war of 1812. At the close of that war imports began to flood the country and manufacturers clamored for and obtained the protective tariff of 1816. From that time on to the Civil War manufacturing constantly increased in relative importance, though as yet it was of secondary importance as compared with agriculture.

Besides the protective tariff there were several other causes for the growth of manufacturing, and these causes would have developed manufacturing in time without any tariff, though not so soon. Land was no longer cheap in the older portions of the country and a landless population was growing, not all the surplus being attracted across the mountains to the Far West of that day. Hence, labor was to be had in increasing abundance, and to become a laborer in the factories required no long apprenticeship, as in the old handicraft trades. A third cause was the westward expansion of population into the regions of the West abundantly supplied with coal and iron and other mineral resources needed in the factory stage of development; and a fourth cause, which went hand in hand with these other causes, was the improvement in transportation, especially the railroad, which came in during the last half of the period. All these factors made manufacturing as profitable as farming, and capital naturally flowed into this new field.

This meant that the simple life of the colonial days must pass away. A large labor class was developing, cities were growing, and more push and energy characterized American enterprise, especially in the North, where the curse of slavery did not cast its baleful shadow over every phase of human activity, physical, mental and moral. Trade unions began to be formed; but they were weak and ineffective, and though there were strikes occasionally, they did not on the whole seriously disturb the industrial world. There was as yet free land in the West and the discontented and the adventurous were joining the westward flowing stream of humanity. Thus the surplus in the labor market found a vent and did not become seriously large; and as a consequence wages were fairly good. At least they

satisfied the less ambitious and adventurous ones who staid at home.

10. DEVELOPMENTS SINCE 1861. The last half century of our industrial history has witnessed four well marked developments, (1) the rise of manufacturing to a scale which placed that group about on a level with agriculture in importance, (2) the growth of monopolies, including railroads, (3) the growth of trade unions, and (4) the appearance of the numerous evils connected with the lower classes of unskilled workers, such as child labor, sweatshops, overcrowding in the great cities, the latter producing a whole crop of "slum" problems.

Among the causes for this great growth of manufacturing five were of special importance. (1) The Civil War caused an increase in tariff rates and from 1861 to the passage of the Underwood tariff in 1913 the protective rates were from two to three times as high as in the previous period, and this high rate invited capital into new lines of enterprise. But the great natural causes were at work. (2) The accumulation of capital in the old lines of business would naturally cause it to seek new fields; (3) new and rich sources of iron were found, especially in the regions around Lake Superior; (4) transportation on the Great Lakes cheapened the cost of getting the iron to points on the Lakes southward where it could meet the coal from the coal fields; and (5) the exhaustion of the supply of our free land, which had throughout our history been an outlet both for labor and capital as it accumulated in the older sections.

Monopolies were developing chiefly from two causes. As managing ability developed and the size of the business establishment grew, certain advantages resulting from large-scale production enabled the larger establishments to crush out the smaller; and in some cases the maximum unit of efficiency was so large that one kept on growing until all rivals were crushed. Then prices rose to suit the notions and avarice of the monopolist. In other cases where several big rivals arose, none being able to crush out the others, various combinations were made whereby competition ceased and prices went up above the

competitive level.

Conditions were developing favorable to the growth of trade unions. There was now more than ever a permanent labor class because a portion of the labor supply could no longer, after about 1880 at the latest, escape to the land. Because of this fact and the incoming tide of immigration, wages in many industries declined, especially the wages of unskilled labor, and even in the skilled trades wages often failed to increase in proportion to the increased cost of living. Here were the conditions which from the nature of men would cause unions to grow: (1) The existence of a common grievance in the shape of low wages, (2) a class consciousness which would develop, and (3) the feeling that in union there would be strength to get from the employer terms which the individual could not secure. Capitalists were combining to create a monopoly against the purchasing public; laborers were combining to create a monopoly against the employer; and competition, upon which men the world over had relied to work out industrial justice, after the state withdrew its restrictions upon and regulations of business about a hundred years ago, ceased to exist in several industries. The gilds of the Middle Ages had hampered business very much by restrictions; and when nations became consolidated at the close of the Middle Ages their central governments began to take charge of the regulation of industry. After about three or four centuries of state regulation of wages, prices and other things, the system broke down and freedom of competition was relied on. It worked well for about a century, until monopoly arose, and now state regulations and state ownership are increasing.

Out of this complex situation our social ills are growing. The exhaustion of the supply of free land and the great tide of immigration are the two main causes of most of these ills. These two forces are bringing wages of unskilled labor below the starvation point, and to keep body and soul together the lower stratum of struggling humanity is crowding into filthy dens called tenements in order to reduce the cost of house rent.

Thus through countless ages of progress, man has been increasing his power over nature, increasing his accumulations of wealth, increasing his capacity for enjoying the things of this world, increasing his desire for intellectual and spiritual enjoyment, and at the end of it all we have the old condition, the ages-old condition, confronting us; for it is ever the strong trying to crush the weak. At one time it was the soldier, at another time the great landlord; now it is the great monopolist we must fight; and we have at one end of the industrial scale multi-millionaires and at the other end a considerable portion of mankind starving for the necessities of life. To right these wrongs is the great all-inclusive industrial problem of the age. This does not mean that no progress has been made. The majority of mankind in civilized countries are today far above the majority in any previous age in material comfort and in intellectual and spiritual welfare. But the task of climbing upward is much harder because entirely too large a proportion of what has been gained by centuries of progress goes to a very few. And while the majority are better off than ever before, a considerable portion of humanity are no better off than men were in the savage state. And in the United States especially these great social problems of the unfortunate "submerged tenth" are new; for such problems have arisen only since our free land began to run short.

SOCIAL DEVELOPMENTS

Government	Stages in Production	The Economic unit	Social Organization	Tools	Transportation	Exchange	Labor
1. The family	1. Hunting and fishing	1 Each family independent	1. Division of labor in family	1. Wood, bark, bone, shells, rough stone	1 On foot and by canoe	1 Barter	1. Each did his own work
2 The tribe	2 Pastoral				2 On backs of animals		2 Slavery introduced
3. The nation	3 Agricultural			2 Polished stone	3 Wagons drawn by animals		3 Slavery important
				3 copper			
	4. Handicraft	2 Village or city	2 Division of occupation	4 Bronze		2 Money	4 Free labor in cities. Slaves in agriculture, pass through serfdom into freedom
		3. The nation		5 Iron	4 Sailing vessels		
	Factory		3 Minute subdivision of labor			3 Money and credit	
		4 The world			5 Railway, steamship		

CHAPTER II.

The Laws of Consumption.

11. SOME DEFINITIONS. Before entering upon a discussion of the laws of consumption, several definitions must be clearly fixed in mind. Consumption is the destruction of goods. It may assume any one of three forms. When goods are destroyed for the purpose of producing other goods, as when coal is burned to give heat for converting water into steam, or wool is consumed in making cloth, it is productive consumption. When goods are consumed in order to satisfy our personal wants, it is final consumption. And when goods are destroyed without producing either of these two results, as when a house or factory burns, it is waste.

Three terms are closely associated in economics, and for all practical purposes mean the same. These terms are, wants, needs, desires. In common usage the term want may mean desire or it may mean destitution; need means something one ought to have, or sometimes it also means destitution. But in economics the three words simply mean desire, or a longing for something. Economic needs or wants or desires are those which are related to our getting a living, and are to be kept distinct from other wants, such as the desire of friendship.

Our wants may be classified under two heads, existence wants and culture wants. The three great existence wants are for food, clothing and shelter. These may be called the animal or physical wants. Culture wants include desire for education, for satisfaction of the love of the beautiful in nature and in art, and desire for travel. These are wants that spring from our higher aesthetic and intellectual nature. Theoretically these two classes seem quite distinct from each other; but in practice there is no sharp dividing line between them. Our desire for shelter, for example, leads us to build a house; but to what extent does the house serve to keep us warm and protected and to what extent does it minister to our love for the beauti-

ful? Or just what sort of a house would minister to our animal wants without appealing to our sense of the beautiful? And just how good would the furnishings need to be to supply only the demands of our physical nature? It is clear that no such sharp distinction can be drawn. The subject assumes a practical phase when we ask what the working classes consider as necessary for them to live in decency. Our American standard of decency in living would be far different from that of our ancestors of the colonial days or from that of the European working men of today, for the American workmen would include many things as necessary that were not known in colonial times and are not now enjoyed by the working classes of Europe, especially the lower classes of labor. And the question would assume a still more practical phase if the state were to establish a minimum wage, for the minimum would naturally be high enough to afford a decent living. And a third phase of the question needs to be considered, and that is the effect of our surroundings upon our energy and our character. Men cannot do as good work if they have the bare necessities, using that word in its strict sense, as they can do if they have some of the finer things of life. The man who goes to his work with the memories of a pleasant home lingering about him, with the thoughts of a good book in his mind, with the echoes of song and music in his soul, goes with a greater power to do good work than he who goes forth from the home whose bare interior stirs within him none of the finer qualities of his nature.

Another group of terms that are also closely associated are utility, value, wealth, price. Utility is the power of satisfyiny our wants. Four forms of utility exist. Some things have utility because of the elements which they contain, as cotton fiber for making thread, when it is said to have elementary utility. When the cotton is made into thread or cloth or garments, or into a form to suit our wants, it has form utility. When the cloth is transported to market where people can get it, it has place utility added to it. And when it

is brought to our door when we need it, place utility is again added and also time utility. The want that is satisfied may be for things for productive consumption or for final consumption. In the latter case the goods possess all four kinds of utility. Value is power in exchange. Some things, such as air and sunlight, may have the greatest utility, but they are free goods and have no power in exchange, and hence have no value. Wealth is anything which has value. Price is value reckoned in terms of money.

12. THE LAW OF SATIETY. The laws of consumption grown out of human nature and their proof is found in human experience. One of these laws, called the law of satiety, is, that any one want can be fully satisfied. This does not mean that any want can be so fully satisfied now that we shall not experience that desire in the future. It means that during any given time any want can be satisfied, if, of course, we have the commodity in sufficient quantity. Our want for bread, for example, can be completely satisfied from day to day, so that we would not consume any more if it could be had for the asking. Our want for hats, say, might not be so easily satisfied, but clearly there is a limit beyond which we would not be bothered with any more. Our desire for culture is still more expansible and not so easily satisfied, and it may seem that this is an exception to the law. But desire for culture is complex, and if we take our desire for a particular line of culture and for the things that satisfy that particular line, we can see that such desire is not unlimited. The desire for money may seem an exception to the rule, but money satisfies no want directly, but is a means of satisfying all wants; and, as we will learn later, when one want becomes satisfied others spring up, hence it follows that though the desire for money cannot be satisfied, this does not contradict the law of satiety.

This law is one of the most fundamental and far-reaching in economic science, for it underlies most of the other laws of consumption, and the laws of value are partly built upon it. No human

progress would have been possible if this law had not been true, because otherwise men would have spent all their time and energies satisfying the lower wants.

13. THE LAW OF VARIATION OF UTILITY. Directly out of the law of satiety grows another law, the law of the variation of utility. This law is, that the utility of a given unit of a commodity varies inversely with the supply. That is, the more wheat there is the less importance we attach to a bushel of it. Since we want only about so much of it during the year, the more wheat there is the more fully can that want be satisfied, and as the want becomes more fully satisfied we care less about possessing an additional bushel. If apples were scarce we might be willing to pay two dollars a bushel for, say, ten bushels to put in the cellar for our winter's use. If they were very plentiful and sold at fifty cents a bushel we probably might buy twenty bushels, if we had a large family. But if apples sold at twenty-five cents a bushel we would not greatly increase our winter's supply, because we would not use them all. This illustrates the practical importance of the law of satiety and of the law of variation of utility which grows out of the law of satiety. Upon these two laws are based largely the calculations of the commercial world. This illustrates also the close relationship between these two laws. The law of the variation of utility is really implied in the law of satiety, for if a want can be satisfied more and more completely it simply means that our desire for each additional unit of the commodity grows less.

14. MARGINAL AND TOTAL UTILITY. Out of these two laws springs the conception of marginal or final utility, which seems so puzzling to those just beginning the study of economics, but which becomes perfectly simple if we will just keep in mind the above laws of consumption. Marginal or final utility is the utility of the last, or least important, unit of the supply. The utility of each unit of a given supply is of course the same. But since the utility of each

unit diminishes as the supply is increased, it is convenient to think of the last unit added to the supply as the marginal or final unit, and consequently as having the least utility, or as being the least important unit of the supply. Salt, for example, has several uses. Its most important use is for cooking and preserving food. A less important use is to melt the ice on the walk in winter or to kill weeds in summer. If that were the least important use to which salt could be put, and if there were enough to supply all needs for the table, and for cooking and preserving food and some to use for killing weeds, or melting ice, this would measure the marginal utility of salt or the utility of any unit in a supply that large. But the idea of marginal utility applies even if a commodity has but one use, because of the law of satiety. Take bread for example. Suppose it had but one use, that of satisfying the hunger of human beings. If there were only enough to partially satisfy our wants for that kind of food so that we would be compelled to satisfy the remainder of our want with something less suitable and less desirable, the marginal utility of wheat would be high. If on the other hand there were an abundance of wheat so that we could get all we wanted of it, its marginal utility would be low.

Marginal utility is to be distinguished from total utility, which is the utility of the whole supply. In case of a necessity, say of the total wheat crop of any year, its total utility is infinite, in case we could get no other food or substitute, for we would starve without it. But the marginal utility of that same commodity may be small.

There are some interesting applications of this distinction between total and marginal utility, the most important of which is that marginal and not total utility measures the importance of goods. In other words, it is marginal and not total utility that helps determine the price of an article. From this it may happen that a large grain crop might sell for less than a small crop, that is, the total value of the large crop would be less than the total value of small crop; but

this is not true of the total utility of the large crop, because total utility increases with the quantity.

15. THE LAW OF DEMAND. Another great law of the business world is the law of demand. By demand is meant the offer to buy. The amount of a commodity that we will buy depends upon three things, its marginal utility to us, the price, and the amount of our income. If the marginal utility is high, that means that our desire for that thing has not been very completely satisfied and our demand for it is strong. If the marginal utility of a commodity is low it means that our desire for it has been fairly well satisfied and we do not care very much about any more of it. The utility of some things does not depend upon their quantity but upon their quality or style. If, for example, a hat is out of style its selling price will drop perhaps to a small fraction of its price when it was in style, though there may be but few like it on the market. The utility, that is, the marginal utility of other things in which style plays no part, as wheat, for example, depends upon the quantity. Our conclusion thus far is that demand varies directly with marginal utility.

The price of an article affects its demand because our income is limited. If the price of an article goes up and we purchase the same amount that we did when the price was low we will be deprived of something we are accustomed to, or else we shall have to increase our expenditures for final consumption and consequently have less of our income to "save for the rainy day." If the price goes down we are tempted to buy more in order the more completely to satisfy our desire for that thing, unless our desire has already been satisfied. Then, too, it may be that by purchasing more of the article that has fallen in price we can decrease our expenditure for some article that is more costly but which answers the same purpose as the cheaper article, and by so doing we could reduce our expenditure for final consumption or buy something we have before wanted but considered beyond our means. Hence it follows that demand varies inversely with the price.

Demand depends also upon the amount of our income. If our income increases we will buy more of all those things for which our desire had not already been fully satisfied. Ordinarily, this would mean that our demand for all but a few great staple articles such as bread, salt, and other articles of absolute necessity, would increase, because in most cases we do not consume all we would if we had more money. Most people would buy more and better clothes, more and better furniture, have better houses, and increase their expenditure along many lines if they had more income. We may therefore put all three things together and state the law of demand as follows: Demand for a commodity varies directly with its marginal utility and the amount of our income and inversely with its price. This is the great law that all business men must understand and take into account in their commercial transactions.

16. THE LAW OF ELASTICITY OF DEMAND. In our discussion above there is implied another law which is called the law of elasticity of demand. This law is, that demand for necessities changes less than demand for luxuries, with changes in price or in our income. Things that are really necessary to support life we must have and the price has little to do with the amount demanded, unless some substitute can be found for them. Usually this is true to some extent, and for that reason the demand even for necessities varies with the price. But the great staple articles of food and clothing people must have in fairly constant quantities, and changes in price do not affect demand very greatly. But if the price of a luxury goes up demand must fall off from all those who have only a moderate income, for if they continued to consume the same quantity of luxuries as before they would not have enough left with which to satisfy the more urgent needs. If the price of luxuries fall we are tempted to buy more, in order more completely to satisfy desires only partially gratified before. But if the price of necessities goes down we will not demand very much more or possibly no more because we have about all we want of necessities, unless we are of that unfortunate

class who are underfed and insufficiently clothed. We may lay it down as a general rule, therefore, that demand for necessities is less elastic than demand for luxuries.

From this law some interesting and important changes in prices will follow changes in supply. If there is a comparatively slight decrease in the yield of wheat or corn it will send the price very high. Since people want about so much of these things, producers and merchants will take advantage of the shortage and boost prices, knowing that people will buy, regardless of the price. Within a few weeks in 1915 the price of sugar doubled on account of the war in Europe; but merchants say they can see no decrease in demand for sugar. If on the other hand there is an extra large crop of grains, prices will go very low, because merchants and producers know that there will be difficulty in getting rid of the whole supply, and they lower prices to tempt people to buy more. Competition hastens this process, since each producer and dealer fears that rivals will lower prices first and supply the demand. An oversupply of luxuries on the other hand would have no such a depressing effect on prices, since a slight drop in prices might increase the demand enough to absorb the supply; while a shortage in a luxury would not send prices so high as in case of a necessity because a rise in prices decreases demand very greatly, specially of an article used quite widely among the people. Thus there is a law of elasticity of price, which may be stated thus: the price of luxuries changes less than the price of necessities with changes in supply.

The law of elasticity of demand has many applications in the business world. One of the most important applications is made by monopolists. In case a monopolist controls a necessity he can injure people greatly because he can put the price at an unreasonably high figure without greatly decreasing demand. If the monopoly controls a luxury, however, consumers are not so completely at its mercy, because if the price goes up they can cease to buy and then the monopolist will "come to time" and keep his prices reasonable.

17. THE LAW OF THE ECONOMIC ORDER OF CONSUMPTION. Closely associated with the general law of demand is another law called the law of the economic order of consumption which is, that the commodities we consume and their relative quantities depend upon their relative marginal utility and relative prices and the amount of our income. It will be observed that the same forces that determine the conomic order of consumption also determine demand. The economic order of consumption is in fact only the result of the relative strength of our demand for different things, while the law of demand looks at the strength of our demand for a single thing only. As a matter of fact, however, when we are considering whether or not we will buy more of a certain thing we either consciously or unconsciously think of what it will cost us as compared with something else we want, and whether the thing in question will give us more enjoyment than something else, and whether we should buy anything more or save our money for further use. Hence these two laws, the general law of demand and the law of the economic order of consumption are looking at the same conditions and the same forces but from different points of view.

Let us be sure that we know what the economic order of consumption is and what the law governing it means. The thing about which this law is concerned might be called the family or private budget. The economic order of consumption does not refer especially to the order in which things are purchased and consumed, though the name implies that; but it refers to the amount of our consumption of different things during, say, the year. Some people include in their consumption silks and satins and furs, automobiles, splendid mansions, and all sorts of things; other people lay up treasures in books, works of art, and things that appeal to the intellectual nature; still other people consume none of these things, or but very few. Again two persons might include in the list of things they consume about the same articles, but the relative amounts consumed by the two persons might be very different. The law of the economic order

of consumption tells us why these facts are so.

Why does the range of our consumption and the relative amounts of our consumption depend upon relative marginal utility, relative prices and the amount of our income? Why do some people buy automobiles, for example, and some not? The answer is simple. Some cannot afford it, by which is meant that if they buy luxuries they will deprive themselves of things more necessary and hence have less pleasure with the automobile than without it. Others may have plenty of money to spend for such things but do not care for autos, that is, they get more pleasure out of other forms of luxury. Generally speaking, the smaller the income the greater is the relative proportion that must be expended for necessities. In too many cases, however, perverted tastes cause people to spend a large portion of a small income upon such things as liquor, tobacco and harmful amusements, and as a result not enough income is left for necessities. This law tells us many things about the consumption of the community. If some things are especially cheap we are tempted to buy more of them and less of something else, so that we may get more satisfaction out of the total expenditure, or so that we may get the same satisfaction for less money and lay by more for the future. If apples are fifty cents a bushel and oranges three dollars a bushel, those whose income is moderate in amount would spend considerably more on apples than on oranges. But if apples are as high as oranges people would buy fewer apples and more oranges.

This law gives us a basis for the study of the family budgets of the community. It also suggests the study of right living and wrong living. It leads us into the study of extravagance, of perverted tastes, of right and wrong conceptions of the relative value of things in human life. If, for example, we discover people with small incomes trying to copy after the rich in their expenditure, we conclude that they are not wise in this matter, since too small a portion of their income, or none at all, is going to the support of their old

age. Their judgment is wrong, since they value present show more than decent comfort in their declining years. If again we discover men spending for liquor and tobacco, even in moderate quantities, we conclude that they too have perverted tastes and poor judgment, since they are feeding depraved appetites to the detriment of their better nature. If again we discover the rich spending large sums on automobiles, dress, parties, and amusements, and comparatively little on books, music, works of art, we conclude that their tastes too are perverted, and that our civilization has failed to create in them desire for intellectual culture. And these conclusions should lead us to examine our social institutions to see why they are thus failing to give the people right tastes, why our civilization is not leading men upward more into the higher life instead of creating in them a desire only for material things.

18. LAW OF DEVELOPMENT OF WANTS. Such a study would lead us to discover another law of consumption, the law of development of wants, which is, that when existence wants become fairly well satisfied culture wants spring up without any assignable limit. It should be noted that this law has three distinct points to it, or in other words, it is composed of three distinct statements. The central idea is that new wants develop; but they will not develop until after the lower wants are fairly well satisfied, and the number of new wants that may spring up we have no means of knowing, since they are now growing more rapidly than ever before, after thousands of years of development. This law is true because of human nature. Man alone of the animal creation is endowed with the capacity thus to progress. The conditions under which new wants develop are as stated because of human nature. These conditions are simply two primary laws of consumption incorporated into this more complex law. These two primary laws, it will be observed, are the law of satiety and the law of relative intensity of wants.

This law has a very important application which our social

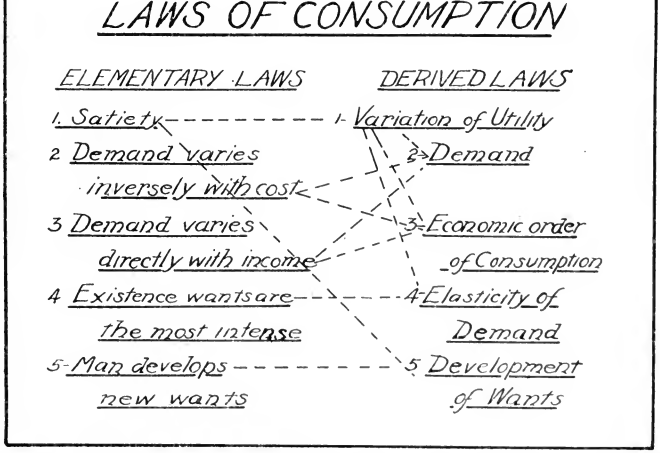
workers and society in general are beginning to understand. For years our "college settlement" workers and "slum" workers seemed to be under the delusion that what the lower classes chiefly needed was religion and Sunday schools. But such workers now realize that men cannot be lifted bodily into the higher life and that they cannot develop into it unless they first have means of satisfying the lower wants. Little can be done to elevate people into a higher life if their income is insufficient to enable them to satisfy existence wants. Generally speaking, man develops through a slow process of evolution, though the power of religion often suddenly reforms men who have lived in the midst of higher things but have cast off their influence and followed the downward road. Not only among the degraded elements at the bottom of the social scale do we find the great law of development of wants illustrated; we find it exemplified among the working classes and other people with small incomes. The more enlightened portion of the community has a constant struggle to induce those classes to give their children a sufficient education to enable them to develop into men of a higher type. Most people are satisfied with the rudiments of an education and satisfied if their children have the same. And if the time ever comes when the masses will care much about real culture it will be when incomes are sufficient to enable them to satisfy much more fully than they can now the wants at the lower end of the scale. The masses will never experience a very keen desire for things that cultivate the mind and enrich the soul so long as they live in hovels or dingy flats and take their pleasure rides in crowded street cars, while their neighbors live in splendid mansions and ride in automobiles. And if some few should aspire to give their children a higher education it would be chiefly with the hope that their children may some day own a fine mansion and an automobile, rather than that they may enjoy a higher intellectual and spiritual life.

This law of development helps us to understand another phase of our civilization, and that is what is called its materialistic nature.

A large portion even of the rich seem to seek pleasure almost exclusively in material things. This is explained partly by the expansibility of our wants when bare necessities are provided for. In the realm of desires that lie midway between absolute necessities and purely intellectual and spiritual wants are the desires for the finer material things and forms of pleasure which have in them something of the intellectual and spiritual element but which largely satisfy physical enjoyment. In fine houses and furniture and automobiles there is much that elevates and refines; but such material things do not primarily cultivate the mind as does the study of books, of nature, and of art. Modern invention has so multiplied these material things that give us mainly physical pleasure, and there seems to be so much room for expansion of this class of wants, that the development of the real higher life of the race is somewhat checked. These finer material things are good to have and man must have them to develop properly; but when we spend so much of our time and means and energy in seeking pleasure from these material things that the study of good books and of nature and art, and even attendance upon divine worship, is neglected, the too great multiplication of these material things is much to be regretted.

19. ENGEL'S LAW. Economists include among the laws of consumption a law named from a German statistician, Dr. Engel. This is not a law distinct from those already considered, but it merely illustrates these laws of consumption. Dr. Engel made a detailed study of family expenditures among the working classes in Saxony, the incomes of the families ranging from $225.00 to $1100.00 a year. His conclusions were that as the incomes increased, (1) expenditures for food increased, but not in proportion to the increase in income, (2) expenditure for clothing increased nearly in proportion to increase in income; (3) expenditure for rent, fuel and light increased in proportion to income; and (4) expenditure for education, recreation, health, etc., increased more than income increased. His tables show some remarkable results. Families with about $300.00

a year income expended about $180.00 on food while families with $1000.00 a year income expended about $500.00 on food. This shows either that the families with the smaller income are greatly underfed or else the families with the larger income are extravagant. Investigation would doubtless show that both conditions exist. Investigations by the U. S. Department of Labor show results similar to those obtained by Dr. Engel, though there are some interesting variations in details. For example, in the U. S. the expenditure for food increased much less than in Saxony, with the increase in income, and the American family with $1000.00 a year income spends considerably less than the Saxon family with the same income, the former spending about $350.00 for food and the latter about $500.00. On the other hand, the expenditure of the American families for education, health and recreation increased much more rapidly, with increase of income, than the expenditure of the Saxon families for such things. This indicates that the American working classes spend more wisely than the Saxon working classes, if the investigations in both cases included families typical of their class.



CHAPTER III.

Problems of Consumption.

20. THE STANDARD OF LIVING. Problems of consumption center around the standard of living. Of these problems three are of special importance, the housing problem, the liquor problem and the extravagance of the rich. These three problems will be considered in this chapter.

The standard of living means either of two somewhat different things. It may mean merely the present conditions under which one is living, without reference to any ideal in the person's mind, or it may mean an ideal condition which one is struggling to reach or maintain. In the former case people are just drifting with the tide, so to speak, taking whatever comes along without attempting to better their condition. In the latter case people are either endeavoring to maintain their condition against adverse circumstances or else they are trying to improve their standard of living for themselves or their children.

The standard of living in either sense is of vast importance to society, for it measures very largely the height to which civilization has risen or will rise in the future. It makes a vast difference to the friends of humanity striving to help elevate the lower classes, whether those classes are just drifting without any definite standard or are struggling to improve their conditions. In the latter case social workers meet with a ready response from the lower classes when assistance is offered, and in the other case those classes resent any attempts to help them. The standard of living is important in another sense. The conditions under which children are brought up determine largely their character. It is impossible to tell just what part heredity plays in determining character, but experience shows at least that environment is a powerful factor in determining character. And the effects for good or for ill are cumulative. If people start on the

downward road they drag the coming generation down, and each succeeding generation is lower than the one preceding it. Such was the history of Rome during the later centuries of its existence. If a nation is on the upward road each generation rises higher than the preceding, so long as conditions are favorable for the succeeding generation. In the standard of living, therefore, civilization is at stake.

This standard of living includes the sum total of our material surroundings, the food we eat, the clothes we wear, the houses we live in, the books we read, our amusements, and the whole round of our daily lives. And each and all of these things has a decided effect upon our character. Even the clothes we wear affect our character and that of others around us, for if our style of dress is immodest, the purity of our thoughts is contaminated and the contagion spreads more or less to those around us. And so with each item of our material existence, for each has its effect upon our character.

21. THE HOUSING PROBLEM. Probably the most important problem of consumption is the housing problem. The home is the chief character builder. During the first few years of the child's life, the home, with its surroundings, whether city streets, back yards and alleys, or the broad fields, is the only social institution with which the child comes in contact. During later childhood the school and the church begin to add their influences to those of the home. But even then the child is at school but a few hours in the day and at church but a few moments a week, if at all, and the home continues in most cases to be the chief factor in the child's life.

Our housing problem is a vast one; for it is estimated that about ten millions of people in the United States are living in wretched places called homes which are entirely unfit for human habitation. The housing problem has until recently been considered a problem of private charity to a considerable extent. But it is at once apparent that the problem is too vast for private charity, even organized private

charity, to deal with. Morever, some consistent, proper, uniform policy must be pursued if we are to remove the causes of the evil conditions in these so-called homes, and it requires the authority of law to carry out such a policy. These ten millions of people must themselves be reformed and be given an opportunity to improve their conditions before there can be any improvement in their homes. If, for example, low wages or drunkenness were causes of people living in miserable dens, it would require the power of public authority to deal with the situation and attempt to remove the causes.

Again the housing problem has been considered a local one. But any conditions which so vitally affect the lives of such a large portion of our population and which are found in every state in the Union and in every considerable city of every state, are not a local matter. Such evil conditions breed vice and crime and the whole people suffer in consequence. If the city breeds criminals and beggars they prey upon city and country districts alike. If a degraded city population enables a corrupt political ring to maintain its power over city, state or national governments, the whole country suffers. Hence, the housing of these ten millions of people is a matter demanding the cooperation of city, state, and nation. This cooperation is necessary not merely because all are affected, but because cooperative effort is necessary in order to carry out any plans to remove the causes of bad housing conditions. For instance, just now the problem of unemployment, one of the causes of bad housing conditions, is being much considered, and social workers suggest that public employment bureaus be established by the cities, by the state and by the national government, in order to cooperate if there is any demand for labor in other parts of the country where laborers are scarce, and if work cannot be found for all with private employers, the different governments should employ them on public works during the dull seasons. To conclude, the housing problem is a public problem of vital importance, to be solved by the cooperative efforts of cities, states, and the nation.

22. EVIL CONDITIONS. It is impossible in a few pages to give an adequate conception of housing conditions in our "slums"; the essential points will therefore be touched upon briefly. Bad conditions may be grouped under five heads, overcrowding, foul air, lack of sunlight, filth, ugliness. Overcrowding, especially in large cities, has two phases, too many in a given space of the city and too many per tenement. In our smaller cities the latter phase of congestion is the more pronounced. In New York City there are eleven blocks in the lower part of the city that contain thirteen hundred persons per acre. At that rate little Delaware would hold all the people in the world. The evils of such overcrowding are manifest. Bad air is the inevitable result, for such a swarm of humanity must make the air foul, outdoors as well as in. Lack of play space for children is not the least of the evils of congestion. In old Greenwich Village, a section of New York City, there were, according to an official report of 1914, but 16,000 square feet of play space, and 24,000 children lived in the district. Greenwich Village is on the lower West side of the city, a district not hitherto considered bad enough to need special attention, efforts to secure more play space having been directed towards the lower East side. In all our large cities play, normal, healthful play for children, is out of the question. Under such conditions it is impossible for the children to grow up with strong, healthy minds and bodies.

The worst phase of congestion is, too many per tenement. In this respect our small cities are not far behind the larger ones. Families of four or five often live in one or two rooms and take in two or three boarders and lodgers. In New York City about 18 per cent of the families live in one room and often take in one or two lodgers. In small tenements of four or five rooms there is no distinction between bedroom, kitchen or dining room at night, the floor of each room being literally covered with mattresses filled with people of all ages and both sexes. In the daytime the mattresses are piled up in one corner of the rooms. Sometimes two or three rooms of the small

tenements are rented to two sets of lodgers, one set occupying them at night and the other set in the daytime, the day lodgers being night workers, or tramps, night prowlers and thieves. The bad air, the filth, the indecency under such conditions can better be imagined than described; but no one can imagine the foulness of the air in such places until he has actually stepped from the open air into one of these dens.

The lack of pure air and sunlight is also due to faulty construction of the tenements. Great blocks of houses are solidly packed together, four or five stories high, and as a result of this method of construction most of the rooms have no windows opening out into the broad daylight, but have windows and doors opening into other rooms, and often these other rooms have no outside door or window, but have windows opening upon small, narrow air shafts, three or four feet wide. These air shafts often get filled at the bottom with garbage, and windows are tightly closed to keep the foul air from coming into the rooms.

The filth in many of these tenements and around them is indescribable. Floors are black with dirt, both in the rooms and in the hallways, the latter seemingly not only unwashed but unswept from one year's end to another. Garbage in the air shafts, in the back yards, in the alleys and even in the streets; rats and mice and vermin everywhere, laden with contagious disease; flies and insects in swarms bringing their portion of disease germs; such in brief outline are the conditions in the slums of our cities, great and small, such conditions as one would scarcely believe could exist, unless he had seen them with his own eyes.

The general results of such conditions are inevitably a grave menace to society as a whole. These slums are hotbeds of disease, vice and crime. Children are stunted in mind and body and depraved in morals. Deprived of God's free air and sunlight, with no chance even in the daytime to play as normal children should, housed among

vagabonds, beggars and thieves—for such are many of the lodgers—filth, disease, ugliness everywhere, it is no wonder that 90 per cent (the estimate of Jacob Riis) of our children in reformatories come from the slums. It would be far wiser and more humane for society to reform the dens whence come these poor unfortunates. As Riis humorously put it, we should recognize the fact that we are our brother's keeper, rather than his jail keeper.

23. CAUSES OF THESE CONDITIONS. Why will human beings live in such surroundings? There are many reasons, five of which are especially emphasized by social workers, (1) low wages, (2) drunkenness, (3) laziness, (4) factories congested in certain parts of cities, (5) the low standard of many, especially foreigners, coupled with an intense struggle to save from an exceedingly low wage. Not all of the five causes would apply to the same people, but two or more might sometimes apply. The relative importance of these causes is not easy to determine, but wage statistics would indicate that low wages is the chief cause. According to the latest available data, published both by the State bureaus of labor and by the United States government, about one-tenth of the adult male workers in this country earn less than $325.00 a year, while half our wage earners get less than $500.00 a year. Any one can readily prove from his own knowledge without much investigation that a family of four or five, the average size of a family, could not possibly live in decency on three hundred and twenty-five dollars a year, and with five hundred dollars a year the struggle for a decent living would be a hard one. With prices such as have prevailed for the last ten years, a family of five could not provide themselves with food for less than three hundred dollars a year, and it would have to be the plainest of food at that. A decent house or flat of four rooms would cost on the average not less than one hundred fifty dollars a year, and clothing of the plainest kind would cost not less than fifty dollars a year. Thus it appears that these three items alone amount to more than half our laborers earn, counting only the head of the family as a

bread winner. The results are inevitable. In order to live at all, people must crowd into the worst tumble down shacks obtainable and often the mother and little children must become wage earners, to the very great injury of both. Many, made desperate by such a hopeless struggle for mere existence, seek to drown their troubles with strong drink and make their condition worse. Thus drunkenness is often the result of poverty rather than the cause; and some of our social workers assert that drunkenness is more often the result than the primary cause of poverty.

Pure laziness no doubt is a cause of these conditions in many cases, especially of the filth, for water is easy to get and a little work would keep things clean. In many cases the income is sufficient, but foolish expenditure, including the drink bill, does not leave enough for necessities. Then, too, factories are often congested in one part of the city, and in order to be near their work, laborers crowd into the tenements, and since rents are usually high in the thickly settled parts of a city, intense overcrowding is necessary to bring rents down to a reasonable figure. Finally, large portions of our immigrants have an exceedingly low standard of living but are anxious to lay up something out of their pittance of an income, in order to return to Europe and live in comfort the remainder of their days. Hence, they are willing while here to put up with almost any condition, if they can only save.

24. REMEDIES. No remedy of any evil can be effective unless it removes the causes of the evil. Therefore, if we would find any effective remedy for bad housing conditions we must discover some way of removing the causes of such conditions. From the nature of the case no one remedy would remove all the causes, within a reasonable length of time. The most fundamental of all remedies, and the one that will go farthest in removing the different causes of bad housing conditions, is to give a living wage. This would remove a large part of the cause for drunkenness and in time, that is, in the

course of a few generations, the natural tendency of man upward will reduce the problem from the stupendous proportions it now assumes to one of small dimensions. But how to secure the living wage is the difficult problem. But however difficult, this result must be attained or all other remedies combined must utterly fail, except possibly that cleanliness might be attained in some degree by judicious help and advice of wise friends of these unfortunate people.

But how shall wages be raised to a living standard? Some countries are adopting a minimum wage law, and about a dozen American States have adopted such a law, but laws in this country apply only to women and children, who are not the chief breadwinners; and these laws do not therefore touch the heart of the problem. If such laws applied to men also they would be more effective in enabling the working classes to live in decency. Low wages, however, are caused by an oversupply of unskilled labor and inefficiency. A minimum wage law alone would not, except after a long time at least, and through the slow rise of the standard of living and the adjustment of the supply of labor to the demand, lessen the oversupply of labor; nor would it increase its efficiency, unless the state offered more opportunity for industrial education. The most important cause of our present oversupply of unskilled laborers is immigration. The logical remedy therefore is a restriction of that class of immigrants. We would not need to prohibit immigration, but to exclude a much greater number of the less desirable sort. The most authoritative recommendation for a considerable restriction of immigration comes from the recent report of the Federal Immigration Commission, a commission composed of some of the leading economists and statesmen of the country, appointed especially to investigate our immigration problems. A bill intended to decrease the number of immigrants and raise the standard of those admitted has three times passed both houses of Congress, but was each time defeated by the presidential veto, the first being vetoed by President Cleveland, the second by President Taft and the third by President

Wilson, the main objection in all cases being to the literacy test.

In order to increase efficiency of laborers, more opportunities should be given for young men to get vocational training. As we consider the problem later under the head of problems of production, we mention it here merely to make our remedies for low wages complete.

Another helpful remedy seeks to reduce unemployment by establishing employment bureaus by cities, by the states and by the national government. Often laborers are wanted in different parts of the country, but without public employment bureaus, well organized and connected all over the country, those desiring help and those desiring work do not get together. In response to this need several states and many cities have established employment bureaus, and the National Department of Labor is now cooperating with the Post Office Department to bring the manless job and the jobless man together. If all these various measures, the minimum wage laws, restriction of immigration, industrial training, better distribution of laborers by employment bureaus, could be secured, we would be on the road to a solution of the housing problem.

But other remedies are needed to help bring about results more effectively and more quickly. We need a wiser economy in spending. Strong drink should be eliminated. And greater economy in the home would make wages go farther. Many poor people buy baker's bread, which costs twice as much as it would to bake it at home. In many cities charitable organizations are employing trained housekeepers to instruct the poorer classes in more economical methods of housekeeping.

A third class of remedies needed includes those which seek to reform the tenement. Many cities have tenement-house laws which prescribe the conditions as to light, ventilation, plumbing, and other provisions which should make the tenements more habitable. Greedy

landlords have fought such legislation most vigorously, as they do not wish to lose any of the twenty or thirty per cent which they often make on their investments. But in a few of the large cities much has been done to improve the new tenements that are being built and some of the worst dens have been condemned and torn down. Much remains to be done yet along these lines; in fact, taking the country over, the "battle with the slums" is not half finished, and in most of our smaller cities the problem has not been attacked. But even where fairly good tenement-house laws have been enacted, those relating to overcrowding in tenements are wholly ineffective. After a generation of struggle to prevent overcrowding in a few of our great cities conditions are worse now than ever before, because the tendency to overcrowd is so strong that laws to prevent it are a dead letter. In the smaller cities this evil is just beginning to be serious, owing to the recent coming of the immigrant to the smaller cities and the development of manufacturing in them. European cities attack the problem by building municipal tenement-houses which are rented to working men at a low rate, and inducements are offered the renter to become the owner of his home by paying for it on the long-time installment plan. America, however, is as yet too individualistic in its theories to adopt this plan. But if all the other plans here suggested could be adopted we could make some headway against this vast housing problem which is becoming more serious every year and which threatens greatly to interfere with our progress towards a higher and a nobler civilization.

25. THE LIQUOR PROBLEM. Scarcely less important than housing reform is the liquor problem, and in some respects the latter is the larger problem of the two, partly because it affects more people and partly because a very large element of our population is fighting against any effective reform. The first great fact that confronts us as we view the situation is the enormous size of our drink bill. In 1912 the people of the United States consumed over two billion gallons of alcoholic liquor at a cost to the consumer of

over two billion dollars, the per capita consumption being twenty-two gallons, at a cost of about twenty dollars. We spend more for strong drink each year than the total value of all the hogs and cattle in the country, more than twice the value of our wheat crop, more than the cost of all grades of our government, and more than three times as much as we are spending for education. When a nation spends three times as much for strong drink as it does for education, when more education is much needed, there is something radically wrong with its estimate of the relative value of things. But the outlook is encouraging. The maximum per capita consumption was reached about 1896 or 1897, and since that time the tide has risen no higher and the indications are that during the last two years it has receded a little. The liquor interests are becoming somewhat alarmed at the outlook, as they fear that the great temperance wave now sweeping over the country will in time destroy them.

The evil effects of alcohol are well known and there is little excuse for a people being ignorant of those effects. Even the drunkard himself knows in his sober moments that excessive use of alcohol weakens him mentally, physically and morally. Drunkenness is a very powerful factor in helping fill our jails, penetentiaries, almshouses, and asylums. According to the report of the Mass. commission to investigate drunkenness, alcohol was the cause of 67 per cent of the commitments to prison during the year ending Sept. 30, 1913. Even moderate drinking is now considered by all scientific men as detrimental. Says Bishop Lawrence, "The time has passed when any intelligent person claims that strong drink makes a man more efficient. Industrial efficiency is driving the drinking man, even the rather moderate drinking man, to the wall." Many employers of labor, especially the great corporations, absolutely forbid their employees the use of alcoholic liquor, even in moderate quantities, not only when on duty but when off duty, and an infraction of the rule leads to dismissal. These employers of labor are not temperance fanatics, but they know from experience that even moderate drinking

lessens the working ability of their men. Says President Eliot of Harvard University, "The alcoholism of the white race must be overcome or that vice with the licentiousness that it provokes will overcome the race."

26. SOLUTION OF THE PROBLEM. The temperance forces seem to rely largely on closing the saloons as a sufficient and proper remedy. Their opponents claim that society has no moral right to forbid a man from drinking, and that the destruction of the liquor business would be economically injurious to society as a whole. Organized society exists for the benefit of the people. If any industry is proven to be injurious to society, that is, to the individuals composing that society, it is not only the right but the duty of society to suppress that business. A man has no moral right to do anything that injures the other members of the community. The saloon business has been condemned by ages of experience, and if society thinks the business injurious it has a right to suppress that business. Moreover, an individual has no moral right to do that which injures himself and incapacitates him for performing his economic and political duties. Man is the natural bread winner, and he has no moral right deliberately to lessen his power to support a family, nor has he a right to weaken his own mental and moral nature and thus unfit himself for citizenship. And if a man is too weak to resist the temptation to destroy himself, it is the duty of society to save him from destruction, for we are, by every law, human and divine, our brother's keeper.

The friends of the saloon claim that the destruction of the liquor business would injure industry generally. First, they urge, all those engaged in the business would be thrown out of work. That would injure merchants and producers who had been furnishing them with goods. Then the demand for grain and other materials consumed in the production of liquor would be destroyed, and a vast injury would result to business generally. This argument is exceedingly shallow and perfectly fallacious. The results indicated would be merely tem-

porary, until society got itself adjusted to a new economic order of consumption. The argument of the friends of the saloon overlooks the great laws of consumption and assumes that if men should cease to drink liquor their powers of consumption of other things would remain stationary. The simple fact is that if the consumption of liquor is cut off, demand for other things will immediately increase. Those that now go hungry and half clothed because of the saloon business would be better fed and better clothed. The suppression of the liquor business would not diminish man's capacity for consumption, but a new and better consumption would spring up. Thus those temporarily thrown out of employment by the closing of the saloons would find other employment where they could help supply society with things beneficial to it rather than harmful. But society should give needed aid to those temporarily thrown out of work and it should compensate owners of property made valueless by destruction of the liquor business.

But the suppression of the saloon is not enough. The saloon is the poor man's club. Men must have amusement, and society should take upon itself to provide places of amusement of a kind that would elevate and not destroy. Society already has at its command, especially in the cities, places that can be made into social centers, and these places are its schoolhouses that have as yet only been half utilized. By proper effort recreation and amusement could be provided that would attract those who now make the saloon their social center.

27. EXTRAVAGANCE OF THE RICH. It is a common, almost universal, belief that the extravagance of the rich is a benefit to the poor. The thought of the average person on the matter runs as follows: If the rich keep a great many servants for menial work, which results in no concrete goods, there will be a greater demand for labor, because somebody must labor to produce the goods which society demands. If the rich spend lavishly in dress, keep half a dozen automobiles, take frequent and expensive trips abroad; all

this creates a demand for labor, and thus increases wages.

This reasoning looks sound upon a very superficial view. But it is fallacious. If the labor that is employed in supplying this superabundance of luxuries for the rich were directed towards the production of things needed by the masses, there would be a double gain to the laborers. In the first place, things consumed by the masses would not be so high in price, because they would not be so scarce. Some of the necessities being cheaper, more money would be spent to satisfy culture wants. This in the second place would lead to increased demand for labor, and wages would be higher. Let us look at it from another point of view. As it is now a large portion of the labor and capital of the country is directed towards the production of high priced luxuries of the rich. If a part of this labor and capital were directed towards supplying goods such as the masses need, the wants of the masses would be more fully supplied.

The extravagance of the rich is harmful to society in another way, as pointed out above, since it sets a bad example which others strive to imitate. Thus it sets the middle and lower classes to struggling after material luxuries instead of intellectual culture that lies within the reach of all, if they would revise their estimate of the relative value of things.

CHAPTER IV.

The Factors of Production.

28. PRODUCTION DEFINED. Production is the creation of utilities. It will be recalled that there are four kinds of utilities, elementary utility, form utility, time utility, and place utility. Hence, production includes not merely the making of materials and finished products, but it also includes all transportation enterprises that give place utility as well as all mercantile business which also gives time and place utility.

Mere speculators, however, who buy up goods in large quantities to hold them for an advance in price are not producers. They render no useful service to society. Just as much work must be devoted to the distribution of such goods to the consumer after these speculators have sold the goods to the regular dealers as before the speculators bought them up. All persons who gain a living by such means are mere parasites upon society. All those connected with stock exchanges who are not performing the useful service of selling stocks and bonds to investors, but merely manipulating the stock market so as to enhance their values, are among these social parasites.

29. THE THREE FACTORS OF PRODUCTION. There are three factors of production, man, nature, and capital. Nature includes lands, minerals, and all physical and chemical forces. Capital includes all goods, made by man, that aid in production. The distinction between capital and consumers' goods must be kept clearly in mind. Consumers' goods include all commodities that satisfy our wants and that are in shape for final consumption. Without capital, man would stir the ground with his hands, plant the seed with his hands, and tend it with his hands. He would catch fish from the streams and lakes with his hands and with his hands twist into thread fibers of plants and weave them into garments. Needless to say, this direct method of production would be very inefficient. With tools and machinery, or by the indirect or roundabout method, man's

labor is more effective. It is indirect or roundabout because man first makes his tools and machines and with these makes other tools and machines, and finally makes the commodities for final consumption. Thus capital is one of the greatest aids to civilization. Without capital man would forever remain a savage, for all his energies would be used up in supplying himself with necessities.

A distinction should be made between private capital and social capital. Private capital is merely property from which a man derives an income; social capital enables man to produce more goods than he otherwise could produce. A dwelling house rented to a tenant is private capital; but it is not social capital. A dwelling house is to be classed as consumers' goods, just as much as food or clothing. And the fact that the houses are rented rather than occupied by those who own them does not increase the productive forces of society.

Land may be classified as private capital, since all business men and farmers reckon their land as a part of their capital. But land is not to be classified as social capital, not merely because man did not make it, but for a much more important reason. That reason is that income from land is determined by a different law from that which governs income from capital. As a country becomes more thickly populated and capital becomes more abundant, the rate of interest declines; while under the circumstances stated, income from lands increases. Hence the science of economics, which tries to explain the phenomena of the business world, must disregard the practice of business men in this respect and put land and other natural agents in a class by themselves, in order to discover the law that governs the income from these natural agents.

30. CLASSIFICATION OF CAPITAL. Capital may for convenience be divided into four classes, considering the way in which it aids in the productive process. These classes are, (1) the tools and machines we work with, (2) improvements in the soil, which help nature to do her work better and thus render our labor more

effective, (3) materials we work upon, and (4) finished consumers' goods in the hands of producers and merchants. The first class includes, besides tools and machines in a narrow sense, horses, fences, buildings, and many other things that make our work more effective than when the direct process of production is used. The second class includes fertilizers, drains, and other improvements that increase the productive powers of the soil. A close analysis shows that both the first and second classes of capital make our labor more effective for much the same reason, namely, they harness the forces of nature and make them work for us. The materials we work upon do not directly aid in production but are merely the passive instruments in the productive process. Finished consumers' goods in the hands of producers and dealers are classed as capital simply because they are in the last stage of the productive process, time and place utility being added to them in passing from the producer to the consumer. Both the third and fourth classes of capital are passive, and do not directly make our work more efficient, and the fourth is merely a result of division of labor.

Another classification of capital, based upon durability, is that of fixed and circulating capital. Fixed capital includes those forms of capital that are fixed or limited to one or at most to a few uses. A railway locomotive can be used only in transporting goods and people, and the roadbed and cars are also devoted to one use. A factory building can be used economically for nothing but a factory, though it might be transformed from one kind of factory to another. Tools and machinery of all kinds are limited in the uses to which they may be put; but the degree of limitation varies widely. Axes, saws, hammers, and such tools, can be used in building all sorts of things, while a lathe in a machine factory has a much more limited use. The term, specialized capital, is often used instead of fixed capital and means practically the same thing, that is, its use is limited or specialized.

Circulating capital is that which is used up in a single process,

as the coal in the furnace, the thread of which the cloth is made, the lumber which enters into all kinds of things. But a better term than circulating is free, which indicates that the uses to which the capital may be put are many. The degree of freedom in use is however widely different for different things, as will readily be seen by a moment's reflection. It will be observed that fixed or specialized capital practically corresponds with the first two classes above, tools and improvements in the soil, and that circulating or free capital corresponds roughly with the materials we work upon. The fourth of the above classes, consumers' goods in the hands of producers and dealers, would seem to belong under specialized capital, since the use of such goods is quite limited. Clothing, for example, cannot be used for any purpose but to wear.

The latter classification of capital suggests facts of great industrial importance. For example, if too much capital is invested in fixed or specialized forms of certain kinds it may lead to great industrial disturbances. In 1837 the great crisis resulted from investing too much capital in canals, turnpikes and railroads, and most of our other panics were due to similar causes. People borrowed money or credit largely of banks, in order to build the roads or canals, more were built than were then needed, the enterprises did not pay dividends, the banks that advanced the money and credit were ruined, and with their fall came the ruin of many other business houses, and so the mischief spread all over the country, carrying sorrow into hundreds of thousands of homes.

31. THE INCREASE OF CAPITAL. The process of accumulation of capital involves three steps, saving from current income, investing, which means, in reality, deciding what is to be produced, and the production of capital goods. Some writers use the word waiting in this connection, which calls attention to the fact that a certain interval must elapse between the time of saving and the final profits which result. Waiting, however, is not a step in the process, but only incidental to the process. Other writers use the

term abstinence instead of waiting, the term abstinence calling attention to the self-denial and hardship involved in foregoing present consumption with the hope of having more for consumption in the future than one would have without the saving and waiting. Some writers, especially the Socialists, deny that there is any pain or hardship involved in saving and waiting, and they cite in proof of their contention the pleasure involved in anticipating the future increase of capital, and they also contend that the rich capitalists experience no hardship in the process. No doubt those who are thrifty and saving take pleasure in providing for the future, and it is doubtless true that the rich do not have to deprive themselves of many luxuries in the process. But it is not true that all the saving is done by the rich. A very large portion of the savings comes out of the meager incomes of those who must forego many things they would like to have. The practical point involved in the dispute is that those who hold to the abstinence idea justify the payment of interest on capital on the ground that interest is a reward for the pain involved in saving and waiting. The Socialists claim that since no pain is involved, interest on capital is not justifiable. We shall return to this point in a subsequent chapter.

The forces governing the rate of accumulation of capital are two, the productivity of industry and the habits of the people. If a country is poor in natural resources and the people lack energy, little will be produced from which to save, even though the people are saving in their habits. And even if the people are both energetic and saving, capital cannot be accumulated rapidly if the country is poor in natural resources. But with rich natural resources and an industrious and saving people, wealth and capital will accumulate rapidly. Again, nature may be favorable, and the people energetic, but if they spend it all in riotous living like the prodigal son, there will be little wealth and little capital. These three things, therefore, the natural resources, the degree of energy of the people, and their habits as to saving are the main factors determining the rate

of increase of capital.

Economists a generation ago usually laid it down as a law that the rate of accumulation of capital depends upon the rate of interest and that as the rate of interest declines the rate of accumulation of capital declines. But later economists have pointed out that the latter part of the law is not necessarily true. The motive for saving is a more decisive factor than the rate of interest. If, for example, the motive be to save for old age, the person saving hoping to live from the interest of his capital, a lowering of the rate of interest would increase savings, because it would take a larger amount to keep one in old age. If, however, the savings are from the incomes of the rich, lowering the rate of interest would decrease the rate of saving, since the rich would continue to spend about the usual amount on pleasure and luxuries and less would be left for investment. Hence, a variety of circumstances would determine whether or not lowering the rate of interest would increase or decrease the rate of saving.

32. THE INCREASE OF LABOR—THE LAW OF MALTHUS. Land cannot be increased, hence we need not consider the increase of that factor. The increase of labor, however, is of vital concern. The increase of labor means the same as the increase of population, and the law of increase of population was worked out about a hundred years ago by an English economist by the name of Robert Malthus, and the law of population is known as the Malthusian Law. This law is that population has a natural tendency to increase faster than the food supply, unless checked by wars, disease, famine or what Malthus called moral restraint, by which he meant late marriages.

The proof of this law is abundant. In this country in the colonial days population often increased so fast that it doubled every seventeen or eighteen years, not counting immigration. During the last hundred and fifty years the population of this country has about doubled every twenty-five years. Germany, an old country, has doubled its population in the last forty years, under the stimulus

of the great industrial development which she has undergone, and she has in the meantime sent millions of her people into other parts of the world. Numerous examples might be given from various countries to prove that where means of subsistence allows, population will double itself every twenty or twenty-five years at most. At the latter rate there would be in the United States, not including Alaska, in four hundred years from now twenty persons to every square rod of ground in the country, and in another century after that there would not be standing room. No proof is needed to show that the food supply would run short long before that time. In India and China the population has long been stationary because of a lack of means of subsistence, and starvation is one of the principle means in those countries that keeps the population from further increase.

The law of Malthus does not imply that the population must be kept down by starvation. But it does mean that if wars, disease, and famine do not keep the population within the limits of the food supply, starvation will be the force limiting further increase, at some future time, and that not very far distant, unless the great majority of young men delay marriage until their income is sufficient to enable them to bring up a family. Later marriages would result in smaller families, and thus the population would be checked and the standard of living could be maintained or even raised. A young man who enters the marriage relationship and has a large family of children while he has nothing to support a family upon except his wages, and while his wages are too low to support a large family properly, not only violates common sense, but he is an enemy of the race, since such a course pursued by all would inevitably endanger the welfare of the race. A high standard of civilization is more important than vast numbers. On the other hand, the rich who refuse to bear children that they may pursue their round of pleasures without the burden of rearing children, commit a sin against society, not only because they refuse to bear their share of the burdens of keeping up the race, but also because the rich are most able to give to

their children the the highest standards of life. In all countries the lower classes, that is, those lowest in the scale of civilization, increase the fastest, which hinders the progress towards a higher civilization; and when those best able to propagate the race refuse to do so, they are helping the downward tendency of the race. Not that the race actually goes backward, necessarily, but when the rich refuse to help elevate it, they leave the work for the lower classes, which increases the difficulty of elevating the race through the various uplifting agencies, the school, the church, the state, the club.

33. OUR IMMIGRATION PROBLEM. The law of Malthus has important bearings upon our immigration problem, and it helps dispel several popular delusions regarding the effects of immigration. The prevailing notions among the masses of the American people seem to be (1) that the great tide of immigration into this country during the last half century was needed to develop our resources; (2) that these foreigners have done the disagreeable work that Americans would not do; (3) that our native workers, thus benevolently relieved of the disagreeable tasks, have been forced up into higher positions.

Such, however, are not the facts of the case. Until the tide of immigration began to assume large proportions after 1830 there was no notable decrease in the rate of increase of our native population, the rate of increase being about 34 per cent per decade. But since 1840, when the tide began to affect the American laboring men, the rate of increase of our native population has rapidly declined until it is about stationary in the older portions of the country. And taking the total population, immigrants included, the rate of increase has steadily declined since 1860 until it reached as low as 20 per cent for the last decade. It is quite evident, therefore, that the effect of immigration has been to check the rate of increase of the native population and that the total population is probably little larger than it would have been had there been no immigration. Our polulation is rapidly becoming transformed from the old Teutonic stock to a

mixture of races from southern Europe and western Asia.

We can see this process at work all over the country. The cotton industry of New England furnishes a good example. Half a century ago the work in the cotton mills was done mostly by boys and girls from the farm. As the farms became cleared and improved, and machinery was substituted for hand labor, the farmer no longer needed so many of his children at home to help, and the rise of the cotton factories afforded an outlet for surplus labor on the farms. When the French Canadians came into the mills, the native boys and girls, not liking the low wages or the society of the Canadians, would not work in the mills. Thus the outlet for the surplus labor on the farms being closed, the size of the family rapidly declined. Families of eight and ten children were common in earlier days in New England, where now families of more than two or three children are rare.

As to the notion that foreigners have done the disagreeable work that Americans would not have done, it may be said that if there is any work unfit for respectable Americans to do, it better be left undone, if conditions cannot be improved; for the main business of society is to produce respectable human beings rather than use them as mere tools for the production of wealth. But conditions surrounding disagreeable and dangerous work, such as mining, could be greatly improved, were we not so anxious to secure large dividends on capital. But even if conditions of such work could not be improved, there is no warrant for the assertion that Americans would not do it. Higher wages doubtless would have to be paid, and that is where the desire for immigrant labor originates.

It is a very prevalent notion that immigration forced the native Americans up into higher positions. Such a statement must mean either that a greater number of Americans are in high positions because of immigration or that a greater proportion of Americans are in high positions. If a greater number are in higher positions it implies either that some people other than Americans formerly filled

these high positions or that more high positions were created by immigration for Americans to fill. The first inference is of course absurd, for none but Americans were here to fill the positions. The second inference is not true, since our industries would have developed as well with American labor as with foreign labor. All that the statement about forcing Americans up can mean, therefore, is that a larger percentage of Americans occupy high positions because of immigration. This is perfectly true, but instead of Americans being forced into higher positions they have been forced out of the lower positions and in their struggle to maintain their standard of living, most Americans have smaller families. Thus, instead of immigration having conferred a blessing upon the country by relieving the Americans of disagreeable work and giving them the higher positions, it has substituted foreigners for natives in the lower ranks of laborers.

We would not necessarily conclude from this that immigration since 1830 has on the whole been a bad thing for the country. Each nation has some good points which other nations may lack. The light hearted, quick witted Irishman, the methodical, painstaking, economical, substantial German, the emotional, music loving Italian, and the patient Slav, added to the energetic, resourceful, practical, extravagant American, and blended into one nationality, will make the Americans of the future the most resourceful, powerful, and versatile race in the world. This great fact should not, however, blind us to the necessity at the present time of restricting somewhat and selecting with more care the immigration now pouring in upon us, in order to prevent the threatened lowering of the standard of living of our working classes.

CHAPTER V.

Efficiency In Production.

34. RICHNESS OF NATURAL RESOURCES. Efficiency in production depends upon the efficiency of each of the three factors of production and economy in their organization. The most important natural resource is the soil from which our food must be obtained. A nation with a rich soil and proper climatic conditions is blessed with the most indispensable elements of wealth. Next in importance are mineral resources, the two most essential of which are iron and coal. Without these a nation must depend upon other peoples for the most of their tools and machinery. Copper is increasingly important for various uses, but especially for the thousands of miles of telegraph and telephone wires that cover the earth. Zinc, tin, lead and other metals are needed, each having its special uses, and petroleum is now indispensable. The precious metals are needed not only for money but in the arts. Timber is a most important resource, for firewood, for building purposes, for furniture, and for machinery of all sorts. Water power was a very important source of wealth in the infancy of the age of machinery, before steam largely displaced it. But water power has held its own in certain industries, notably in the textile industries. With the increasing use of electricity waterpower will assume a new importance, for it is as good as steam and much cheaper for generating electricity. Not the least important of a nation's resources are the natural facilities for transportation, including navigable rivers and lakes and opportunities for building canals.

In all these natural resources the United States is richly blessed. The great Mississippi Valley is one of the largest tracts of rich land in the world, and we are just beginning to develop through irrigation and dry farming the vast regions of the West. The variety of soil and climate also makes possible the cultivation of a great variety of crops. The United States is rich in mineral resources. It is estimated that our available coal supply is about three trillions of tons, which

is about a third more than the supply of all the remainder of the world, and in the annual production of coal this country leads all others. We produce about twice as much iron as Germany, more than three times as much as Great Britain, and five times as much as France or Spain. We produce more than half the copper supply of the world, nearly one-third the lead, about one-third the zinc, and two-thirds of the crude pertroleum. We did have abundance of timber, but wasteful methods of lumbering and forest fires are rapidly exhausting that very necessary resource. Measures are being taken, however, to check the destruction and to reforest our depleted lands. With such an abundance of resources and splendid facilities for transportation, if properly developed, the United States is destined to become one of the richest nations in the world.

35. EFFICIENCY OF CAPITAL. Efficiency of capital depends upon the nature of the instruments of production and the nature of the improvements of the soil. It is highly important that a nation keep abreast of the times in these matters. In the great international struggle for the world's markets, success depends largely upon the efficiency of the productive apparatus. Nothing but the latest and best machinery will enable a nation to compete on equal terms with wide-awake, progressive competitors. Not only must its machinery be up-to-date, but also its methods of farming.

In the invention and use of effective machinery the United States stands in the front rank of nations, and in the application of large machinery for doing work on a large scale, this country leads the world. Other nations equal us and probably excel us in the invention of machinery and processes of a more delicate nature, but for doing big things we stand without a rival. The causes of our success along these lines are various. The colonist, left largely to his own resources, developed ingenuity; and our liberal patent laws have greatly stimulated inventions, for a fortune awaits the successful inventor. The great size of the country and of the field of industry doubtless has had much to do with the direction inventions have taken in this

country, since the vastness of the industrial operations would invite inventions for doing big things.

The United States has fallen behind the most progressive countries of Europe, however, in the scientific cultivation and improvement of the soil. The land has been abundant, cheap, and of great natural fertility. Hence, it did not occur to our people that the soil needed any special care, and it begins to show signs of exhaustion. We have been doing extensive rather than intensive farming, partly because there has been more profit in the former than in the latter method, and partly because it is characteristic of Americans to want to do things on a large scale. As a result, we have been "mining" our soil, as one writer has expressed it, rather than farming it. That is,we have been taking elements out of the soil and putting nothing back into it. In the South during the slavery days this was especially characteristic of their agriculture, and today the South has vast tracts of exhausted soil, awaiting recuperation through scientific farming. We shall return to this problem in the following chapter.

36. EFFICIENCY OF LABOR. The efficiency of laborers depends upon their physical, mental and moral qualities. Physical ability depends upon inherited qualities and upon food, clothing, shelter and general environment, both during the time of the individual's growth and during the working period. If a people inherit from their ancestors strong, vigorous, healthy bodies, if their children are properly fed, clothed and cared for, so that nature is assisted and not hindered in its work of perpetuating the good qualities inherited, and if as laborers they have proper food, clothing, and shelter, and this means proper homes, that people will be efficient workers. An under fed, poorly clothed, badly housed nation is a nation of weaklings, and it is impossible for it to attain a high degree of civilization. It behooves us, therefore, as a nation to look to our "slums" and those in poverty everywhere. From the point of view of mere production, looking at our laboring population as mere instruments of production, to say nothing of the humanitarian considerations, it

would be a wise economy to eradicate such slums and give every normal human being a chance in life; for if our laborers are inefficient the whole nation is poorer.

But physical strength, endurance, and vigor are of little avail unless directed by an intelligent mind. To native intelligence must be added both general and special training. We need general education to train all our powers in a general way, to make men and women capable of taking a broad view of life, to enable us to enjoy life, and to enable us to perform our part in the institutions of society, the home, the church, the state, the club; and then we need special education to fit us for the business side of life. The higher up the industrial scale we go, the more specialized is the knowledge and training required. It has generally been considered that rough, "unskilled" labor needed no special knowledge or guidance; but recent investigations prove that in doing many kinds of work, considered unskilled, there is much opportunity for improvement. It has been demonstrated, for example, that by handling bars of pig iron in the proper way workmen can do two or three times as much work in a day as they ordinarily do, and be no more exhausted at night than they are by doing less in an ineffective way. When such an increase in efficiency is possible in such rough work it shows at once the possibilities of improvement in other lines. In preparation for many kinds of work scientific knowledge is needed. Science and industry are closely associated in the modern world. Chemistry, physics, botany, biology, all the sciences of nature are involved in modern industry; hence scientific knowledge must be obtained for the workers higher up. For other kinds of work, such as carpentering, iron molding, and many others, some years of apprenticeship are necessary in order to learn the trade. Hence a nation should in some way provide opportunity for vocational training and education.

Efficiency of labor depends, finally, upon the moral qualities of the people. Honesty, reliability, and willingness to do a fair day's work are as essential as mental and physical ability. If working

men were perfectly honest, that is, willing to do a fair day's work, whether under the eye of the "boss" or not, much less superintendence would be needed and the cost of production would be much less. Wherever one sees small groups of men at work, even though there be but three or four, one man is set to watch the others to see that they do an honest day's work while he does nothing. All this is an extra burden upon the people which they must bear in the shape of higher prices.

37. SOCIAL COOPERATION IN PRODUCTION. Let us now consider the organization of the factors of production. Organization of the factors of production includes at least five distinct phases, (1) social cooperation, (2) forms of business organization, (3) the size of the business unit, (4) the relative amount of the three factors used, and (5) organization of marketing. Social cooperation involves two varieties, division of occupation and division of labor within the occupation. Division of occupation occurs when some men become carpenters, others blacksmiths, others farmers, others clothmakers, and so on through the long list. In division of labor there is cooperation, because each man is doing his special work in society and all are working towards one common end, the satisfaction of human wants. Each satisfies his wants only to a small degree or not at all with the products of his own industry, but he sells most of his product, or all of it, and buys what he wants. Each man is dependent upon the rest of mankind for the satisfaction of most or all of his wants.

Division of labor within the occupation or business is social cooperation, because each worker does only one small part of the process of making a certain thing or of rendering a given service, and all are doing their share in satisfying one want. The product is the result of the joint labor of all. We may place the workers in any business into two groups, those who are brain workers, and the laborers whom they direct. In a department store, for example, there is the general business manager, the department managers, the floor

managers, cashiers, bookkeepers and salespeople, but only the last are actually doing the work of selling goods to customers, and they are working under the direction of those above them. In many lines of business subdivision of labor is carried to a very high degree of minuteness. In making shoes, for example, there are scores of different operations, each worker having only one operation to perform. The exact number of these operations would vary with the type of shoe and the methods of manufacture, but in any case each worker has a very small part of the process of making a shoe. Several are cutting out the different parts of the shoe, each of the several seams are sewed on a different machine by a different worker, and several are finishing and polishing. In our great meat packing establishments division of labor is carried far. In removing the hides, for example, there are several men at work, each removing only a certain portion of the hide.

38. ADVANTAGES OF SOCIAL COOPERATION. Social cooperation has several advantages, three of which are especially important, increase in skill, increase in inventions, and the opportunity of each to apply his special talents. Division of occupation leads to greater skill, because the frequent repetition of the same process, which results in an increase of product and an improvement in the quality. In the early ages of society everything man made was crude; but when a man gave his whole time to one thing, say making furniture, he would learn to work more rapidly and at the same time give grace and beauty to his product. With the more minute subdivision of labor, skill would be further increased because of more frequent repetition. In many cases, however, the improvement would be in quantity rather than quality, since no one person makes the article, and beauty would have to come from the imitation of a pattern or design of only a portion of the article, and the putting together might not be so artistically done as when one person makes the whole thing. Then, too, with the coming of the machine process, the sense of beauty of design would be cultivated only in the pattern makers.

Division of occupation and division of labor lead to inventions because, when a man's work is narrowed in its scope he can study more minutely the processes involved and new and better ways of doing the work can be studied, and new machines invented. Also, in this division of labor some will become men of science, and then inventions will multiply rapidly, since a knowledge of nature is essential to the inventor. This explains why through the long ages so few things were invented before the eighteenth century. Division of labor had advanced far long before that, but man's knowledge of nature was too limited to aid inventions beyond what had been blindly worked out centuries earlier. When men learned enough of the secrets of nature to see their application to machines, inventions multiplied, and the Age of Machinery began rather suddenly.

A third advantage in social cooperation is that each person can do what he is best fitted for. Some can be great scholars and lead the world into higher realms of knowledge; some with great powers of organizing industry can bring capital, land and labor together and direct their efforts to larger results; each can turn to the industry he likes best, and those gifted chiefly with physical powers can do hard work, under the direction of superior minds. Thus all can cooperate in increasing man's material and also his higher welfare. All are working towards one great end, raising man to a higher plain of civilization. At this point the thought is borne in upon us that all honest work, however rough, uninviting and humble, is contributing to man's welfare, and all workers are to be honored and respected; and, too, we cannot escape the conviction that thus far in the world's history our humbler workers, our brothers in the toil for all humanity, have borne more than their share of the hard work of society and received too little of the higher comforts of life.

39. DISADVANTAGES OF SOCIAL COOPERATION. Unfortunately there are several disadvantages resulting from cooperation. Division of occupation makes it possible for some lines of business to become overcrowded with capital and the less able men are driven

to the wall by severe competition. Also the division of labor may result in some trades becoming overcrowded, especially with skilled labor. Young men may prepare themselves for a certain trade and find that too many are in that trade. In that case they must be content to do unskilled labor or else go to the expense of learning another trade. And even the unskilled laborers may find it difficult to get work even at starvation wages; for with the division of labor and the machine process the mass of men must lose their industrial independence and become wage earners. Thus increased social efficiency is attended with the loss of industrial independence for the individual. The more specialized each man's work becomes the greater is the danger that some cannot get work, or only at a wage too low to keep soul and body together. In order to minimize these evils society should undertake the study of the needs and opportunities in the different lines of industry so that young men with capital would have some general knowledge of the opportunities for investing capital in the different lines of business, and young men who wish to learn a trade would be able to choose with some knowledge not merely of their own aptitudes but of the needs and opportunities in the different trades. Vocational guidance needs to consider both the characteristics of the individual and conditions in the different industries.

Another class of evils resulting from cooperation is the monotony of the work. This is especially true of minute sub-division of labor, where a person hour after hour, day after day, year after year, has to perform one simple operation, like, for example, cutting out soles of shoes or sewing on a machine run by steam power or electric power one short seam in shoes. Such monotonous work not only fails to develop mind and body as work of a varied and more complex character would do, but body and mind are actually weakened from lack of exercise. It is this monotony that is especially injurious to young children whose minds and bodies have not yet fully matured. To counteract this deadening effect, society should provide proper opportunities for amusement, exercise, recreation and study. Instead of

having one great library in the city, inaccessible to most laborers because too far away, there should be other smaller libraries and reading rooms within reach of all. These could well be at the school houses, which should be made social centers for recreation and enjoyment.

Because of this minute division of labor and the machine process, are the two evils of child labor and of mothers working in factories when they should be at home caring for their children. The work is often so simple and easy that women and children can do it as well as men, and since they can be hired for lower wages, the children and the mother of the family are at work while the father is idle, either because of laziness or because he cannot get work. This is such a large problem that we postpone its discussion.

40. FORMS OF BUSINESS ORGANIZATION. A second group of forms of organization of the three factors may be called forms of business management. These forms are not concerned with the relations among the three factors so much as with the relations among those who manage the business. There are at least five forms of business organization, the single manager system, the partnership, the corporation, cooperation in management on the part of workmen or producers, and ownership and management by the government. The corporation is so important that we reserve it for special treatment. In brief, a corporation is a company having a charter making it a legal person, and with its capital divided into shares.

The simplest form of organization is the single manager system, where one man owns and controls the business. The only cooperation in the management is that between the owner and his hired help, which is included in division of labor. But the one man is legally and industrially responsible for the success of the undertaking, and he alone gets the immediate benefit of such industrial conditions as make his profits large, and he alone is the one who suffers reverses, unless they are so severe as to make it impossible

to keep his employees at work and pay them the accustomed wages.

In the partnership there is real cooperation in the business management, besides that between the managers and employees. The partners may cooperate in various ways. Sometimes one man furnishes great organizing ability and experience, with no capital or only a small amount, and another may furnish most of the capital, with little ability or experience. Again, the partners may unite their abilities in determining certain large questions of policy and each act as head of a special department of the business. The advantages of the partnership form over the single manager system are (1) a large capital, which may be needed in certain kinds of business, (2) united wisdom in counsel, (3) greater interest in the success of the business as heads of departments than hired helpers would have.

Cooperation in management, as the term is used by economists and business men, is really a form of partnership. A partnership is cooperation in business management, and the names of the two forms of organization do not indicate their differences. Cooperation, as used in this connection, does not in fact refer so much to the form of organization as to the character of the persons cooperating. Originally, cooperation meant the ownership of the business by the laborers themselves, who employ their own business managers. Later, farmers cooperated in establishing and managing creameries, grain elevators, and associations for marketing fruit or other products The form of organization might be the partnership or the corporation, or indeed any other form that might be devised. The purposes of these cooperative organizations are to secure the profits of middlemen and managers. In the case of laborers establishing cooperative retail stores the purpose is to get commodities cheaper, and the farmers desire to reap some of the profits that otherwise would go to middlemen. Such organizations may or may not be more efficient than the forms of business they displace. The significant thing about cooperation in this narrow sense is not increase

in efficiency but the diversion of profits from one class of people to another.

The fifth form of business organization is government ownership and management. In this case there is no special form of organization; the essential thing about it is that the managers are government officials. The government might appoint a single head to manage the business, it might manage it through a commission, which would approach the partnership form, or it might organize it after the pattern of a corporation, with stock owned by the public. Government ownership may or may not be more efficient than private ownership, owing to circumstances. The greater or less efficiency would not depend upon the forms of organization, since these could be the same in private as in public ownership, but upon relative ability of public or private managers. The question of public or private ownership is not so much a question of efficiency as it is a question of distribution, that is, whether the profits of the business shall belong to a few managers or to the public. The three essentially different forms of business organization are therefore the single manager, the partnership and the corporation.

41. CORPORATIONS. There are at least five characteristics of corporations which must be clearly understood, for out of these characteristics come the advantages and the evils of this form of organization. As stated above, a corporation has a charter granted by the government, making the company a legal person, capable of acting as a natural person in business affairs. It can conduct business, sue in the courts, inherit and bequeath property.

Its charter gives the corporation continuous life. In some cases the charter is given only for a term of years, usually twenty years or more, but in such cases the charter is usually renewed before the expiration of the time limit. More often there is no time limit to the charter. In case of the single manager system the business terminates with the death of the owner unless his heirs are desirous of continuing it. The partnership may have a more

continuous life than that of the single manager system, but with the death of a member the business must be re-adjusted, and is therefore less permanent than the corporation.

The capital of the corporation is divided into shares, usually of one hundred dollars each. This is often referred to as the joint-stock principle. When an investment is made in a corporation evidence of such investment consists of stocks or bonds, which are pieces of paper certifying the amount invested. Stockholders are the real owners, as they alone can take part in governing the business. Bondholders are creditors. From the business point of view, bonds are safer than stocks, since bondholders receive a stipulated rate of interest, and in case the interest is not paid they can take possession of the business. Stocks are often divided into common and preferred. The preferred stock is guaranteed a certain rate of interest, usually one or two percent higher than that paid on bonds; but the bondholders are more secure than preferred stockholders, since in case of reverses interest on bonds must be paid before interest on preferred stock can be paid. The common stock is the least secure and the most speculative form of investment. If the business is prosperous, all earnings above what is necessary to pay interest on bonds and preferred stock go to the holders of common stock; and in times of adversity interest on common stock, that is dividends, may be very low or nothing at all.

The corporation is managed by a small number of the owners. Usually about half the capital consists of bonds, and in a corporation, therefore, those who virtually own one-half the property have no voice in the management. Another corporation could buy up one share over half the stock and control four times as much capital as it owned. Then a small number of men might own one share over half the stock of the second corporation and by controlling its action control eight times as much capital as they own. In extreme cases one man might own the controlling interest in the second corporation and ownership and management would be still more

widely separated. Even when there is a large number who own the controlling interest in the business, the management is in the hands of a few, usually called the board of directors, elected by the stockholders.

The fifth characteristic of business corporations is the principle of limited liability. In a partnership each partner is liable for the debts of the company, even though only a small fraction of his wealth may be invested in the business. In a corporation stockholders are usually liable only to the amount of their investment. That is, if a man buys a hundred dollar share in a corporation he may loose it if the company fails, but creditors cannot take any of his property not invested in the business.

42. ADVANTAGES OF CORPORATIONS. Owing to these various characteristics, corporations have several advantages over other forms of business organization. Continuous life enables it to look far into the future and pursue a continuous policy. The death or withdrawal of members need not interfere in the least with plans looking many years ahead. A railroad corporation, for example, might lay its tracks and adjust its rates so as to develop the resources of a certain region, which might take twenty years or more. The region to develop might be uninhabited, and to induce settlers to gather and develop the country would be a work of many years. The private individual or the partnership concern would seldom look so far ahead, and if it did the death of one of the leading members might upset the plans. Such a result might be brought about by the death of a leading man in a corporation; but it is not apt to do so, since the life of the corporation is continuous and its policy is determined by the will of a number of individuals, as a rule.

A second advantage of the corporation is the large capital it is enabled to gather from the ends of the earth. Continuous life, joint-stock, and limited liability make the corporation very attractive to investors, both great and small. Investors usually desire to place their money in a business that is permanent. The joint-stock prin-

ciple makes it a convenient form of investment. As one's income accrues from month to month or from year to year, savings can be invested as soon as they amount to one share of stock. Investors can take their choice of preferred or common stock or bonds. And the limited liability makes it safe for a man with other property to invest as much as he desires in the corporation, for he runs no risk of losing more than his investment.

Stocks or bonds of a good corporation furnish a good investment for those who have not enough capital to enable them to go into business for themselves, or who for any reason do not wish to engage in business. Widows, orphans, workingmen, all find in the corporation a suitable and convenient place for the investment of their small fortunes, or their small savings.

A fourth advantage of the corporate form of business is, that it is more likely to undertake new lines of business than are other forms of organization. The joint-stock principle and limited liability make the corporation venturesome. New companies may be formed in which each investor risks but a small amount, and it may venture into untried fields without bringing any great disaster to the investors if it fails; and if it succeed, handsome dividends may be realized. Thus new fields of industry may be explored and the resources of a country developed.

A fifth advantage of the corporation is its ability to secure able managers. With a large number of members from which to choose officers, able men may be secured. And with the large capital it can employ men who may not be stockholders but who possess great executive ability, because it can afford to pay large salaries.

Thus it will be seen that the corporation is the best known form of business organization for large undertakings. Modern business could hardly exist without the corporate form of organization. Large capital and continuous policy are most essential to many kinds of business. Railroads, the steel industry, and many others that might

be enumerated, must have large capital, continuous life, and able management.

43. EVILS OF CORPORATIONS. Unfortunately these advantages of corporations may result in serious evils to society. The corporation may become so large that it is a monoply, and all its advantages as a superior instrument of production will be enjoyed only by the owners of the business, while the other members of the community are injured by extortionate prices.

Stock-watering is another evil which results from the division of the stock into shares, because these pieces of paper can so easily be multiplied and disposed of in such a way that the amount of the capital stock is much larger than the amount of money actually invested. There are several methods of stock-watering. A stock dividend may be declared, by which the amount of each person's stock is increased automatically. In the consolidation of several companies their values may be placed too high, and the stock of the consolidated company issued to the full amount of the false valuation. Another device is to accredit repairs to new construction in their system of bookkeeping and then issue new stock to cover it. Another way to over-issue stock is to sell it for only a fraction of its face value. Speculative promotors, for instance, in order to float stock of a new company, sometimes put into the concern about one-tenth as much money as the number of shares would indicate, then by judicious advertising sell the stock to an unsuspecting public for full face value.

Stock-watering is an evil because it may deceive investors and because it may deceive the government which may be attempting to regulate the earnings of the company or the prices it may charge. If the stock is half water and the government should allow a rate or price that would net the company six per cent on its capital stock, it would in reality be earning twelve per cent on the money actually invested.

Speculative promotion is another evil characteristic of corporations. A band of schemers get a charter, organize themselves into a

company, appoint themselves the board of directors at handsome salaries, sell a lot of stock, make a show of establishing the business, but pocket most of the money by paying themselves big salaries and by other fraudulent means, and the investors receive little dividends. The federal government reports that the American people are thus cheated out of millions of dollars annually by bogus companies with get-rich-quick schemes. The joint-stock principle and the limited liability, which invite the public, and the opportunity for a small knot of individuals to manage the affairs of the company for their own benefit are responsible for the formation of companies merely for the purpose of selling worthless stock.

A fourth evil, closely connected with the last, is the mismanagement by the few for their own benefit and to the injury of the mass of the stockholders. This may be done not only in starting bogus companies but in managing an old and profitable corporation. A small body of men who together own the controlling interest in the holding company may elect themselves officers of the company with salaries far beyond their earning power and thus reduce the dividends below what they ought to be. Also by manipulating the books, or by other means, they may increase their income at the expense of the small stockholders.

A fifth evil and by no means the least which may result from the corporation is the industrial crisis. The venturesome spirit of the corporation is apt to lead into fields that turn out to be unprofitable. If this is done on a large scale by many large corporations, an industrial crash is bound to follow. If the dividends are reduced, banks and other corporations that may hold the stock of the failing companies suffer loss and may fail; and thus one company after another is pulled down, resulting in a "run" on the banks and a general collapse of credit and the cessation of many kinds of business.

44. ECONOMY OF LARGE-SCALE PRODUCTION. The third phase of organization concerns the size of the business. Each indus-

try or line of business has its peculiar characteristics which determine the natural size of the business unit. In some kinds of business, as the retail drug store or the retail grocery, the unit is naturally small, while in the steel and iron manufacturing business the unit is very large, and in the railway world the natural unit is much larger still. In each line of business there is a certain size which represents the maximum of efficiency. If the business is either larger or smaller than this maximum size it will be less efficient. This means that the product of the larger or the smaller unit will be less in proportion to the amount of labor and capital expended. This is known as the law of large-scale production or the law of economy in organization. The latter name is hardly appropriate, since there are several laws of economy in organization. Each phase of social cooperation involves a law of economy in organization. Division of occupation or of labor is more economical or more efficient than letting each man supply all his own needs. Also in connection with the forms of business organization several laws of economy in organization may be stated. For example, the corporation is the best form of organization, that is the most efficient form, for large undertakings where the business should be permanent. When the law of economy in organization concerns the size of the business, it is usually stated as follows: Increasing the size of the business increases its efficiency until the point of maximum efficiency is reached. This is correct. But a more complete statement of the law would be as follows: In each line of business there is a certain size which represents the maximum of efficiency. This statement of the law implies that if we start with a unit too small, efficiency increases with size up to the maximum, and after that point is reached efficiency decreases.

This law is true for several reasons. If the grocery store is too small, for example, it is impossible to keep a sufficient variety of goods to suit all kinds of customers, and if it is too large much of the stock lies idle a long time, and it also is too expensive to deliver to such a wide circle of customers. In the manufacturing business, if

the plant is too small it is impossible to make good use of all the machinery. Many expensive machines might have to be idle part of the time while the other machines are getting work ready for these special machines or finishing up the work where these machines left it. In a factory for making hoisting elevators there are many different machines, each making a different part of the elevator. The factory must be large enough to include all these different machines and enough of the different kinds to keep them all running constantly. This might require but one machine of some kinds that turn out their parts of the work rapidly while of other kinds of machines several of each might be required. This is called the economy in the use of fixed capital. A large concern can also employ the best technical experts or the ablest managers because it can afford to pay the high salaries to get such talent. Also the relative cost of fuel in a large plant would be less than in a small one. A fourth item is in the ability to make use of by-products. In a small concern it would not pay to establish factories for making into marketable products things that are merely by-products, hence these things are wasted, while in a large establishment it pays to make them into marketable products. A large meat packing establishment, for example, can utilize all parts of the animals. A fifth item to consider is the possibility of establishing subsidiary industries. A large sugar refinery can make its own barrels, a large oil refinery can make its own cans, barrels, pumps and other supplies, and a great railroad may make its own engines and rails from iron from its own mines, transported on its own ore-roads, and make its own ties and the lumber for its cars from trees cut from its own forest lands.

45. SOME RESULTS OF THIS LAW. From this law important results follow. One of the most important of these results is monopoly. In case the unit of greatest efficiency is large enough to supply the market monopoly is inevitable. The largest concern has the advantage of its rivals and can undersell them and drive them out of business. This would be a good thing for the public if it were

the final result. But unfortunately it is not. When all rivals are disposed of the successful company raises its prices above the competitive level and thus reaps exorbitant profits. If a rival appears prices will be put down until the new comer is crushed, and then prices go up again. In case the rival proves as strong as the old company, a period of savage competition will ensue until both companies, tired of making no profits at all or only very small profits, will voluntarily consolidate.

The size of the market which one company may monopolize depends upon the nature of the business. In the case of a street railway the unit of greatest efficiency is so large that one company can serve a whole city more cheaply than two or more companies can. In the steel manufacturing business the unit of greatest efficiency is large enough to supply a large portion of the country, the size of the region depending upon several circumstances, among them being cost of transportation.

In most if not all lines of retail trade the unit of greatest efficiency is so small that it is reached before even the local market is supplied; hence, we find numerous groceries, shoe stores, drug stores, clothing stores, and other lines of retail business in small cities. In farming, the unit is so small that monopoly is impossible in production. It is possible, however, for farmers to unite and create a monopoly in marketing certain products. Thus the fruit growers of the Pacific Coast seem to have formed a very effective monopoly in the marketing of citrous fruits.

In some cases the tendency to monopoly is offset by smaller concerns uniting to do certain things while remaining separate in the main line. For example, several small companies might unite in establishing subsidiary industries or in establishing plants to utilize by-products. And with the increasing use of water-power to generate electricity one great electric plant, such as that at Keokuk, Iowa, can supply power to small companies, and thus make it cheaper than for the small concerns to generate their own power.

A second important result of the law of large-scale production is that an increase in population, resulting in an increased demand for goods, might lower the price of goods. If establishments had not reached their maximum size, increased sales would enable them to produce more cheaply.

46. RELATIVE AMOUNT OF THE THREE FACTORS:—LAW OF DIMINISHING RETURNS. A fourth phase of organization of the productive forces is concerned with the relative amount of the three factors used in the business. Not only must the business be of sufficient size to obtain the best results, but the factors must be used in certain proportions. This truth may be stated as a general law, thus: In order to secure the best results, the three factors must be combined in certain proportions, the proper proportions depending upon the nature of the business and the qualities of the three factors. If the factors are combined in any other proportion, diminished returns is the result From this latter fact economists have generally called this the law of diminishing returns. In fact if any of the great principles of organization are violated, diminishing returns result. The law as stated above will cover every phase of the law. Under some circumstances we would have increasing returns, as when we start with the three factors out of proportion and then proceed to adjust them properly.

This law is true because of the very nature of the three factors. This can best be understood by taking several examples. Suppose a certain amount of labor and capital is invested in the cultivation of an acre of land and the yield is only ten bushels an acre, which is a very poor yield. This would show that too little labor and capital were invested, supposing the season to be favorable. Doubling the amount of labor and capital would more than double the crop, possibly producing thirty or forty bushels. But a point would be reached where an increase of labor and capital would not give an increased yield in proportion to the labor and capital expended. This is true because there is a limit to the capacity of the soil. Each growing plant needs

a certain amount of moisture and sunlight, and crowding the plants will diminish their size, however fertile the soil, and labor spent in cultivation beyond a certain point is labor wasted.

Land used for office buildings or factories obeys the same law, but for different reasons. A building two, three or four stories high may be much more economical than a building only one story high but spread over more ground. Even twenty or forty stories might be more economical than fewer stories. But as the height is increased certain items of cost increase that offset the advantages of a higher building, and a point is reached where it is more economical to build another factory or office building rather than increase the height. Among the items of increasing cost would be for elevator service and the increasing cost of the walls of the lower portion of the building in order to make it strong enough to support the immense weight of the walls above.

Again, suppose a factory has too few laborers to keep the machinery running in good order. Increasing the number of men will increase the output per laborer. But when there are enough laborers to keep every machine running in good order, a further increase of laborers might increase the total output a little, but the output per laborer would be diminished. This results from the nature of man and the nature of the tools and machines. Man's capacity for work is limited and if he tries to look after too much machinery he cannot do it well. Each machine requires so much attention, according to the nature of it, and if too few or too many laborers are set to work with it there is a waste of labor.

47. SOME RESULTS OF THE LAW. The results of this law are of the utmost importance to society. It is because this great law is true that the great law of Malthus is true. If the earth would yield in proportion to labor put upon it, and do so continuously, population would not increase faster than the food supply. Scientific agriculture may long offset the working of the law, and for a time enable man to

obtain more and more for a given outlay of capital and labor. But if the population of the world increases as fast as it has during the past hundred years, not many centuries hence the capacity of the soil of the whole world will be taxed to its utmost, and no scientific improvements could possibly destroy the workings of the law of diminishing returns. Hence, an increasing population may find it increasingly difficult to feed itself. But we do not need to look into the future to see the results of this law; for the increasing cost of agricultural products proves that the law is now at work, making it harder for the lower classes to get a living.

The law of diminishing returns as applied to land used for office buildings or factories is of far less importance to society than the law as applied to agriculture. It might mean much to an individual manufacturer who finds it necessary to buy more land to increase the capacity of his factory. If he could simply keep on increasing the height it might be much cheaper. And since it would be cheaper, the public would also be able to get goods cheaper, if the manufacturer were not under the necessity of buying more land. But if the population of the United States should be doubled or quadrupled during the next century, it would not be difficult to get land enough to increase the factories in proportion to the increased demand for goods, for only a small fraction of the land would be needed for factories. But to increase the land used in agriculture would be quite a different thing.

The law of diminishing returns as applied to labor also has grave consequences. This will be considered more fully when the subject of wages is reached, hence we need only indicate briefly here the importance of this phase of the law. In case the laboring population is increasing faster than capital, that is, the tools and machinery with which laborers must work, the law of diminishing returns to labor will be brought into operation if there is an attempt to use all the labor supply, consequently, wages will fall.

48. ORGANIZATION OF MARKETS. A fourth phase of organ-

ization of industry relates to marketing products. The discussion of this phase of efficiency is quite recent. Investigation and experiment show that there is immense waste in present methods of getting goods from producers to consumers. Investigations show that farmers get about half the price, on many articles, that the consumer pays. One investigation conducted in the year 1915 shows that in a certain community the farmers received 18½ cents a pound for butter, and the consumer paid 32 cents; potatoes cost the consumer $1.10 a bushel and the farmer got 53 cents; eggs sold for 25 cents a dozen to the consumer and the farmer got 11 cents; sweet corn in the ear sold for 40 cents a dozen to consumers and the farmer got 15 cents. When it costs more to market goods produced within a few miles of the consumers than it costs to produce them, it would seem to indicate that something is radically wrong with the system of marketing. In the fall of 1915 fish was selling in the private markets of Washington, D. C., at prices ranging about 192 per cent higher than in the Municipal market. On the whole, those engaged in the mercantile trades do not seem, according to these investigations, to be making extra high profits. The conclusion must be, therefore, that there is a great social waste somewhere.

Among the possible causes for this waste two are especially emphasized. One is that there are often entirely too many middlemen. The jobbers and the wholesalers and retailers must have their profits, and sometimes it seems that no real social service is rendered, and hence, many goods might go direct from producer to consumer. This would apply especially to farm and garden products which are produced near the place of consumption. Another cause of social waste is the system of delivery from retailer to the consumer. Goods are ordered in very small amounts, quick delivery is demanded, and several stores cover practically the same territory. The result is that half a dozen delivery wagons may be seen most any time covering about the same portion of the city, each carrying about a wheelbarrow load of goods; and the consumer pays the cost of this wasteful

system.

But it is much easier to find fault with the system than it is to find a remedy for these faults. In the mercantile world is about the only field, outside of farming, where competition yet prevails. For the last century or more the world has relied upon competition to produce social and economic efficiency. The result seems a little discouraging. One of the oldest remedies is the cooperative store. In England this idea has been most fully developed. Cooperative retail stores are established in each community, these retail stores combine to establish wholesale stores, and the wholesale stores combine to establish mills and factories and steamship lines. The result is that the majority of the workingmen in England and Scotland buy the majority of their goods at cooperative stores and save some of the profits that would go to the manufacturers, wholesalers and retailers, and get their goods about twenty or twenty-five per cent cheaper than the competitive price. Other countries in Europe are following the English example, and in the United States the idea is beginning to take root, especially in the Northwest among the Scandinavian population, who are familiar with it in their own country. A newer remedy suggested is the municipal market, which has been established in several cities. Possibly a combination of the two plans would be advantageous, the municipal market for the garden produce and cooperative stores for more staple goods.

The importance of bringing about a more economical method of marketing is coming to be recognized and various agencies are at work on the farm-to-consumer problem. Several states have organized bureaus to look after this work, local post office authorities in some cities have entered the same field, and within the last few months, under the stimulus of the parcel post and the reduction of rates by the Interstate Commerce Commission, the large express companies have entered the field on a large scale. Buying clubs are organized in cities, marketing experts are sent out to instruct the farmers, and goods are carried direct from the farm to the consumer.

CHAPTER VI.

Problems of Production.

49. INTRODUCTION. In our last chapter we were concerned mainly with the great principles that govern the efficiency of the productive forces of a nation. Incidentally, several applications of these principles were pointed out, showing their bearing upon human welfare. Many large practical problems of production were only hinted at or omitted for the sake of brevity in treating the theoretical phases of the subject. In the present chapter we shall consider several of these great practical problems that face us as citizens and helpers in society.

These problems of production are concerned largely with the conservation of our natural resources. Nature has bestowed upon us abundance of resources. Our forefathers, in America, being so few in numbers and facing a vast continent of apparently inexhaustable wealth, fell into careless habits in their use of the resources of the country without thought of future generations. As a result, our resources begin to show signs of exhaustion while our nation is yet young. Within the last twenty years there has been an awakening to the fact that this useless waste must be stopped, that our soil, our forests, and the elemental resources of our country may be transmitted unimpaired to future generations, and thus preserve the foundation of our future greatness, material and intellectual.

50. FOREST PRESERVATION. The most notable example of thoughtless waste is the destruction of our forests. When America was first settled, the eastern half of the country was one vast wilderness. Most of this was burned to get it out of the way. And still the destruction continues, but from different causes. It was estimated a few years ago that our forests would be gone in thirty years, unless the useless waste were checked. The two great causes of the destruction of our forests are wasteful methods of lumbering and forest fires. Great tracts of forest lands are bought by the lumbering com-

panies who have no interest in preserving the young trees for a future generation. As a result, everything is cut that is worth cutting, big and little, and the underbrush left scattered over the ground. Fires get started in the brush when dry and the young trees are destroyed. Fires also break out in forests not yet cut and immense tracts are burned over. Instead of replanting these lands with trees, the companies sell them cheap to individuals who cultivate them. In many if not in most cases the land is better adapted to timber growing than to farming, but few wish to wait for a forest to grow before realizing on their investment.

The evils resulting from this destruction of our forests are many and serious. Lumber is getting scarce and high in price. On the hill sides, the soil is washed away and lodged in the rivers, where it interferes with navigation. With the destruction of the forests around the head waters of our rivers, in the Rocky Mountains and in the Appalachians, and in the northern pine forest states, the snow melts early in the spring and the waters rush down into the valleys, causing destructive floods. And the rains of early spring also rush down the hill sides causing floods, because the leaves, roots and loose soil no longer take up the moisture and allow it to work its way gradually down into the valleys, thus steadying the flow of streams. When the forests are destroyed, rivers are at times swollen torrents and at times nearly dry. The fourfold result is hindrance to navigation, a destruction of life and property in floods, the conversion of fertile land into swamps, and the loss of water power, for there must be a steady flow of water to afford continuous water power. Indirectly, the work of irrigation is made more difficult, since it requires more work to hold the water back by dams when it all comes down at once. Thus a whole group of problems is bound up together, forest restoration and preservation being a main element in the solution of all of them.

The people of this country are beginning to realize the necessity of preserving our forests yet remaining and of restoring them on

lands better adapted to raising trees than other things. Most of the states are showing an active interest in increasing forest areas, and in over thirty states laws have been passed to encourage tree planting. Reforested lands are sometimes exempt from taxation for fifty years, and elaborate systems are devised for the prevention of forest fires. Fourteen states are actively cooperating with the federal government in preserving the forests at the head waters of navigable streams. Even private owners of forests are awakening to the need of preserving forests, and in Montana, Idaho, Oregon and Washington alone over 20,000,000 acres of private forest lands are patrolled to protect them from fires. The federal government is doing much to restore forests on lands suitable for timber, and its efforts are especially directed towards the reforesting of the lands around the head waters of navigable rivers. In the Rocky Mountains and the Far West region are several forest reserves. These forests are carefully guarded from fires and the cutting of the trees is under the supervision of government officials. Forest reserves are also being established in the White and Appalachian Mountains, about 1,000,000 acres having been purchased under the Weeks Act. This vigorous and united activity of lumber companies, the states and the federal government ought soon to check the further destruction of our forests and in course of time reestablish them on a firm and enduring basis. The total area now included in National Forest Reserves amounts to over 186,000,000 acres.

51. FLOODS. Another serious problem is the prevention of the annual floods which inundate large tracts of lowlands. Hundreds of lives are lost annually and it is estimated that the damage to property amounts to about $50,000,000 yearly. Cities are inundated, cellars are filled with water, buildings are damaged or destroyed, bridges and railway embankments are swept away, live stock on the farms is destroyed, and the lowest lands are so late in drying out that the crop yield is considerably lessened.

Both the Atlantic and the Pacific slopes experience these floods,

but the Mississippi Valley suffers most. The wide-spreading branches of the Father of Waters gather the water from the snow and rain of half a continent and annual high water is inevitable. But when the snows of winter are heavy and spring rains come in great sheets, as they did over Ohio and Indiana in 1913, great floods result.

From the nature of the causes of these floods it would seem impossible to prevent them entirely, and all that can be done is to decrease the height of the tide. Reforestation of the watersheds and building of great reservoirs would hold back the waters, thus lessening the height of the flood; and channel deepening would enable the rivers to carry a larger volume of water. But all these remedies combined would probably not be adequate. Congress has made feeble attempt to build levees along the lower Mississippi, which help a little; but they are not high enough nor strong enough to hold the greatest floods. And practically nothing has been done on the Upper Mississippi or its branches. The problem is still unsolved. Some have suggested a system of dykes on the Upper Mississippi and its branches and a great spillway from Cairo, Illinois, to the Gulf. It is suggested that this spillway be ten miles wide or more, with dykes high enough to hold the waters of the greatest possible flood, and with cross dykes or dams every two or three hundred miles. At these dams electric plants could be established, the imprisoned water in the spillway furnishing the water power, and electric power could be supplied to the whole region of the lower Mississippi for lighting, transportation and manufacturing. But whatever is done, some uniform plan under the control of the federal government is necessary. Wherever local communities have undertaken the solution of the problem space between embankments have been made too narrow in order to gain valuable land, and as a result the height of the floods have been increased above the points where the channel has been narrowed.

52. WATERWAYS. The United States has a splendid opportunity for internal waterways. With 25,000 miles of rivers and lakes

that could be made navigable, and with lands suitable for digging canals to connect the river systems, this country could easily take front rank among the nations in the efficiency of its internal waterways. But as yet we have no general system of internal water transportation. Transportation by water costs about one-third as much as transportation by rail, including original cost and the upkeep. We are just beginning to realize our opportuninties and vast systems of waterways are being discussed and beginnings have been made.

An ideal system of inland waterways would include (1) Lakes-to-the-Gulf waterway from Chicago to New Orleans, (2) improvement of the main branches of the Mississippi so as to connect with the main trunk from Chicago to New Orleans, (3) canals connecting the Ohio with the Great Lakes, (4) the improvement of the Erie Canal route, (5) an inland waterway parallel with the coast from Boston to the Mexican border, cutting across the peninsula of Florida, (6) the improvement of the Columbia River, and (7) the Panama Canal. Such a system would make seaports of Chicago, St. Louis, Minneapolis and St. Paul, Duluth, Cincinnatti, Buffalo, and other inland cities. The special advantages of the inland waterway along the Gulf and Atlantic Coasts would be the avoidance of the dangers from the stormy sea and the immense shortening of the distance between the different cities along the coast. The Panama Canal will give cheaper transportation between the Atlantic and the Pacific coasts, between North and South America, and bring the United States into closer communication with all other continents.

Why have we neglected our opportunity? For several reasons. The rapid development of railways before the waterways were developed checked the latter movement. It costs less to build railroads than to build canals and canalize rivers, and the country took the line of least resistance. In recent years the railroads have opposed the development of a system of waterways, but to what extent this influence has retarded the progress of waterways cannot be definitely

known. The wasteful and unbusinesslike financial methods of Congress has stood in the way. From the beginning of the present government of the United States up to the end of the fiscal year 1913 Congress has appropriated the sum of $746,927,946.61 for the improvement of rivers and harbors. If half that amount had been spent in the proper way the country would have had a fairly good system of waterways. Instead of selecting a few great projects and putting them through so that the country might get the benefit of their use, Congress has acted upon the principle that each Congressional district must receive some of Uncle Sam's money. Innumerable little projects all over the country have been undertaken and millions of dollars have been spent in dredging harbors and improving rivers where there is little or no commerce, and the only tangible result of a large part of this expenditure has been to furnish jobs to the political friends of Congressmen. And the same "pork-barrel" methods of appropriation have been followed in selecting and carrying forward the really important projects. Under the pressure of public condemnation and the vigorous protests of our presidents since the Civil War, Congress is now going about its large projects with more businesslike wisdom than in previous years. Instead of spreading out its efforts all over the Mississippi River work is now concentrated on certain portions so as to get them finished.

Portions of the ideal plan sketched above have been completed and most of the other portions are under way. The Panama Canal is now completed. The canalization of the Columbia from its mouth to Lewiston, Idaho, is under way. The great New York State Barge Canal is about two-thirds finished. The Mohawk River is to be canalized to a point near Rome, from there the string of lakes and rivers is utilized until the old canal is reached in the western part of the state, and the remainder of the course is along the old route. The new canal will be able to accommodate barges of 3,000 tons capacity and it makes possible twenty-five times as much traffic as the old canal could handle. The Ohio River is to be made navi-

gable for small boats by the construction of 54 dams and locks between Pittsburg and Cairo, and 11 dams and locks are now completed. The improvement of the channel of the Mississippi from Minneapolis to the Gulf is under way, dams, dredging, and levees being the means employed. The inland waterway along the Atlantic and Gulf Coasts is well under way, several links in the chain having been completed. The Cape Cod Canal from Cape Cod Bay to Buzzard's Bay is finished and will shorten the distance between New York and Boston about 70 miles. The Chesapeake and Albemarle Canal from Norfolk, Va., to Beaufort, N. C., is being constructed by the federal government. A chain of waterways is being constructed the entire length of the Gulf Coast, excepting along the Florida peninsula. Thus it seems that at last the United States is to have a system of inland waterways commensurate with its needs.

53. GOOD ROADS. The three main means of transportation are railroads, waterways and roads. Railroads have been well developed by private companies, and the great railway problem is how to control them for the public interest. Our waterways problem is on the road to solution. But the problem of good roads is yet confronting us, though some progress is being made. With all our nervous energy in getting rich we have neglected one of the most essential sources of wealth, good roads, and the United States has poorer roads than any of the great nations of western Europe.

The causes of this backward condition are various. The nation is yet young and we have been spreading rapidly westward over wild territory. Under such conditions road building must of necessity wait for the country to develop to some extent. To build anything but dirt roads is costly, and a new country may have plenty of natural resources, but it takes time to accumulate wealth. Another reason for not building good roads is the lack of material in most parts of the country, and paving material must be shipped long distances. A third great cause for the poor condition of our roads is that until recently road building and maintenance has been under the exclusive

control of local governments, the township or the county. We might have had at least good dirt roads, if there had been proper cooperation among the different governments, national, state, and local. But farmers are usually busy and the roads have always been much neglected. If one district neglects its roads, there is not much use for the other adjoining districts to build good roads. Hence, there has been a tendency for the roads to sink to the level of the poorest. To get a good system of roads all concerned must pull together. Some roads should be great national highways leading from one end of the country to the other; others should branch out from these and connect the main cities and social centers; local roads serve as the feeders. It is plain, therefore, that all grades of government, national, state, county or township, should cooperate. The main roads cost more than the local roads, and the burden must be born not by the local community but by the nation and the states.

The advantages of good roads are many and well recognized. The most obvious advantage is the cheapening of the cost of transportation. It is estimated that the cost of getting goods from the farm to the railroads in the United States is greater than the cost of railroad transportation. Easier means of communication and transportation enable the country people to get together more and thus reduce the loneliness of rural life; the movement for consolidation of rural schools would be aided, since one of the main obstacles to consolidation is the difficulty of getting the children to and from school every day. The "Stay on the farm" and the "Back to the farm" movements would be helped along, since country life would be more profitable and more attractive with good roads to facilitate transportation for economic, social, educational, and religious purposes.

It is encouraging to observe the nation-wide awakening to the need of good roads. The automobile, rural mail delivery, and agitation by the wide-awake portion of the community have at last moved the masses. "Good roads" days are set aside for public observance by working the roads, commissions of inquiry are being ap-

pointed to make a scientific study of the whole problem, in its financial, political and engineering phases, and state laws are being enacted giving the state governments a larger voice in road affairs. The federal government has built several small bits of road in different parts of the country to serve as examples, and certain principles of roadmaking have been worked out. It has been demonstrated, for example, that it is better to have a long, level road around a hill than a short, steep graded road over a hill. It has been demonstrated also that in most cases, for a country road, a dirt road is hard enough if it is kept dry; hence if anything but a dirt road is to be built the main thing is to make a waterproof covering or "roof." The very best and most expensive material may be used to little purpose if it is not waterproof; for if water gets through to the dirt foundation the dirt becomes soft and the paving becomes uneven or broken and is worse than a poor dirt road. The general principles of the new state-road laws are the establishment of state road commissions to cooperate with county officials in building certain roads, the sharing of the burden of the work jointly by state and county, and the general supervision of the work of construction by state officials. Several bills have been introduced into Congress authorizing national aid in road making; but the feeling that such matters belong to the states, and that the "pork-barrel" spirit would defeat the main purpose of national aid have thus far prevented the national government from doing anything in this direction.

54. IRRIGATION. Another great problem of production is the utilization of large tracts of our arid lands. With a few local exceptions, the whole region west of the hundredth meridian is arid and for most crops needs irrigation. This region comprises about half the area of the country. But owing to the limited amount of moisture from rain and snow only a small fraction of this vast region can be irrigated. Some can be irrigated from artesian wells, but how much is not definitely known. It is estimated that about 150,000,000 acres or 235,000 square miles can be irrigated from streams.

The irrigated lands are very fertile and 40 acres makes a good sized farm, hence, there will be room for 4,000,000 farms, or about 20,000,000 people, not including those in villages and cities which will grow up. Though only a small proportion of our arid lands can be irrigated, the amount is by no means small, being larger than either France or Germany. In 1910 about 20,000,000 acres were ready for irrigation from streams. About 40 per cent of this was irrigated by private individuals, 16 per cent by irrigation companies, 32 per cent by cooperation among the landowners, 6 per cent by state governments and 6 per cent by the federal government.

The irrigation of our arid lands is a national problem, and its general solution should have been under the control of the federal government. Private individuals cannot afford to construct reservoirs and ditches on a large scale, and cooperation on a large scale cannot be undertaken until the country is fairly well settled. Moreover, if left to private enterprise wasteful methods are employed and the amount of land that can be irrigated is much smaller than it would be if the water were used economically. Litigation also results, for late settlers go higher up the streams and divert the water, in wasteful fashion, upon the lands above, leaving an insufficient amount for those who have been using the water. If corporations get control of the water rights a monopoly is created, and extortionate rates for water are charged. Even states cannot properly control the matter, since most of the main streams that furnish the water run through more than one state, and litigation among the states results. If all these difficulties had been foreseen provision might have been made for supervision by the federal government before it disposed of its lands. In 1902 the federal government entered the field. A law was passed setting aside the proceeds of the sale of public lands to be used in constructing irrigation works. Thus a continuous fund for irrigation is created and maintained. When irrigated lands are sold the proceeds go into the fund for irrigating more lands.

The government is pursuing a liberal policy that will make of

the irrigated regions a land of small farms. The land is sold only to actual settlers, in tracts ranging from 10 to 160 acres, according to the value of the land and what it is suited for, at a nominal sum of from 50 cents to $1.50 an acre and whatever it costs to irrigate it. This includes perpetual water rights. The average cost thus far is about $16.00 per acre for constructing reservoirs and ditches and $1.07 for maintenance. The cost of the government projects, however, is much greater than that, being about $68.00 an acre, because lands easiest to irrigate were the first to be taken by private individuals, and because of the more permanent character of the public irrigation works. The average value of the crop on the irrigated lands in 1910 was $25.00 an acre, which shows that money spent in reclaiming our arid lands is well invested.

Irrigation and "dry farming" are converting the land of the cowboy, the buffalo, and the miner into a rich agricultural country with some advantages other agricultural sections cannot enjoy. The richness of the land and the assured water supply make it possible for a small tract of land to support a family in good condition. The density of the population enables it to secure many of the advantages of city life, without its nervous strain, filth, and overcrowding. School systems may be established rivaling those of the cities; roads can be well paved and the dam near by will furnish power for electric light and transportation. On the whole, the industrial, political, and intellectual life of the Far West will be transformed and it will become one of the most intelligent and progressive portions of the country.

55. SWAMP LANDS. Another great source of national wealth lies in our swamp lands. We have done much less to utilize this source of wealth than has been done in the arid regions. Most of the land has passed into private hands, hence there has not been the opportunity for the government to take the initiative, drain the lands, and sell them. For private individuals to do anything worth while, cooperation among the owners is necessary. This is being done to some extent, but to reclaim the main part of the swamp lands action

by the state and in some cases by the nation is necessary. Not only must great ditches be dug but the annual floods which inundate the lowlands must be prevented.

There are in the United States about 75,000,000 acres of swamp lands that could be drained. The most of this land lies along the Missippi River, around the Great Lakes, in Florida, and in the States on the Pacific Coast. The land is extremely fertile and would support a farming population of at least 10,000,000. It costs form $6 to $9 an acre to drain the land and the value of the crop would be at least $50.00 an acre. Hence the cost is about half that for irrigation and the value of the crop is about twice as great as that of irrigated lands. Evidently money spent in swamp drainage would be a good investment. In addition to the great increase of our food supply, drainage of our swamps would increase the healthfulness of these regions and of the country around them. Several states have within the last few years passed laws on the subject of swamp drainage and appointed commissions to take charge of the drainage works.

56. SCIENTIFIC FARMING. One of the most important problems of the day is how to improve our methods in agriculture. There is much need of such a study, for our soil is rapidly becoming exhausted by unscientific methods of cultivation. Abundant proof of this exhaustion is found in the large amount of land formerly under cultivation that is now abandoned. Any traveller in the older sections of the country can find in any community many abandoned farms. According to the census reports the amount of unimproved land in New England and New York increased from 14,000,000 acres in 1880 to 19,000,000 acres in 1900. In those seven states about 30,000,000 acres were under cultivation in 1880 and only 23,000,000 acres in 1900, which shows a loss of about 23 per cent in twenty years.

Some writers have attempted to show recently that our soil is not being exhausted, because, they claim, there has been a slight increase in the yield per acre of most crops in the United States during the past ten or fifteen years. But the rise in prices during those

years would naturally lead to more intensive cultivation, and in that case an increased yield per acre would not prove that more intelligent methods were used or that the soil is not being slowly exhausted. In the second place, there has been no increase in the yield per acre of the great staple crops during the last half century. The average yield of wheat during the ten year period, 1866-75, was 11.9 bushels per acre, and for the ten year period, 1901-1910, 13.9 bushels per acre. The average yield of oats for the two periods was 28.1 bushels and 29.7 bushels respectively; of rye, 13.6 bushels and 16.1 bushels; of barley, 23.1 and 26 bushels respectively. These four crops show an increase of from one and one-half to three bushels per acre, a very small increase when one considers the great improvements in farm machinery. On the other hand, the yield of corn, whose acreage is nearly twice that of the other four crops combined, declined about two bushels per acre, being 28 bushels per acre for the first period and 25.9 bushels for the second. The net result seems to be that there has been no general increase or decrease in the yield per acre during the last half century, in spite of the improvements in farm machinery and the stimulus of rising prices during the last fifteen years, which would naturally lead to more intensive cultivation.

There are at least four great causes of the exhaustion of our soil. (1) The abundance and cheapness of the land led to extensive rather than intensive cultivation. (2) Increasing amount of tenant-farming. A tenant naturally has little interest in maintaining intact the producive powers of the soil. His purpose is to get as much out of it as possible during the short time he has possession of it. Consequently, the soil is "mined" rather than cultivated. (3) During slavery days the soil of the South became exhausted because of the wasteful methods pursued. But one or two great crops were cultivated, no rotation of crops was possible, no fertilizers were used, and when one piece of land became exhausted it was abandoned and another piece taken under cultivation. (4) The individual farmer does not lose very much by the slight exhaustion of the soil, when it is

widespread, because the rise in the prices of the products will make up for shortage in the yield. Hence, the non-agricultural portion of the community bears the chief burden of the exhaustion of the soil, and the farmers are willing to pursue their easy-going ways and their unscientific methods.

The general results of this exhaustion of the soil are the rise in prices and the decline in the relative importance of the United States as a source of the world's food supply. The rise in prices has been produced by other causes also, especially the increase in the supply of gold and the increase in population, which makes it necessary to bring into cultivation lands more distant from the main markets. But investigators are pretty well agreed that the exhaustion of our soil is playing an important part in the rise of price of agricultural products. The second result is shown by our imports and exports of food stuffs. In 1900 the United States exported $545,473,000 worth of food stuffs and imported $230,916,000 worth; in 1913 the exports amounted to $502,094,000 and imports, $406,000,000. In other words, our exports of food stuffs actually decreased while our imports nearly doubled. Formerly we were one of the world's chief sources of supply for bread stuffs and meat; but during the last few years we have begun to import meat. The rapid increase in our population is to a large extent responsible for this sudden change in our economic position in the world's markets, because the increase in population has been chiefly urban. But with our naturally fertile soil this country could easily support a population several times as large as ours, with proper methods of cultivation, and the shortage in food supply that threatens us in the near future is unnecessary. It is this situation that is greatly stimulating the movements for more scientific agriculture.

57. GOVERNMENT AGENCIES FOR STUDYING AGRICULTURE. The farmers have done much of their own initiative in introducing more scientific agriculture, but the national and state governments, viewing the subject from the standpoint of national pros-

perity for all classes, have undertaken the task of studying agriculture and of disseminating the knowledge among the farmers, in the hope that self-interest will prompt them to apply the knowledge gained. This work affords a good example of social cooperation; for the individual farmer could not possibly do what the national and state governments are doing for him.

The main governmental agencies for studying agriculture and disseminating the knowledge are (1) the National Department of Agriculture, (2) state agricultural colleges, (3) experiment stations, and (4) demonstration farms. The Department of Agriculture, through its various bureaus, conducts all kinds of investigations and experiments, employing in its great laboratories a large body of experts. The results of its experiments, together with the results of the work done at the experiment stations, are published in books and pamphlets and sent into all parts of the country.

The state agricultural colleges are doing work similar to that done by the bureaus of the Department of Agriculture. They conduct experiments in their laboratories and on their farms and publish the results for dissemination among the farmers. In addition to this work is that of instructing young men and women in the principles of agriculture, horticulture, dairying, and all branches of farming. The colleges also hold farmers' institutes where short practical courses are given to farmers, old and young. Lecturers are also sent out, and demonstration trains tour the country to get farmers interested in new ideas.

There are now about 60 experiment stations established by the national government, there being at least one in each state. These are large practical laboratories where theories worked out in the agricultural colleges and by the bureaus of the National Department of Agriculture are put to the test in the actual cultivation of crops. Both the colleges and the government bureaus experiment with growing plants; but the experiment stations are not so much concerned in discovering new principles as in testing these principles to find out

whether or not they are of any practical value. For conducting this work Congress appropriates $30,000 yearly to each experiment station.

The numerous demonstration farms, as the name implies, are for the purpose of carrying to the farmers in a practical, convincing way, the general knowledge gained from all the various sources. These farms are conducted on a paying, business basis. The value of the new ideas is shown in better crops and larger profits than the ordinary farm can show. Nothing convinces like seeing a thing tried. And each farm serves as an object lesson to the farmers around.

58. LINES OF INVESTIGATION. Experiments and investigations are condutced along various lines, six of which are of special importance, (1) soil analysis, (2) defects of soils, (3) plant adaptation, (4) dry farming, (5) plant development, and (6) diseases of plants.

Soil analysis is the basic study which naturally leads to the other lines of investigation, especially defects of the soil, plant adaptation, and dry farming. Soils vary greatly in character. Some are sandy, some are clay and some are black loam. Most soils contain all three of these elements, but the predominant element gives the name to the soil. Other elements are needed, such as potash, nitrogen, phosphates and other minerals. Different soils are studied and classified.

Soil analysis not only shows the elements of healthful, normal soils, but it discovers defects in soils. One of the most important defects of soils is the lack of one or more elements essential to plant growth. The chief cause of the absence of these elements is that the same kind of crop has been grown year after year and nothing put back into the soil. Such soil is said to be "worn-out" and is not to be confused with poor soil. Worn-out soil may be rich in all but a very few elements, while poor soil is lacking in most of the elements essential to plant growth, and consequently worn-out soil is more

easily made fertile than poor soil is. One of the most important elements taken from the soil by growing plants is nitrogen. During the days of the Roman Empire it was discovered that by growing leguminous plants, such as beans, peas and clover, worn-out soil would be recuperated. This discovery led to the practice of rotation of crops, that is, planting alternately leguminous crops and other crops. But the causes of the recuperation of the soil by such rotation remained a secret until modern science revealed the fact that certain forms of bacteria gather around the roots of leguminous plants and draw into the soil nitrogen from the air. Scientists have learned how to grow these bacteria, and by spreading them over the field the soil is "inoculated" with the nitrogen forming bacteria, thus assisting nature in her efforts to restore the soil to its natural fertility. It has been shown that land lacking in nitrogen chiefly can be restored to fertility at a nominal cost of a few cents an acre by the process of "inoculation" and that the results are as effective as when commercial fertilizers are used costing $30.00 an acre. If worn-out soils lack other elements besides nitrogen, other fertilizers must be used.

Soil analysis also prepares the way for the study of plant adaptation. Different kinds of soil are suited to different kinds of crops. Some crops do best on sandy soil, others need a rich black loam, others do fairly well on clay lands that are not fit for other kinds of crops. Again, some kinds of plants do well on wet lands and others will grow well on dry lands not fit for ordinary crops. Two notable examples of plants suited to dry soils are alfalfa and durum wheat. Alfalfa, sending its roots many feet into the soil, is fast becoming an exceedingly valuable crop on our semi-arid plains of the West and it is transforming that formerly uninhabitable region into one of the most wealthy farming sections of the whole country.

A fourth line of investigation which the various governmental agencies are conducting is plant development. Some phases of plant development are quite simple, and farmers can do much to improve

the quality and quantity of crops. By using proper methods of selecting and testing seeds, crops may be increased by one-third or more at practically no extra cost. Other phases of plant development require the scientific knowledge of the expert. The little sour apple has been developed into numerous varieties of excellent flavor, large and prolific. Grapes have been developed from the little sour fruit of the forest; and most wonderful of all is the development of the cactus plant. Burbank, the wizard of the plant world, has taken the prickly, worthless cactus of the desert and developed it into a spineless fruit with little apples good for man to eat and with a fibrous part that makes good food for cattle and horses. Some day our barren deserts may blossom with this new wonder, and happy millions may dwell in the now desolate regions.

Closely related to plant development, plant adaptation, and remedying the defects of the soil, is "dry farming." Some plants, like the cactus, alfalfa, and durum wheat, have by development been adapted to our dry soils. Dry farming also includes methods of cultivation suitable to a semi-arid region. Lack of moisture is also one of the defects of soils; hence this subject is related in several ways to the other lines of investigation. Dry farming is also a special phase of the wider subject of scientific cultivation. Each kind of soil must be handled differently. Where there is plenty of moisture farmers can learn fairly well by experience how to handle different kinds of soils; but where there is not enough moisture to grow crops by the ordinary methods of cultivation known to farmers there is special need of government aid in working out proper methods of cultivation, for farmers cannot make their living while learning by experience. The vast region lying between the 99th meridian and the Rocky Mountains is semi-arid and most of it cannot be irrigated, and if it is reclaimed it must be done by dry farming. The land is naturally very fertile and if crops could be grown proportionate to the richness of the land it would support a dense population. Some portions of the country west of the Rocky Mountains are also suited

to dry farming. Dry farming is therefore one of the most important agricultural problems in the United States.

The national government and the various state governments of the West are studying methods of farming suited to the semi-arid regions and a few principles have been established, though as yet no complete science of dry farming has been worked out. Among the principles thus far discovered, three are interesting and important. (1) The seed bed must be fine and mellow, but fairly compact, to secure proper germination of the seed; (2) the soil must be in a receptive condition, so that what little rain does fall will not run off; and (3) the soil must be in a retentive condition, so that the moisture will not quickly evaporate. Beyond these few principles nothing is yet established and no universal rule can be laid down applicable to all kinds of dry soils. It was once thought that all dry lands should be plowed deep and cultivated shallow so as to create a dust mulch. But it has been proved that these are not universal rules. A fine dust mulch, for example, is not always best since a light rain may cause it to "puddle" and not allow the water to sink down into the ground.

A sixth line of investigation is to discover the causes of diseases of plants. This is a vast subject, as it is coextensive with agriculture. Parasitic insects of many kinds kill forest trees, fruit trees, and many other plants; various kinds of weevil destroy grain, fruit, cotton, and other plants; the Hessian fly destroys the wheat; grasshoppers sometimes become so numerous that they eat up all vegetation over wide areas. Some progress has been made in discovering means of destroying these and numerous other pests that annually destroy millions of dollars' worth of grain, fruit and other crops. Much, however, remains to be done in this great field.

59. CHILD LABOR. It is not harmful but beneficial for children to labor, if the work is healthful, not too severe, and does not interfere with their main business of getting an education, for such labor develops the child physically, gives him a right attitude to-

wards labor and trains him in habits of industry. The child labor problem is concerned with conditions that are harmful. Probably over a million children in the United States, under 15 years of age, are working under conditions that are very injurious. In mines, factories, canneries, and other establishments children are being stunted, mentally, physically, morally. In order to develop properly, children must have proper play and exercise, but hard, monotonous work prevents normal development. Long hours, unhealthful conditions, and evil companions work a greater harm to children than to adults. Lack of education is an attendant evil. Recent investigations by the National Child Labor Committee show that 44 per cent of the white children in the mill districts of Georgia are illiterate. The worst evil of child labor is probably the destruction of all ambition. Ruined in mind and body, robbed of the birth right of every American child, an education to fit him for the battle of life, ambition, the mainspring of human energy, destroyed, thousands of children are yearly turned out of our factories to become a prey upon society, for at the age of maturity they are unfit for any occupation and they become tramps, robbers or invalids.

The country is beginning to realize the seriousness of the situation and states are passing laws to restrict child labor and prevent evil conditions. These laws limit the age at which children may be employed in certain industries, limit the hours of labor, and prescribe certain regulations protecting the life and health of the children. In many states the age limit is 14, which is entirely too low, for children of that age are too young to stand the strain of modern industry, nor have they sufficient education to prepare them for life's work. Many states have fairly good laws, but owing to defective machinery of government, the dishonesty of parents, and the trickery of employers, these laws are not well enforced. A public registry of births would prevent the parents from understating the ages of their children. But the defective machinery of government is not so easily remedied. The factory inspector is too often the appointee

of the employers, since the employers have such a powerful influence in the government. If the school authorities had charge of the enforcement of factory laws in so far as they are applied to children of school age, such laws would be better enforced, for school authorities are not usually subject to political control and they are anxious to keep the children in school as long as they can.

In addition to such laws, properly enforced, remedies are needed which remove the causes of child labor. The wages of the father should be sufficient to enable him to support his children, and widowed mothers without proper means of supporting their children should receive pensions, as they do in some states. Our educational system should be adjusted to the needs of the times so that both parents and children will feel that the school will help them in the practical work of getting a living; and finally all states should have laws requiring children to attend school until they have reached a certain age.

The subject is a difficult one for the states to deal with and is properly a national problem. The standards of the states are very different and the state with the lowest standard has an advantage over the other states. Where the age limit is low and employers can get children at low wages, there certain kinds of industries will gather, deserting states with higher standards. And sometimes when a state is trying to protect its children by a good system of laws, the children are taken to other states and exploited a portion of each year. For example, hundreds of workers between the ages of 6 and 7 are taken from northern cities to work in canneries in certain southern states during the winter season, when by the laws of their home states the children should be in school. Congress, having control of interstate commerce, could help secure uniformity in child labor laws among the states, or at least correct the evils of the lack of uniformity, by passing a national child labor law and excluding from interstate commerce all goods produced under conditions contrary to that law. Bills of this character have at various times

been introduced into Congress but as yet have failed to pass.

60. INDUSTRIAL EDUCATION. A problem of vital importance that has quite recently begun to receive attention is industrial education. Modern industry demands that a certain proportion of its workers have special training. In modern universities and professional schools society trains men for the professions. Commercial and business courses in high schools and private business "colleges" are preparing boys and girls for office work. Until recently, however, the great mass of industrial workers who must receive training have obtained it under the apprenticeship system. But many trades are more readily learned in a technical or trade school than under the apprenticeship system, because they learn the science underlying the practice and rules of the trade. It has been demonstrated that in trades that must be learned largely by the apprenticeship system there is a gain in efficiency by previous study of the general principles of the trade in school.

The United States has fallen behind the great nations of Europe in facilities offered for vocational training. Our numerous private business schools and business courses in high schools prepare for office work and our universities give courses in science that prepare for the professions. But we have neglected the masses of the people. A national Commission on Vocational Education appointed by act of Congress to investigate the needs of vocational education in the United States reported in 1914 that of more than 25,000,000 workers in agriculture and industry, less than one per cent have had adequate training. Our rich natural resources have enabled us to hold our own in competition with other countries. But our business men have been greatly hindered by the scarcity of skilled workers and they have to some extent train their own employes by establishing schools for them in the factory, shop or store. European countries, feeling the need of training their workers to enable their business men to compete with America, with its richer natural resources, have established vocational schools for the common people, and now American indus-

try, to hold its own, is importing skilled labor from Europe.

Several states are taking steps to supply the growing need of vocational education in this country and technical and vocational high schools are being established. For six years efforts have been made by a few interested in the subject to get a bill through Congress giving aid to the states in establishing vocational schools. The bill failed to pass the 62nd Congress, but a commission was appointed to investigate the subject.

Theoretically, there is no question as to the wisdom of establishing vocational schools for the masses, providing the cultural and social phases of education are not neglected. But the problem presents great practical difficulties. One of the chief problems is, Shall trade schools be established which actually prepare pupils for taking up a trade without apprenticeship, or shall the foundations of several allied trades be learned so that the boy can more intelligently choose his vocation when he gets through school and can learn it with a short apprenticeship? If we attempt to teach the trades fully in school, two difficulties at least are encountered. One difficulty would be to provide at a reasonable expense instruction and practice in all the trades. There are hundreds of trades in modern industry, and in each community there are usually a large number. In small cities instruction would be offered in only a few of the main trades of the locality, which would result in an oversupply of skilled labor in some trades and a scarcity in others, with the consequent waste of social energy. In the second place, there is danger of increasing the number of misfits in life if boys choose their occupation too young. If they have an opportunity to learn the elements of several trades in school they choose their vocation more wisely after they have finished this prevocational education. Other practical difficulties present themselves, but enough have been given to show that the problem should be studied with care before establishing any elaborate system of vocational schools.

CHAPTER VII.

Monopolies.

61. DEFINITION OF MONOPOLY. In the strict meaning of the term, a monopoly is a company that controls the whole supply of a commodity. Absolute monopolies, however, are rare, and for all practical purposes a monopoly may be considered as any company that controls enough of a commodity to enable it to control the price. The proportion of the supply that a company must control in order to raise prices above the competitive level depends upon the nature of the commodity. In case of a necessity, for which no substitute can be found, only a small percentage of the supply need be controlled, while in case of a luxury or where a substitute can be found, a large percentage of the supply must be controlled in order to raise prices above the competitive level.

62. CLASSES OF MONOPOLIES. Monopolies may be classified as natural, legal and artificial. There are different ways of classifying monopolies, but this classification is helpful, as it is based upon the fundamental causes of monopoly. Natural monopolies are of two kinds, those that own the source of supply of the commodity controlled and those that are able to drive out competitors by the advantages of large-scale production. An example of the former is the anthracite coal monopoly, a vast combination of companies controlling practically all the hard coal in the country. Examples of the latter kind of monopolies are, (1) municipal monopolies, such as street railways, gas and electric lighting companies, (2) telephone and telegraph companies, and (3) railroads. These are monopolies because the unit of maximum efficiency is so large that the whole market is supplied more cheaply by one company than by two or more.

Legal monopolies owe their power to a patent, a copyright, or a monopoly charter. A business owned and conducted by the government is also a legal monopoly, such as the postoffice. Natural monopolies, such as railroads and street railways, frequently possess

certain patent rights that help them maintain their monopoly; also the ownership of especially advantageous terminal facilities may help a railroad in its fight with rivals.

Artificial monopolies are those that maintain their monopoly power by means of some unfair advantage over rivals. It may be a high tariff rate which shuts out competition from foreign countries and enables home producers to combine and raise prices above the competitive level. A special favor from a railroad in the form of low rates may enable the favored company to undersell rivals and drive them out of business, and then prices are raised above the normal rates. If any rival threatens to come into the field it can easily be driven out because prices may be temporarily put so low that the new comer cannot make any profits and still the favored company can make a fair return on its capital. Again, if a company is very large it may use "unfair" means to keep competitors out. Among the "unfair" means is that of temporarily lowering prices until the rival is ruined. A large company may have many establishments in different parts of the country and it could afford to run one establishment at a loss in order to drive out a small rival. Just what kinds of business come under the head of artificial monopolies is not an easy matter to decide. No monopoly may be wholly artificial, for all may have some element of legal or of natural monopoly. The most important practical problem before the country at the present time regarding monopolies is whether or not the great manufacturing monopolies are natural or artificial or a combination of the two.

63. FORMS OF COMBINATION. In the growth of monopolies, both natural and artificial, various forms of combination arose. The most complete union of competing companies is actual consolidation into one company. But as a rule, at least when combining companies were large, each constituent company has maintained its own identity, having its own officers, and to a certain extent pursuing its own policy. The more important forms of this class of com-

binations are the friendly agreement, the pool, the trust, the holding company, the community of interest, and interlocking directorates. There have been two periods in the growth of combinations resulting in complete consolidation. The first was the consolidation of small concerns into large ones, seemingly to secure the advantages of large-scale production. Usually these consolidations did not result in monopoly. This was the first step in the fierce competition among manufacturing firms in the '80's that resulted in the pool, the trust, and other forms of combination. The second period in the growth of consolidation is, according to Professor Taussig, the last stage in the development of monopoly, during which the more loosely organized monopoly becomes a giant corporation. Attempts of lawmakers to prevent the looser forms of organization have sometimes driven the companies into this form of organization; and it is yet an open question whether or not such a combination can be attacked through the courts, since there may be no rivals, hence it cannot be shown that competition is stifled.

The loosest form of combination is the agreement to maintain rates or prices or to act in harmony in other ways. This form of combination also has had two periods of development. During the first period there were many competitors and it was hard to compel them to keep their agreement, since their contracts were illegal and each gained an advantage by breaking his contract, providing others kept theirs. The second period of growth resulted from attempts to break up the more tangible forms of combination, and today many of the greatest monopolies are apparently of this form. It has become easier for the few great companies that remain after the smaller ones have been crushed to keep their agreements than it was for many companies to keep them, and moreover, they have learned by experience that it is best for all in the long run to keep their agreements.

The pool is much like the friendly agreement, the only distinguishable difference being the existence of an informal joint com-

mittee to see that agreements are maintained. Each company maintains complete control over its own affairs, fixing prices, hiring its own help, appointing its own officers, and possessing the legal power to ignore agreements with other companies that create monopoly. The essence of these agreements were either to divide the territory, to divide a certain percentage of the profits, or to limit the output and maintain certain prices. In any of these agreements monopoly is secured.

Pools were made illegal either by court decisions or by law, both state and national, and the trust sprang up. The trust is a combination formed by each competing company placing the majority of its stock in the hands of a common board of trustees who issue to the stockholders certificates of stock held by the board. Each company maintains its own organization but the board of trustees holds the majority of the stock of each company and can thus control the policy of each; hence competition is absolutely suppressed. There is in reality but one company, though in form there are several.

The trust was declared illegal both by state and national law, the Sherman Anti-trust Act of 1890 expressing the will of the nation that monopoly in any form should not exist. Straightway the captains of industry got their heads together and the holding company sprang into being. In this form of combination a charter is obtained from some state allowing the new company to purchase and hold stock of other companies. On the surface there is no voluntary agreement on the part of the combining companies to enter into a combination, as there was in the case of the trust. The monopoly appeared to be the accidental result of an outside party buying up the majority of the stock of companies that happened to be in the same line of business. And to buy property seemed to be the natural right of every one. In reality there is no essential difference between the trust and the holding company, the new corporation performing the same functions that the board of trustees performed, and in both cases the leading men controlling the com-

bination were not an outside concern, but the leading men in the combining companies. It seemed for a time that the holding company would not be open to attack through the courts, but after some hesitation the courts brushed aside legal subtilities and declared a holding company contrary to law if it actually created a monopoly.

A newer and more subtle form of combination is secured by interlocking directorates. There is no combination in form, and no company or body of persons that represents any formal combination. Real unity, however, is secured by the men on the boards of directors of the different companies being practically the same group. Hence, while there is no record of union or of united action, this group of men would not pursue a policy for one company inconsistent with their policies for all the others. The union is just as real through this latter form as through any other and is just as effective. Congress has recently declared this form also illegal, and what the captains of industry will do next remains to be seen.

The most subtle and the most dangerous form of combination is the "community of interest" in which a group of men own the controlling interest in several concerns that are supposed to be rivals. This group of men, instead of appointing themselves directors of the different companies, thus forming interlocking directorates, appoint different men on the different boards of directors who carry out their orders. These "dummy" directors of the supposed rival firms will act in harmony simply because they execute the orders of the small knot of men who are their common masters. The federal courts have definitely sanctioned this form of combination, on the ground, apparently, that all individuals have a right to own stock in as many companies as they wish and to vote for whom they wish for directors of the different companies. In a later case, however, the Supreme Court of the United States held that intercorporate relationship through individual stockholders was contrary to the Sherman Act. In 1913, in its decree dissolving the union be-

tween the Union Pacific and the Southern Pacific railroads the Supreme Court laid down this principle and the U. S. District Court in carrying out the decree of the court above enforced this principle to the extent of denying individual stockholders the right to vote in both companies if they held stock in both. There seems to be no reason why this principle should not hold in the case of manufacturing corporations as well as of railroads. If the courts adopt this new principle and apply it to all corporations it will again illustrate the recent tendency of the courts to prevent monopolists from evading the spirit of the law while seemingly complying with the letter of the law.

64. MUNICIPAL MONOPOLIES. Public service corporations, such as street railways, gas and electric lighting companies, and telephone companies, are natural monopolies. Two or more companies in any of these lines of business would require an unnecessary duplication of the distributing plant and could not be run as cheaply as one company. The law of large-scale production applies in each case and the saving is due to economy in the use of fixed capital, salaries of head officials, and various other items. Being natural monopolies, the welfare of the public is endangered, if the companies are not under effective public control. High rates and poor service result in unduly large profits; street cars are over crowded; the city water is often dangerous to the health of the people; gas is poor in quality and of low pressure.

From the nature of the case, therefore, municipal monopolies must either be owned by the city or under public control. Either policy has its weaknesses. If the city government attempts to control these corporations and keep their profits at a reasonable rate, the corporations naturally attempt to evade control by influencing either the legislative or the executive departments of the municipal government, and if unsuccessful in controlling these departments, the corporations sometimes obtain relief from the courts whose judges are unduly influenced. Some investigators assert that the municipal

corporations have been the most powerful cause of the corruption in our city governments.

On the other hand, municipal ownership has its dangers. Corruption of the government by the corporations is apt to be exchanged for graft and dishonesty among city officials. There are other causes of dishonesty in city governments besides the influence of public service corporations, "boss" rule being the most important. If a political "boss" rules the city, the addition of these other activities to the ordinary duties of the city would multiply the opportunities for graft and corruption. In that case the management of these affairs would be inefficient and the people would get no better service and probably the taxpayers would have to help pay expenses. The vital point in the whole controversy is whether or not the city government is honest and efficient. In European countries, where city governments are more honest and efficient than those in America, municipal ownership seems to have been a success. But until American municipal governments can make a much better showing, both of efficiency and of honesty, than they have in the past, municipal ownership does not offer a very encouraging solution of the problem of municipal monopolies.

Owing to this condition of affairs and the natural individualistic tendencies of Americans, our statesmen are turning to another method of solving this problem, namely, state control. Within the past three or four years twenty states have enacted laws establishing a state commission to control all the public service corporations within the state, including railroads, telegraph and telephone companies, interurban transportation lines, and all municipal monopolies. The Illinois law, passed in 1913, may be taken as a good example of this new experiment. The law establishes a state board with power to control all public service corporations within the state. Among the vast powers of this board three are of special importance, (1) the regulation of rates, (2) establishing a uniform system of accounting, and (3) regulating the issuing of stocks and bonds.

Thus three of the most vital matters in any business is placed in the hands of a government board, and a long step is taken towards social control of private business. It remains to be seen whether or not our state governments will prove more effective in their control of these monopolies than municipal governments have been. This increase in the duties of the executive department of our state governments may result in strengthening this weak branch of government.

Some critics think that this is a movement in the wrong direction, since it centralizes in the state things that belong exclusively to each city. If the city allows itself to be cheated and robbed by these public service corporations, say these critics, it is the fault of the city, and the best way to get good city government is to let the people of the city struggle with the problem until it is solved. But whether this movement is wise or unwise, it is growing rapidly.

65. MANUFACTURING MONOPOLIES. Economists and statesmen alike agree that railroads, telegraph and telephone lines, and municipal public service corporations are natural monopolies and that they cannot be destroyed, but must be either owned or controlled by the government. It is agreed also that if the policy is to be public control, rates and prices are among the things that must be regulated. But there is no agreement, either among economists or statesmen, as to the nature of the manufacturing, or, as they are often called, capitalistic monopolies. Some believe they are artificial and ought to be destroyed, others think they are natural and cannot be destroyed, and others think they combine elements both of artificial and natural monopolies, and that the public policy towards them should be to take such measures as will destroy the artificial props that sustain these monopolies and then subject them to rigid regulation. How far this regulation ought to go is a question, but a few of our leading public men advocate the regulation of prices of goods made by monopolies, while others hold that such a policy would be socialism. None but the socialists advocate public ownership of these monopolies; and indeed if the public were to own all

the natural monopolies and all the manufacturing monopolies it would very nearly constitute socialism, since there would be left to private enterprise only farming, retail mercantile business, and the small manufacturing establishments. But it may not follow that if manufacturing monopolies are artificial they can be destroyed. It may be possible that the forms of combination to secure monopoly are so subtle and so secret that the existence of monopoly cannot be proved in a court of law. If such should prove to be the case, regulation of prices may become necessary.

It is clear that we need more evidence before any final decision is safe. And what is the nature of the evidence required? The main points around which controversy centers are the following: When companies combine to form a monopoly do they permanently maintain the producing plants of the constituent companies or do they build a plant large enough to turn out the total supply? If the latter policy is followed it is good evidence that the monopoly owes its power to the advantages of large-scale production and is therefore natural. If the former policy is followed it proves that the monopoly is not due to large-scale production, using the term production in the most limited sense, meaning merely the manufacturing part of the process and not including the marketing. There may be various economies in marketing, such as saving the cost of advertising and of cross-shipments, or obtaining lower rates by shipping in larger quantities. Where several rivals exist there is much waste in cross-shipments, while under monopoly control goods would be sent from the plant nearest the consumer, thus saving in the cost of transportation. If monopolies owe their existence to unfair competition, the tariff, or railway rate discrimination, it is proof that these monopolies are artificial. Another point in controversey is concerned with the industrial condition that produced the monopolies. Some contend that most of the capitalistic monopolies were formed in times of industrial depression and that low profits, resulting from competition, drove rival firms into combination in order

to secure the advantages of large-scale production. Others contend that most combinations were formed in times of prosperity, and conclude from this that the monopolies are artificial. But this point would prove nothing, for, whether in times of industrial depression or in times of prosperity, firms might combine either to convert losses due to unnatural competition into the high profits of natural monopoly, or to convert moderate profits into higher profits from artificial monopoly. Thus it appears that before we can decide whether the manufacturing monopolies are natural or artificial there must be more investigation to ascertain the facts and a proper interpretation of the significance of the facts discovered.

66. EVILS OF MONOPOLIES. Before considering remedies for monopolies it is well to look briefly at their evils in order to appreciate more fully the importance of the problem. The chief evil is the increase in prices. In the absence of general investigation along this line it is impossible to give any general estimate as to how much above the competitive rates monopoly prices are. But occasional investigations reveal exorbitant prices. It is claimed, for example, that the cost of mining anthracite coal is about two dollars a ton, while it sells for six dollars a ton and upward; and the president of one of the coal roads asserted that if competition prevailed anthracite coal would sell at two dollars a ton. In some industries prices are raised and at the same time the quality is deteriorated. In order to maintain high prices it is necessary to diminish the output. Thus is the consumer thrice robbed.

Another grave evil of monopoly is the lowering of the rates of wages. Where any industry is controlled by one company or by a few companies who practically work in unison, the individual laborer is at a disadvantage in bargaining and must accept whatever wages are offered him. The easiest way for monopolists to increase profits is to reduce wages, and unless a strong labor union creates monopoly of labor the natural result of monopoly of capital is to reduce wages. This is especially true in case of skilled or semi-skilled labor which

cannot readily move from one industry to another without sinking to the ranks of unskilled labor.

Another evil is the crushing out of rivals and the consequent suffering this entails. If they are natural monopolies, this would be only a temporary evil during the stage of formation, and the ultimate effects would be beneficial, if the monopolies are kept under proper control, since one concern can produce the goods cheaper than several firms. But if they are artificial monopolies society gains nothing in the way of a lowering of the cost of production, and the result is an unmixed evil. A few men gather into their hands the best fruits of modern industry. In 1912 the Stanley committee, appointed by Congress to investigate the "trusts," submitted a report which shows that 23 men were in control of corporations representing a capital of $35,521,143,000, which is nearly one-fourth of the total wealth of the United States.

67. THE SHERMAN ANTI-TRUST LAW OF 1890. In the decade from 1880 to 1890 the movement towards monopoly under the form of the trust became rapid, and many states passed laws to forbid the formation of monopolies. These laws had little effect, because the trusts either reorganized under forms that evaded these laws or obtained charters in states that had no anti-trust laws. In 1890 Congress passed the Sherman Anti-Trust Law, which prohibits all combinations in restraint of interstate commerce. For a number of years the Supreme Court of the United States interpreted the law so as to make it apply only to the transportation and sale of goods, and not to the process of manufacturing. But recent decisions have interpreted the law so as to include manufacturing establishments whose products enter into interstate commerce.

Many important decisions have been rendered within the last few years concerning manufacturing monopolies, four of which are especially instructive. In the Standard Oil case of 1911 the government had no difficulty in proving that the holding company of New Jersey which controlled the oil interests was a monopoly, and it was

dissolved and the stock handed over to the constituent companies. But the price of oil was not reduced, and the common opinion is that a gentleman's agreement and interlocking directorates prevent competition now as effectively as ever. The Tobacco Trust case had similar results. The companies were reorganized, but prices did not fall and no competition seems to exist. One of the most remarkable cases was the suit against the Beef Trust. The government spent nine years accumulating evidence of monopoly, but the evidence did not convince the jury that a monopoly existed. In this case there seems to have been a gentleman's agreement, but it could not be proved. Yet all who know anything about it seem to believe that a monopoly does exist. In 1913 came the Coal Trust case in which the government failed to prove that a monopoly existed, though the common belief has been that for years a vast network of holding companies and interlocking directorates had held in its grasp practically all the coal mines, railroads, and several other industries in the anthracite region. And the president of one of the coal roads declared that competition among the coal companies did not exist.

Stated briefly, the results of these four cases were either that the government could not prove that monopoly existed or else it compelled the companies to assume other forms of monopoly. Thus for over a quarter of a century both the state and the national governments have attempted to destroy monopoly and, as Professor Taussig says in his Principles of Economics, published in 1912, "To all intents and purposes, this policy of repression has been a flat failure." Monopoly is steadily growing in spite of all this repression. To quote from the same eminent authority, "Far-reaching plans and ultimate results play a greater and greater part in industry. Still more important is the fact that, as large-scale production spreads, the number of individual establishments diminishes, and the entrance of new competitors grows increasingly difficult. The attempts at combination become more persistent and ingenius, and the efficacy of a policy of non-interference becomes more uncertain."

68. RECENT ANTI-TRUST LEGISLATION. This failure of the Sherman Law to accomplish its purpose led Congress in 1914 to enact two anti-trust laws known as the Trade Commission Act and the Clayton Act. These two acts merely supplement the Sherman Act and seek to destroy monopoly. The main provisions of these acts are to prevent unfair competition, to forbid interlocking directorates and holding companies where the effect is to create a monopoly, and to create a commission to enforce anti-trust laws. What would be included under unfair competition is to be determined by the commission, subject to review by the regular courts. One form of unfair competition, however, is specially mentioned, namely, discriminations in prices in favor of purchasers who promise not to deal with rival companies. The form of combination known as the community of interest is not forbidden, Congress doubtless agreeing with the courts in their earlier decisions that such combinations cannot legally be forbidden. A federal commission of five was created with general power of enforcing anti-trust laws. It can investigate the financial condition and the management of corporations engaged in interstate commerce, inspect their books, compel the companies to make reports of their conditions, and publish such facts as it sees fit, except trade secrets. The purpose of making public the general conditions of the companies investigated is to invite competition in case unusually high profits are revealed. No penalty is named in these acts for violation of the provisions prohibiting interlocking directorates and holding companies, and apparently the only means of enforcing these prohibitions is to fine or imprison offenders for contempt of court. Some critics doubt the effectiveness of such a penalty and predict that our jails will not be overcrowded with offenders against the anti-trust laws.

To what extent does this new legislation supplement or amend previous anti-trust laws? In the first place, no new policy is adopted; it is the policy of repression rather than regulation. The

three factors relied on to crush monopolies are legislative prohibition, publicity in order to invite competition, and the removal of certain artificial props that support monopolies. The Sherman Act of 1890 prohibited all combinations in restraint of interstate commerce, and properly interpreted would forbid holding companies and interlocking directorates. The federal courts in several decisions have expressly announced the principle that interlocking directorates and holding companies that tend to create monopolies are contrary to the Sherman Act. It would not appear, therefore, that anything has been added to the Act of 1890 in this direction. A real addition has been made, however, in an effort to secure publicity, which may invite competition. In 1913 Congress revised the tariff with the purpose, among other things, of removing the features that fostered monopolies, and several acts since 1887 have endeavored to prevent personal discrimination in railway rates. The new anti-trust laws seek to remove a third artificial prop supporting monopolies, by preventing unfair competition.

What these laws do not do is significant. They do not attempt to regulate the prices of the trust-made goods nor prohibit communities of interest. If monopolies still continue to make secret friendly agreements, or if groups of individuals owning stock in different companies still continue to appoint "dummy" directors of these different companies, and if firms do not see fit to compete but prefer monopoly profits, it is difficult to see why this new legislation to kill the trusts will be more successful than previous laws have been. Time will show the effects of these new laws.

69. MONOPOLY VALUE. Monopoly prices are determined by the laws of consumption and production and the greed of the monopolist. The main law of consumption involved is the law of elasticity of demand. The monopolist wishes to secure the greatest possible net returns. If the article controlled is a luxury of fairly wide use among the masses, the law of elasticity of demand would induce the monopolist to keep the price moderately low, possibly only

slightly above the normal competitive rate, since a high price would greatly reduce sales and diminish net returns. In case of a necessity, however, for which no substitute can be found, the monopolist has the public at his mercy, and the price may go as high as the monopolist dares to put it, for there is the danger of government interference if the wrath of the people is aroused. It is now and then discovered that some monopolies are making from 40 to 50 per cent profits and sometimes more.

The monopolist also takes into account the laws of production, especially the law of large-scale production, if the commodity is one for which the demand is elastic. In that case the greatest net return will be secured by setting a fairly low price and increasing the sales. The interests of the public and of the monopolist coincide only when the commodity controlled is a luxury and the law of large-scale production applies to it. Unfortunately the chief monopolies control the necessities of life, such as anthracite coal, kerosene oil, lumber, sugar, farm machinery, steel and iron goods, and many others.

CHAPTER VIII.

Railroads.

70. IMPORTANCE OF RAILROADS. Because of their great importance we have reserved the railroads for special treatment, though they belong with natural monopolies considered in the last chapter. Both from their size and their industrial and social importance railroads are by far the most important single group of industries in the country. The railroads of the United States have 245,000 miles of single track, over 61,000 locomotives, over 2,200,000 cars, and they employ 1,910,000 men. The capitalized value of the railroads is $20,000,000,000, or about one-seventh of our total national wealth.

The industrial and social importance of railroads arises chiefly from three characteristics, the enormous size of the business unit,

the cheapening of the cost of transportation, and monopoly. The enormous size of the business unit, together with the monopolistic character, results in the concentration of wealth and power in the hands of a few. The cheapening of transportation directly lowers the cost of living and indirectly produces the same results by allowing the greater extension of territorial division of labor than would be possible without the railroad. In former ages industries were of a local nature and only the most costly goods were consumed far from the place of production. Now we can obtain in great quantities the most common articles from the most distant parts of the world.

The cheapening of the cost of transportation has produced a new industrial revolution as important as the first one, which began in England in 1760. This new industrial revolution is typified in the giant manufacturing corporations made possible by securing cheap bulky materials from distant sources and wide markets for their products. Another phase of the new industrial revolution is the localization of industries and the growth of great cities at a few favored spots, such as New York and Chicago. Localization of industry may result from natural advantages of location or it may result from the artificial advantage of lower rates. If railroad managers wish to build up any city in which they have a personal interest they can usually accomplish their purpose by giving that city lower rates than other cities are given. Thus railroads involve problems both of production and distribution. Owing to the nature of the railroad business it results in the concentration of railway capital and power in a few men's hands and it aids in the concentration of wealth and power in other lines of industry, and entirely too large a portion of the world's products goes to our industrial kings and princes.

71. A NATURAL MONOPOLY. A railroad is a natural monopoly resulting from the advantages of large-scale production. The chief advantage of large-scale operations lies in the more economical use of a large fixed capital. The cost of constructing and maintaining the roadbed and track is about the same, whether there are two

trains a day or twenty, for among the important causes of wear and tear of the track are rains, which wash away embankments and bridges, the rusting of the rails, and the rotting of the ties. And the cost of running a train of ten cars is not much greater than the cost of running a train of thirty cars, for the small train would require an engineer, a fireman, a conductor, and one or two brakemen, and the large train would require only one or two more brakemen and a little more coal. And since about half the capital of a railroad is in the form of bonds, interest charges remain the same, whether the traffic is heavy or light. The cost in salaries for the higher officials also would be about the same regardless of the density of the traffic. The traffic on a single track might easily become so dense that it would not pay to increase it; but another track can be laid without increasing the expense in several items, notably, the cost of superintendence, terminal facilities, and right of way. If two tracks are not enough, four, six, eight, or more tracks may be laid, and the advantages of large-scale production still applies. Hence, one railroad company could handle all the traffic that could conceivably exist between two cities or localities.

As a result of these characteristics, if two or more roads run between two cities fierce competition results. If one road can carry all the traffic at a cheaper rate than it can carry half of it there is a temptation to lower the rates to get the traffic of rivals. By lowering rates, say one or two per cent, the volume of the traffic might be increased, say, one-third, and the net receipts be greatly increased. But the rival road in order to hold its traffic lowers its rates and possibly goes below the rates of the other road. Then there is another drop. This may continue until profits are wiped out and one or both roads become bankrupt, and maybe go into the hands of receivers. The only way to prevent these disastrous results is to form some kind of consolidation by which competition is eliminated, and then rates may be raised above the competitive level, and large dividends result. Thus competition seems to be impossible

in the railway world and monopoly is the inevitable result. In an address before the American Economic Association at Minneapolis, December 29, 1913, Mr. B. F. Meyer of the Interstate Commerce Commission said, "There are survivals of the competitive rate, but the merest novice in the railway history of the leading countries of the world knows that competition alone has nowhere permanently secured to the public reasonably adequate service at reasonable rates, and in consequence practically the world over the competitive theory of railway rate-making has been abandoned."

72. RAILWAY DEVELOPMENT IN U. S. TO 1850. A brief review of the railway history of the United States will reveal the natural tendency of railroads to grow in size until a single road or combination of roads monopolizes the traffic of a large territory. During the first twenty years of their existence railroads were small local affairs and built largely with local capital. The possibilities of the railroad were not known and every undertaking was an experiment, hence only a small amount of capital would be invested in any one venture. There were, for example, about twelve roads between Albany and Buffalo, each with a track of different width. Consequently, railways were very inefficient as compared with great trunk lines and systems with their through-freight and passenger traffic. Engines were also small and ineffective.

Owing to this inefficiency of the early railroads it was not supposed that they could ever compete with waterways in carrying cheap bulky goods. As late as 1850, the main use of railways was to connect different systems of waterways. Buffalo was the only city west of the Atlantic Slope that had rail connection with the Sea Board. In the West there were but a few short roads connecting lakes, canals or rivers. Pittsburg, Chicago, St. Louis, New Orleans, were without railway connections with the outside world.

73. DEVELOPMENT OF COMPETING SYSTEMS—1850-1870. Between 1850 and 1870 three great movements stand out prominently, a great increase in mileage, the development of the railways as a

system of transportation independent of waterways, and the consolidation of short end to end lines into a continuous line. The causes of this expansion of the railways were improvements in locomotives, cars, the track, and better business management. In 1853 Chicago was connected with New York and the East by a continuous chain of separate roads. In 1859 New Orleans was connected with Chicago and the East, and by 1869 there were three lines between Omaha and Chicago, and the Union Pacific and the Central Pacific together spanned the immense distance between Omaha and San Francisco. Thus was developing a vast system of railroads independent of waterways.

Between the Atlantic Coast and Chicago four lines of railroad were developing, now known as the New York Central, the Erie, the Pennsylvania, and the Baltimore & Ohio. Vanderbilt, one of the first great railroad kings, got possession of the eleven short lines between Albany and Buffalo in 1853, and in 1869 added to the system the Hudson River Railroad, thus securing one system between New York and Buffalo, and during the same year connection was secured with Chicago. During the same eventful year in the railway world the Pennsylvania Railroad secured connections with Chicago, and within four or five years the Erie, the Baltimore & Ohio, and the Grand Trunk were competitors for through traffic between the Mississippi Valley and the Atlantic Coast cities. With five competing lines in the eastern field and three between Omaha and Chicago, and with a traffic as yet comparatively light, conditions were favorable for railway rate wars in different parts of the country.

74. POOLS, 1870-1887. The first part of this period was characterized by destructive competition and the last part by the formation of pools. In 1868 the rate on first-class freight from Chicago to New York was $1.88 per hundred pounds and the rate on fourth-class goods was $0.82. When the New York Central and the Pennsylvania roads entered Chicago the rate dropped to 25 cents a hundred on all classes of freight. Such a low rate was ruinous and a truce

was patched up. But when the Baltimore & Ohio and the Grand Trunk reached Chicago the war began the second time and first-class rates fell to 25 cents a hundred and fourth-class rates to 16 cents. All the roads became exhausted and a pool was formed in 1877. Other pools had been formed in other parts of the country, the earliest of importance being the Chicago-Omaha pool.

The general results of these pools were to establish fairly low rates at competitive points, but very high rates at non-competitive points. The farmers throughout the northwest felt that the railroads, which had been granted immense tracts of land and often voted sums of money to help them build their roads, were unjust and ungrateful. In the meantime farmers' organizations, called Granges, had been formed for general improvement of the conditions of rural life. These organizations turned their energies against the railroads and the so-called Granger laws were passed in several states. Rates were usually fixed so low that the roads were ruined and the laws had to be repealed or modified. Then state commissions were established, some with power to fix rates, others merely with power to investigate and publish the general condition of the railroads. These commissions were not very effective and different systems of regulations in different states interfered with interstate traffic. This made it necessary for the national government to regulate interstate traffic and the next year Congress passed the first great national law regulating railroads. Before taking up the study of that act and its results it is necessary to consider the general subject of rate-making and certain evils that had developed in connection with it.

75. RATE-MAKING. Experience has shown that a uniform rate per ton-mile on all kinds of goods does not bring the highest net returns. If a high rate is established cheap bulky goods will not be shipped long distances and light valuable goods will not afford sufficient income. If the rate is low, cheap bulky goods will be shipped in great quantities, but less will be obtained from the light valuable

goods, since a low rate will not materially increase the volume of such traffic. This leads to the classification of goods and establishing a different rate for each class, the rate varying with the value of the goods. This is a discrimination against the valuable goods, but since the freight charges on such goods would be but a small portion of their price, the burden does not seem great, and is not a serious hindrance to business. This policy is often called charging what the traffic will bear. This is usually taken by the public to mean an unjust policy by which the people are robbed. If properly pursued, however, charging what the traffic will bear is beneficial to the country, because cheap bulky goods can be brought from distant parts of the world, the available supply increased and prices lowered.

Another form of discrimination is also beneficial both to the railroads and to the people, and for reasons similar to those that make discrimination between different classes of goods beneficial to both the railroads and the people. This is called market discrimination and means giving lower rates per ton-mile to goods far from the market than are charged for the same kind of goods produced nearer the market. This might be called distance discrimination. This policy allows the wheat and other products from the far northwest to be shipped to Chicago, New York, or even London, and the railroads make more profits and the people get cheaper food. And even the farmers near the market may get lower rates with discrimination than without it, because, without the additional traffic the low rates on the long haul bring, rates would be higher on the shorter haul in order to earn dividends, for it must be remembered that a railroad obeys the law of large-scale production. The farmers nearer market would, however, lose by the fall in prices resulting from the increase of the supply of farm products, but the majority of people would be gainers.

A third form of discrimination is known as place discrimination and is usually referred to as the long- and short-haul evil. When railroads are competing at certain points for through traffic or agree

to maintain a fairly low rate at such points, each road will naturally charge high rates at non-competitive points. To illustrate. Several roads run between Omaha and Chicago, but places between these two cities may have but one railroad. Rates from Omaha to Chicago were lower than from, say Atlantic, Iowa, to Chicago, not only lower per ten-mile, but the total freight charges were less. This policy is injurious to all sections of the country discriminated against and tends to build up great overgrown cities at the favored points, and is on the whole harmful to the country, since it means monopoly gains at the expense of a portion of the community without necessarily benefiting the country as a whole by increasing the available supply of goods.

Another evil that developed was personal discrimination. Low rates were granted to some company and this favor enabled the company to undersell its rivals and build up a great monopoly. When rivals were disposed of, prices went up to monopoly rates. Some of the greatest monopolies were thus built up, the Standard Oil Company being a good example.

A third evil that grew up, also closely connected with rate-making, was stock-watering. When legislatures and commissions began to fix rates, the railroads sought to evade the results of this regulation by concealing real profits and making them appear much less than they were. In various ways the amount of capital stock was increased without increasing the amount of money invested. Rates must be high enough to allow a reasonable profit, and if the capital can be made to appear twice as great as it really is, what would appear as a reasonable rate would be much higher than it ought to be.

76. THE INTERSTATE COMMERCE ACT OF 1887. These evils and the Supreme Court decision of 1886 preventing the states from regulating interstate commerce led to the passage of the Interstate Commerce Act of 1887. The three main purposes of the act were to prevent monopoly and discriminations and to regulate rates.

In order to prevent monopoly the railroads were forbidden to form pools, and in order to induce competition, rates were to be published. Rates were to be reasonable, and unreasonable discriminations of all kinds, personal, place, market, and between commodities, were prohibited. The long- and short-haul evil was especially aimed at by providing that no common-carrier subject to the act should charge more for a short-haul than for a long-haul, if the short-haul were included in the longer and if substantially the same conditions prevailed. A commission was established with the power and duty of enforcing the act.

The general principle upon which this act is based is that competition can and should prevail. If Congress had accepted the principle that railroads are natural monopolies and that consequently competition is out of the question, pools would not have been prohibited but welcomed as a means of preventing useless rate wars; and in order to prevent pools from resulting in injury to the public the pools would have been placed under the supervision of the Commission. In other leading countries of the world, unless the railroads are owned by the public, railway combinations are not only allowed but required, and the combinations are under government supervision. This is the most effective way to prevent the various forms of injurious discriminations. If the roads of each natural division of the country are combined, the big shipper cannot extort special favors from the railroads by threatening to ship his goods over another line. The long- and short-haul discrimination would also be more easily prevented, because with combination there is no special reason for favoring any locality, unless the railway managers have a personal interest in that locality. Congress did not wholly rely on competition, however, as is shown by the provision that rates should be reasonable. It would seem, however, that a better policy would have been to allow combinations to take their natural course and then give the commission adequate power to regulate rates and other phases of the railway business where there is danger of injury to the public.

77. RESULTS OF THE ACT. The act was much less effective than its authors anticipated, partly because the courts interpreted the law in such a manner as to prevent the commission from exercising certain powers that were supposed to have been conferred upon it. It was intended, for instance, that the commission should have full power to decide the facts in any case and that the courts could review only the points of law. The courts, however, reviewed both law and facts, and even allowed the railroads to introduce new evidence. The railroads took advantage of this and purposely withheld part of their evidence in cases before the commission and thus often secured in the courts a reversal of the decision of the commission, which greatly weakened its power. Owing to this practice and other causes of delay cases were often dragged on for eight or nine years. With such delays shippers had little hope of securing justice.

The Supreme Court also limited the power of the commission in fixing rates. The commission undertook to establish what it considered reasonable rates. But the court decided that the act conferred upon the commission power to decide when a rate was unreasonable but not to say what the rate should be. This practically nullified the power of the commission to regulate rates.

By interpretation of the courts all the meaning was taken out of the long- and short-haul provision. The law allowed the railroads to charge more for a short-haul than for a long-haul where conditions were sufficiently unlike to justify it. The Supreme Court decided that competition with other roads was a condition that justified charging more for a short-haul than for a long-haul. This destroyed the power of the commission to prevent this evil and enabled the railroad to fix rates as they chose where any competition existed.

78. RECENT LEGISLATION. Several acts have been passed by Congress within the last few years greatly extending the powers of the Interstate Commerce Commission. In 1906 the Hepburn Act subjected the railroads, and other common carriers, such as express companies, private-car companies, pipe lines and sleeping-car com-

panies, to which the jurisdiction of the Commission was extended, to more strict regulation. Among the most important provisions four were of special significance as showing the tendency of public opinion towards increasing governmental control of monopolies. The powers of the Commission were increased so as to secure honest and uniform methods of accounting, rebates and all other special favors were specifically prohibited, railroads were forbidden to carry articles of their own production except timber, and, most important of all, the Commission was empowered to fix maximum rates. The prohibition on carrying goods of their own production was intended to prevent such a monopoly as has developed in the coal districts of Pennsylvania, where the railroads were gaining control of the coal mines.

The Mann-Elkins Act of 1910 further increased the powers of the Commission. An advance in rates can be suspended by the Commission, pending investigations as to reasonableness. The long- and short-haul question was put completely under the control of the Commission. In order to prevent delay in the courts a new court was established called the Commerce Court. It was supposed that such a court would be more familiar with the railroad business than are the regular courts and, since the new court would give its time exclusively to such cases, appeals from the decisions of the Commission would not cause injurious delay of justice. The new court, however, proceeded to curtail the powers of the Commission, deciding, among other things, that the Commission could not work out any general rate schedule but must decide only individual cases. The Supreme Court reprimanded the Commerce Court for exceeding its powers, and the Commission continued to administer the laws as Congress intended. The action of the Commerce Court in this and other matters brought it into some disfavor and the climax was reached when Judge Archibald of that court was impeached for high crimes, and in 1913 Congress abolished the Commerce Court, its work being given to the Circuit Courts of Appeal.

In 1913 Congress passed an act authorizing the Commission to undertake the physical valuation of railroads. This will take several years, and the use that will be made of such a valuation is a matter of speculation. Some think that rates will then be based upon physical valuation rather than on the amount of stock issued; others think this will not be done, since it is generally supposed that railroads have been greatly overcapitalized. Some observers believe the physical valuation may be the first move towards government ownership of the railroads.

79. THE PRESENT SITUATION. The effect of all these laws has been to make the Commission a real power in the railway world. The marked success of the Commission led to the establishment of the Trade Commission to regulate monopolies in manufacturing and commercial industries. Discriminations of all sorts seem to have been abolished to such an extent that they are no longer a serious evil. Power to regulate rates and some other matters has been made absolute and complete by this recent legislation and decisions of the Supreme Court. Thus the main evils of monopoly have been abolished.

All the laws of both state and nation have not been able, however, to prevent combinations and agreements of various kinds that practically eliminate competition. This has helped the Commission and the courts in their fight against discriminations and to that extent monopoly has had beneficial results. The power of the Commission to regulate rates enables it to prevent the main evil resulting from monopoly, but other evils of monopoly still remain, especially the lack of competition in giving good service.

There has been several spectacular dissolutions of railway combinations since the passage of the Anti-Trust Laws, which applied to railroads in so far as they prohibited monopoly. In the famous Northern Securities case (1904), the Supreme Court decided that the holding company formed in order to combine the three great roads that serve the Northwest, the Northern Pacific, the Great Northern, and the Burlington, was illegal and the Northern Securities Company

was dissolved. Competent observers declare, however, that no competition exists among these roads, which are controlled by the Hill interests. Another famous dissolution case was that involving the Union Pacific and Southern Pacific roads (1913), in which the court held that both interlocking directorates and the community of interest were illegal. The formal connections between the two roads have been severed; but the same men that were associated in the control of the two roads are in control of each company, and there seems to be no reason to suppose that the two roads will compete in the future. One of the latest cases is that in which the New York, New Haven and Hartford was compelled to dispose of the stock of the Boston and Maine railroad. These two roads had long controlled the transportation business in New England, and some years ago they were united by the purchase of stock. The dissolution is too recent to enable us to judge of results.

Despite these and other attacks on railroad combinations, consolidation and combination have steadily continued up to the present time. In 1913 there were in the United States ten or eleven well defined systems. Of the 245,000 miles of railroad in the country, eleven systems controlled 200,000 miles. There is a strong tendency for consolidation to proceed on a territorial basis. Northern New England is controlled by the Boston and Maine, southern New England by the New York, New Haven and Hartford; the Vanderbilt system controls the northern portion of the Middle States and westward to Chicago, the Pennsylvania system the southern portion of that territory; the territory north and west of Chicago to the Pacific Coast is dominated by the Hill interests; and in other parts of the country each natural division is coming under the control of some single system. The same results have been reached in other countries where the railroads are privately owned, which is additional proof that railroads are natural monopolies.

Two changes in policy have been strongly urged and bills embodying them have been at various times introduced into Congress.

These changes are to allow railroads to combine under the supervision of the Interstate Commerce Commission, and secondly, that the Commission be given power to control the issue of stock. The feeling is prevalent among the people that railroads have been overcapitalized, and that dividends are being paid on stock that is half "water." If this is true it is an unjust burden upon the people. Even if rates are to be based upon physical values when they have been estimated, the issue of stock would seem to be a proper subject of regulation as a protection to investors. The question of permitting combinations has already been discussed.

Most of the states have established commissions with large powers, among them being the power to fix maximum rates of traffic within the state and the power to control stock issues. These regulations are not uniform, and control of stock issues by the National Government is needed for this reason also. The power of these commissions has been considerably curtailed by recent court decisions. Two cases will illustrate this tendency. About two years ago the Supreme Court decided that the laws of Congress requiring certain safety devices applied to a railroad lying wholly within a state, on the ground that all railroads are practically a part of the great national system, since goods transported over roads lying wholly within a state enter into interstate commerce. In another case the court decided that a two cent railway rate was invalid since it discriminated against interstate passengers, a higher rate having been allowed on interstate commerce by the Interstate Commerce Commission. The governors in their next annual conference protested against these decisions as invasions of state rights.

80. PUBLIC OWNERSHIP. Owing to the marked success of government regulation, there is less agitation than formerly for public ownership of railroads, but there is a strong undercurrent of opinion in favor of that policy, many high railway officials recognizing this current of opinion and even welcoming it as a relief from the vexation of stringent regulation. Labor unions are demanding

higher wages, stockholders demand larger dividends and the Interstate Commerce Commission insists on keeping rates low for the welfare of the public, and railroad officials find themselves in a difficult position.

The arguments for and against public ownership of railroads are much the same as those previously considered under municipal ownership. Under public ownership the constant struggle between the government and the railroads would cease and under a wise and efficient government railroads would be made to serve the public. The relative efficiency of government management and private management is yet an open question, but the weight of opinion seems to favor private management, on the ground that a more effective civil service system can be employed by a private company than by the government, and because the hope of securing large profits is a greater stimulus to invention and enterprise than any rewards the government will offer. Many believe that until Congress shows less inclination to practice log-rolling methods and to emphasize local rather than general interests, it would be extremely hazardous to place the management of railroads completely under the control of the government.

CHAPTER IX.

Value.

81. INTRODUCTION. We have thus far considered two of the four main divisions of economic science, consumption and distribution, and we now take up the third division, exchange, which involves value, money, credit, banking and international trade. The central topic in exchange is value, which we have previously defined as power in exchange. The problem in value is to determine why one thing exchanges for another thing in certain proportions, why, for example, one pound of sugar is worth about twice as much as a pound of flour; why a yard of silk of a certain quality is worth so many pounds of sugar, or why a ton of hay is worth three or four tons of coal. Money, credit and banking are the instruments of exchange.

Value involves the laws both of consumption and production, and some economists treat of value not as a separate topic but in connection with production and consumption and other subjects. Nothing is gained in clearness by such treatment, however, since value is a topic distinguishable from other topics and having its own laws, though the elements of those laws lie in other fields.

82. ADVANTAGES OF EXCHANGE. The main economic advantages of exchange are the same as the advantages of the division of labor, since exchange results from the division of labor. Exchange allows division of labor both at home and between different countries. Moreover, since people have different tastes, exchange allows each person to dispose of things of little value to him but which may be very useful to others, and thus, by exchange, value is increased. It is often assumed both by individuals and by nations that exchange is a one-sided affair, since only one of the two parties involved derives any benefit. And, curiously enough, it is assumed that the person that sells rather than the one that buys gets the chief benefit. This notion is reflected in the laws of trade during the last three or four hundred years, which seek to restrict imports and encourage ex-

ports. Since the one who sells disposes of what he does not want and the one who buys gets what he wants, it would follow that if either of the two parties to an exchange is the chief gainer it is the one who buys. But on the whole there is no reason to suppose that either party is the chief gainer, since exchange allows the seller to dispose of what he does not need and get what he needs.

Exchange is also a great civilizer, since in the course of international trade ideas are also exchanged. In ancient days the trader found his way across the desert between Egypt and Chaldea and set the world a-mixing. The Phoenician of the ancient world carried the ideas of the East to the rising West, and the progress of the New World of that day was hastened. Medieval traders carried the Renaissance from the South and East to the North and West, and the vigorous, half-barbarians of newer regions became more refined and enlightened by the best ideas of the race, ideas that had survived many an empire and that still survive, and to the end of time will help to make man more noble.

83. MARKET VALUE AND NORMAL VALUE. The term market has various meanings. In one sense it means a certain place where things are bought and sold, usually a certain city, as the Boston Market or the New York Market. In another sense it means the commercial world in general, as when we say a commodity is put on the market. But when we speak of market price, both a place and a condition are included. It implies a place, either local or general, where goods are bought and sold and where conditions are such that each commodity sells at a uniform price. This ideal condition is, however, only roughly realized, especially in the case of retail trade. In the wholesale business both buyers and sellers are keen, and a slight difference in price on large sales might make or mar one's fortune, hence, wholesale prices must be quite uniform in any locality. In the retail trade, however, only one party to the bargain is usually keen and fully alive to changes in industrial conditions, buyers often paying what is asked without question, and

not a very close watch is kept upon the prices of different dealers.

Market value is simply the price at which a commodity sells in the market. Normal value is the value or price that gives a normal rate of profit. For long periods of time the normal value and the market value would tend to coincide; but for short periods the market value may go above or below the normal value. In times of industrial depression market prices often do not pay expenses, while in "boom" times that follow an industrial depression market prices rise above the average, and more than ordinary profits are made. There is much indefiniteness about "normal" profits, because different men are making different rates of profit. There is, therefore, much indefiniteness about normal value; but for all practical purposes the terms normal value and normal profits are sufficiently definite to be understood. The average business man would probably consider from five to eight per cent normal profits, and in fixing prices would attempt to secure at least that rate.

Market value and normal value are usually treated separately by economists, and the general impression conveyed is that the two are governed by different forces, market value being governed by demand and supply and normal value by cost of production. But both sets of forces are at work all the time governing the price of a commodity, whether we consider the price as the market or the normal price. The price of everything that sells in the market is determined to some extent by its cost, except in a few rare cases, as antique furniture, the paintings of the great masters, and things of similar character. The force of demand and supply, or of marginal utility, may cause the price for a time to go far above or far below the normal, but both buyer and seller, especially in the wholesale trade, keep the factor, cost, constantly in mind and are governed by it. Hence, it seems best to disregard the distinction between market value and normal value when the forces governing value are under consideration.

84. COMPETITION. Competition is assumed to exist, for, with-

out it there is a monopoly. There are two kinds of competition, market and industrial. Market competition is the competition among buyers and sellers of the same commodity, including not only merchants and consumers, but manufacturers, who also buy and sell. There is only one condition of true competition, and that is when there are several buyers and several sellers. If there is one seller and several buyers, or one buyer and several sellers, or one buyer and one seller, there is a monopoly, and true competition does not exist.

Industrial competition is competition among industries by which profits in different lines of business tend to be uniform. This competition has two phases, one being the competition among different industries to sell their products. This is similar to market competition, especially when the different lines of business are producing commodities that may be used for the same purpose, as gas or electricity. There is another variety of competition between companies producing commodities that do not serve the same purposes but the demand for which is elastic. The buyer has a certain amount to spend, and each industry is trying to sell him as much of its products as it can, and this tends to lower prices in proportion to the severity of the competition. Industrial competition has a second phase, produced by capital flowing from one industry into another. If profits tend to be especially low in any industry, new capital ceases to flow into it and some capital may withdraw, leaving a larger field for the capital that remains. If profits are unusually high in any industry, new capital flows into that industry and market competition in that line of business becomes more severe, resulting in lower prices, smaller sales for each firm, and lower profits. Thus industrial competition and market competition, while distinct in a way are nevertheless closely associated.

85. DEMAND AND SUPPLY. Demand means desire coupled with ability to pay. Supply may mean that which is offered for sale, or it may include the portion temporarily withheld from the market, or it may include the supply of the near future. The amount actually

offered for sale most powerfully affects the price, because both buyer and seller are more fully aware of the relation between the amount offered for sale and the amount the consumers demand. The portion withheld from the market will influence the price only in so far as the business world is aware of its existence and of the likelihood of its being thrown upon the market. The supply of the near future also exerts its influence upon price. This is illustrated every year by the fluctuations of the prices of farm products with the varying prospects of the growing crops.

A change in the supply, demand remaining the same, results in a change in price because marginal utility is affected and because competition forces the price up or down with the rise or fall of marginal utility. If, for example, there is an extra large wheat crop the price falls because dealers understand the law of demand, back of which lie the laws of variation of utility and the law of satiety, hence they realize that in order to dispose of the whole supply the price must be lowered to tempt people to consume more wheat. Competition hastens the falling price, because each dealer fears that if he does not lower his price others will and he will lose his trade. An unusually small crop sends the price up because of a rise in the marginal utility; and dealers knowing this take advantage of the situation and raise their price. In this case the one who holds a portion of the supply for a future rise in price runs no risk of not being able to dispose of his stock, since the wants of the people will not be satisfied and demand will be strong. A change in demand may come from changes in wealth, in tastes, or in custom. The frequent and often senseless changes in styles of clothing will cause the price of articles out of style to fall, whether the amount of such goods on hand is large or small. In any case, changes in demand or supply are closely associated with changes in marginal utility, hence, marginal utility is practically the same force as the relation between demand and supply. We may say, therefore, that prices vary directly with marginal utility.

86. COST OF PRODUCTION. By the cost of production is meant the outlay in terms of money for wages and other expenses and the amount of capital involved, upon which interest is to be reckoned. From the broad point of view of social justice, cost should include the sacrifices of labor and capitalist, the most burdensome work receiving the highest reward, and prices ranging accordingly. But for reasons which we shall see later, competition either among laborers or among capitalists is not free and hence prices bear no relation to sacrifices in the different industries.

A change in cost affects prices because of the effects on profits. If, for example, a cheaper process of making shoes were invented, greater profits would result if the shoes sold at the same price. But competition forces prices down. Prices may be maintained at their former level until the higher profits of the industry attract new capital, when increased competition will force prices down roughly in proportion to the fall in cost. Ordinarily, however, if monopolistic conditions do not prevail, competition among producers already in the industry is sufficient to bring down prices. The laws of consumption are here at work also, and the producer who fails to lower his prices will lose in trade because the demand will be supplied by those who sell at a lower price. The law of diminishing utility and of satiety are here plainly visible.

What cost governs prices, highest, lowest or average cost? From previous discussions it will readily be seen that different portions of the supply are produced at different costs. In agriculture this is strikingly true because land differs greatly in fertility and nearness to market. In other lines of business it is also true because of differences in managing ability and in the size of business establishments. It is generally considered that highest or marginal cost governs prices, because the price must be high enough to cover expenses and to leave a sufficient reward to capital, otherwise capital would not remain in the industry. Competition will keep prices low enough to yield ordinary profits under the most advan-

tageous conditions. Occasionally, prices will go lower than that and some marginal producers are forced out of business. But on the whole, competition will cease when prices are at a point that yields ordinary returns on capital at the margin of production, because men will not remain in business unless they get about the prevailing rate of loan interest.

In conclusion we may state the general law of value thus: Value is governed by marginal utility, marginal cost, and competition, with the laws of consumption as underlying forces; marginal utility being the force that causes temporary fluctuations of prices above or below those which marginal cost would establish as the normal or permanent prices.

CHAPTER X.

Money and Credit.

87. FUNCTIONS OF MONEY. Money facilitates exchanges and thereby aids production, since it makes possible extensive subdivision of labor. The difficulties of barter, where there is no money and no conception of money, may be illustrated by a concrete case. Suppose a man has a horse which he wishes to exchange for a cow. His first difficulty would be to find some one who has a cow to exchange for a horse. This difficulty is called the lack of coincidence in wants, and from the nature of the case is almost insurmountable. The second difficulty would be to estimate the relative values of the horse and the cow, for without money as a common measure of value numerous ratios must be known and kept in mind. In the third place it would be hard to "make change," for the two things would probably not be of equal value, and one of the parties would have to give something in exchange.

Money greatly lessens these difficulties by serving as a common measure or standard of value and as a medium of exchange. In the above illustration, the man with the horse would need only to find some one who wished a horse and with the money secured he could then find some one who had a cow for sale, which would be a much easier task then to find a man with a cow to exchange for a horse. But with the use of money well established, buying and selling is usually a much simpler affair, since there are regular markets, with prices approximately known to all. In the case of commodities having only a local market there are elements of barter, with some of its attendant difficulties; but producers of staple articles have little trouble in selling them and buying what they want, except in times of industrial depression. Thus, money, being a common measure of value and a medium of exchange lessens two of the difficulties of barter. If the money is made of a material that can be divided into fractional parts without destroying the value it will obviate the third

difficulty of barter, that of making change.

Money performs a third function, which is very important in modern industry, by serving as a standard of deferred payments. A vast amount of business is done on credit, much of it on long-term credit, and it is quite necessary to have a well known standard in which all debts can be reckoned and paid.

88. CHARACTERISTICS NEEDED IN MONEY. In order that any commodity may serve as money two qualities or characteristics are indispensable, it must be universally acceptable and stable in value. As a rule a commodity would not acquire the first characteristic unless it were fairly stable in value, at least for short periods. But to serve as a standard of deferred payments it should be stable over long periods. To serve most satisfactorily the purposes of money several other qualities are needed, but anything that possesses these two qualities may serve as money. In earlier ages sheep, cattle, or other animals were used as money, though lacking several qualities needed, such as portability and divisibility. The two primary qualities needed in money are, therefore, universal acceptability and stability of value.

Several other qualities are needed in money. It ought to be durable, easily distinguishable, divisible, and portable. To enable one to tell at a glance the value of a piece of money, coinage has developed. At first the coins were crude in workmanship and easily clipped and plugged without being detected. But a modern coin enables one to know at sight the weight and fineness, hence the value. Old coins become worn and are not of full weight, but they are made legal tender and when badly worn are recoined, so that in most countries today coins circulate freely at their face value. To prevent clipping, the edges are milled. By having coins of different denominations it is easy to make change.

Another quality needed in a circulating medium is elasticity in quantity. In earlier ages when production was chiefly local and on a small scale, demand for money was fairly constant, but in modern

industry demand for money increases during certain seasons of the year and during "good times." In order to meet this seasonal and periodic increase and decrease in demand the volume of the currency should expand and contract. If the volume of currency does not increase with the increase in demand, industry is handicapped, and if the currency does not contract with the decrease in business, the increase in the currency year after year and period after period would in time destroy the value of money.

89. MATERIALS NEEDED FOR MONEY. Centuries of experience has shown that several kinds of material are needed for money. For small change the cheaper metals are best, copper for the smallest denomination and nickel for the five-cent pieces and silver for the ten-cent, twenty-five-cent, and fifty-cent pieces. Gold would not do at all for this fractional currency, because the pieces would be too small, and experience has shown that gold is not suitable for anything under the five-dollar piece. Nor would paper be suitable for fractional currency, as was demonstrated during the Civil War.

Silver is also used for the dollar-piece, but paper is more convenient, as was shown when our government attempted to circulate large quantities of silver under the Bland-Allison Act of 1878. Only about sixty million dollars would stay in circulation, the remainder finding its way into the banks and the government treasury. When silver certificates were issued a few years later in denominations of one, two, and five dollars, they remained in circulation. Experience shows, therefore, that for large change as it is called, that is, denominations of one, two, five, and ten dollars, for use in retail trade paper currency is more convenient than any metal. For wholesale transactions bank checks are the most convenient of any form of currency, being safe and easily made out for any amount. To meet the need for paper currency we have in the United States as the result of a patch-work of legislation several kinds of paper currency, including the United States notes, popularly called Greenbacks, issued during the Civil War, Treasury notes (Act of 1890),

national-bank notes, Federal Reserve notes (Act of 1913), gold and silver certificates, and checks.

Back of all this paper currency must be a certain amount of standard money in order to keep the value of the paper from falling below the value of gold. Centuries of experience has shown that unless the authority issuing paper currency provides for its redemption on demand in the standard money of the world, the paper will depreciate. Hence, stated briefly, the business world needs copper, nickel, and silver for fractional coins, paper for larger denominations, and gold as reserves to keep the paper from depreciating in value.

90. CREDIT CURRENCY. Besides common book credit, which is incidental to barter and to the custom of paying bills a month after goods are purchased, there are five forms of credit instruments. A credit instrument is both a substitute for money and a promise to pay money on demand or in the future. It circulates as money only because the public believes the one making the promise to pay money will do so if the money is really needed.

The most important credit instrument is the bank check. A check is the order of one person for the bank to pay to another person a certain sum of money, usually on demand. The check is not considered as money by the business world, because it does not circulate freely as the bank note does. The check is not a promise of the bank to pay, except on the condition that the drawer has money on deposit, hence the person receiving a check has no assurance that it will be cashed by the bank, except the honor of the one drawing the check. Also a check passes only on endorsement. For these reasons checks are usually presented to the bank by the payee immediately or within a few days after they are issued. Though not considered as money checks do the work of money. The individual check may be restored to the bank and be cancelled within a few hours after it is issued, and thus cease to circulate, but in most cases actual cash is not received for it, but instead credit on the books of the

bank is given to the payee, and checks are drawn against it. Thus the volume of check currency, or deposit currency, as it is called, is maintained and checks serve as a circulating medium. For wholesale trade the check is the most convenient form of currency yet devised. If, for example, a person wished to pay a sum of $1253.24 it would be much easier to write out a check for that amount than to count out the money, and the check is much safer to carry around. For retail trade, however, the check is not convenient, except for paying bills at the end of the month, because most people would not be sufficiently well known by retail dealers, and people do not wish to bother with checks for small amounts.

Bank notes are considered as money by everybody, because they circulate freely without endorsement. They are the promises of the bank to pay, and banks are well known institutions, supervised by the government, hence their promises to pay money are as good as money. Being universally acceptable and in denominations suitable for small transactions, the bank note is especially convenient for the retail trade, and for paying laborers. The custom of paying laborers by check is growing, however, and in time may become universal. Bank notes are not as good as checks for the wholesale trade, for they are not safe, though they might be fairly convenient by being made in large denominations. The danger of carrying large sums of money is so great that checks are used almost exclusively in wholesale transactions.

A third instrument of credit is the draft or bill of exchange. A bank draft is an order of a bank for another bank to pay a third party a certain sum of money. Drafts are used in paying debts due outside the immediate neighborhood, that is, in other cities or foreign countries. They are substitutes for money in making such payments, though they do not circulate as money. In foreign trade or in small transactions between persons of different parts of the country, the draft is very convenient, because it is safer than money, it is cheaper to send, and also saves the use of real money. By the use of drafts,

hundreds of millions of dollars worth of goods are annually exchanged without the use of money, except a certain per cent for bank reserves. Suppose a New York merchant has ordered goods from London. Instead of sending gold, upon which he would pay express charges and insurance, he gets from his bank, by paying cash or by giving his personal note, or some other form of commercial paper, a draft in favor of the London merchant. Hundreds of other New York merchants as well as merchants in other large cities are also paying debts by drafts on London. In London merchants who have purchased goods from America are sending drafts to their creditors. Thus the New York banks are receiving money, or commercial paper, for drafts on London and are paying out money for or receiving on deposit, drafts on New York from London. In case New York merchants and London merchants import equal amounts, accounts would balance and no money would be sent either way. But in case New York imported more goods than it exported, the balance must be sent in gold, if such a condition remains permanent or even lasts for several months. America is said to have an unfavorable balance of trade, and the amount paid for drafts, called the rate of exchange, rises, because the American banker must ship to the London banker the gold which the London banker is ordered to pay to London merchants.

A new form of credit instrument has recently been devised, known as the traveler's check. This is much like the draft, except that the one who gets the draft from the bank is also the payee, and the signatures of the bank officials and of the payee are on the traveler's check. The advantages of the traveler's check are that it is safe, since no one can cash it except the payee, and identification is provided for by having the payee sign the check when made out and again when collected.

A fifth form of credit is the personal promisory note. The promisory note takes the place of money only to a very limited extent, since only the individual and not a bank stands back of the

note. The main use of the personal note is to obtain the various forms of bank credit, the bank exchanging its credit for the credit of the individual. Hence, personal notes are the pledges upon which bank credit is largely based.

91. CHANGES IN THE VALUE OF MONEY. PRICE TABLES. The value of money, that is, its general purchasing power, changes greatly from time to time, and such changes vitally affect the welfare of different classes of people, especially debtors, creditors, wage earners, and all persons receiving a stipulated annuity. If the value of money falls, debtors are benefited, if they belong to the producing classes, since higher prices would give a larger money income while the debt would not increase. Creditors, on the other hand, would be injured. If the value of money falls, that is, if prices rise, laborers are for a time injured, since the rise in wages always lags behind a rise in prices. In order to judge of the importance to society of changes in value of money we must know how to estimate the amount of the changes.

Changes in the value of money, that is, changes in the general level of prices, are estimated by the device known as price tables. Suppose we wish to know how much the general level of prices has risen during the last ten years. We select a number of important commodities, say twenty or more, and ascertain the price of each now and ten years ago. The price of each commodity ten years ago is taken as the basis from which to reckon, and called 100 per cent. Then the present price of each article is compared with the price ten years ago and the percentage of the rise or fall of each commodity is determined. Then the average rise is found of articles whose prices have risen, and the average fall of those whose prices have fallen, and the difference between these two averages gives us the general average rise or fall of all articles in the table.

The practical value of a price table depends upon the number and kinds of commodities selected. The ideal table would contain all commodities on the market and each would be given weight in our table

in proportion to the amount consumed. Practically, such a table is impossible, and we must therefore choose a sufficient number of important things. If, for example, flour has risen ten per cent and salt has fallen twenty per cent, this would indicate a fall in prices. But such a conclusion is absurd, for obvious reasons. Different tables would show different results. If we wished to know whether the cost of living for working men has risen or fallen and how much, we should include in our table only such articles as are ordinarily consumed by the working classes, and these should be weighted as it is called. That is, if three times as much money is spent upon one thing as upon another, the percentage of rise or fall of the more important article should be multiplied by three before an average is obtained. When price tables are properly made up they are of great value in helping to solve many social problems. Minimum wage boards, for example, must use the knowledge obtained from such tables in reaching any just conclusion as to the proper rise in wages as the cost of living advances.

92. CAUSES OF CHANGES IN THE VALUE OF MONEY. The value of money is a ratio between gold and goods, since the value of anything is measured by its power in exchange; and since the purchasing power of money is determined by its power in exchange for all kinds of goods, the value of money and the general level of prices are convertible terms. The value of money being a ratio, anything that affects either side of the ratio affects the value of money. The forces affecting the value of money, therefore, would include all the forces that might affect either gold or goods. Theoretically, there are twelve such forces, namely, increase or decrease of demand, supply, or cost of either goods or gold. From this it will be observed that the investigation of the causes of changes in prices is a very complex affair, not so easily disposed of as arguments of politicians on monetary problems would sometimes imply. During the period of falling prices from 1865 to 1896 one group of politicians based their arguments for an increase in money upon the assump-

tion that all the causes of the fall in prices came from the money side of the ratio; but competent students of that period agree that the chief causes of the fall came from the goods side of the ratio, especially a decrease in the cost of production. We have already considered the forces affecting the value of goods, and, remembering that any force which changes the value of goods changes the general price level, we may proceed to the consideration of the forces coming from the money side of the ratio.

We have seen that the law of satiety plays a vital part in determining the value of goods. If, for example, there is a large corn crop, producers and dealers voluntarily lower their prices, knowing that they must do so, or, as a result of the law of satiety, rivals will lower prices and supply the market, leaving those who fail to lower prices with their corn on their hands which they cannot sell at all or only at greatly reduced prices. But gold or any other commodity used as money is not subject to the law of satiety, because it does not satisfy one want only but is a means of satisfying all wants. This may appear inconsistent with the principle that for the individual, money, representing general wealth, may be subject to the law of variation of utility, since the richer one gets the less he may care for additional wealth. Society, however, is not composed exclusively of such individuals but chiefly of those struggling to increase their fortunes; and it remains true that for society as a whole money does not obey the law of satiety. Hence it follows that producers of gold would not voluntarily offer more of it in exchange for goods, either in case of an increased supply or lower cost, because no producer would have any fears about having gold left on his hands which he could not dispose of at the accustomed rate. Nor would dealers in goods take into account the lower cost of gold nor the increase in the amount produced. The business world thinks of money as something which in itself does not change in value, or only so slowly that no attention need be paid to it in business transactions. And the belief that the value of money changes

slowly is true, as shown by experience, and this fact would show that changes in quantity or cost of gold do not affect its value in the same manner as changes in supply or cost affect the value of anything else. Any material change in the cost or prospective supply of an ordinary commodity is immediately known by the business world and prices would change within a few hours.

But it is known and acknowledged by all that a fall in the cost of producing gold results in a rise of prices, or a fall in the value of gold, whichever way one chooses to look at it. The explanation generally accepted by economists is that the lower cost of producing gold results in an increase in its quantity and that this results in an increased demand for goods. Producers and dealers observe the increased demand for goods and raise the prices of their goods. Not all goods would at once begin to rise, but only such as miners would use in increased quantities. Gradually, however, increase in demand would reach other goods, and prices generally would rise. In case the law of diminishing returns applies, the increased production of goods that would follow the increased demand would increase the marginal cost, and prices would remain permanently higher. The increase in prices would lessen the profits of mine owners and production at the poorer or marginal mines would be checked until they paid the ordinary rate of profits, and thus equilibrium between the cost of goods and the cost of gold would be established and these new costs would permanently determine the new price level.

In case it should become known that gold would soon become as plentiful, say, as iron, the valuation process would be different from that described above. In such a case the value of gold would drop immediately and prices, reckoned in gold, would consequently rise at once. But so long as no such revolutionary change is expected, men go about their business as though there were no such thing as a change in the marginal cost of gold or an increase in its quantity.

93. THE EFFECTS OF CREDIT ON PRICES. The effects of credit on prices are matters of controversy among economists, but the view herein presented seems to be the one gaining ground. The temporary increase in credit will raise prices, if the increase is rapid, because of the increased demand for goods. An increase in credit is due to the expansion of business, which means that men are buying more goods than usual. The effects of a sudden increase in credit are seen most clearly when business revives after a period of industrial depression. When business begins to revive, factories that have been idle or running on short time are run to their full capacity, and more materials are needed. The price of iron, which is so extensively used in modern industry, often rises 20 or 30 per cent in a few weeks during a "boom" period.

Permanently, however, the increase in credit does not raise prices. The increase in credit not only means an increase in the demand for goods, but it also causes an increased production of goods. The factories that suddenly start up soon begin to turn out an increased quantity of goods to meet the new demand. The only reason why prices rise with the increase in credit is because demand for goods temporarily runs ahead of the supply. Consequently, if the increase in credit were gradual and evenly spread over all industries there would be no increase in prices, even temporarily, because demand and supply would be equalized all around. It would be like a general increase in barter, which certainly would not raise prices. For similar reasons a sudden increase of credit in certain industries sets in motion the productive force of the country and the initial increase in demand for goods is met by an increased supply, which brings prices down to their normal level.

Indirectly, the gradual increase of credit as a substitute for money prevents prices from falling. Suppose during the next twenty years the volume of the world's business should double, and that the volume of money and credit or the rapidity of circulation should not increase. The result would be the fall in prices or the rise in the

value in gold, because of the increased demand for gold. The situation would be similar to that of Europe during the Middle Ages. During the Dark Ages the gold and silver mines of the world were closed and the supply of the precious metals ran very low. With the increased volume of commercial transactions during the Middle Ages prices went down so low that they seem to us ridiculous. In 1050, a cow sold for about $1.50, a sheep for 30 cents, a hog for 50 cents, and wheat for five cents a bushel. If, however, the increase in business were accompanied by an increase in credit, no increased demand for gold would result, and prices, instead of falling, would remain the same. Briefly we may summarize the results of an increase in credit. A sudden increase in credit will increase prices temporarily because demand for goods runs ahead of the supply; but increased production soon brings prices down to their normal level, so that over long periods of time an increase in credit does not raise prices; the negative permanent affect of an increase in credit is to keep prices from falling by preventing an increased demand for gold.

94. LAW OF VALUE OF MONEY. We may now summarize the results of the last two sections and state the general law of the value of money. The value of money depends upon the relative marginal costs of producing gold and goods and upon the demand and supply both of gold and of goods, marginal costs being the permanent forces; credit directly affects prices only temporarily, the only permanent effect being negative, that is, to keep prices from falling.

It is usually laid down as a law by the older economists that, other things remaining the same, the rise in prices is in proportion to the increase in money, and many modern economists hold the same view. Thus, as a recent writer says, "Double the quantity of money, and, other things being equal, prices will be twice as high as before and the value of money one half." In explanation of this phenomenon he says, "The demand for money, in any given com-

munity at any given time, is constant. It is not subject to change because of the greater or less range of prices. Whether goods sell for less or more, all of them will still be sold, and will still be offered for money." In the first place, the "other things" referred to will not remain equal, for doubling the amount of money would bring such important changes that this law, if true, has no practical value. Rapidity of circulation, among other things, would not remain the same. Moreover, this explanation is purely mechanical and overlooks the essential details of the price-making process. If twice as much money should be put into circulation there would be twice as great a demand for goods, for, it is to be observed, not only will all the goods be offered for money, as this same writer says, but all the money will be offered for goods, or as he says, "It is sought in order to be spent." It hardly requires proof to show that doubling the demand for goods will not result in doubling prices. If the demand is for goods subject to the law of diminishing returns, prices would be much more than doubled. Doubling the amount of money would vitally affect the laws of production, and the results would be very complex, the prices of some things rising a great deal and the prices of others being affected but little.

95. CHANGES IN PRICES SINCE 1870. From the close of the Civil War to about 1896 the general tendency of prices was downward, owing to various causes, chief among which were (1) the lower cost of production of manufactured goods, resulting from improved processes, (2) the opening up of new agricultural regions, (3) the lower cost of transportation, both by land and sea, and (4) the closing of the mints of many countries to the free coinage of silver. During that period our western plains were settled and their products thrown upon the market, and at the same time Russia and the South American countries were sending new supplies to the European market. During this period the Greenback party had its birth, and also the free-silver party, both movements being demands for an increase in the currency with the hope of preventing the fall

in prices. But in the midst of the free-silver campaign of 1896 prices began to rise and they have been going up ever since.

The extent of the rise in prices between 1896 and the outbreak of the European War in 1913 has been variously estimated, some price tables showing a rise of about 45 per cent, others of more than 50 per cent. A price table properly weighted and including only commodities consumed by the working classes would show a rise of more than 50 per cent, possibly 75 per cent. The advance in prices has been world-wide and has affected most commodities, though the rise has been most marked for agricultural products and certain "trust" made goods. Among the causes of the great increase in prices, three are especially important, the increase in the supply of gold, the law of diminishing returns in agriculture, and the growth of monopolies.

From the discovery of America to 1850 the total amount of gold produced in the world is estimated at $3,314,000,000. With the discovery of gold in California and Australia in 1849 production suddenly increased, reaching a total of $3,310,000,000 by 1875, or as much in twenty-five years as during the previous three hundred and fifty-eight years. During the next twenty-five years production increased slightly, reaching $3,800,000,000 for the period. Since 1900 the production of gold has advanced with leaps and bounds, the total for the years 1901-1914 being about $5,500,000,000. During the years 1907-1914 the world has produced more gold than during any period of twenty-five years previous to 1900, and the annual output has been three times as great as during the twenty-five years before that date. Such an enormous increase in gold would naturally cause a great rise in prices.

The fact that agricultural products have increased in a marked degree shows that a second cause for the rise in prices is the law of diminishing returns. The population of the world has been increasing rapidly and the free lands of the New World have been settled, and consequently an increasing supply must come to a considerable extent from poorer lands or those more distant from market. A third

cause for the rise in prices has been the growth of monopolies. An increasing number of articles are produced under monopolistic conditions, as previously noted.

The evils resulting from this rise in prices are apparent. It means that the masses of the people find it harder to make a living. The annuitant finds his dollars growing less and less valuable, with no increase in their number. The wage earner is also suffering. Accurate statistics are wanting here, but the most reliable authorities estimate that the wages of skilled labor, backed up by strong unions, have advanced in about the same proportion as prices; but wages of unskilled labor have advanced little or none at all, and these unfortunate classes are sinking deeper into poverty.

From the nature of the causes of the rise in prices, only one can directly be removed, namely, the growth of monopolies, and it seems doubtful if this growth can be stopped, though monopoly prices might be regulated. Society as a whole must confine itself to (1) seeking means of offsetting the law of diminishing returns, such as scientific agriculture and a better organization of marketing, (2) devising means of readjusting the distributive process, such as the minimum wage, or adopting Socialism, which the radicals desire, and (3) a general elevation of the masses to a higher plane of intelligence, that each may be a better producer, a more rational consumer, and wise enough not to undertake the support of a family until he has a sufficient income.

96. THE TERRITORIAL DISTRIBUTION OF GOLD. The second law of money is that gold flows to those countries where its value is greatest, or where prices are lowest. Suppose Australia increases her output of gold. Prices would tend to rise in Australia above the level in other countries because of the increased demand for goods. The rise in prices in Australia would cause an increase in imports, since merchants would naturally buy where prices are lower. In case certain goods were not produced at all in Australia, the increase in gold would simply mean an increased demand for imports and more

goods would be shipped in regardless of a rise in price, or more strictly speaking, the rise in prices in foreign countries might take place before any gold would be sent to foreign countries. This would be true because the gold itself would not at first be shipped, but the goods would be ordered and paid for by bank drafts, hence the actual flow of gold would take place after the goods began to flow to Australia, and presumably after prices began to rise abroad. But it would still remain true that gold flows to those countries where it is of most value.

This law would inform us that any attempt to raise the prices of one country to any great extent above the world level by increasing the currency would be futile. Suppose, for example, the United States should attempt to raise prices by an increase in silver as under the Sherman Act of 1890, when we were buying silver and thrusting it into circulation at the rate of about fifty millions of dollars a year. The rise in prices in this country would increase imports over exports and the balance would be paid in money, thus draining off our extra supply of money. Each nation will have its proportionate share of the world's money, determined by the volume of its business and its machinery of exchange, and any attempt of one nation to attract more than that amount will be nullified by the natural laws of trade.

97. GRESHAM'S LAW. The third law of money is called Gresham's Law, from the finance minister of Queen Elizabeth, who seems to have been the first to formulate the law. This law is that bad money drives out an equivalent amount of good money. This is really a particular phase of the law of territorial distribution. Bad money, in Gresham's law, is debased money, that is, money of less weight than that provided for by law, worn coins, coins not worth as bullion their face value as coins, such as our silver dollars, and paper money of all kinds, which may be good in the country where issued but do not pass current in other countries.

There are three ways by which the bad money drives out the good, the melting pot, hoarding of the good money, and by exporting

the good money. By the first process, goldsmiths pick out brand new coins if they wish to use the gold in them. By the second way, those with the good money, say gold, would hoard it in case any inflation of the currency were anticipated, hoping that when most of the gold is driven out or hoarded it will command a premium, since importers of goods must pay in gold. The third process comes through the rise in prices caused by the increase in the currency, and since the bad money will not be accepted at its face value in foreign countries, the gold is sent to pay balances.

The three laws of money are very closely related, and that relationship may be shown thus: Taking our illustration of Australia increasing her gold supply, the first general result is a rise in prices in Australia, which brings into operation the law of territorial distribution, the gold flowing out to pay balances due foreign countries, and the good money goes rather than the bad.

CHAPTER XI.

Problems of Money and Banking.

98. THE THREE PROBLEMS. There are several problems of money and banking, but three are of special importance, namely, what the standard of value shall be, the problem of government paper, involving several questions, and how banks shall be organized. In connection with the first problem is the controversy over bimetallism, that is, whether we should have gold as the single standard of value or both gold and silver. The commodity standard has been advocated by some economists as more just than either the gold standard or the double standard. Many people have advocated government paper as the best money, and the adherents of this idea have been numerous enough in the United States to form a strong political party which for a time seemed destined to rival the two great parties then existing. These two problems seem to diminish in importance, since bimetallism and greenbackism are at the present time dead issues. Both involve such important consequences, however, that it seems best to explain them briefly. Moreover, all citizens should know the principles involved, for until the people have sound views on these matters there is always danger that these vexing questions may rise at any time in the future.

The third problem is that of the organization of our banking system. The three main ends to be attained are, (1) that the banks shall be so organized as to serve all the people, and not merely those in the cities, (2) that they shall be safe, so that depositors and noteholders do not lose by the failure of banks and, in a broader way, that the banks do not help bring on general crises and that they may be able to prevent the spread of crises if started by other agencies, and (3) that bank credit, both the check currency and the note currency, be elastic, that is, expand in volume when business expands and contract when business contracts. This is a difficult and complex problem. Its solution raises the question as to the relative

merits of the different banking systems of the world. The main systems are (1) a great national monopoly, like the Bank of England, or France, or Germany, the parent bank having many branches, with rival private banks, (2) several groups of great banks, each with many branches, like the Canadian system, and (3) numerous small, independent banks, the system that we had in the United States before the Federal Reserve Act of 1913. This is one of the most important problems of modern industry, involving, as it does, the general prosperity of the country, for banks are so vitally bound up with modern industry that a poor system of banks not only hinders the normal development of business enterprises but may bring on severe industrial crises, plunging millions into temporary poverty and starvation.

99. THE STANDARD. The two main things to secure in selecting a standard are that it be stable in value over considerable periods of time and that it be accepted as the standard by all nations. A standard that is unstable in value, say over periods of ten or twenty years, or even thirty or forty years, works a hardship upon annuitants, or else unduly enhances their income and injures either debtors or creditors, owing to whether the value of the standard rises or falls. In the second place, if the standard is not accepted by the people of all nations, international trade is hampered. If the United States had silver as a standard and European nations had gold, the payment of balances either way would always cause trouble, because neither side would have the money the other side desires.

The welfare of the debtor class has always held a prominent place in all controversies regarding the standard. The advocates of greenbackism and bimetallism, for example, assumed that the debtor class was composed of poor people who were being unjustly treated by the rich because prices were falling, and it was further assumed that it was the duty of society to safeguard the interests of the debtor class by preventing a fall in prices. It is true that many farmers were, not many years ago, struggling to pay off mortgages, and in a sense

might have been called poor debtors, but in modern industry the vast majority of debts are owed by rich corporations to their bondholders, most of whom are not rich, but people in moderate circumstances, and including some working classes, widows and orphans. It is further assumed that the creditor should receive in payment of his debt a sum of money just sufficient to purchase an amount of goods equal to the amount the money would buy when borrowed. But what if prices are falling because of cheaper processes of production? In that case, to pay back the debt in goods, equal in quantity to what the money would buy when borrowed, would give the debtor all the advantage resulting to society from cheapening processes of production. Thus, if the debtor borrows $100 when wheat is one dollar a bushel and then pays back 100 bushels of wheat when the price has fallen to fifty cents a bushel, because of better methods of producing wheat, the debtor gains and the creditor loses all the benefit. That raises the question as to which class, if any, is due the improvements in production. Until it can be proved that either the debtor class or the creditor class has exclusively given to society these improved processes of production, we are not warranted in undertaking to legislate for the exclusive benefit of either class. All that society is justified in doing is to adopt a reasonably stable standard.

100. THE COMMODITY STANDARD. Some writers believe that the commodity standard is the most satisfactory for deferred payments. But the commodity standard in practice would be less stable than gold, because it is not possible to include all articles. Only a few staple articles would be chosen to make up the standard, and the great staple articles are the ones most likely to be affected by new inventions which will lower their cost of production. The commodity standard would not displace gold for ordinary transactions and gold would be the actual medium passed in payment of debts. Prices of articles in the table would be noted when the debt was contracted and again at maturity, and a sum of money paid

sufficient to buy the same quantity of goods as the money would buy when borrowed. It will be seen, therefore, that the commodity standard would be unstable owing to changes in processes of production, but the change would be upward when gold is going down, and vice versa; hence, either the debtor or creditor gains all the advantages, owing to whether the cost of producing goods is going up or down. On the whole, therefore, the commodity standard would be less stable than gold and no more just between debtors and creditors.

101. BIMETALLISM. Bimetallism means the unlimited or unrestricted coinage of both gold and silver, at a fixed ratio; and that both metals be treated as the standard and made legal tender. In the late political struggle over bimetallism the legal ratio proposed was 16 to 1, the present ratio. This means that the government was to coin at that ratio all the gold and silver anyone saw fit to bring to the mints.

The causes of the struggle were falling prices, the fall in the value of silver as compared with gold, and a large debtor class among the western farmers who had mortgaged their farms to get money to improve and stock them. The fall in prices from 1873 to 1896 made it harder for farmers to pay their debts, since their money incomes were shrinking while their debts remained the same. The free coinage of silver had been suspended by the act of 1873, and about the same time the mints of the chief European countries were closed to the free coinage of silver. These events, it was urged, caused the volume of the world's money to shrink and prices to fall. This closing of the mints of the world to silver, just at a time when new and richer mines were discovered, also caused the value of silver to fall. In 1873 the relative values were about 16 to 1, but silver rapidly dropped to about 18 to 1 by 1878.

Both the debtors and the silver-mine owners desired free coinage of silver at 16 to 1, the farmers desiring it to raise prices in gen-

eral and mine owners to keep up the price of silver. Congressmen representing these two interests attempted to get a law passed for the free coinage of silver. A majority did not favor the measure but a compromise was reached in the Bland-Allison Act of 1878. That act provided for the purchase by the government of not more than four million dollars' worth, and not less than two million dollars' worth, of silver bullion per month for coinage into silver dollars. Under this act about thirty million dollars' worth of silver or silver certificates were thrust into circulation each year until 1890. The Sherman silver purchase act of that year increased the annual addition to the currency to about fifty million dollars, chiefly in treasury notes. This increase in the currency brought into play both the law of territorial distribution of gold and Gresham's law, and gold began to flow out of the country so fast that bank reserves and the gold in the United States Treasury began to run low and the business world began to fear that the gold would all leave the country, and a money panic resulted. To check the outflow of gold, the Sherman Act was repealed in 1893. But general prices and the price of silver were still falling and debtors and mine owners kept up the fight for free silver, resulting in the political struggle in 1896. The people decided against free silver, and in 1900 Congress made gold the sole standard, and the continued rise in prices since 1896 has made free silver a dead issue.

The arguments of the bimetallists, very briefly stated, were as follows: The fall in prices was due to a decrease in the supply of money and it was only just to debtors to restore silver to its former place in our monetary system, so as to prevent the fall in prices. The most general argument was that the use of the two metals made a more stable standard, first because both together made a larger volume of existing money and consequently more stable, since fluctuations in the annual output of the mines would affect its value less than a small supply would be affected, and secondly because a great increase in the supply of one metal usually came just when the out-

put of the other was falling off. As to the first point, it seems that closing the mints of the world to silver must have caused a fall in prices, because the world's business was rapidly increasing and gold was increasing slowly. But the use of gold was being economized by the extension of credit, which would offset to some extent the fall in prices. The main cause, however, for the fall in prices during the years 1873 to 1896, was the fall in the cost of production of goods, as previously noted. The first part of the second argument seems true. The second part holds true for all periods in the history of gold and silver since 1492, except the period since about 1890. Since that date the annual production of gold has doubled and silver increased only about one-third. Under the stimulus of free coinage it is hard to say how much silver would have been produced. Hence, the last argument of the bimetallist breaks down.

102. GOVERNMENT PAPER. The second group of problems is concerned with government paper. It has been urged by a good many people, enough in fact to form a large political party, (1) that government paper is the best money because it is the cheapest, (2) that the government and not private individuals, as banks, should supply the country with currency, (3) that it is safe, and (4) it is convenient.

Government paper may be cheaper to society than the precious metals, because it costs little to make it. But gold is used chiefly as bank and government reserves behind paper currency, and being handled little is not worn out rapidly. But government paper is no cheaper to society than bank paper. Nor is government paper any more convenient than bank notes, and for the wholesale trade not as convenient as bank checks. The two main questions are those concerned with the safety of government paper and, most important of all, with the substitution of government paper for bank paper.

History abundantly proves that government paper is not as safe as bank paper. In times of urgent need, as in case of a war, it is too easy to set the printing press at work running off paper money, and

legislatures prefer that method of raising revenue to that of increased taxation. With the inflation of the currency metallic money is driven out and the par of exchange with other nations is broken, the country being placed on a paper basis. Moreover, the value of the paper fluctuates violently with the changing prospects of a return to a sound metallic basis, to the very great injury of business. On the other hand, the government is not inclined to allow banks to be lax about meeting their demand liabilities, because the government has nothing to gain by that policy. The government is more apt, therefore, to require the banks to make their paper currency safe by redeeming it on demand than it is to provide for the redemption, on demand, of its own paper currency. By the terms of the law of 1900 Congress has provided for the redemption of its paper currency by requiring the Secretary of the Treasury to keep on hand $150,000,000 in gold as a reserve fund. But under urgent conditions this law might easily be repealed.

The demand that government paper shall take the place of bank paper scarcely deserves serious consideration. Government paper serves merely as a medium of exchange in the retail trade. It does not perform the functions of bank paper, which not only serves as a medium of exchange but also is an agent in production. If a business man desires a loan to expand his business, government paper does not help him, as the bank does. The government puts its paper into circulation, not by loaning it, but by paying its debts.

103. THE FUNCTIONS OF BANKS. Banks perform two great functions; they borrow money and loan their credit. What a bank borrows is usually termed deposits, which consist of actual cash deposited and deposits resulting from discounting commercial paper, the latter constituting the chief portion of deposits. If a bank receives on deposit the proceeds of a discount operation the bank really borrows of the depositor, though no actual money is put into the bank. But the depositor has a right to draw his deposits out of the bank in the

form of money. Depositing the proceeds of discount operations, therefore, does not increase the money in the bank but prevents the decrease in the cash reserves. Hence, the bank is practically borrowing money of the depositor. What the banks loan is their own credit, either in the form of bank notes or bank checks, the latter being based upon the desposit account. Banks might loan actual money, but the vast majority of their loans consists of bank credit.

Let us take a typical case to see how the functions of a bank are brought into play and how bank notes and checks are put into circulation. If a manufacturer wishes to expand his business he may need to enlarge his plant, and to do so wishes to borrow of the bank. He gives the bank his promisory note, or the note of some other person due him in the future, which the bank discounts and gives the borrower the proceeds either in bank notes or a deposit account against which checks may be issued, or the borrower may take part of the proceeds in notes and deposit the remainder. In this simple transaction lie all the mysteries of the banking functions, which seem so puzzling to beginners, but which are easily understood if this example is studied with care.

From this example the two great services of banks to the community are seen. In the first place, bank credit aids in production in a very peculiar way. Suppose no such thing as credit were known. The manufacturer referred to above could not expand his business immediately unless he had actual money. If he had not, he would have to wait maybe several years before he could save enough to increase the size of his factory. If banks loaned actual money he could immediately begin the addition of his plant. If banks loaned their credit, they could loan much more. Thus credit is a means of coining property into purchasing power without selling the property, as it is merely pledged as security to the bank. Credit, therefore, quickens the process of production, enabling industry to expand rapidly, in a way that even money cannot do. The error of supposing that government paper can serve the function of bank paper is at

once apparent, unless the government loans to individuals and thus assumes the banking functions. Another look at our typical case will reveal the fact that bank currency is elastic. As business expands, the currency expands. If the cost of increasing the size of the factory is $10,000, the notes or checks are issued to that amount. As each man desires to expand his business, the volume of the currency automatically expands. As the volume of business contracts, the volume of the credit currency contracts. When the volume of business contracts, men do not borrow so much from the banks, and as their promissory notes to the banks fall due, bank notes and deposits are turned in as payment and automatically the note and deposit currency contracts. Neither metallic money nor government paper will thus expand and contract with the volume of business.

Economists as a rule recognize three banking functions, deposit, discount, and note issue. But this classification is faulty, in that it conceals the real functions of banks, which are only two, borrowing money and lending credit. The deposit function is that of borrowing money, as noted above. If the proceeds of a discounted note are deposited, the bank allows the depositor to use its credit as means of purchase, that is, the bank does not loan money but its credit. If bank notes are given instead of a deposit account, the bank loans its notes. In either case, the bank loans its promise to pay, or its credit. Discounting is not in itself a function, but is only an incidental operation in loaning bank credit, the discounted note being the security for the loan. There are, however, some reasons for distinguishing between the loaning of bank notes and the loaning of deposit or check currency, since the two forms of currency serve for different purposes, one for wholesale and the other for retail transactions. But in both cases the bank is loaning its credit, and the bank performs but two functions, borrowing money and loaning its credit.

104. NEEDED CHARACTERISTICS OF BANKS. The three most vital characteristics needed in a banking system are (1) the ability to serve all the legitimate banking needs of all people in all

sections of the country, at reasonable rates of interest, (2) stability, and (3) elasticity of its currency. In order to fulfill the first requirement, there must be banking institutions in the smaller cities and within the reach of rural communities, and the security upon which loans are made must be suited to the district. In order to meet the needs of the commercial centers, the personal note backed by property readily salable is required, while in a rural community land is often the only security that can be offered. Land, however, is not readily salable and is not good security for a commercial bank which may need quickly to dispose of the property should it come into its possession, because sudden reverses are more liable to overtake a commercial community than a rural community. City banks, therefore, should loan only on "bankable" property as security and for a short period of time, while country banks should be allowed to accept real estate as security and loans should be allowed to run several years, since farmers often borrow to make improvements, and several years are often required in which to make payment. In order to secure reasonable rates there must be healthful competition among banks or effective regulation by the government.

There is special need for banks to be strong and stable. In these modern days of interrelationships among business men, the failure of any business may injure or ruin other firms. But this is especially true of banks, for they deal in credit, which is a very delicate thing. A very large part of modern business is done on credit and banks are not supposed to keep a cash reserve of more than 15 to 25 per cent of their outstanding demand liabilities, consisting mainly of notes and checks, because ordinarily people do not demand money for notes or checks received, but deposit them. Suppose a large business establishment fails. Its failure may ruin some local bank that has loaned the firm large amounts. This bank failure spreads alarm among depositors in other banks in the community, and there is a "run" on the banks, that is, depositors and note holders, if notes are not especially secured by the government, desire to get their

money out of the bank. The banks cannot pay all their demand liabilities at once, though the commercial paper they own may be perfectly good and the banks may be in a sound condition. But by law if a bank cannot pay its demand liabilities on demand it must close its doors to business and the bank has "failed" in the eyes of the law and of the public. The closing of the banks in one locality may spread the fear throughout the country and the "run" on the banks may become general, accompanied with the same results as in the original locality. The closing of the banks, even temporarily, injures industry, because it deprives the community of its accustomed means of transacting business, and some men might even be ruined. Thus the sudden collapse of credit may cause widespread panic which is followed by industrial depression. If business generally has been conducted on a sound basis and the panic is largely fear on the part of depositors, the whole phenomenon may run its course in a few weeks. But if business has not been sound, industrial depression may last several years. In the great crisis of 1837, for example, there was a large amount of speculation and overbuilding of roads and canals. People borrowed of the banks to get funds for their speculative ventures which did not pay dividends, banks could not collect from their creditors, and banks and business firms failed all over the country. In this case the collapse of credit was not the result of mere fright on the part of depositors, and it took four or five years for industry to recover from the shock. The banks were to blame for this disaster in so far as they encouraged speculative business by granting loans for such enterprises. Banks should be safe in the sense that they should loan only for healthful industrial development and they should be strong enough to resist a panic that starts from mere fear of depositors, or better still, so strong that depositors have no fear of bank failures becoming general in case a few go under.

In the third place bank currency should be elastic. In the fall of the year farmers and grain dealers in the West need an extra amount of currency to move the crops and pay help. This calls for bank

notes, mostly, owing to the business habits of the community. Farmers and their hired help both prefer "money" to checks, and notes are accepted as money. In the great commercial centers the currency needs to be elastic, for such centers have their periods of comparative briskness and succeeding calm. During the first part of January, for example, large sums are needed for payments of dividends and other annual settlements.

105. DEFECTS IN OUR BANKING SYSTEM PREVIOUS TO 1913. Previous to the passing of the Federal Reserve Act of 1913, our banking system lacked all three of the characteristics considered above and besides had several other defects. Andrew Carnegie once called it the worst banking system in the world. The national banks could be of little service to rural communities, because they could not loan on real estate. Most of the state banks were also commercial banks. The farming community was not properly served, and what loans they were able to secure were at prohibitive rates.

Banks were not safe and stable. There were over 30,000 banking institutions in the country, small and independent of each other. The failure of a large firm might pull down several banks, and then the panic would spread. There was little cooperation at such times, each bank struggling to keep its reserves. Hence the reserves of the country were scattered and immobile, instead of being centralized and under the control of a single authority that could send them where needed and thus check a crisis. If reserves could be sent quickly to any point of danger, fear of depositors would be allayed, for when people find they can get their money they do not want it. Another source of danger to the banks was the close connection between the eastern banks and Wall Street, the main center of speculative operations in the country. Men who speculated in stocks and bonds borrowed of the banks and frequent failures of the speculators weakened the banks.

The third great defect in our banking system was the inelasticity of credit. Note currency was inelastic because based upon bonds

of the United States government. If a bank wished to issue notes it had to buy bonds equal in value to the amount of notes issued. This made the volume of note currency inelastic for three reasons. The amount of government bonds was a fixed quantity, the amount on the market was not enough to permit of much expansion, and even if bonds were to be had in abundance the banks did not wish to disturb their regular investments for a temporary increase in note circulation. The check currency was inelastic for several reasons. The requirements as to reserves were rigid and banks too often kept close to the minimum amount allowed, and in time of need they could not expand their credit and help business men whose financial needs were increased by business depression, as they ought to have done. If some depositors got frightened and drew out their deposits, that depleted the bank reserves and decreased the power of the banks to make new loans until restored by selling commercial paper, or stocks and bonds, or by the collection of debts due them. Generally in time of a panic commercial paper is not easily sold, and banks must wait until notes due them are paid.

106. THE FEDERAL RESERVE ACT. In 1913 Congress passed the Federal Reserve Act, which was intended to correct two of the main evils in our banking system and to some extent to correct the third defect. Before considering how the act proposed to remedy these defects it will be well to look at the general nature of the reorganization of the banking system. The act neither set up a great monopolistic, unified system like the Bank of England nor did it leave the little banks independent of each other, as they formerly were. Instead, it created a sort of federated system, with central control in certain matters by a government Federal Reserve Board. The act provided for the division of the whole continental area of the United States, exclusive of Alaska, into federal reserve districts, not less than eight nor more than twelve, the number to be determined by the Federal Reserve Board. In each district is a federal reserve bank, with branches. The federal reserve banks are fairly large in-

stitutions with a capital of not less than $4,000,000, and are mainly bankers' banks, as their business is mainly to be with member banks, and banks are the only stockholders having voting power. All national banks must become members of a federal reserve bank and other banks may become members. The federal reserve bank has power to open deposit accounts with member banks and with the United States, to deal in bills of exchange, and to issue federal reserve notes to member banks, under the supervision of the Federal Reserve Board.

This Federal Reserve Board is composed of seven members, the Secretary of the Treasury and the Comptroller of the Currency as members ex-officio, and five others appointed by the President of the United States, by and with the advice and consent of the Senate. Each member of the Board receives a salary of $12,000 a year, and none is to be connected with any bank, either as officer or stockholder, though at least two besides the members ex-officio are to be men with experience in banking or finance. The Board has power (1) to examine the federal reserve banks and the member banks, (2) to allow or require federal reserve banks to re-discount the discounted paper of other federal reserve banks, at rates of interest to be fixed by the Federal Reserve Board, (3) to suspend reserve requirements, (4) to exercise general supervision over the federal reserve banks, and (5) to issue notes to the federal reserve banks.

This act also creates a federal advisory council consisting of one representative of each federal reserve bank. As the name implies, the council has only advisory powers, which are to confer with the Federal Reserve Board, and to make recommendations in regard to discount, rates, re-discounts, note issues and reserve conditions in the different districts.

Thus the banks of each district are federated with the federal reserve bank, and the Federal Reserve Board has general supervision over the whole system, advised and assisted by the council. This sys-

tem leaves the member banks free to follow their ordinary course of business in their ordinary way, the federal reserve banks and the Federal Reserve Board checking them up in case they wish to extend their loans and assisting them in times of danger. The whole system roughly approaches the organization of our federal system of government, and possesses some of its advantages, the local banks serving local needs, the federal reserve banks answering to the states, which look after larger affairs, and the Federal Reserve Board corresponding to the national government, which looks after the needs of the whole country.

107. SERVICE. The act only partially removes the first defect above noted in that it does not establish a thorough system of rural credit. National banks are permitted to make loans secured by farm lands, under certain restrictions. This feature of the act seemingly is intended as a temporary arrangement, and the whole subject of rural credit is yet to be acted upon by Congress.

In a general way, however, the act contains several provisions designed to guard the general interests of the people. The fact that a federated system of small banks was created rather than a great monopoly will insure good service at least to all commercial interests. Also the governmental control and oversight ought to insure good service. Actual banking operations and the business management is in the hands of the banks, the government only exercising general control. Thus efficiency and service seem to be secured.

Reasonable rates would seem to be assured because of several features of the new system. The act did not create a monopoly but left the individual banks still independent to a large extent, and presumably competition among the member banks will keep rates of interest at a reasonable level. The power of the federal reserve banks and of the Federal Reserve Board ought also to keep down rates of interest. In case of stringency in the money market the federal reserve banks can compete with the member banks through what the Act calls open-market operations. In its first report, issued

January, 1915, the Federal Reserve Board says, "If, at any time, commerce, industry or agriculture are, in the opinion of the Federal Reserve Board, burdened unduly with excessive interest charges, it will be the clear and imperative duty of the Board acting through the discount rate and open-market powers to secure a wider diffusion of credit at reasonable rates."

108. SAFETY. Under the new system banks should be more safe, individually and collectively, than under the old system because of (1) the federal system, (2) the central control of reserves and note issue, (3) severing the connection with Wall Street, (4) government control, and (5) making the banks United States depositories. Banks are no longer wholly independent of each other. Especially in times of danger or when reserves of any bank are running low, it can borrow of the federal reserve bank of its district by re-discounting commercial paper and thus strengthen itself. The federal reserve bank thus aids its members and at the same time limits their actions and also examines the soundness of the commercial paper re-discounted. By this means and the power of general oversight the whole system of banks within each district is tied together and made safe and strong.

The Federal Reserve Board has general control of reserves and by requiring federal reserve banks to re-discount discounted paper of other federal reserve banks can cause reserves to flow from one district to another as they are needed. Thus reserves become mobile and the whole system of banks is stronger because there are no weak links in the chain.

Connection with Wall Street is severed by the provision that allows the banks to discount commercial paper "arising out of actual commercial transactions" but prohibits the banks from discounting "notes, drafts, or bills covering merely investments or issued or drawn for the purpose of carrying or trading in stocks, bonds, or other investment securities, except bonds and notes of the Government of the United States."

Government control should increase the safety of the whole system since the Federal Reserve Board, assisted by the advisory council, is in a position to know the needs of the different parts of the country, and through its power of inspection and control of reserves and note issue can prevent the spread of panics and to a considerable extent prevent them from starting. The whole system will naturally give depositors more confidence in the safety of it and they will be less likely to start a "run" on the banks in case any one bank should fail, which it is less likely to do than formerly. The fact that the banks are made depositories of the United States government would tend to strengthen them because of the more careful inspection this will lead to and because of the increased confidence this will inspire among the people.

In addition to all these provisions for the general safety of the banks, the federal reserve notes are especially secured by several provisions. Banks must keep a gold reserve of 40 per cent of the value of notes issued. This requirement may be suspended temporarily by the Federal Reserve Board, which also increases general safety of business, because more aid can be extended to member banks if the need is urgent. The issue of notes is under the control of the Federal Reserve Board, which would check any tendency to over-issue. And, most important of all, the United States Treasury must redeem these notes on demand. These provisions make the new notes as good as gold.

109. ELASTICITY OF CREDIT. The act makes bank credit elastic. The federal reserve notes are based upon a gold reserve of 40 per cent of the note circulation and upon commercial paper, and not upon government bonds. If a federal reserve bank desires notes, it deposits with the government agent at the bank approved securities equal in value to the amount of notes desired. If a member bank wishes notes to loan to its customers it sends to the federal reserve bank commercial paper for re-discount. Thus bank notes

will automatically increase with the increase of business, and the only limits to the increase are the discretion of the Federal Reserve Board and of the federal reserve banks, and the amount of gold reserve. The Federal Reserve Board may temporarily suspend the reserve requirements, the abuse of this privilege being prevented by a tax on the note circulation not backed by the gold reserve. Thus the expansibility of the note circulation is amply secured. To secure the contraction of the note circulation when business contracts, the act provides that no federal reserve bank shall pay out the notes of another bank, but shall promptly return for credit or redemption all such notes to the bank through which they were issued.

Check currency is made more elastic by less rigid requirements as to reserves and by the mobility of the general reserve funds of the whole country. Under the old system, banks in the smaller cities were required to keep a reserve of 15 per cent of their deposits and banks in the larger cities were required to keep a reserve of 25 per cent, and no matter how urgent the circumstances these reserves had to be maintained. Under the new act the federal reserve banks must maintain reserves equal to 35 per cent of deposits. Member banks in small cities must maintain a reserve of 12 per cent of its deposits, banks in larger or "reserve" cities as they are called, must keep a reserve of 15 per cent and banks in "central reserve" cities, 18 per cent. In each case a member bank must keep a certain proportion of its reserves on deposit with the federal reserve bank. This centralizes the reserves to a great extent, giving a large fund of gold in one bank, and enables the federal reserve bank to come to the assistance of any member bank in need. These requirements may be suspended temporarily by the Federal Reserve Board. Thus in times of financial stress, credit may be extended and the trouble relieved. Mobility of reserves within the federal reserve district is secured by the member banks securing

more reserves when required by sending discounted paper to the federal reserve bank for re-discount; and mobility over the whole country is secured by the power of the Federal Reserve Board to require federal reserve banks to re-discount paper of other federal reserve banks. This mobility increases the elasticity of check currency by sending reserves where they are wanted, and by checking the fears of the people, which formerly caused credit to contract when it ought to expand.

CHAPTER XII.

International Trade.

110. THE LONG CONTROVERSY. The problem of international trade has been a political issue and a matter of controversy among great thinkers for over four hundred years, and we do not propose in this brief chapter to decide the question, but merely to enable the student to see what the controversy means and to set him to thinking for himself. There have been various phases of the controversy. From about 1500 to 1800 it concerned the Balance of Trade. During that period most nations acted upon the theory that trade ought to be so regulated that a great quantity of gold and silver should flow in. Each nation was trying to get a favorable balance of trade, as it was called, that is, it was trying to accumulate a great stock of gold by selling more goods than it bought.

This theory was based on various misconceptions. In the first place money was looked upon as being the all-important form of wealth. It was not seen that whoever has any form of marketable wealth has the means of obtaining money. Another mistaken notion was the belief that trade was a one-sided affair, the seller getting the best of the bargain. The obvious truth was overlooked that the buyer gains as well as the seller, since he disposes of what he does not want and obtains what he does want. Clearer thinkers than those in control of governments finally overthrew the Balance of Trade idea, and now nations do not trouble themselves about regulating trade in such a way as to cause gold to flow into the country. The fact that for three centuries all civilized nations accepted and acted upon false theories should teach us a lesson, and that lesson is that the majority are not necessarily right.

For over a century the dispute has been over the effects of a protective tariff. Most nations now act upon the theory that international trade ought to be restricted in such a way as to build up certain industries that otherwise would not develop. In other words,

a protective tariff seeks to encourage the development of the protected industry by enabling producers to raise prices above the rates determined by free competition between home producers and foreign producers. But the mere fact that the majority believe one way or the other should have no weight whatever, since majorities in the past have been wrong and may be wrong now. Each person must approach the subject with open mind.

111. ADVANTAGES OF INTERNATIONAL TRADE. The main advantage of international trade is that resulting from international division of labor. Different countries have different natural resources and different climatic conditions. Countries with fertile soil but poor in mineral resources will naturally turn their energies to agriculture, countries with rich mineral resources but poor soil will develop manufacturing, while countries with various advantages will have diversified industries. This will be the natural development if commerce is free among nations. Each nation will turn its main energies towards developing its best natural resources, export its surplus products of those industries and buy from other nations those things that it cannot produce at all or only at a great disadvantage. Thus each nation makes the best possible use of its labor and capital. If a nation with poor mineral resources but rich soil should undertake to produce all its manufactured goods the energies of that nation would be wasted. By world-wide cooperation in satisfying human wants the whole world becomes richer.

This beneficial result would be produced, not by any formal agreement among nations as to what each would produce, but by ordinary world competition in the world markets. The great staple articles of the world have a world price, which is roughly uniform in all countries, not counting cost of transportation. Each country will produce for export those things that bring the highest profits, at the prevailing world prices. The things that yield the most

profits are those that can be produced cheapest, since profits are determined by selling price minus cost.

Owing to the fact that labor and capital do not move from country to country with perfect freedom, rates of profit are different in different countries. This brings it about that a country might have a positive advantage over other countries in producing certain things and yet not produce those things but import them, since it might have a greater advantage over other countries in producing other things. Suppose a given unit of labor and capital in a given time could produce in England ten dollars' worth of wheat, or fifteen dollars' worth of steel, and the same unit of labor and capital in the same time can produce in the United States twenty dollars' worth of wheat and eighteen dollars' worth of steel. Under these conditions the United States would make more profits than England by producing either wheat or steel. But it will make the most by producing wheat. Thus we arrive at the celebrated principle that international trade is based upon the relative advantages of production and not upon absolute advantages. In looking at relative advantages the things compared are not merely the same things in different countries but also different things in the same country. The American producer of steel, under the conditions stated, would make a higher rate of profits than the English producer; but the American producer of wheat would make still greater profits. Manifestly, American capital and labor would, under such circumstances, be set to producing wheat for export rather than steel. But this great principle of international trade is the same principle as that announced at the opening of this section, that the advantage of international trade is that resulting from international division of labor, each nation doing what nature has best fitted it to do.

112. ECONOMIC EFFECTS OF PROTECTIVE TARIFFS. A protective tariff is a tax levied on imported goods in order to destroy or lessen competition between home producers and foreign

producers. If the rate is high enough to shut out imports altogether, home producers could raise their prices high enough to yield the rate of profits prevailing in other industries, and if a monopoly should be formed prices would go even higher. If the rate is not high enough to exclude foreign goods, the importer will add the tariff to the price, and the increased price, if high enough, will invite capital into the protected industry. Thus in either case the increased price will make the protected industry profitable and it will be developed if the country has any aptitude for it.

Now the most vital point in the whole controversy is the kind of industry that a protective tariff will develop. Will it develop industries that naturally yield the most profits or those that yield the least profits? Will it, in other words, develop the industries for which nature has best fitted the country, or will it develop industries in which the country has least natural advantages? The whole controversy over protection hinges upon this point, and if the controversy is ever ended it will be when this point is settled one way or the other. The disputes over the effects of the tariff on wages and upon industry generally all depend upon this one great question.

On this point the opponents of the protective principle claim that it is the industries that are naturally among the less profitable that are protected, that the tariff is to enable the less profitable industries of the country to make as much as the most profitable, and not enable those making the highest profits to make still higher profits. Protectionist writers seem not to have considered this point at all, except in the case of the "young industries" argument, to be dealt with later. If this assertion of the anti-protectionists is true, that the tariff develops the less profitable industries, then it follows that a protective tariff diverts capital from its natural channels and makes the nation poorer, unless the tariff creates new capital and thus increases the total amount of the capital and industry in that country. This possible result we will consider in a mo-

ment.

It may be urged that the tariff makes the protected industries as profitable as other industries. So it does make the protected industries as profitable to those engaged in them, but not to the country as a whole. The enhanced profits of the protected industries come from the increased prices, and the increase in prices lessens the profits of all other industries. If a tariff increases the price of steel, all who use steel pay the increased price and their profits are thereby lessened. Hence, it remains true that the country is developing unprofitable industries and is poorer because of the protective tariff, unless the tariff creates new capital rather than diverts it from the more to the less profitable industries.

The capital of a country can be increased only by increased saving or by importing it from foreign countries. If the whole range of industries becomes less profitable by developing industries for which the country is not well fitted by nature, savings would not increase, but decrease, unless the tariff should have the curious result of compelling people to work harder or live more sparingly in order to save more capital. It is needless to say that no protectionist would claim such a result. Nor would foreign capital flow in more than ordinarily because of the tariff, if industry becomes less profitable. And in fact the foreign capital in this country seeks the non-protected industries, where a change of political parties at Washington cannot wipe out profits by a change in the tariff. It may seem obvious that when mills and factories spring up because of the tariff, the tariff has increased the total amount of capital and industry in the country. We can see these additional mills and factories but we can neither see nor estimate the capital that would have been in the more profitable industries had the tariff not diverted it from its natural channels. On the whole, if the view of the anti-protectionists, that a protective tariff develops the industries for which the country is not best fitted by nature, is true, it

follows that the total amount of capital in the country is less than it would have been without the tariff and that industry as a whole is less productive and the country is made poorer and not richer. If this is the true result of protective tariffs it is high time that the people of this country should know it, that we as a nation may cease to waste our energies by developing unprofitable industries.

113. THE YOUNG INDUSTRIES ARGUMENT. In the last topic we have been considering protection as a permanent thing. Economists and statesmen are generally agreed that it may be wise to protect certain industries temporarily. This is known as the theory of protection to young industries. Stated briefly, the theory is that if a country has natural facilities for certain industries, but artificial hindrances prevent their development, protection should be extended to those industries until they are able to prosper without protection. The artificial obstructions might be lack of skilled workers, lack of trade connections, competition of old and well established industries in other countries, and various temporary hindrances incident to the starting of an industry. The temporary protection of such industries might be compared with draining a swamp. It might be an expense to undertake it, but if the land is rich it will more than repay the cost; and if the industry developed is one naturally profitable, it will repay us for the high prices temporarily endured. If the industry is naturally profitable, competition among home producers will bring down prices when the industry is permanently established, unless a monopoly is formed.

If the policy of protection to young industries is to be applied, it should be done judiciously. Great care should be used in selecting the industries to be protected and aid should be extended to none except those having natural facilities in their favor. Then the protection should be withdrawn gradually when the industries are able to stand alone. Our method of applying protection has been far different. Aid has been extended indiscriminately to all sorts of in-

dustries, and aid once given has not been withdrawn. The failure to withdraw protection after a reasonable time has been due partly to the influence of the "vested interests" in political affairs and partly to the belief in permanent protection.

114. THE TARIFF AND WAGES. Protectionists argue that American labor should be protected against the cheap labor of other countries. The argument assumes that American producers cannot compete with foreign producers because of higher wages in this country. But since the non-protected industries in this country pay the same rates of wages, for the same grade of labor, as the protected industries pay, the reason why the industry asking protection cannot compete with foreign producers is not high wages but the lack of natural facilities. The non-protected industries can pay higher wages than their foreign competitors because those industries are naturally profitable at prevailing world prices.

Moreover, the effect of protective tariffs on wages cannot be considered apart from the general effect of such tariffs upon industry. We shall learn in a subsequent chapter that wages depend upon the relation between supply of and demand for labor, and the productivity of industry. The greater the productivity, demand and supply remaining the same, the higher the wages; and a great demand for labor, coming from the owners of capital, with a shortage in supply, makes wages high. Now, if a protective tariff does not increase capital or make it more productive, but has the opposite effect, a protective tariff does not increase wages but decreases wages.

115. OTHER ARGUMENTS. There are several other arguments for or against a protective tariff, two of which find frequent expression in current literature. One of these arguments relates to the diversification of industries which a protective tariff will bring about. With many different kinds of industries the people of a country are able to utilize their different tastes and talents, and

the national life will be fuller and richer. In a purely agricultural country, for example, people are backward and lack the opportunities that come with a denser population and the existence of large cities. But it is urged on the other hand that if there is any economic advantage in such diversification of industries, the tariff is not needed to develop them, since the natural advantages would result in greater profits, which would be sufficient incentive for starting new industries.

The home market argument also still persists in the popular press. This argument assumes that to transport goods long distances is an economic waste and that a market at home is better and more secure than a market abroad. But if it did not pay to transport goods long distances they certainly would not be transported. Moreover, a home market is no more secure than a foreign market except in case of war, for the demands of other people are as persistent as the demands of the American people.

116. THE PRESENT TARIFF. The existing tariff, passed in 1913, is the first since the Civil War to revise rates downward. The average rate was lowered about twenty-five per cent. But the full significance of the new tariff is not revealed by the change in the average rate. About one hundred articles, largely necessities, were put on the free list, about seventy were taken from the free list, including many luxuries, and other luxuries were taxed at a higher rate. On the free list are such articles as meats, cattle, wool, flour, potatoes, boots and shoes, lumber, and sugar after 1916. Rates were lowered on woolen from 94 per cent to 35 per cent; linen, from 52 per cent to 35 per cent; ready made clothing, 79 per cent to 35 per cent; cotton, 50 per cent to 30 per cent. Briefly stated, the new tariff puts several important items on the free list, lowers the rates on other articles of necessity or where monopoly existed, and increased the rates on luxuries.

CHAPTER XIII.

Wages.

117. DISTRIBUTION. We have considered the three fields of economics, Consumption, Production, and Exchange. We now turn to the fourth field, Distribution, which treats of the laws of wages, interest, profits, and rent. There are two phases of distribution, one dealing with the factors determining the total amount going to each of the four shares and the other dealing with rates of wages, interest and profits and the amount of rent on an individual piece of land. The latter phase of the subject is the most practical one and to that alone we will direct our attention. What we are chiefly concerned with is the problem of human welfare, namely, what each individual worker in society gets for his work.

The problem is a very complex one, since there are several factors involved, some are working in one direction and some in another, and a certain indefiniteness attaches to these forces because of the human element. The laws of production partake of the definiteness of physical laws, but the laws of wages and of interest and profits are much more indefinite. This does not mean that these laws are not known, but it means that they cannot be stated in quantitive terms. We know, for example, what forces make wages low, but we cannot tell how low those forces may send wages.

The forces entering into the distribution are those of demand, supply, productivity, competition and the standard of living. These are the forces we must keep in mind.

118. ANNUAL INCOME AND ANNUAL PRODUCT. It will be helpful to make a distinction between the annual income and the annual product. These are two very different things, though closely connected. The annual income includes the annual product and in addition the enjoyment of all consumers' goods produced in past years. The enjoyment of the houses we live in is as much a part of our annual income as the enjoyment of the clothes we wear. The

annual income, especially in old and rich countries, is much larger than the annual product. It is with the annual product that distribution is concerned.

119. MONEY WAGES AND REAL WAGES. We must also distinguish between money wages and real wages. Under certain conditions money wages might be high while real wages are low and money wages might be low while real wages were high. It depends upon prices. If prices are very high, high money wages, that is, high as compared with other countries or other times, might not enable workers to live in decency. The really important question is not how many dollars a man gets for a day's work, but how many of the necessities and comforts can a man secure with a day's labor.

In the mining camps of the West in the early days money wages were high, as compared with money wages in the East. But owing to the cost of transportation goods were very high in the mining camps, and the real wages were not much higher in the West than in the East. During the Middle Ages money wages were exceedingly low, as compared with present rates. In the time of Edward I. skilled workmen in London received about eight or ten cents a day, which seems to us an impossible condition. But when we read in an ordinance of the City of London that master craftsmen shall receive four pence a day or three half-pence a day and board at the employer's table, the situation looks entirely different. These illustrations serve to show the necessity of distinguishing between money wages and real wages. It is with real wages that distribution is concerned.

120. DEMAND FOR LABOR. Demand for labor comes from capital. In modern industry very little labor is or can be used apart from capital. The amount of labor demanded, therefore, depends upon the amount of capital, providing capitalists do not miscalculate and create more capital along some lines than the extent of the market will warrant. Demand may vary to some extent owing to the

more or less intensive use of capital. If there is sufficient demand for its products, a factory may run night and day, or if there is a slackening demand, it may run on short time and with only a part of its labor force. Stating all these facts briefly, we may say that the amount of labor demanded depends upon the amount of capital and the intensity of its use.

Along with demand is the force of competition. If the amount of capital increases and the number of laborers remains the same, there will be active competition to secure laborers, and wages will rise. If a man has a factory he does not desire to see it standing idle and, as demand for labor tends to exceed the supply, he will offer higher wages than the usual rate in order to tempt laborers to leave other employers. This is the effect of an increase of capital in case there is no considerable body of unemployed. If there is a large number out of work, there might be a considerable increase of capital before wages would begin to rise.

The height to which wages would rise depends upon various conditions, such as the productivity of industry and the willingness of the capitalist class to continue to accumulate capital and reduce their profits.

Under modern conditions, demand for labor is demand for certain grades of labor in certain proportions. Machinery demands labor of different kinds and of varying degrees of skill. In a shoe factory, for example, there is the head manager, a number of foremen, skilled workers of various kinds, and unskilled laborers to do various kinds of work, such as trucking and loading and unloading freight. Moreover, the demand for labor is demand for certain kinds of labor in certain proportions, depending upon the nature of the instruments of production. A machine requires about so much attention, the amount depending upon the character of the machine. More than this number of men in connection with the machine would be a waste of labor. The relative number demanded of the different

grades of labor is not absolutely fixed at any given time, especially of the unskilled laborers. If wages are low, a few more might be used in keeping things a little neater and cleaner, or to do certain things that might be left undone if wages were high. But the limits of such variation in the relative number demanded are very narrow.

Because of these facts demand for labor is often represented as a pyramid. The base of the pyramid is composed of a huge layer of unskilled labor. This labor is found in nearly all industries, but it practically forms one layer of the pyramid, since it can readily shift from one industry to another, and consequently the rates of wages of unskilled labor of different kinds tend strongly towards uniformity. Just above the unskilled workers are several thin layers of semi-skilled workmen. These include laborers without technical knowledge but with valuable experience that greatly increases efficiency. Then come the real skilled tradesmen who have a technical knowledge of their trade, gained either from study or from apprenticeship, or both. In this class might be placed the workers in the building trades, iron moulders, machinists, office help, including stenographers, typewriters and bookkeepers, and a great number who combine manual labor with a considerable amount of mental work. Above these numerous layers come the real brain workers, also in various layers, with the great business managers with high salaries at the top.

121. THE SUPPLY OF LABOR. The supply of labor may not correspond to this pyramid of demand; in fact there has for generations been a strong tendency towards an oversupply of workers at the base of the pyramid and a scarcity at the top. In the first place the labor supply is not readily adjusted to the demand as in the case of an ordinary commodity. If there is an oversupply of an ordinary commodity, production is cut off. But the number of laborers changes slowly, and from the law of Malthus may tend to increase faster than capital. Moreover, since labor is like a perishable commodity, a

decrease in demand for labor temporarily increases the supply seeking employment. When there is an oversupply of labor, competition among laborers forces wages down. If all laborers had to live wholly on their wages, that is, if charity did not supplement wages, the minimum of subsistence would set the lower limit of wages. But since charity is always supplementing starvation wages, there is no definite limit to the fall in wages in the presence of an oversupply.

The reason why the oversupply is usually found in the ranks of the unskilled laborers and never at the top of the pyramid is because there is not free competition among laborers. Over short periods of time there is no direct competition between unskilled laborers and those above them. That is, unskilled laborers cannot compete for the positions of the skilled or semi-skilled workers though the skilled workers may sink into the ranks of the unskilled and compete with them. Over long periods of time there has not been much competition between the unskilled and the skilled. The causes for this are various. The lower classes often do not possess the energy and intelligence to push themselves up and more often they do not have the opportunity, partly because poverty compels them to put their children to work too young, partly because the trade unions limit the number of apprentices that can enter their trade, and partly because the public schools do not undertake to fit pupils to enter the skilled trades, except in the commercial subjects.

There is considerable competition, over long periods of time, among the skilled workers. These classes have more intelligence and more opportunities than the unskilled workers, and they can prepare their children for the different trades. If wages tend to fall in any trade, some parents will prepare their children for other trades that pay higher wages. Hence we find a fair degree of uniformity of wages among the skilled workers. Roughly speaking, the wages of those below the brain workers fall into two sharply defined groups. The better classes of unskilled laborers in the United

States receive about a dollar and a half a day, while skilled workers receive four or five dollars a day and sometimes more.

There is little competition between the real brain workers and those below them. Nature seems to have been niggardly in bestowing real mental power of the higher order. Consequently, we find a few far above the rest receiving princely salaries of $50,000 a year or more, while at the bottom several millions are toiling for a pittance of four hundred to five hundred dollars a year. Mr. J. A. Parks of the Massachusetts Industrial Accident Board recently asserted that statistics show that 19,000,000 working people in the United States earn less than $500 a year. This doubtless includes women and children who are wage earners.

122. THE STANDARD OF LIVING. The standard of living affects wages both directly and indirectly. It affects wages indirectly by affecting the efficiency of laborers. If a high standard of living is maintained it is done to a large extent by limiting the increase in population. Young men who are ambitious to get on well in the world and bring up a family in a proper way usually delay marriage until their incomes are large enough to support a family according to their ideals, and small families is the result. Among the upper classes of laborers this is the prevailing condition, while among the lower grades of labor early marriages and larger families prevail.

The standard of living has several direct effects upon wages. Sentiments of humanity may to some extent check the downward tendency of wages of the lower classes, either because employers themselves have some conscience or because public sentiment shames them into having some regard for the welfare of their employees. Within recent years public investigations have revealed the fact that laborers were not getting a living wage and sharp criticisms of employers by the press and the public have caused a rise in wages. Some states have enacted minimum wage laws, relying on public

sentiment for their enforcement, the only punishment for not paying the rate of wages set by the board being the publication in the newspapers of the names of such employers. Economic motives may help to keep up wages a little, since employers like to see their employees contented.

But all these forces do not seem able to keep wages of the great masses of the lower classes of labor above the standard of decency. If any considerable number of employers disregard sentiments of humanity and force wages down because an oversupply of labor enables them to do so, their rivals must lower wages or be driven out of business. Thus a small portion of the employers who are greedy for large profits may compel more humane employers to violate the promptings of their better nature which would induce them to give the square deal. And it should be clearly understood that there is no economic necessity for paying less than a living wage in these days of machine production if all employers were willing to give their employees a square deal. This would not reduce their profits below a fair rate, because if all producers employing lower grades of labor paid higher wages, they could partly compensate themselves by raising prices, except where foreign competition prevented. A part of the increased wages of the lower grades of labor might come out of the wages of the skilled workers, in case foreign competition threatened to reduce profits below a fair rate, for all are workers for the common welfare and there is no moral justification for one class of labor starving while another class can live in luxury.

123. PRODUCTIVITY. A fourth factor determining wages is productivity. This may mean the average productivity of industry per unit of labor, or the productivity of one laborer as compared with another, or the marginal productivity of labor. Let us consider these three phases of productivity in order. If the productivity of industry is low wages must be low, for the simple reason that if little is produced there will be little to divide among the

workers. If productivity is high the rate of wages may or may not be high, owing to the relation between demand for and supply of labor. If demand for labor is strong in proportion to supply, high productivity will cause wages to be high, because of the force of competition among employers for laborers. But if there is an oversupply of labor, high productivity will not make wages high, because of competition among laborers for work. Hence, we may have the strange situation of laborers starving in the midst of plenty.

Differences in efficiency among individuals is a complex problem and not easy to analyze. Differences in the efficiency, honesty and reliability of individuals doing the same kind of work is fairly easy to estimate, especially among workers below the intellectual groups. These differences help to account for the differences in wages of workers in the same class or trade. But trade union rules often prevent the natural workings of this principle, since the unions demand a uniform wage. This is true both of piece work and time work. Differences in efficiency are more marked as between workers in different grades, but more difficult to estimate. There is no comparison, for example, between the earning power of an efficient railway president and an efficient section hand. A good section hand might be worth two or three times as much as a poor one; a capable railway president would increase the earnings of the company possibly by millions of dollars yearly, while an incapable president would ruin the company. To state this in general terms, the differences in earning power of brain workers are immense while the differences in the earning power of manual workers are comparatively small. Hence, wages of the brain workers may be very high. Usually there is a scarcity of great ability and it can command such salaries only when there is a scarcity. If, for example, railway presidents of the first order of ability were as plentiful in proportion to the demand as section hands are in proportion to the demand, there is no economic reason why the wages of one group would be any greater than the wages of the other.

The more efficient workers can reap the benefit of their superior efficiency only in case of a scarcity of that kind of labor. To put it briefly, laborers of great productive power secure high wages because of efficiency and scarcity.

Marginal productivity is a rather illusive idea. Its meaning may best be seen by an illustration. Suppose a factory employs a thousand workers, and that there are just enough to keep the machinery all running in good condition. If, say, ten workers are added, with no increase in machinery, there may be a slight increase in product, but the amount of increase per man will evidently be much smaller than the average product of all the men at work. This is really another way of looking at our familiar law of production, that the three factors must be used in the proper proportions or diminishing returns result. Thus an oversupply of labor in any group brings this law into play, and wages fall because marginal productivity falls. Before taking on more men the employer estimates what they will be worth to him; and the pay of the marginal men, in the same kind of work, sets the pay for all in the group, because competition forces them to accept the rate offered. Thus from a different angle we reach the same conclusion that where there is an oversupply of labor of any class the workers may starve in the midst of abundance of wealth.

CHAPTER XIV.

Rent.

124. NATURE OF RENT. Economic rent is a surplus gain from a natural agent above the cost of production on the margin of cultivation. "The "marginal" lands cultivated would be the poorest lands, either the least fertile or those most distant from market. The marginal producer is the producer making the least profits, which would be only enough to pay wages and interest on capital, not counting the land as capital. This is the cost on the margin.

The marginal producers would be able to make no more than enough to pay wages and interest because of industrial competition. If profits on the poorest land in cultivation were above the normal rate in other lines of business, capital would flow into agriculture and increase the quantity of the products until the fall in price made profits on the margin of cultivation equal to profits in other lines of business.

Lands nearer market or more fertile yield a surplus above cost of production on the margin because of the greater fertility or smaller cost of getting products to market, and because all producers of the same quality sell in the same market at the same price. Take two tracts of land of equal fertility, one lying near a great market, say Chicago, and the other lying in North Dakota. The same expenditure per acre in labor and capital would yield in both cases the same quantity of product; but if the products of both farms sell in the Chicago market, the farm near Chicago has the advantage over the farm in North Dakota, for the farmer near Chicago would get higher prices than the farmer in Dakota. In this case the differential gain or surplus would equal the cost of transporting the crop from North Dakota to Chicago. If two farms are equally distant from market, the surplus would result from greater fertility.

Why are not the total net profits from the land considered as interest on capital invested? If a man should buy a farm and then

rent it to a tenant, why is not this "rent" money merely interest on money paid for the farm? If population and demand for farm products remained stationary after the purchase of the farm there would be no confusion in calling the income from it interest. But if population should increase we have a different situation. Suppose the population of the country or of the world should increase. The increased cost of production on the margin would raise the prices of farm products, and the increase in prices would increase the rental value of the land. Suppose a man buys a farm for $10,000. If the prevailing rate of interest is, say 5 per cent, the farm will rent for $500 a year. If prices double, the rental value would be $1000 a year, supposing no change in the general rate of interest. Thirty years ago land in eastern Nebraska was selling for about $20 an acre, but now the same land sells for $100 an acre; hence if a man bought land in Nebraska thirty years ago he would be receiving five times the prevailing rate of interest on his investment, assuming no change in rates of interest. But in fact the general rate of interest has fallen one or two per cent during the last thirty years. Thus it will be seen that the income from land and the income from capital invested in other industries are governed by different laws.

125. URBAN RENTS. Economic urban rent means the same as agricultural rent, it is the surplus above the marginal gains from a natural agent. We must, as in agricultural rent, exclude capital such as buildings and improvements. Rent is the return from the land only. In ordinary usage we may speak of renting a house; but in economics we must distinguish between the land, which is a fixed quantity, and capital which may be increased at will. As population increases in a city it is not the value of the buildings that increases but the value of the land.

The rent of business establishments obeys the same laws that govern agricultural rents. Agricultural rent is governed by the fertility of the soil and location. Urban rent is governed by location

alone. Take for example, the "Loop" district of Chicago or the down town district of New York City. A business establishment in either of these localities will rent for many times as much as it will in the outskirts of the city, because of the advantages of the location. The cost of the building would be the same whether erected in the down town section or on the edge of the city. It is perfectly clear, therefore, that the land is the essential element that gives rise to differences in the earning power. In residential districts property rents for more or less according to location.

126. RENT NOT A CAUSE OF HIGH PRICES. High rents do not cause high prices. This seems an absurdity at first sight, since nothing looks clearer than the statement that the rent enters into the cost of production. But the causal connection is just the reverse of that commonly supposed to exist, for high rent is the result of high prices. Prices are determined by the cost of production on the margin and whatever increases the cost of production on the margin increases rent. Society is therefore not injured because the owner of a valuable tract of land gets high rents, but it is injured by the forces that increase the cost of production on the margin.

127. RENT AN UNEARNED INCOME. From what has been said it appears that rent "grows" without any thought or effort on the part of the owners of the natural agents of production. Rent is not the result of labor, but the result of natural monopoly. As there is not enough of the best lands to supply the needs of man, poorer lands must be resorted to, and this causes rent to come into existence, by giving to the owners of the better lands an increased income. Any force which raises the cost of cultivation on the marginal land, or causes poorer lands to come into cultivation, increases the rent on the lands above the margin. Rent is not the result of the bountifulness of nature but of the niggardliness of nature. As population increases and needs more food, poorer lands must be resorted to, which increases the price of agricultural produce, and this increase in price automatically increases the rent on all lands above

the margin.

It is sometimes urged that not all of rent is unearned in case of the pioneer who goes out into the wilderness and brings new lands into cultivation. Part of the rent, it is urged, is reward for the toils and privation of pioneer life. But this toil and privation is the cause of high cost of cultivation on the margin, and in the natural workings of competition is rewarded by high price of produce. It is true that in anticipation of the future increase in the value of the lands in the "pioneer" country too many may take up new lands and unduly increase the supply of produce and depress prices below the normal cost level on the margin. In the early days of the pioneer better days were always expected in the future. For a time, therefore, their rewards were not enough to cover ordinary wages and interest on capital invested. In a sense, therefore, the first rents that appeared when the margin of cultivation had passed beyond these pioneers may be considered as compensation for the low wages and low interest during the pioneer days. But this is a very small part of the economic rent in existence. Lands which cost nothing fifty years ago are now worth a hundred dollars an acre or more, and in such cases the amount of the rent that is due to hardships of pioneer days is too small to be considered.

128. RENT AND THE INCREASE OF POPULATION. We have repeatedly referred to the fact that an increase in population increases rent. It is now time to see just why this is true and to see the effects of it upon the welfare of the human race. As population increases, more food and other products of the land are needed in the cities. To meet the new demands for the products of the land, poorer lands must be brought into cultivation, and this increases the cost on the margin, and the increased cost increases prices, and in cities the increased demand for the desirable location increases urban rents.

It is the increasing prices of products and the increasing cost of a place in which to live that bear ever harder upon the lower classes.

With the increase in population an ever increasing amount goes to the owners of the superior lands. But the owners of the superior lands are not to blame for this increasing cost of living and the increasing hardship which results to the wage earners unless wages rise with rents. But the wages of the unskilled laborer in this country have not risen with rents in the last generation, and in the case of a very large percentage of unskilled workers money wages have actually declined. Thus an increase in population, if it comes chiefly among the lower ranks, naturally places them between two millstones; oversupply of labor depresses money wages and increasing rent enhances the cost of living. If the owners of the superior lands are not to blame for this increased suffering of humanity, who is to blame? Nobody is to blame except those who unduly increase the population and thus increase the cost of production on marginal land. Rent in case of agricultural lands is not the cause of high prices but the result of high cost on the margin. In case of urban rents, the increase is due to a shortage in supply of the best sites, and the owners of them are not to blame if there is an increased demand for them.

129. THE SINGLE TAX. Considering the ill effects of increasing rents, Henry George worked out a theory of taxation which may be briefly stated as follows: The product of a man's own labor is absolutely his and the state has no right to tax it. Rent is unearned, and the state has a right to take it away by taxation, and a tax on rent is therefore the only justifiable tax. Since all the rental value of land accumulated in past years is due to social forces, society has a right to take it all and not merely the future increase in rents. Most of the poverty of society is due to increasing rents, hence, a tax which takes away rents will relieve poverty.

The first proposition is inadmissable. The state must exist, it must have funds, and it has a right to take from the members of society, who receive the benefits of the state's activity, the funds for its support. The third proposition cannot be accepted. Society has

permitted people in good faith to purchase land, often with their hard earned money, and to confiscate it would be an unjust robbery. The last proposition is only partly true. Increasing rents are only partly responsible for poverty, low wages of the unskilled laborers being the chief cause. Moreover, the taking of rents by the state will not in the least lower the rents and will therefore relieve poverty only in so far as other taxes would be abolished. It is strange that the advocates of the single tax imagine that rents are to be lessened by taxing them. It is possible that the price of lands held for speculative purposes, especially city building lots, would fall in value. But it is not possible that true economic rent will be lowered by taxing it. Agricultural rent is determined by the marginal cost of production, which would not be affected by a tax on rent, because marginal land pays no rent. The single tax would simply give the rent to the state and would not destroy it.

About all that can be said in favor of a tax on rent is that it is an excellent source of taxation, among other kinds of taxes. It does not appear reasonable that real estate should pay all the taxes and the great corporations go free. As a special tax for cities, a tax on urban rents is being favorably considered in several countries, and land taxes, levied on rental values, is also coming into use. On the whole, though most of Mr. George's theories are not to be accepted, he has nevertheless pointed out an excellent additional source of taxation.

CHAPTER XV.

Interest.

130. NATURE OF INTEREST. Interest is the reward of capital and springs from the advantages of the capitalistic method of production. Capital multiplies many fold the productive power of man. It is estimated, for example, that machinery for spinning and weaving cloth has multiplied man's productive power three hundred fold, not counting the labor of making the machinery. The modern railway multiplies efficiency many fold. But the owners of capital do not reap all the advantage, because competition among the owners of capital compels them to share the advantage with consumers. Interest, therefore, is not what capital earns for society but what it earns for its owner, which is much less than what it earns for society.

We have seen that rent is not a uniform rate received from all land, but a variable amount. Interest, on the other hand, tends towards uniformity in the same community. Where there is no element of risk, interest received on capital loaned is quite uniform in the same locality. This is because free capital in the form of money or credit is the form in which capital is loaned, and it is homogeneous. Capital goods in which money is invested is not homogeneous nor does the concrete capital in different forms earn the same amounts, necessarily, though competition, where it exists, has a tendency to reduce the earning power of all capital to a uniform level. For these reasons we may speak of an average rate of interest. In this respect the earnings of capital are similar to the wages of labor of the same grade.

131. THEORIES OF INTEREST. There are several theories of interest, three of which should be briefly considered. One is the abstinence theory, which holds that interest is the reward of abstinence. The accumulation of capital is looked upon as a disagreeable process, in which one foregoes present pleasures with the hope of increasing future pleasures. A similar theory is that interest is the

reward of waiting. The Socialists ridicule these theories. Imagine, say they, the Goulds and Vanderbilts and Carnegies pinching and saving and undergoing great hardships in increasing their capital. But it is a sufficient answer to the Socialists to point out the fact that not all capital is saved by millionaires but a considerable portion is saved by the middle classes who do forego many present pleasures, and not a little is saved by the poorer classes as is proved by savings banks and insurance companies. A third theory of interest is the productivity theory, which holds that interest is paid because of the productive powers of capital.

All of these theories are incomplete and not all of them are looking at interest from the same point of view. The abstinence theory, especially in the hands of modern writers, is an attempt to justify the payment of interest. The productivity theory, on the other hand, is an attempt to explain why interest is paid and what determines the rate. Each class of writers sees a certain amount of truth. Each of the forces, abstinence, waiting and productivity, plays a part in explaining both why interest is paid at all and how much, and at the same time all these factors together afford a sufficient justification for the payment of interest. Whatever hardship is involved in saving tends to lessen the amount of capital, which in turn affects its earning power, as we shall see later, and people save because capital has power in production. From the borrower's point of view interest is paid on capital only because it is productive and its earning power determines wheat the borrower is willing to give.

132. DEMAND AND SUPPLY. The forces determining the rate of interest are demand and supply and productivity. Demand and supply are relative, as in the case of demand and supply of goods or labor in the theory of prices or of wages. As demand for capital increases, the rate of interest rises, because the owners of loan capital take advantage of the situation as the owners of ordinary goods do under like conditions. Competition among those who wish to borrow capital sends up the rate of interest just as competition among buy-

ers forces up the prices of goods when there is an increase in demand. A decrease in demand lowers interest because owners of capital then compete with each other to keep their capital all loaned.

An increase in the supply of capital also brings increased competition among owners to keep it all invested and the rate of interest falls. An increase in the supply of capital affects the earning power of capital, and this leads to the third great factor determining the rate of interest.

133. PRODUCTIVITY. The main factor determining the rate of interest is the productivity of capital. Productivity is the main factor because it directly determines what borrowers can afford to pay and thus affects demand, and productivity also determines indirectly the supply. The greater the productivity the greater the accumulation of capital for the future, and the rapid accumulation of capital will in time reduce the rate of interest. Thus there is a very intricate interplay of forces.

Productivity of capital may mean at least three different things. It may mean (1) the advantage gained by society from the use of capital as an instrument of production, (2) the productivity of industry as a whole, (3) the marginal productivity of capital.

Let us consider each of these in order. As stated above, interest is not measured by the labor saving power of machinery, because of competition of the owners of the machinery. If, for example, a man invents a machine that will do twice the work of the old machine, he can retain nearly the whole advantage of the new machine if he can secure a monopoly of its use. Thus our patent laws often create millionaires. But when the patent expires others use it and the price of the article made by the machine falls until capital invested in it makes about the rate prevailing in other industries, because so long as interest in one field remains above the average rate capital will pour into the field and increase the supply of goods, and the laws of consumption bring down prices. Hence, the productivity of capital in this sense does not govern the rate of interest. The own-

ers of capital, however, are benefited as consumers by the improvement in the efficiency of capital, since they get their goods cheaper and thus enjoy what economists have called consumers' surplus.

Productivity of capital may mean the productivity of industry as a whole, meaning the efficiency of the three factors, land, labor and capital. In a new country with rich virgin soil and rich mineral deposits, the rate of interest may be high. But it will not necessarily be high. If laborers are scarce, wages may absorb most of the special advantages of that country over others, and in that case interest would not be especially high, though it would be apt to be above rates in older countries, because of the relative scarcity of capital. In the latter case both wages and interest would be above rates in other countries less favored. Thus general productivity has an effect upon the rate of interest, though the productiveness does not exactly measure the rate, since capital may have to share with labor the advantages of the rich natural resources.

But the rate of interest is measured by marginal productivity, which, as in the case of labor, may not correspond at all with the general productivity of industry. Let us take an illustration. Suppose one railroad could easily handle all the traffic between two places. If another railroad is run parallel to it and gets half the traffic, each road will have its earnings reduced by at least one-half, and probably more, owing to the law of economy in large-scale production. If competition should reduce the rates, earnings would be still further reduced. Again suppose there are ten shoe factories in the community and that they are able to supply all the shoes wanted. If another shoe factory is set up, each factory will have smaller sales and prices will also be reduced. If the increase in capital is general and labor is not increasing as rapidly as capital, the law of proportionate use of the three factors would come into play, and each additional "dose" of capital would find it harder to wedge its way into the industrial machine and its earning power would constantly be reduced, because the two factors, labor and capital, would be more

and more out of proportion. This would mean and increasing demand for labor, with a consequent rise of wages. Thus as capital increases, labor remaining the same, the earning power of capital falls for three reasons, (1) the fall in the marginal productivity, considering merely the physical product, (2) the fall in prices of products, (3) the rise in wages.

To summarize, we may say, briefly, that the rate of interest depends mainly upon the marginal productivity of capital, which is determined by the productivity of industry and the relation between the number of laborers and the amount of capital.

134. LONG- AND SHORT-TIME LOANS. Long-time loans do not depend upon the amount of money in circulation, because the earning power of capital does not depend upon the amount of money. This is true except in the extreme case where money is so scarce that industry is hindered. Under such conditions an increase in the amount of money would stimulate industry and make it more productive and the rate of interest would rise. The common notion is, however, that an increase in the amount of money lowers the rate of interest because it decreases the demand for capital. Demand is not merely for money, however, but for the instruments of production. And the rate of interest depends upon the demand and supply and marginal productivity of capital, meaning the concrete instruments of production. An increase in the amount of money would not increase or decrease the number of tools and machines nor make them more productive, except in case society was experiencing a money famine, such as it experienced in the Middle Ages. Under ordinary conditions, therefore, the rate of interest does not depend upon the amount of money, for long-time loans.

For short-time loans, however, the case is somewhat different. If loan capital, either money or credit, is temporarily scarce, owing to some disturbance in the money market, business men will experience difficulty in securing their accustomed loans from banks, and if they cannot get loans their business may be disarranged. Under

these conditions the rate on short-time loans will rise. And the rate may go far above the ordinary rate on long-time loans, because men may lose more by failing to secure a loan to help them out of a tight place than they would lose by paying high interest charges.

135. THE JUSTIFICATION OF INTEREST. The payment of interest has been assailed as unjust by many writers of all ages from the time of the Ancient Greeks, and early Christian nations forbade the payment of interest. The ancients attacked the payment of interest on the ground that money is barren. This idea arose partly because money was usually borrowed not for productive operations but for indulging in leisure, and partly because capital in the modern sense hardly existed. The early Christian writers assailed the payment of interest both because money was considered "barren" and because it was deemed a breach of brotherly love to charge a man interest.

The Socialists hold that the payment of interest robs labor. The capitalist is considered a social parasite who gathers where he has not sown. In the view of the Socialists, labor creates the whole product, capital and all, and that the whole product, therefore, belongs to labor. Much depends upon what is meant by labor. It is quite true that capital was created by the efforts of man, and in that general sense labor created capital. But there is more than physical labor required to create capital. As we have seen in a previous section, the creation of capital requires three distinct processes. First is the mental activity which conceives the ideas embodied in the instrument of production. That is, it had to be invented. Secondly, the ideas had to be embodied in the machine, that is, labor had to make it. Thirdly, in order to direct labor towards the production of tools and machinery, funds must be saved from current income. Present pleasures must be reduced in order to save for investment. It is therefore incorrect to assume that labor alone creates capital. Finally, no one can maintain the proposition that the present labor force of the world created the capital of the world. It was not they

or their ancestors that invented and saved and planned and thus made possible the creation of the capital of the world. If they or their ancestors had thus invented and saved and planned they would have been the capitalist class and would not have been Socialists.

The payment of interest needs no defense. It is a matter of practical utility. No man or class of men is denied the right to invent and plan and save, and because this is done by a comparatively few individuals, the enterprising ones should not be deprived of the advantages which the ownership of capital brings. Without the hope of reward which the ownership of capital brings, it is safe to say that there would be little invention or planning or saving.

No doubt the payment of interest allows a capitalist leisure class to grow up, which in a few generations may become in a sense social parasites, since they live on the interest of past accumulations without contributing anything to society. Also rivalry and the scramble for wealth may become too severe and even unchristian. These are some of the evils which society should endeavor to correct by the inculcation of a higher sense of stewardship and brotherly love.

CHAPTER XVI.

Profits.

136. NATURE OF PROFITS. Profits are the reward of the business manager, and are in a sense a kind of wages. Wages and profits are alike in several respects. Unlike interest, both wages and profits vary widely. Wages range from the mere pittance of $300 or $400 a year to $50,000 a year or more; profits range from zero up into the millions. Both wages and profits are earned, and are therefore unlike rent. Profits are earned, however, only when no monopoly exists. In that case profits are like rent, unearned, as they do not come from skill in management but from arbitrary power to raise prices.

Profits and wages are, however, unlike in several important respects. Wages change slowly, while profits change rapidly, going up in good years and going down in "lean" years. There is a slight tendency for wages to fall also in times of industrial depression, but as compared with the great fluctuations of profits, wages are fairly stable. Wages and profits differ in another respect. Profits, over short periods of time at least, are a residual share, while wages receive a rate stipulated in advance.

This residual character comes from the position of the business manager. He hires the laborers, rents or leases land, and usually borrows a part of his capital, and to laborer, capitalist and landlord he pays a stipulated amount. If his plans turn out well, his profits will be high, but if they do not his profits will be low, or he may even suffer loss. Hence, over short periods of time the manager gets what is left after paying interest, wages and rent. These in brief are the general characteristics of profits. Let us take up some of these points in detail.

137. A RESIDUAL SHARE. Over short periods profits are a residual share or a surplus, because the employer is the buffer, so to speak, between waves of industrial prosperity or adversity on the

one side and laborers, capitalists and landlords on the other. General conditions of demand and supply determine what he must pay for labor and capital and land. Not every business manager borrows capital and rents land; but such a large number do that the rates of interest and the amount of rent is easily determined, at least roughly. Hence each manager can tell roughly whether he is making anything above rent and interest, that is, whether he is making any profits or not, and if he is, how much.

Over long periods of time, however, profits are not a mere residual share, because the manager is a factor in the various bargaining processes. He bargains with his laborers, but he is a distinct factor in the bargain. He is not compelled to pay what laborers ask, regardless of circumstances. Conditions of demand and supply and productivity he knows far better than his laborers, and he is not therefore a helpless victim, but a very active factor in determining what he shall pay. In his bargain with interest receivers he is also an active factor. He knows the conditions of demand and supply of capital and its marginal productivity, on the whole, and he is an active factor in deciding what shall be the rate of loan interest. Even the amount of rent he pays is to a limited extent the result of a bargaining process, though rent is more nearly predetermined by circumstances over which neither party to the bargaining process has any control than is the case with wages or interest. Thus in the long run profits are not determined by accident, but by general economic conditions and the relative shrewdness and strength of the different parties to the various bargains.

138. NO UNIFORM RATE. As stated above, profits vary widely. The figure of the pyramid applies as in the case of labor, though the layers are less sharply defined. The great mass of managers make very little above interest on their capital, and many make no profits at all. A smaller number make fair profits, a still smaller number make large profits and far above all the rest are the great "captains of industry" who make enormous profits. And we here

speak not of the amount of profits but the rate upon the capital invested.

The causes of these differences in the rate of profits are differences in managing ability and differences in the size of the establments. We have already discussed the advantages of large-scale production and all that is necessary at this point is to call attention to them. Differences in managing ability are due mainly to inborn characteristics, though training and experience are necessary to give those powers an opportunity to develop. Great managing ability includes several things, among them being judgment in buying and knowledge of market conditions.

A different set of causes for lack of uniformity in profits is connected with various temporary fluctuations in business conditions. In agriculture and allied industries seasonal changes alternately increase or decrease profits. Changes in fashion also play their part, and the producer who can forecast coming freaks of fashion reaps handsome rewards. Periods of industrial depression affect more widely rates of profits, as such reverses overtake whole communities rather than a few individuals. Then in periods of "boom" profits are high.

139. PROFITS AND INTEREST. As indicated by the previous discussion, profits are not a residual share in the long run, since the employer or manager is one of the factors in the various bargains which determine wages and interest. This suggests a connection between interest and profits. Any industrial changes that make business more profitable enhance first the earnings of the business manager. As the general range of profits tends to rise, loan interest will naturally tend to rise. Those who loan capital keep posted on industrial conditions, and any rise in the earnings of the managers of industry would naturally cause them to demand higher rates, and since lenders of capital constitute one factor in the bargaining process, loan interest would tend to rise. Also the presence of a large number of able managers would cause them to bid against

one another for capital, in order to enlarge their business, and this would cause the rate of loan interest to rise.

On the other hand, a fall in the rate of profits would be followed by a fall in the rate of interest. If managers could not make much the demand for loan interest would not be active and strong and the rate of loan interest would fall. Thus profits and interest tend to rise and fall together, though profits take the lead and the changes in rates of interest follow somewhat tardily.

140. PROFITS AND WAGES. Profits and wages are also connected, but the connection is different from that between profits and interest. As wages fall, owing to increase in the number of laborers, profits rise. Or a sudden improvement in machinery on a vast scale, as during the Industrial Revolution, will throw men out of employment in vast numbers and wages fall. Under such conditions, however, profits are abnormally high. During the Industrial Revolution in England, vast fortunes were made by manufacturers in a few years, while a large portion of the laboring population were on the verge of starvation. Wages may, however, under some circumstances, rise with the rise in rates of profits. In periods of prosperity increasing demand for labor raises wages, while profits also increase.

Since extra high profits of one employer over another are due to managing ability chiefly, it follows that extra high profits do not come out of wages. This is on the supposition that different employers pay the same rates of wages for the same class of labor. Laborers therefore have no just grievance against those employers who by their superior ability are able to secure a larger product. In fact, the able managers are a special benefit to society as a whole, including the laboring men, because they increase the total product of society and thus make possible a larger income to all members of society.

This does not mean that employers generally may not take advantage of conditions of the labor market and depress wages. Under these circumstances increased profits would come out of wages.

141. DISTRIBUTION AND SOCIAL PROGRESS. There are four phases of social progress of the present time that are of vital importance and that deeply affect the distribution of a nation's wealth. These phases of progress are the improvement of the instruments of production, the increase in the size of the business unit, increasing monopoly, and the increase in population.

With the improvement in machinery productivity increases, profits rise rapidly, interest follows more slowly, and, when improvements come suddenly on a large scale, men are thrown out of employment and wages fall. In course of time, however, unless low standards of living among laborers prevent, by keeping the labor market oversupplied, the wants of the community will expand, machinery of the old type and new machinery for supplying new wants will multiply, demand for labor will increase, and wages will rise. Thus the final result may be a rise in prices, interest and wages, all three agents sharing in the increased product.

The increase in the size of the business unit enhances profits, especially of men of the greatest ability, because the larger business unit gives more opportunities for using great ability. This increase in the size of the business unit decreases the number of independent managers, and the employing class becomes more of an aristocracy of wealth. Instead of millions of business managers with moderate wealth, there comes to be a few thousand managers with a few millions of capital and at the top a few scores of men with hundreds of millions. If these vast fortunes are made by real skill in managing legitimate business, the public are not injured, necessarily. If, however, these vast fortunes are made by gambling in stocks or in mismanaging large business in the interests of the few managers, society is injured by the accumulation of such vast fortunes. There is political danger in such great fortunes, also, since a few men might use their vast wealth to corrupt or influence the government to get legislation to help them pile up more billions.

Increasing monopoly is wholly evil. It is not attended with in-

creased efficiency, except in the case of natural monopolies. The result of increasing monopoly outside of the natural monopolies does not increase the social wealth but only diverts an increasing proportion of it into the pockets of a few, to the detriment of all the remainder of society. Monopoly, therefore, must be suppressed when possible, and where suppression is impossible, the monopoly must be either regulated or owned by the government.

The fourth main factor in social progress is the increase in population. This increases demand for food and other agricultural products, the demand is supplied at an increased cost of production which at once increases rent and the cost of living, and the increasing cost of living diminishes the income of all except the landowners. If the increase in population comes largely from the laboring classes, as it invariably does, wage earners will be injured not only by the increasing cost of living but by the fall in money wages, unless the increase in capital keeps pace with the increase in laborers.

The net results of the interplay of all these complex forces are, in the United States especially, (1) a great increase in the wealth of the landowning class, which fortunately is numerous, (2) the growth of fabulous fortunes in the hands of a few, (3) increasing wealth of a relatively smaller number of business men below the multi-millionaires, (4) increasing wages of the workers in the upper and middle portions of the pyramid of labor, and (5) the lower layer of the pyramid sinking into worse conditions than were ever known before in this country. Out of these complex results grow the great social problems of distribution. The problem of monopoly we have already discussed. Labor problems must now be considered.

CHAPTER XVII.

Labor Problems.

142. ORIGIN OF LABOR PROBLEMS. Labor problems are as old as civilization. As soon as division of labor had progressed far enough to create a wage-earning class, trouble arose between employer and employed, and if we had a more complete industrial history of early ages it would doubtless reveal more contests in the industrial world than the few strikes recorded in early history. But long, severe, and widespread warfare between laborers and employers is characteristic only of modern times, and is a result of the industrial revolution of the eighteenth century.

That revolution produced at least four vital changes in the industrial world out of which changes modern labor problems grew, (1) the gap between laborer and employer was widened, (2) the feeling of unrest among laborers was intensified, (3) laborers were gathered together in large groups in cities or in mining camps, (4) strong labor unions sprang into being.

In the handicraft stage employer and employed worked together in the same little shop and both belonged to the same social class. Laborer and employer were not exactly on terms of equality, but there was no great difference between them. As compared with the great lords who dominated society, all industrial classes were very humble folks. The chief exceptions to this were the few merchant princes and bankers who arose toward the close of the Middle Ages. Very commonly employer and laborer were practically members of the same household, the master craftsman furnishing board and lodging to his half dozen apprentices and journeymen. Moreover, the more ambitious journeymen soon became employers themselves, setting up their own little shops. Thus there was no sharp line of distinction between employer and employed. But the industrial revolution concentrated the management of industry in the hands of a few, and the mass of the laborers have no hopes of being

anything but wage earners, the employer belongs to a different social class, and the old feeling of personal friendship between employer and employed has vanished.

Discontent among the laboring classes would naturally increase from these changes. The great body of master craftsmen would feel humiliated by the loss of their industrial independence, and the aspiring among the apprentices and journeymen would feel a like disappointment. If these were the only changes produced by the industrial revolution the struggle between capital and labor might have ended after one or two generations. But the creation of a new aristocracy of wealth would establish a permanent barrier between the two classes and make the struggle permanent. Other changes added to the unrest. The factories were not as sanitary and as pleasant to work in as the little shop of the handicraftsman, and the introduction of the new machinery made the laborer merely a part of the great machine. Under the old system the workman was largely master of his own movements, and the master himself set the pace. Under the new system the great steam engine which runs the machinery sets the pace and the master sits in the office and, from the point of view of the men in the factory, has an easy time. Moreover, hours of work became longer and wages decreased for a time. And even when wages remained the same or slightly increased the workingmen saw their employers becoming wealthy and the feeling grew that laborers were not getting their just share of the increased product.

The third great change was the congestion of labor in great cities. Many of the handicrafts thrived best in the small villages where their raw materials could easily be obtained from the surrounding farms. The great factory, the railroad, and the steamship concentrated industry in a few favored spots, and local markets became world-markets for the great staple products. This congestion of labor fed the growing discontent, for it brought the discontented together and enabled them to talk about their grievances.

Discontent thus became massed in a few spots and gained power by the concentration.

Out of such conditions labor unions developed. Here were all the elements needed to create such unions. Under the handicraft system no strong unions were possible among wage earners, since the more intelligent and ambitious among them expected themselves to become employers of labor. Now no such hope exists, and a genuine class consciousness would develop. The permanent grievances would be common to all and would strengthen the class feeling and suggest remedies. Being in close contact, men could talk over their grievances and plans of action. The old trade gilds of the handicraftsmen naturally suggested unions of workingmen, and trade unionism sprang into life.

143. FORMS OF LABOR ORGANIZATIONS. There are four forms of labor organizations. The Knights of Labor type is an attempt to unite all classes of labor in one great union. The theory was that all wage earners have certain common grievances and all ought to stand together. But grievances are common to call classes of labor only in a general way. In practice specific grievances of one group of workers may be entirely different from the grievances of another group, and other groups may be fairly well satisfied with their conditions. Hence harmony of action is impossible. Because of these defects the Knights of Labor never succeeded in gaining a large number of members and it long ago ceased to exist.

Another type of organization is the trade union, in which members of each trade form a separate union. In the building trades carpenters form a union, bricklayers another, plasterers another and hod carriers another. In the railway industry, engineers, firemen, conductors, and brakemen have separate unions. Each trade has its local union, often a district or state union and usually a national union, so that for certain purposes members of a trade throughout the whole country may act together. They might for example create a national strike fund so that when members in one

part of the country are on a strike they may receive help from the national fund. Men on a strike often receive half-pay from the union. This type of union is the prevailing one in all countries today where labor unions are found.

A third type of organization is the industrial union, in which all those working in a given industry form one organization. This type of union is represented by the Industrial Workers of the World which is a new organization and as yet has comparatively few members. In this form of union all railway employers would form one union, all those in the building trades another; and so on. This type of union is largely the result of certain weaknesses in the trade union. Some laborers feel that the struggle with employers is apt to be more successful if all the employees of any one company, firm, or individual, stand together in one union. If only one group of workers in any establishment go on a strike their places could be filled much more easily than if all the workers go on a strike. By thus standing together the industrial union is a much stronger fighting organization than the trade union. There are some industrial unions not belonging to the Industrial Workers of the World, as in the coal mining industry, in which the United Mine Workers include all classes of labor in and around the mines.

Either of the last two types of union may be federated into a general union of the trade or industrial unions. Thus the American Federation of Labor seeks to unite all trade unions, and some industrial unions. Trade or industrial unions of each city or locality are formed into a local federation and the national unions are joined in a national federation. Owing to the fact that some trade unions have no national organization, local unions are sometimes members of the national federation, and local federations may also be members of the national federation. The purposes of uniting national trade and industrial unions into a federation are various. Representatives of all classes of labor may meet for considering broad general questions such as general aims and the best means of ac-

complishing those aims. Also the federation may aid members on strike.

144. OBJECTS OF TRADE UNIONS. The two main aims of trade unions are educational and economic. Educational activities are mainly the study of economic and social problems by means of lectures and evening classes and the propagation of unionism among the working classes by trade union journals. The American Federation of Labor publishes a paper devoted to the broader interests of labor and many of the national unions publish journals.

The second object or group of objects of trade unions is to improve the economic conditions of laborers. The three main economic aims are to secure higher wages, shorter hours and better conditions of labor. To secure these aims unions seek to influence legislation and to induce their employers to grant their demands. It is the latter line of activities that leads to labor wars, for employers in this country have not yet accepted trade unionism as a permanent thing. The means by which the unions seek to extort from employers the things they desire we must now study in some detail.

145. MEANS OF SECURING DEMANDS. MONOPOLY. The main means employed by unions to get from employers better terms are (1) the power of monopoly, (2) collective bargaining, (3) the closed shop, (4) strikes, and (5) limitation of output.

By forming a union, laborers seek to create a monopoly. Under modern conditions the individual laborer bargains with employers upon unequal terms. Employers are more or less united or have a common understanding as to wages and hours. Where laborers are many and employers few, the individual laborer is practically compelled to accept the terms offered him or remain idle, and if there is the slightest tendency towards an oversupply of labor of any grade wages will be low, hours long, and conditions as to health and safety very undesirable, where the law does not sufficiently provide for health and safety, and it usually does not. If, however, all laborers in any trade unite and agree upon terms which they

will demand of employers the situation is entirely different. If the union is an open union, being open for all in the trade to enter, and if the demands made upon employers are reasonable, the aims of trade unions are laudable; but if the union is a closed union or if demands upon employers are inconsistent with the just rewards of capital then the trade union is a thing which society should suppress. By a closed union is meant one that limits the number of those in the trade. This is the real spirit of monopoly which seeks not the uplift of the laboring class as a whole but selfishly seeks special privileges for the few who are allowed to enter the trade, regardless of the welfare of their fellow workers in other trades.

146. JOINT AGREEMENTS. When monopoly is secured, then the next step is to enter into joint agreements, or collective bargaining plans. Representatives of the laborers and employers meet in convention yearly or at longer intervals and draw up elaborate agreements covering all sorts of questions concerning which there has been or is liable to be disputes, including wages, hours and conditions of employment. The agreement also provides for the settling of local disputes about the application of the rules agreed upon, a common method being to appoint a joint committee composed of representatives of the laborers and representatives of the employer. These are called conciliation boards, or shop councils.

The advantages of this system are manifest. If all establishments had such a system of joint agreements, labor wars would come to an end. The chief possible objection to such a system would be the tendency to create monopolies in lines of business now competitive. All competition as to hours, wages or general conditions of labor being eliminated, competition would naturally be in the direction of lower prices or better goods or service. But regular meetings of employers in an industry would be a very material aid in reaching monopolistic agreements among producers. Joint agreements between employers and laborers are common in Europe but in this country they are exceptional, American employers being

generally hostile to unions. This hostility is due partly to the American spirit of independence, each employer desiring to do just as he pleases without restrictions as to union rules. There are other causes of this hostility, not the least being the desire to maintain profits undiminished; and it seems that in some cases unions abuse their power. Unions often strike for higher wages when their wages are already four or five dollars a day, or two or three times as much as unskilled laborers receive. This is manifestly unfair to society and to non-union laborers, who are usually prevented by prevailing conditions from maintaining unions, the labor market being oversupplied with unskilled labor. An increase in the spirit of fairness on the part of both employers and laborers would materially improve the conditions in the labor world and lessen strife which is so destructive to all.

147. THE CLOSED SHOP. The closed shop may mean a shop closed to union labor or to non-union labor, but generally it means a shop closed to non-union labor. The open shop is one in which both union and non-union men are employed. If the closed shop is connected with a closed union, nothing is to be said in its favor, as it creates a monopoly of the worst kind.

Trade unionists claim that if joint agreements are to be entered into the closed shop is necessary, since laborers must be organized in order to send representatives to joint meetings and to joint conciliation boards. Also they urge that it is unfair to union men to make them bear all the burden of paying the expense of maintaining the union and let non-union men have the benefits of the union.

Various objections are made to the closed shop. It is claimed that it is a means of coercing non-union men against their will, that it robs the American workingman of his natural right to work where he will and for such wages and under such conditions as he may choose to accept. Unionists contend, on the other hand, that such liberty is no liberty at all except that of being a slave, and that the unionist has a right to decide with whom he will work and under

what conditions.

Court decisions on "closed shop" contracts are conflicting, some holding that such contracts are legal and not contrary to the spirit of American freedom, especially freedom of contract. On the other hand, some court decisions go so far as to deny an employer the right voluntarily to enter into such a contract because it violates his own freedom of making a different contract with non-union men. This seems the height of absurdity. This reasoning would destroy all contracts, since a contract restricts both contracting parties in their power to make contracts contrary to the terms agreed upon. All contracts limit our power of making other contracts.

Not a little of the opposition to the closed shop is due to the unfair means used by union men in practically forcing men into the union. The non-union man is made to feel disagreeable in every conceivable way. He is made a social outcast, is called a scab, and all sorts of tricks are played upon him. If the non-union men were won over by persuasion and agreement, trade unionism would seem more desirable at least to the public.

148. STRIKES. When unions fail to secure their demands from employers, the common weapon is the strike. It would seem that strikes are increasing in recent years, though no reliable figures are available. Every year there are hundreds of local labor wars and usually there are two or three on a vast scale involving large numbers of men and the loss in wages runs up into the millions of dollars. During the first half of the year 1913 there were 195 strikes in New York State alone, and 124,573 employees were directly concerned. During the same year occurred the strike of the workers in the silk industry at Paterson, New Jersey. About 25,000 employees were involved and it is estimated that their loss in wages amounted to $5,000,000. In the same year a bitter labor war raged in West Virginia in the coal mining industry, the strike resulting in a victory for the miners, after the loss of over $2,000,000 and 13 lives. In 1914 also occurred the great Calumet copper mine strike

in Michigan, and, most notable of all, the Colorado coal miners' strike.

Men have a legal right to strike. But strikes are usually attended with violence, lawlessness and often murder. Employers import strike breakers, "scabs" the strikers call them, and often employ armed guards to protect the strike breakers. These strike breakers are often professional strike breakers, daring, lawless men, intensely hated by the strikers. The presence of such men and of armed guards, who are often armed ruffians, naturally leads to a conflict with the strikers, and real war follows. Often the state militia are called in to put down the disorders and sometimes the disturbance gets beyond the control of the state militia and federal troops are called in, as in the Colorado strike.

Moreover, the public is seriously injured in other ways by these labor wars. In case of a street car strike the entire transportation system of a city may be paralyzed for months, to the great inconvenience of the people. In a coal strike a coal famine inflicts great hardships and sufferings upon perhaps millions of people. With the present organization of industry, each group of laborers has moral obligations to fulfill, and all are in duty bound to have due regard to the interests of the other workers who are supplying them with their means of living. Hence, laborers should not enter into a strike upon slight provocation. Unfortunately they often plunge into these labor wars when they are receiving much better wages than the mass of the workers and when there is no serious grievance. But the public has rights in the matter. It is because the public has rights that there is a growing demand for compulsory arbitration in labor disputes.

149. LIMITATION OF THE OUTPUT. Another means used to some extent by trade unions to increase wages is to decrease the output per man. To what extent this practice prevails is not definitely known, as no thorough investigation has been undertaken. Employers assert that it is quite prevalent. Sometimes union rules limit the amount of work a member shall do in a day and sometimes a

common understanding accomplishes the same purpose. In some cases the amount of work prescribed by the union or the maximum amount accomplished by a common understanding is not one-half an honest day's work.

The reasons for this limitation of output are mainly two, and these are powerfully assisted by laziness which is characteristic of most people when there is no special incentive to long and sustained hard work. One reason is the effort to offset the tendency of employers to speed up. In case piece wages are paid, employers often select their fastest workman, ascertain the amount of his work, and make the piece rates such that the pace-setter makes only a fair day's wage. This will automatically reduce the rates of the slower workmen below a decent living standard. Another reason for limiting the output is a false theory of wages. Workingmen believe that if each man does less work, demand for labor will increase and the rate of wages will rise.

Is this limitation of output justifiable or beneficial to the laboring classes? In case it is done to prevent the unjust and inhuman practices of speeding up machinery beyond reason or of reducing wages below a decent standard by the selection of a pace-setter, a limitation of the output is commendable, provided it is not carried to the other extreme of reducing the day's work below a fair amount for the ordinary man. If only a few unions limit output it might be beneficial to them by creating a larger demand for that class of labor. But if all workmen should limit the output all would be injured, because high real wages cannot be paid unless there is a large product per man. If fewer things were produced all around, there would be less to distribute, and consequently prices would be higher and real wages lower. Trade unions make two mistakes, first that demand for labor would remain the same if output is limited and second that prices would also remain the same. Thus, when a few trade unions limit the output, they injure all other laborers who consume these products. In this matter we have another illustration

of the need of sound knowledge of economics among workingmen.

150. COMPULSORY ARBITRATION. Out of the disorders and inconveniences to the public resulting from strikes has grown a demand for compulsory arbitration. There is a growing conviction that the public has rights as well as laborers and employers, and we are beginning to realize that production is a social process in which all producers are partners. There is a growing feeling, therefore, that laborers and employers have no moral right to plunge into an industrial war to the injury of the general public unless the situation is desperate, and that public authority has a right and is in duty bound to prevent such labor wars.

In response to this conviction compulsory arbitration has been inaugurated in some countries, notably Australia. Seemingly it has worked well in foreign countries, the success of this new venture by the government being partly due to the power of fixing a minimum wage. In Australia failure to accept the award of the board of arbitration leads to severe punishment by the state.

In this country it would seem difficult to apply the theory of compulsory arbitration because individualism and ideas of personal liberty are firmly imbedded in our national and state constitutions and permeate all our thinking. Any law that would take away the right of laborers to quit work, individually or collectively, or that would force them to work under conditions they did not like would quickly meet a judicial veto on the ground that it violated the state or national constitution. Nor would any attempt to amend our fundamental laws lessening personal liberty in these respects be likely to meet with approval.

Because of these constitutional limitations compulsory arbitration is impossible in the United States. Voluntary arbitration is being applied, however, with some success. The National Department of Labor is empowered to offer its services in case of labor troubles and many labor disputes have been arbitrated. The amended Erdman Act (1913) also provides for a Board of Mediation

and Conciliation which may offer its services in preventing or ending strikes. By this act also a special board of arbitration may be selected, two members being selected by the laborers, two by the employers, and two by these four. The award has no legally binding force, but thus far several strikes have been prevented by this plan of voluntary arbitration. Whether or not voluntary arbitration will become an effective means for preventing industrial warfare in the United States remains to be seen.

151. PROFIT-SHARING. Profit-sharing holds out promises for the solution of the labor problem along different lines from those offered by trade unions. Profit-sharing hopes to increase wages and prevent industrial warfare by uniting laborers and employers in bonds of sympathy and good will. It is a highly altruistic plan which is designed to appeal to the better side of human nature. Trade unionism seeks ultimately to join laborers and employers together through collective bargaining plans; but even in its ultimate form the spirit of contest is present, each side struggling to get the best of the bargain.

The possible advantages of profit-sharing are that the laborers will be interested in the success of the business, will do a fair day's work, and will be more careful and painstaking, and, being thus partners in the undertaking, the spirit of strife will be eliminated. Unfortunately, most employers who have tried the plan are unwilling to give labor a very large share of the profits, and the regular wages still constitute the main source of the laborer's income. Hence, if regular wages are low, the temptation to strike to increase them still remains. It also seems true that most men are stimulated more by the fear of the loss of their position than by the reward of a slightly increased wage. Moreover, in times of industrial reverses when profits fall and the share going to labor decreases or disappears altogether, laborers are dissatisfied. On the whole, there seems little prospect of the labor problem being solved by profit-sharing. Until human nature is considerably

changed, profit-sharing will remain a minor factor in the indsutrial world. A few high minded employers, filled with enthusiasm for the scheme, gather around them workmen of superior intelligence and equally enthusiastic and make a success of it. But they are very few.

152. COOPERATION. Another method of solving the labor problem is through productive cooperation among laborers by which the employer is eliminated. The cooperative movement, started in England a century ago, held out high hopes to the laboring man. By becoming their own employers laborers expected to get regular wages plus the profits of the employers. Many attempts were made to establish cooperative work shops, but they universally failed, chiefly because of the difficulty of securing sufficient capital and able management and the feeling among the workers that they were owners of the establishment and each man was his own boss, which feeling prevented effective organization and direction of the workers. Finally a new plan was devised known as the Rochdale plan, by which laborers cooperated in buying the goods for their final consumption, that is, they set up retail cooperative stores. In 1844 a little store was opened on one of the back streets of Rochdale, England, on the cooperative plan. Goods were sold at regular market prices but member customers received dividends from profits, dividends being in proportion to amount of goods purchased. The plan succeeded and other cooperative retail stores sprang up all over England and Scotland. Then retail stores combined and established wholesale stores, and the profits of the wholesaler were saved by the members of the retail stores. The cooperative idea was applied still further by the wholesale stores combining to establish factories to save the profits of the manufacturer. As a result of this movement the majority of the working men in England and Scotland buy the majority of their goods at their own cooperative stores and thus reduce the cost of living about twenty or thirty per cent. In order to do this, it was found necessary to establish the principle

that no employee can have any voice in the establishment in which he works, though he may have a voice in the management of other establishments in the great cooperative system.

This cooperative plan has spread to other countries of western Europe and is slowly beginning in this country notably, in the Northwest among the Scandinavian elements who brought the idea from their native lands. Other forms of cooperation are also spreading, but these are among those already producers, not laboring men. In fact most of the co-operative enterprises in the United States are not connected with the laboring classes and are not solutions to the labor problem. Farmers have established cooperative creameries and elevators, fruit growers have established cooperative marketing, and other enterprises are springing up. Unfortunately these undertakings are intended to enhance the profits of farmers and fruit growers not only by introducing better marketing methods but by artificially raising prices. Instead of being a solution of the labor problem the American cooperative movement is partly detrimental to the laboring classes.

Cooperation among laborers seems to have its limitations, among them being lack of capital and skilled management. The great cooperative stores, mills, and factories of Europe are run with much ability, but they confine themselves to the great staple products which have a wide demand and where the freaks of fashion play little part. At most, cooperation seems able only to make wages go a little further, and if wages are very low cooperation does not solve the labor problem.

153. LABOR LEGISLATION. One of the means employed by trade unions and their friends to secure better conditions of labor is to influence legislation, and the trade union world seeks not only to elect men favorable to labor but to influence legislation by the same means capitalists employ, lobbying. Thus far state laws have attempted to compel employers to provide for the health and safety of their employers, and in some trades where unions are strong these laws are fairly satisfactory. But in some cases, as in coal

mines, much is yet needed in this direction, the loss in life being much greater than it need be. In industries in which there is no strong union, conditions are far from ideal, and some of the garment making establishments and similar industries are regular fire traps.

One topic receiving much attention of late is the reform of employer's liability laws. The old liability laws were based upon the theory that employers were not liable to pay damages for the injury or death of employees unless it could be proved that the employers were directly to blame; and the injured person or his family must bring suit against the employer. This imposes a hardship on the laborers, for lawyers' fees are heavy and in many industries where jurors are mostly employees of the defendant or of his friends, the injured party is apt to lose his case because jurors are afraid to bring in a verdict against their employers. As a consequence, the usual decision is, unavoidable accident. But there is a growing feeling that this situation is unjust and that liability laws should automatically give compensation for injuries without the laborer having to bring suit, and that if employers wish to contest the payment of damages on the ground that the accident was the result of willful negligence of the employee, they must do so at their own cost. This growing feeling that liability laws should be thus reformed springs from the belief that the dangers of modern industry should be a general charge upon the cost of production to be born by consumers and not by the families of the injured or killed. A few states are amending their employers' liability laws in this direction.

Thus far little has been done by legislation to limit the hours of labor or to raise wages. This is partly due to the theory of freedom of contract, previously referred to. But the freedom of contract of the individual laborer is a fiction because of several peculiarities of labor. First, the laborer and his product are inseparable and hence the laborer must often accept very undesirable condi-

tions or not work at all. In the second place, labor is a perishable commodity, so to speak. It cannot be held in reserve and sold later at a better price, for a day's labor lost is lost forever. In other words, the laborer must constantly work or his income ceases. In the third place, the supply of labor is not readily adjusted to the demand, as in the case of an ordinary commodity; hence an oversupply may force wages down. But in spite of low wages, long hours or unsatisfactory conditions the laborer must work or beg or starve, and many nearly starve when they do work. Hence the theory of the freedom of contract is a fiction.

This old fiction, however, together with our individualism, has thus far prevented our lawmaking bodies from aiding labor by limiting hours or raising wages. In a few cases laws have been passed and sustained by the courts limiting hours of labor in certain industries where long hours endanger the health of the laborer or the safety of the public. Limitation of hours of railway train crews is an illustration of the latter kind of laws. Our courts for many years were more conservative than legislatures and many laws designed to benefit labor and protect the public were declared unconstitutional because they violated the freedom of contract. Of late years, however, under severe criticism of the press our courts are taking more progressive views and are sustaining many kinds of laws that were formerly declared unconstitutional.

CHAPTER XVIII.

Socialism.

154. SOCIALISM DEFINED. Socialism represents the radical element of discontent and the remedy offered for the ills of society is the most radical known. What socialism proposes is (1) public ownership and management of all productive property, (2) public management of the distribution of the social income, and (3) private ownership of incomes and consumers' goods purchased with wages received. In other words, there is to be no private business. Private property in many things will exist, but no one can engage in business for commercial gain. Some inequality thus would be allowed, for accumulated durable property such as houses might be handed down from one generation to another. But all would be servants of the state and all would have to work for a living, until the old age limit would be reached, for no matter how much property one might inherit, it could not be used to gain a profit, though it might be sold and thus squandered.

155. ORIGIN AND GROWTH. The Industrial Revolution produced modern socialism. Ideas of socialism are as old as Greek civilization, but until the nineteenth century these ideas were held by a few only. But the socialism of the present is a mighty force. The same conditions that produced trade unionism also produced socialism, the more conservative among the discontented placing their hopes in the strength of union among laborers to secure what they desired; the more radical among the discontented turned to socialism and proposed to abolish the distinction between employer and employed.

Rapid growth in political power dates from about 1830, in European countries, the mass of the people having little power before that time. In some countries the socialists are the strongest party in the legislatures, but in none have they yet secured a majority. Their numbers are rapidly increasing, however, their voting strength

in the 27 leading nations rising from 10 millions in 1913 to 11 millions in 1914. In the United States the movement is also growing, the socialist strength being represented by a million votes. Among our working classes there is a strong leaning towards socialist doctrines, and many are really socialists who do not call themselves such. The most active branch of the socialists in this country are the Industrial Workers of the World. Their leaders are constantly watching for a chance to stir up strife between laborers and employers, and some of the most important strikes of the last two or three years have been conducted by the I. W. W. Their motto seems to be, strike whenever you can and as long as you can, and thus wear out the employers and make them glad to turn over their capital to society, thus inaugurating socialism. This brief view of the growth of modern socialism will show us the extent of the movement and the grave problem presented to us. That problem is, Shall we tear down our industrial structure and build it all over again? We must answer that question one way or the other, for the movement is upon us.

156. CHARGES AGAINST CAPITALISM. There are three serious charges socialists bring against capitalistic society, (1) the laboring men are robbed of a large part of their product, (2) this leads to a perpetual struggle between capital and labor, and (3) capitalistic production is planless and wasteful. These charges are bound up with the socialists' theory of modern economics. They hold that labor, being the only active agent, creates the whole product. Capital helps to be sure, but, they say, since labor produces the capital, the whole product is due to labor. The present organization of industry robs the laborer of most of his product, and the two chief robbers are the rent receiver and the interest receiver, because they are purely economic parasites, since neither contribute anything to society. But since they own two of the instruments of production they can levy tribute upon the remainder of society. The employer or profits receiver also robs labor by the

"iron law" of wages. This iron law, is, briefly stated, the law of Malthus. The increase in population constantly keeps wages down to the minimum of subsistence, no matter how much power man gains over nature. Hence the laborer is always on the verge of starvation while the rich are growing richer.

But laborers are becoming more intelligent through universal education and are beginning to recognize their rights and are struggling to secure a larger share of the product. This struggle is bound to last as long as capitalism lasts, because the three robbers wish to maintain their aristocratic positions and will always refuse to give the laborer even a fair share of the product, and on the other side, the growing intelligence of labor will make it more powerful and more unyielding in its demands. Thus the struggle will continue until capitalism is abolished.

In the third place, say the socialists, the present system is planless and wasteful. The producers merely guess at the amount needed by society, each producer struggling to sell all he can. No one plans the production so as to meet all the needs of all the people. In marketing there is again much waste in advertising, in cross-shipments, in retailing.

157. CRITICISMS. There is no doubt of the fact that there is much truth in the socialists' charges against modern industry; but parts of their theory are false and the remedy they propose may be like jumping out of the frying pan into the fire. In the first place, it may be true in a sense that labor produces the whole product, since it produces the capital and gets the land in shape for production. But that is a different proposition from what the socialists mean, which is, that the wage earning classes produce the whole product. Saving is an essential part of the process of creating capital; but the wage earners have not been the ones who have saved, else they would have been the capitalists and landlords. Also, the work of management is as truly productive as manual labor, and wage earners cannot claim that the active capitalists, the employer,

does not produce a part of the product. It is not true, therefore, that wage earners create the whole product.

In the second place, there is no iron law of wages. The socialists have misinterpreted the law of Malthus. By the right interpretation of that law man is master of his own destiny. If laborers will but use good judgment there will be no oversupply of labor; and the middle and upper ranks of labor have enjoyed a considerable share of the improvements in modern industry. With proper education, general and industrial, the oversupply of unskilled labor will be checked and the present degraded condition of unskilled labor will be improved.

In the third place, labor wars will not necessarily continue. In some countries where the state has stepped in to regulate these wars they are becoming a thing of the past. If society can take over the whole industrial process, production and distribution and all, it surely can superintend a part of the process when things are not running smoothly.

In the fourth place, there is plenty of industrial waste. But in this struggle to satisfy the wants of society lies the progress of the race along industrial lines. Much of the waste may be eliminated by wise social cooperation. By good banking systems panics can be minimized; by proper regulation of monopoly, including the regulation of prices, much harm can be prevented, still leaving room for private initiative. More social control may prove effective, and render unnecessary the radical remedy of socialism. Even now the marketing problem is being attacked and on every hand the spirit of cooperation and helpfulness is beginning to get possession of the governments of the world, and there is no reason to believe that society cannot cooperate to correct social ills as well under capitalism as under socialism, without encountering the dangers of government ownership and management of every industry and without losing the advantages of private initiative and enterprise.

158. SOCIALIST PRODUCTION. It would appear that social-

ists propose to retain the general organization of productive enterprises now existing, but they will be directed by committees or commissions of the government. The hiring of labor, deciding what to produce, how much to produce and prices to charge must all be determined. Now the question arises, Will everything run smoothly, or will there be more trouble for society under socialism than under social control of private industry?

The first suggestion that arises is, Who will decide what each man shall do in this industrial Eden? Will each man decide for himself or will the government decide for each man? If each man decides for himself the government will be confronted with the problem of finding work for men when it does not need them, for there is no assurance that the number choosing a certain line of work will be in proportion to the number needed. In that case the government would be forced to take all who offer themselves, for under socialism the government would be absolutely compelled to employ all who want work, and that includes all but the young or the aged, for there is to be no private business. And suppose men "soldier on the job?" Who is to compel them to work? On the other hand, if the government decides what each man shall do, the thing reduces itself to slavery.

It is necessary to point out the marked difference between government ownership of a few industries and government ownership of all industries. In the former case the government is under no obligation to employ all who offer themselves, but it can select whom it wishes, at wages measured by prevailing rates in private business, and if employees prove really unfit, they can be dismissed.

Before we adopt socialism it will be well to think seriously of these matters and decide whether or not the remedy offered for social diseases may not make those diseases worse or else bring other and more serious disasters upon us. Until it can be shown that the majority of mortals are unselfish, strictly honest, and anxious to work for the general welfare, socialism will not improve the

material welfare of the race; and when the time comes that most men are ideal men there will be no social ills for socialism to remedy.

159. SOCIALIST DISTRIBUTION. Socialists are not agreed on their plan of distribution, that is, on their wage scale, but several plans have been suggested. One is equal pay for all. This plan would manifestly be disastrous, for it would offer no reward for superior merit or ability, and hence the spur to advancement of society would be lacking.

Another plan is pay in proportion to needs. But what is the test of needs? If it is the size of the family, the increase in population would ere long impoverish the whole race.

Others advocate pay according to merit. Theoretically this plan looks workable. But what is to be the test of merit? According to present day standards among day laborers, mental labor is ranked little above manual labor. Unless mental achievements are rated above the physical, the progress of the race is doomed, for if mental effort is not rewarded above the physical, and considerably above it, few will struggle through the years of study necessary to prepare for high intellectual work.

Thus when we look closely at the plans of distribution offered by the socialists we see that each has its serious dangers. And so many possible dangers are presented by socialism that it would seem unwise to adopt it until we have more thoroughly tested less radical means of curing the evils in industrial society.