ELEMENTS OF POLITICAL ECONOMY

LAUGHLIN

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WITH SOME APPLICATIONS TO QUESTIONS OF THE DAY

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TO
HENRY ADAMS
PRECEPTOR AND FRIEND
A
TRIBUTE OF GRATITUDE

PREFACE.

THE public questions of our day in the United States are deeply affected by economic considerations, and yet the training of mind adequate for an intelligent decision upon economic problems has been very slight. No one who looks into the future can escape the conviction that our national prosperity will depend in no slight degree upon the diffusion of satisfactory economic and political education. There is good reason to suppose that public questions and the economic principles which underlie them can, if properly presented, be understood by the average American youth, whose education is restricted to the high-school or the academy, and it is the youth of the present who are to give direction to our national policy.

This book addresses itself to the task of presenting in a plain and simple form the elementary principles of political economy. The main topics are treated; the fundamental principles are emphasized; but no effort is made to produce a de-

tailed and exhaustive treatise. A pupil will not become an economist by studying this book alone. An attempt has been made, however, to present the different branches of the subject in their just proportion and symmetry, so far as the limits of the volume permit.

It has seemed to be an important part of an elementary treatise on economics to make applications of principles to the leading questions of the day. For this reason such topics as Socialism, Taxation, the National Debt, Free Trade and Protection, Bimetallism, United States Notes, Banking, the National Banking System, the Labor Problem, and Co-operation, have been treated in a brief and simple manner in Part II.

With the assumption that Political Economy is inhuman and pitiless, the reader will find no sympathy in these pages, because such a belief is founded on an inadequate understanding of what the principles of a science really are, and principles can not be regarded as having personal qualities. On the contrary, it seems clear that the fundamental principles of economics are, when ultimately analyzed, but expressions of Christian truth. With this conviction, the "labor problem" has been here treated, not as a question to be settled by legislation, but as one to be met by all the forces which make for Christian character and self-mastery.

Teachers may use the book for a long or a short course. When there is time for no more than, perhaps, twenty-five lessons, Part I will be sufficient, as it completes the study of the principles. If a greater number of lessons is desired, selections may be made from the practical portions of Part II. A still more extensive course is possible. The outline here presented may be completed by collateral reading from some of the books mentioned in the reference list.

The questions and problems at the end of each chapter in Part I are intended to stimulate the pupil to think out applications of principles. These questions are not provided in Part II, because its chapters are in themselves applications of principles.

PREFACE TO THE REVISED EDITION.

The present edition is intended to bring the book, both as regards theory and practical data, up to date. The experience of the years since this volume first appeared strengthens the belief that the general principles of political economy can be successfully taught to high school classes. The accomplishment of this purpose requires a statement of the principles so succinct that it will not pass beyond the space allotted to it in an over-crowded curriculum. The temptation

to add more matter has been great; but it has been yielded to only so far as to introduce a discussion of the law of satiety, final utility, and its relationship to expenses of production in the theory of value; an explanation of the industrial system wherein the time element has created a different organization from that of primitive society; an adjustment of consumption to the general economic principles; an enlarged statement of the development of division of labor; and a brief discussion of large production and so-called "trusts."

The clear exposition of a body of principles has always been kept in view, in the hope that the teacher could add the local data which would illustrate each principle as it is taken up. To crowd the chapters of the first part with historical and descriptive matter would, in my judgment, confuse the student, and lead to cramming. As much space as possible, therefore, has been allowed to the work of training in the principles rather than to imparting merely useful information.

J. L. L.

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A TEACHER'S LIBRARY.

General Treatises.

Adam Smith. An Inquiry into the Nature and Causes of the Wealth of Nations (1776). Editions by both McCulloch and J. E. T. Rogers are good.

D. Ricardo. The Works of Ricardo. Edited by McCulloch (1886).

J. S. Mill. Principles of Political Economy (2 vols., 1848, sixth edition, 1865).

J. E. Cairnes. Leading Principles of Political Economy (1874); Character and Logical Method of Political Economy (1875).

A. Marshall. Principles of Political Economy, Vol. I (2d ed., 1891).

S. Newcomb. Principles of Political Economy (1886).

F. A. Walker. Political Economy (1888).

Henry George. Progress and Poverty (1879).

A. T. Hadley. Economics (1896).

S. M. Macvane. The Working Principles of Political Economy (1890).

R. T. Ely. Outlines of Economics (1893).

H. J. Davenport. Outlines of Economic Theory (1896).

C. J. Bullock. Introduction to the Study of Economics (1897).

J. B. Say. Traité d'Économie politique (8th ed., 1876); also translated into English (Philadelphia, 1827).

A.-E. Cherbuliez. Précis de la Science économique (Paris, 1862. 2 vols.).

Courcelle-Seneuil. Traité théorique et pratique d'Économie politique (1858. 2d ed., 1867. 2vols.).

C. Gide. Principes d'Économie politique (3d ed., 1891). Translated into English (Boston, 1892).

P. Leroy-Beaulieu. Traité d'Économie politique (1896).

W. Roscher. System der Volkswirthschaft, I. Grundlagen (20th ed., 1892). Translated into English (New York, 1878. 2 vols.).

G. Cohn. System der Nationalökonomie. I. Grundlagen (1885).

A. Wagner. Grundlegung der Politischen Oekonomie (3d ed., 1892).

C. Menger. Grundsätze der Volkswirthschaftslehre (1871).

E. von Philippovich. Volkswirthschaftspolitik. I. Theil (1900).

G. Schönberg. (Editor) Handbuch der Politischen Oekonomie (3d ed., 1891). A co-operative treatise by twenty-one writers.

TREATISES ON SPECIAL SUBJECTS.

L. Cossa. Introduction to the Study of Political Economy. Translated into English (1893). A summary of books and authors in all periods.

J. B. Clark. The Distribution of Wealth: a Theory of Wages, Interest and Profits (1899).

J. A. Holson. The Economics of Distribution (1900).

F. W. Taussig. Wages and Capital: an Examination of the Wages-Fund Doctrine (1896).

C. Bucher. Industrial Evolution (1901). The translation of Die Entstehung der Volkswirthschaft (3d ed., 1900).

F. A. Walker. The Wages Question (1876).

E. Cannan. History of Theories of Production and Distribution (1893).

E. von Böhm-Bawerk. Capital and Interest (1890); Positive Theory of Capital (1891).

K. Marx. Capital. Translated into English (1889).

W. Smart. Introduction to the Theory of Value (1891).

F. von Wieser. Natural Value. Translated into English (1893).

J. N. Keynes. Scope and Method of Political Economy (1891).

P. Leroy-Beaulieu. Traité de la Science des Finances (5th ed., 1892. 2 vols.).

A. Wagner. Lehrbuch und Handbuch der Politischen Oekonomie. I. Theil. Finanzwissenschaft (3d ed., 1883).

G. Cohn. Science of Finance. Translated into English by T. B. Veblen (1895).

C. F. Bastable. Public Finance (1892).

E. R. A. Seligman. Essays in Taxation (1895).

H. C. Adams. Public Debts (1887).

C. C. Plehn. Introduction to Public Finance (1896).

Tooke and Newmarch. History of Prices (1837–1856. 6 vols.).

E. Atkinson. Report on Bimetallism in Europe. Contains a translation by F. W. Taussig of A. Soetbeer's Materials on the Economic Conditions affecting the Precious Metals (1887).

C. F. Dunbar. Laws of the United States relating to Currency, Finance, and Banking (1891); Theory and History of Banking (1891).

English Blue-Books. Report of the Royal Commission on Gold and Silver (1888).

W. G. Sumner. History of Banking in the United States. In one of four volumes issued by Journal of Commerce (New York, 1896).

C. A. Conant. History of Modern Banks of Issue (1896).

W. S. Jevons. Money and Mechanism of Exchange (1880).

F. A. Walker. Money (1878).

H. White. Money and Banking (1895).

J. L. Laughlin. History of Bimetallism in the United States (4th ed., 1896).

J. J. Knox. United States Notes (1884).

J. S. Nicholson. Money and Monetary Problems (3d ed., 1895).

G. J. Goschen. Theory of Foreign Exchanges (8th ed., 1875).

C. F. Bastable. Theory of International Trade (1887).

W. Hill. First Stages of the Tariff Policy of the United States (Baltimore, 1893).

F. W. Taussig. The Tariff History of the United States (1889).

W. G. Sumner. History of Protection in the United States (1884); Protectionism (1885).

R. E. Thompson. Protection to Home Industry (1886).

R. Mayo-Smith. I. Statistics and Sociology (1895); II. Statistics and Economics (1899).

C. D. Wright. The Industrial Evolution of the United States (1895).

J. Rae. Contemporary Socialism (enlarged ed., 1901).

R. T. Ely. French and German Socialism (1883).

A. Schäffle. The Quintessence of Socialism. Translated into English (1891).

F. J. Stimson. Labor in its Relations to Law (1895).

J. W. Jenks. The Trust Problem (1900).

E. von Halle. Trusts, or Industrial Combinations in the United States (1895).

A. T. Hadley. Railroad Transportation (1885).

D. A. Wells. Recent Economic Changes (1889); Decay of our Ocean Mercantile Marine (1884).

N. P. Gilman. Profit Sharing (1889).

DICTIONARIES.

McCulloch. Commercial Dictionary (new ed., 1882).

Say. Dictionnaire des Finances (1891–1892).

Coquelin and Guillaumin. Dictionnaire de l'Économie politique (1851–1853, 3d ed., 1864), in two large volumes.

Palgrave. Dictionary of Political Economy — the latest (3 vols., 1893–1900).

J. Conrad. (Editor) Handwörterbuch der Staatswissenschaften (1890–1895).

Reports and Statistics.

The "Compendiums of the Census" for 1840, 1850, 1860, and 1870, are desirable. The volumes of the tenth census (1880) are of great value for all questions; as is also F. A. Walker's "Statistical Atlas" (1874); and Scribner's "Statistical Atlas of the United States," based on the census of 1880. The volumes of the eleventh census (1890) are on a large scale, and contain a "Statistical Atlas" (1898).

The United States Bureau of Statistics issues quarterly statements; and annually a report on "Commerce and Navigation," and another on the "Internal Commerce of the United States."

The "Statistical Abstract" is an annual publication, by the same department, compact and useful. It dates only from 1878.

The Director of the Mint issues an annual report dealing with the precious metals and the circulation. Its tables are important.

The Comptroller of the Currency (especially during the administration of J. J. Knox) has given important annual reports upon the banking systems of the United States.

The reports of the Secretary of the Treasury deal with the general finances of the United States. These, with the two last mentioned, are bound together in the volume of "Finance Reports," but often shorn of their tables.

There are valuable special reports to Congress of commissioners on the tariff, shipping, and other subjects, published by the Government.

The report on the "International Monetary Conference of 1878" and the "Report of the Monetary Commission" (1898, H. H. Hanna, Indianapolis) contain a vast quantity of material on monetary questions.

The British parliamentary documents contain several annual "Statistical Abstracts" of the greatest value, of which the one relating to other European states is peculiarly convenient and useful. These can always be purchased at given prices.

A. R. Spofford's "American Almanac" is an annual of great usefulness.

A useful catalogue of Government publications, entitled "United States Publications," is issued by W. H. Lowdermilk & Co., Washington.

PART I.

PRINCIPLES OF POLITICAL ECONOMY.

INTRODUCTION.

CHAPTER I.

WEALTH.

1. Men are constantly laboring to satisfy their wants. The manner in which these wants are supplied is a very curious and interesting process. "Let us take, by way of illustration, a man in the humble walks of life—a village cabinetmaker, for instance—and observe **the various services he renders to society, and receives from it**; we shall not fail to be struck with the enormous disproportion between them. This man employs his day's labor in planing boards, and making tables and chests of drawers. What does he receive from society in exchange for his work? First of all, on getting up in the morning, he dresses himself; but he has himself made none of his clothing. In order to put at his disposal this clothing, simple as it is, an enormous amount of labor and many ingenious inventions must have been employed. Americans must have produced cotton, Indians indigo, Englishmen wool and flax, Brazilians hides; and all these materials must have been transported to various towns, where they have been worked up, spun, woven, dyed, etc. He sends his son to school, and the simple teaching which is given there is itself due to the work of many thousand minds. If he undertakes a journey,

he finds that, in order to save him time and exertion, other men have removed and leveled up the soil, filled up valleys, hewed down mountains, united the banks of rivers, and brought the power of steam into subjection to human wants. It is impossible not to be struck with the measureless disproportion which exists between the enjoyments which this man derives from society and what he could obtain by his own unassisted exertions. The social mechanism, then, must be very ingenious and very powerful, since it leads to this singular result, that each man, even he whose lot is cast in the humblest condition, obtains things every day which he could not himself produce in many ages."*

2. Suppose one man weaving baskets and another working with a hammer making nails. Each person, by making some one thing which other people want, is thus enabled to buy with the results of his own work many of other men's products which he wants. If one makes baskets or nails, which meet the desires of men about him, he is producing wealth. We can see, then, that in the wonderful mechanism of society, men are working to produce wealth, and to satisfy one another's material wants. All the world, so far as they are thus engaged in supplying their material wants, are doing things with which Political Economy is concerned. If men are occupied with other affairs than these, they are not things with which the economist is concerned. For example, if I were to row a long distance merely to see a ship launched, wealth would not result from my exertions. So, also, if I always keep a clear conscience, it may be a very desirable thing, but it is not an economic fact. A discussion as to whether congressmen or the President should appoint to office, is also outside of Political Economy. Thus we see that Political Economy deals only with questions connected

* Bastiat's "Harmonies of Political Economy," quoted by Marshall in "Economics of Industry," p. 1.

with **wealth** and with the satisfaction of material wants. It is distinct from morals or from the science of government. Political Economy does not say what is right or wrong, or how a people should be governed; but it attempts to show what the rules are that control the production, exchange, and distribution of all the wealth which we see in the wonderful industrial system about us. It will first attempt to explain how all this wealth is produced; then how people who make one thing succeed in exchanging it for a variety of other things; and lastly, and most important, how this vast wealth is divided among the different persons concerned in its production.

3. We have already seen that *wealth* is something which satisfies a want. (a) If no one ever wanted a nail, it would not be wealth. No one would give anything for a thing which he did not want. (b) But air and water satisfy wants. Are they wealth? Is everything which satisfies a want wealth? No; because it is not wealth unless there is some sacrifice in getting it. No one would work all day making a basket, merely to give it for a pail of water at evening, which he could himself get for the taking. So, also, air is free to all, and is not wealth. If land or diamonds were as plentiful as air or water, they would not be wealth. If guns were as abundant as blades of grass, no one would economize to get a gun. Consequently, in order to be considered wealth, an article must not only satisfy a desire, but some sacrifice or exertion must be required to get it. (c) Then, also, to be wealth, it should be transferable. A captured eagle might satisfy some showman's desire, and as an eagle is very hard to catch, it would be wealth; but, if it got loose, it would not be wealth to any one. No one would give much for an eagle flying away in the sky. **Material wealth,** therefore, is some transferable thing, for the enjoyment of which we are willing to undergo a sacrifice.

4. But, according to some writers, not all wealth is *ma-*

terial. You can see and touch a nail, a basket, a gun, land, or diamonds. But this is not true of all things. We may work hard at study, in order to gain capacity and mental power, which, when attained, will not only make us better able to produce, but will also give us pleasure. But can you see or touch capacity or mental power? No. You can only know it by its results. Nilsson's power of singing is immaterial, and you can not see it; yet it enables her to give forth songs which delight the world. Is this power wealth? To cultivate this power she has undoubtedly studied and labored, and undergone a sacrifice. If we call this wealth, it is to be remembered that her labor was spent in accumulating something which is **not material wealth.** Of such a nature also are skill, intelligence, and all habits, both physical and mental, which facilitate production. Thus, the skill of a chemist is valuable to a farmer, because it enables him to get more from the soil. But it is to be kept in mind that *immaterial wealth* is not capable of being transferred from one person to another, for others than the one possessing it can not use it. A man having great business skill can not part with it in such a way as to deprive himself of it, and hand it over to a buyer who had none before. Skill can not be transferred to a person as a hat or a coat may. One may tell others how to get skill, but that is quite different from giving it to them.

5. But most people are engaged, directly or indirectly, in collecting *material wealth;* and, as only such wealth can be appropriated and exchanged, we shall be understood as speaking of material wealth hereafter, unless particular mention is made of immaterial wealth. Since material wealth can be passed from one person to another, we see that one can have a right of **property** in it. By this I mean one can *own* it. If you own a gun or a horse, you can have the sole use and enjoyment of it, to the exclusion of every one else. If you own a house, you can do with it

what you please; you can live in it or leave it unoccupied, and no one can interfere with you. If a man makes a pair of shoes, he is the owner, and the shoes are his *property;* then, if he sells the shoes for money, the shoes become the property of the buyer, while the shoemaker becomes the owner of the money he received. Thus, it is seen that material wealth can be exchanged, and that the ownership can be passed from one to another without changing the nature of the article itself or without necessarily destroying it.

6. It is often wrongly supposed, however, that a man's wealth is the amount of **money** he has. We say Mr. A is worth ten thousand dollars, but we do not really mean that he has money in his hands to that amount. We see that he has a lot of land, a house, a barn, horses, or possibly a factory. Of course, these articles of wealth can be exchanged for money; but money is not the only thing which satisfies a desire. In fact, the simple money itself satisfies very few desires. We are not fed, clothed, and sheltered by money itself. We can not eat money; we can not wear it; we can not take shelter under it. Money is only a tool, an instrument, to aid us in exchanging one thing for another. We exchange, for instance, a basket on which we have been working all day for a silver dollar, and then we buy bread with the dollar; but, in reality, we bought the bread with the basket. Money was only a convenience. Money is like a road or a stairway, which allows us to get from one place to another. When we desire to go up-stairs to a chamber, we use the stairway to get there; the stairway itself is not the thing we desire. So with money; we use money only because by means of it we obtain the various kinds of wealth we want. Gold and silver are wealth, but there are thousands of other things which are also wealth. Gold and silver are not the only things which satisfy our wants. Consequently, it is incorrect to suppose that a man's wealth

consists only of the money he has. **Money forms but a small part of wealth.**

7. **Exercises.**—1. Let each pupil write out a list containing a dozen articles which he may see about him, and say of each whether it is wealth or not.

2. Is land wealth? Does it satisfy a desire? Is there an unlimited quantity of it? Can land be transferred?

3. Is a sled wealth? Is the snow on which it runs wealth?

4. Is an ocean steamship wealth? Is a pleasure-yacht wealth?

5. Is the man who is building a pleasure-yacht making wealth? Is the man who sails one making wealth?

6. A ship went down in the Atlantic Ocean, loaded with wheat and flour. Is the cargo at the bottom of the ocean wealth?

7. There are many fishes in the sea. Are fish wealth?

8. Is water ever wealth? How is it in great cities?

9. Is gold wealth to a shipwrecked sailor on a deserted rocky island? Is the gold used to gild a dome of a building wealth? Is a silver spoon wealth? Does a silver spoon satisfy the same want as a silver dollar?

10. Try to make a list of the chief articles which form the wealth of some person whom you know.

11. Is the money in the country exactly equal to all the wealth?

12. Is air in a long railway-tunnel wealth?

13. Is an article wealth simply because it is scarce? How about a mad dog?

CHAPTER II.

THE INDUSTRIAL SYSTEM.

8. The ultimate purpose of industrial processes is the creation of goods which satisfy human wants. The whole progress of the human race is marked with evidences of attempts to increase the output of industry, or to get the same product at a less outlay. The foremost of all methods adopted to increase well-being by increasing the quantity of products available for consumption was **division of labor.** In early times, when each person produced all that he consumed, it was easily seen that consumption was limited by production; of course, no one could consume more than he produced. Indeed, in our day, we have in many rural communities the characteristics of the early period before there was much division of labor; the lack of versatility, the industrial ignorance, the inability to diversify their production is the cause, and measure, of their small means and exceedingly limited amount of consumption; they are able to consume few goods because they are able to produce few goods. To get them out of such conditions, we must have resort to all the means by which wealth is increased, including not only a study of natural resources, and the introduction of capital and machinery, but also an improvement in industrial education and practical skill in production.

9. The ability of human beings to co-operate in efforts for the common advantage is a strong factor in the industrial history of the world. If one man, or one group of

men, produce only wheat; another, only shovels, plows, and tools; another, only clothing; another, only shoes; and so on,—it has been found by experience that the total production of goods by the community is enormously greater than it could have been if each man had been obliged to produce for himself whatever he needed of wheat, tools, clothing, and shoes.

But, while having in view only a greater amount of satisfactions as the outcome of division of labor, the consequence of this process has, in addition, been a striking **interdependence of men** and industries. The shoemaker is dependent on the labor of the farmer and tailor for his food and clothing; and they, in turn, are dependent on him for shoes. While employments are separated, human beings are bound closer together by ties of necessity for articles of general use. Division of labor is but a form of **social co-operation** for the larger good of each and all. An injury, also, to one is felt by the other.

10. This social co-operation, following upon division of labor, may take several forms, although each form has the same object of larger industrial efficiency:

(1) **Separation of Employments.**—Naturally, concentration of mind upon one article, or one occupation, will give either a better quality, or a greater quantity, of goods, or services. When wagon-making alone occupies the efforts of a man, he can make a better wagon, or more wagons, than if he were forced to make shoes, hats, and tools, as well as wagons. When the making of wagons for all those who use them is concentrated into great factories (like those of South Bend, Ind.), the improved efficiency is something marvelous. And the greater the market for wagons,—that is, the more wagons the world asks for,—the greater the gains by division of labor in buying materials, in invention of special machinery and tools, in improvement of shipping facilities, and the like, and the cheaper the cost of each wagon to the community.

In early days in this country the women wove all the cloth worn by the family; now a great number of persons are concerned in the different parts of cloth-making. Instead of one person alone scouring the wool, carding, spinning, and weaving it into cloth, the different parts of the work are now done by different persons, who confine themselves to only one part of the process, and who often know nothing about the other parts. This is one form of "division of labor." One set of men in a mill sort the fleeces, and the different portions of each fleece, into perhaps a score of different sorts of fiber, each differing in length and softness or fineness of fiber, and each best adapted for some one particular grade of yarn or cloth. Another set of men scour the wool by aid of a machine; another dye it; another put it into a machine marvelously contrived so that the wool is carded, or pulled out evenly, with all the fibers parallel; another put it into spinning-machines with rollers which draw it out and twist it into yarn or thread; another watch a complicated loom, by which the threads are woven into cloth with elaborate patterns; another treat it with a peculiar soap in fulling machines, condensing and matting the fibers together, and softening the texture; another put it on a cylinder into which "teasels" (the prickly heads of a plant) are fastened, which pull out the ends of fibers near the surface and comb them all one way, forming a nap; another pass it through a machine under sharp knives rapidly revolving, which shear off the ends of the fiber in the nap to a uniform length, forming an even, finished surface; another measure and pack it; another cart it to the railway. In this system all the energy of the laborer is concentrated solely on one part of the process, and he becomes wonderfully skillful and dexterous with his hands. You can see an illustration of division of labor in almost any shop. In a foundry, one man makes the wooden pattern; another molds; another cleans the castings from sand, and chips off protruding

waste pieces. In an iron-mill, where wrought iron is made one man stirs the melted iron, and carefully burns out certain of the impurities; another directs its course through the powerful rolls which transform the shapeless lump into bar or plate. In a planing-mill, one man manages a buzz saw, another runs a lathe. "Practice makes perfect," the maxim says. A workman who does one thing constantly can become very rapid and accurate. In this way, working together with others, a much greater amount can be produced by division of labor than without it. Five hundred persons, each with a spinning-wheel and loom, doing all the various things to make a yard of cloth, could not begin to make as many yards as five hundred persons, each of whom did only one part of the work. The dexterity of each workman becomes greater, if he is not obliged to shift from one employment to another. "Even a child, after much practice, sums up a column of figures with a rapidity which resembles intuition. The act of speaking any language, of reading fluently, of playing music at sight, are cases as remarkable as they are familiar. Among bodily acts, dancing, gymnastic exercises, ease and brilliancy of execution on a musical instrument, are examples of the rapidity and facility acquired by repetition." *

(2) **Location** of the employment in the best place. Either in the same country, or as between different countries, it will be found that some places are better fitted than others, by such conditions as soil, climate, water-power, or natural resources, for the cheapest production of specified articles.

In the United States, cotton will continue to be grown only in certain southern States, while wheat is best grown in the northwestern States. Likewise, the coal deposits of Pennsylvania, the iron ore of Lake Superior and Alabama, will decide where the great iron and steel industries can be most cheaply conducted. As between different countries. silk will continue to be grown in France; or rubber along

* Mill, *ibid.*, Book I, chap. viii, § 5.

the Amazon or the Congo. If goods be produced in the places best suited for their culture, or manufacture, the output of the world, taken as a whole, will be greater, and there will be more goods for consumption.

Greenland can produce ice for Brazil, and Brazil can produce bananas for Greenland. It would cost a great deal to grow bananas under glass in Iceland, while in Brazil they grow in profusion out of doors—almost as plentifully as seals in Greenland. A gain to the total production of the two countries will ensue when each adapts its labor to the industries best suited to itself, and in which its labor is most efficient and most productive. The climate, the soil, and the minerals given to a country by nature determine whether or not one country has an advantage in certain industries. No country is like another in its natural resources, and no country can produce all things equally well with another. It may have superior advantages in some things, moderate facilities in others, and none at all in others.

(3) Division of labor according to the **ability of persons.** Every person on leaving school, or college, who selects a trade or profession, is illustrating this form of division of labor. Each one tries to find that occupation for which his or her natural and acquired abilities best fit him, or her, for success. One becomes a machinist, another a lawyer or a doctor; one may become a skillful chemist who would be a failure as a lawyer; one may have a genius for invention; another for business management. To the extent that each finds his best place will the joint production of industry be larger than by ill-selected work.

Some parts of production require great strength, while others do not. It would be a waste of effort to make a strong man do that which a weaker man could do equally well. Also, it would be a waste of special abilities to use a man who was clever at figures in watching a machine which scours out the wool. Neither should a man who is a skillful surgeon be forced to break stones in the street, which

any unskilled laborer can do. By separation of employments, people can often find something for which they are peculiarly well fitted. And this generally results in better work, because it is done more intelligently and more cheerfully. In fact, all through society we find this division of labor. The tendency of this principle is to enable each man to produce that of which he can produce the most, and with his products to purchase the other things he wants. A farmer does not make his scythe; he can produce grain with which to buy the scythe, with less expense than he could make one. A lawyer conducts cases in the courts, and thereby saves many persons from the toil of studying the law for themselves.

(4) **Separation of Processes** within an occupation. With an extension of the amount of each article sold comes an opportunity for specialization in making one part, or an auxiliary share, of this article. In originally trying to get bread, an early farmer himself went through all the processes of plowing, sowing, reaping,—and, sometimes, of milling the wheat into flour. But each finished commodity now has a long series of preceding processes leading up to its completion. "At the moment when some laborers are at work digging out ore and coal, and others are transforming ore and coal of earlier extraction into iron, trees are felled at one spot, timber hewn and sawed and fashioned at another; plows are made of wood and iron, fields are tilled, grain is in process of transportation from granary to mill, other grain is ground into flour, flour is carried to the bakery, —bread, finally, is baked and sold."* That is, at any moment, to-day, these operations are all taking place simultaneously, aiming at providing finished goods in the future.

11. The consequence of division of labor is the appearance of the **time element in industry**, between the beginning of the first process and the last one needed to complete the goods for consumption. Most of the labor of to-

* F. W. Taussig, "Wages and Capital," p. 2.

day is occupied in producing goods like ore, wool, cotton, not yet ready for the personal use of consumers; each product is the outcome of the complex and combined antecedent labor of a great number of men.* The work of to-day is preponderantly applied to inchoate wealth, not yet ready for personal enjoyment; but the pay of to-day, the laborers' wages, is necessarily given only out of finished goods. The wages of to-day do not arise from money, but from the stock of goods to-day ready for consumption. Capital is not merely money, but goods. And the work of to-day is paid from the goods which are the results of past labor. So, the function of capital as a means, in the form of present consumable goods, to discount the time element in waiting for goods to be got ready for future consumption, is very closely associated with division of labor. As the latter has grown, capital has become more necessary. Indeed, the marked distinction between modern and primitive industry is the existence in the former of the **time element** in so great a degree.

12. The **Advantages of Division of Labor** are apparent. As already explained (section 10), the increased dexterity results in more or better goods. There is also great saving of time in not being obliged to pass from one occupation to another, and in not wasting effort in the process of getting broken in at each transition. Moreover, when a large demand exists, it is possible to introduce special machinery. Adam Smith thought the making of pins in his day very wonderful, but the machinery of to-day makes his description archaic:†

"One man draws out the wire, another straightens it, a third cuts it, a fourth points it, a fifth grinds it at the top for receiving the head. To make the head requires two or

"The coil of brass wire is put in its proper place, the end fastened, and the almost human piece of mechanism, with its iron fingers, does the rest of the work. One

* F. W. Taussig, *ibid.*, pp. 7–17.

† See David A. Wells, "Recent Economic Changes," p. 59.

three distinct operations; to put it on is a peculiar business, to whiten the pin is another. It is even a trade by itself to put them into the paper. . . . I have seen a small manufactory of this kind where ten men only were employed, and where . . . they could, when they exerted themselves, make . . . upward of forty-eight thousand pins in a day." — Adam Smith, "Wealth of Nations" (1776).

machine makes 180 pins a minute, cutting the wire, flattening the heads, sharpening the points, and dropping the pin in its proper place. One hundred and eight thousand pins a day is the output of one machine. A factory visited by me employed seventy machines. These had a combined output per day of 7,500,000 pins, or 300 pins to a paper, 25,000 papers of pins . . . These machines are tended by three men." — Consul Schœnhof, Report to U. S. State Department (1888).

The division of labor has thus not only vastly increased the amount and quality of goods, but, by creating a demand for special machinery in detailed processes, it has stimulated invention in a phenomenal manner. This, in particular, has brought out the interchangeability of parts. Instead of each part of a watch, a gun, or a locomotive being made by hand, specially constructed machinery now makes each part in unlimited number, and more exact in size and form than they could have been made by hand. Eli Whitney was the inventor of the interchangeability of parts; and now a farmer in Dakota who breaks a piece in his harvester, or plow, can send to the maker in Ohio for the special part, and insert it himself. Firearms are now made cheaper by the same system.

13. The effects of division of labor upon the physical, mental, and social qualities of the race are difficult to appraise. By some the **disadvantages** of specialization are greatly deplored: it is seen that the concentration upon a single act, like the polishing of the heel of a shoe by machinery for days and years, makes of the laborer an automaton; that he becomes narrow, fatigued by the monotony, and incapable of social enjoyment. By others, it is pointed out that the age of machinery has, in fact, vastly improved

the home life of the old domestic laborer (such as the weaver), brought shorter hours of labor with increased wages (because the greater product has allowed higher wages), increased longevity, and enlarged the opportunities for mental and moral improvement.* Then, also, it is claimed that the man who formerly plied a trade is to-day often found in a higher industrial station, while the man who tends the machine of to-day has often been raised from a lower kind of labor formerly.

14. **Exercises.** — 1. Why does not an Indian tribe to-day produce as much as an equal number of skilled Anglo-Saxons?

2. If a shoe factory in a small town in New England were given up, would it produce more widespread disaster to the town than the failure of a single shoemaker at his bench? Why?

3. Point out in your neighborhood an example of separation of employments.

4. Is tea grown in Wisconsin?

5. Why should not a lumberman be a good electrician?

6. Name some by-products from petroleum.

7. How long a time (estimated roughly) elapses between the first step in getting materials and the last operation in making woolen cloth?

8. Do the advantages of division of labor overbalance the disadvantages?

* See Carroll D. Wright, "The Industrial Evolution of the United States" (Part IV).

CHAPTER III.

CONSUMPTION AND DEMAND.

15. The satisfaction of human wants being the purpose of economic production, this personal enjoyment, usually expressed by the word "consumption," demands some careful explanation. Goods are desired more or less according to the inherent qualities they possess; e. g. the peculiar quality of wool fiber gives us satisfaction when used in the form of cloth. This quality of an object to satisfy some desire is called its **Utility**. Utility is always viewed in its relation to human estimates. It is not the same thing as value, because utility is intrinsic in an article, while value is not resident in any one thing. Value, as we shall see (Chapter IX), is a ratio between two objective articles. The utility, or qualities, of goods, moreover, should be carefully distinguished from the goods themselves, which are wealth; sweetness is one thing, sugar is another, — the two are not identical, they are different sorts of things. This distinction will save us future difficulties in regard to value. Wealth must always have utility; but utility may belong to an article which is not wealth.

16. The examination into human wants, or consumption, is an analysis of **demand**; while the concrete method by which these wants are, in fact, supplied by production, lies behind the question of **supply**. In this chapter we shall treat only of wants and demand. The human race is constantly differentiating new wants, — that is the quality

of progress. The primary desires for coarse food and clothing and rude houses, moreover, become practically new wants if directed toward skillfully prepared food and a varied diet, different kinds of clothing, and artistic fabrics, or large and comfortable houses exquisitely furnished. The wants of an Indian are few; the wants of a highly cultured man are many. Men do not grow in civilization unless they are stimulated to new desires strongly enough to be willing to overcome the obstacles of production involved in obtaining the satisfactions for these desires. That is, persons have a demand for goods which satisfy their desires, — but that demand is always limited, not by the desires, which are unlimited, but by the desirable commodities controlled by the one who has a demand. A tramp may desire an automobile, but his desire does not constitute a demand for it.

17. If things — such as air or water — which satisfy certain wants can be obtained without effort or sacrifice, they do not enter into wealth. Any one can have them for the taking; consequently, no one would give for them articles which are wealth. In general, however, almost all goods which we desire can be obtained only by the **economic sacrifices of production**; hence, the limit to consumption is the control over production, or over goods. In short, some sort of scarcity exists relatively to human wants, and this affects supply: some goods, like the pictures of Gainsborough, can never be increased in any way; but most goods, like cotton cloth, can be increased almost indefinitely if one is willing to undergo the efforts of production to obtain them. The supply of most articles of manufacture, and even of agriculture, is restricted by the necessity of meeting the necessary expenses of production. Desires or utility alone do not cause corn to sprout, or coal to be mined. Utility starts men to produce, to get these satisfactions; but what one will give for an article is determined not alone by his desire for it, but also by

the ease or difficulty, estimated in economic effort, in obtaining it.

18. Some writers imply that the estimate put by man on goods is wholly subjective, that is, wholly measured by the strength of the personal desire for the goods. For this reason, a classification of wants has been made, and thereupon a **law of satiety** has been established. In brief, it is as follows: one apple gives great pleasure to the appetite; a second apple gives less satisfaction; and another still less. That is, since wants for a given article are satiable, the utility of the article to the user gradually diminishes as the quantity consumed increases. It should be kept in mind, however, that when it is said that the utility of a commodity diminishes as its supply increases, it means not a mere increased stock in warehouses ready for sale, but an increasing amount actually consumed; for it is only by actual consumption that satiety appears. This law of diminishing utility is frequently illustrated by a mathematical figure: Vertically from AX represent the utility of an article

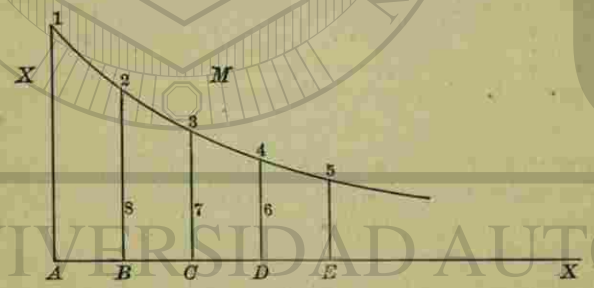


FIG. 1.

M by the height of the line; horizontally on AX represent the quantity of M at different uses by the distance from A.

The first portion AB has a utility of B_2, to the consumer; and the portion BC, a less utility C_3; and finally DE has E_5; while the utility of EX might be nil. If, however, DE be the last unit of supply consumed, the utility of the final

unit is represented by E_5, — and this is named the **final utility** of the commodity M.

Taking AE into account as a whole, the utility of all four units to the consumer — the earlier having greater utility than the later units — may be represented by the area contained bv AE_{51}. That is, the sum of the utility of all the separate units forms the **total utility** of the given article to a consumer, at a given time.

19. By this analysis of utility it can be easily seen how two persons to an exchange can **each gain a profit**, as expressed by parting with something of less utility for something of greater utility. In Fig. 2, contrast the diminishing

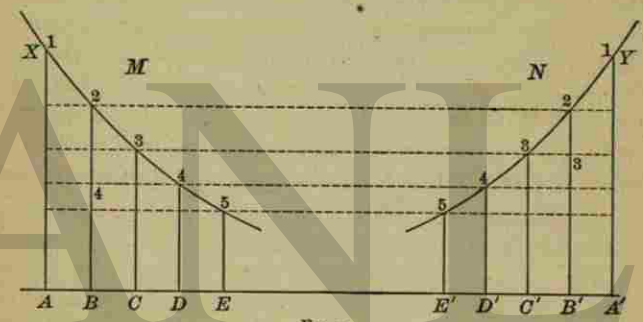


FIG. 2.

utility of article, M, to one man (X), with the corresponding utility of another article, N, to another man (Y), on the same scale rising above the line AA'. It is evident that the utility of any one thing, M, at the same time and place may be greater to one person than to another: One may have bread, but no coat; another may have coats, but no bread. The special conditions affecting each man will cause him to find different amounts of utility in two different things.

Now suppose, in Fig. 2, that X and Y begin to trade with each other in M and N. Suppose that to X the final utility of M is D_4, because he has a quantity of it, represented by the line AD; but that to Y, the final utility of M is B'_2, be

cause he has none of it, and wishes as much as A'B'. Conversely, let us suppose that to Y the final utility of N is C'3, because he has the quantity A'C'; but that to X the final utility of N is B2, because X has none of N, and wishes as much as AB. These are the conditions under which both sides gain in utility by exchanging M and N. For X gives a portion of M, whose utility is only D4, for a portion of N, whose utility to X is B2, and thus he gains 42 of utility by the exchange. While Y gives a portion of N, whose utility is only C'3 for a portion of M, whose utility to Y is B'2, and thus he gains 32 of utility by the exchange. In this manner, we can see by the analysis of demand how fallacious the old theory was which held that there was no gain by trade, and that what one person gained another lost.

Just how much of M will be offered for N, and *vice versa*, is a question of value, to be discussed later (see Chapter IX).

20. In studying "Demand," we shall see that if Y produces N, and if the expenses of bringing it to market may be expressed by C'3, then he will cast up all the subjective sacrifices involved in the production (as expressed quantitatively in the expenses stated in dollars and cents), determine how much the **disutility** is in making, or growing N, and balance that against the utility to him of the portion of M, offered in exchange. If, for any reason, the utility of M to Y declines below C'3, then no exchange will take place; for, evidently, he will not give away something costing him C'3 for another something which will not, to his own mind, cover the sacrifice. But in all trade, naturally, each person seeks to give away that which has the least utility to him for something which yields him a greater utility. Thus we shall see that a limit on exchanging is set by the expenses of production on each side.

21. Demand, moreover, cannot be detached from the possession of goods which others wish. For instance, in Fig. 2, Y would have no demand for X's M, unless Y possessed an article such as N, which satisfied some want of X's; and *vice versa*. In short, demand is not determined solely by utility; but, as utility is the reason why demand exists, **the amount of goods in the possession of any one** (desired by others) **is the measure of that one's demand.** Merely to desire a thing does not constitute a demand for it; demand is limited by the quantity of goods which are offered in exchange. Thus we see, again, how consumption, or the satisfaction of one's desires, is limited and determined by one's control over the production of goods. Thus, demand and supply are but two different ways of regarding the same goods.*

22. One's demand for a particular article may soon be satisfied; but that is a far different thing from saying that one's demand for goods in general can ever be satisfied. When the demand for one article is met, the desires for other and new goods may be unlimited. There will never be any end to the extension of production merely because there are no things wanted; **production has no limit** but in the capacity of labor, capital, materials, etc., to produce goods which are reciprocally exchangeable. As the human race develops, it goes on evolving new needs, and devising new ways of satisfying them. There need be no fear that, in the end, machinery or inventions will throw men out of employment, because machinery is but a desirable consequence of the effort to satisfy more wants, or to meet new ones.

23. In its effect on future accumulations, one kind of consumption is far different from another. The idler, who gets control of goods by inheritance, or by gift, uses up the articles; and during the process nothing else is produced to take their place. This is called **unproductive, or final**

* That is, as Y increases his supply of N (*ceteris paribus*), he increases his means of demanding M, and *vice versa*. In general, the more goods fitted to human needs, the more the demand; general (not particular) demand and supply are reciprocal sides to the same general body of goods.

consumption. But when an artisan uses up coal or raw wool in a factory while making cloth, something of utility takes the place of the utility of the raw materials (usually of greater utility than the raw materials). Hence, when such consumption goes on in industry, we speak of it as **productive consumption.**

24. It goes without saying, that if you can alter the character of people you can change their desires and wants; hence, you can change the direction of their demand for goods. In such a way, without modifying their capacity for production, their expenditures may be so guided that good uses, instead of bad, will be made of goods; and the producing forces of industry will adapt themselves to the new demands without reducing the general quantity of useful goods.

But if the character, nature, habits, customs, and standards of a people remain much the same, the only way in which their general welfare can be raised will be by enlarging their skill in producing more goods. In general, a greater amount of comforts and decencies for all classes can come only by extending their skill and ability in producing more goods. A change merely in the kind of goods consumed will not raise the **general level of welfare,**— except so far as the moral improvement in the workmen will bring about greater industrial skill, or unless we mean by a general higher level of welfare a better moral condition. Usually, an improvement in economic conditions is taken to mean a larger consumption of economic goods; and changes in consumption alone will not change the total quantity of production.

25. On the basis of Engel's law,* which shows that very poor families expend about nine tenths of their income on food, clothing, and shelter, it is found that as their condition improves, new wants are satisfied (and the actual

* Cf. Seventh Annual Report of U. S. Commissioner of Labor (Washington, D.C.).

percentage of food to the whole income declines). The true means of elevating a savage race is by operating on them in such a way as to create new wants. Thus, in Tuskegee, Booker T. Washington is accomplishing useful work among the negroes by stimulating new wants; and then, most important of all, giving a practical industrial skill, by which they may be able to produce the articles, or services, which will give **a power to meet their wants.** Foolish expenditures on useless things are discouraged; that is, a more rational consumption is urged. But chiefly his success lies in making possible the industrial skill which will give the additional production to warrant a higher consumption.

26. After having discussed consumption, and having analyzed demand, we may now state the meaning of the often used formula of **Demand and Supply.** Demand consists of a subjective desire for an article, — its utility,— limited by the concrete goods which can be used to back up the desire. But no one has an effective demand independent of a given price; the buyer is always balancing, against what he offers, the quantity of the thing he is to get in exchange: if the price goes up, he is getting less; if the price goes down, he is getting more for the thing he offers. As he gets less, in one case, he obtains a lessened utility by the exchange, and his eagerness to exchange is reduced; hence, a falling off in the demand. Or, in the other case, he obtains a greater utility by the exchange, and his demand is likely to increase. In short, as price rises, demand tends to fall; as price falls, demand tends to increase. The two parties to the exchange will come to an agreement at a point at which the relative advantage to each conforms to the following conditions: (1) each side will gain in utility; (2) each will not, ordinarily, sell at a price below expenses of production.

27. **Exercises.**— 1. Does a diamond have utility? A shovel?

2. Contrast the wants of an Italian day laborer with those of a college president.

3. If a man accidentally locked up for days without food is released in a great city, and if he has money in his pocket, would he pay for food a price in proportion to his intense desires? Why not?

4. Does the diminishing satisfaction in eating a third or fourth apple affect the expenses of producing apples by farmers? Would the farmer sell apples at a lower price, according to the final utility to one man or according to the demand of all consumers of apples? Is there any limit to which the price can fall?

5. If I give twenty-five cents to an expressman for carrying a trunk, do both of us gain utility by the transaction? If England carries goods for the United States, do both nations gain utility?

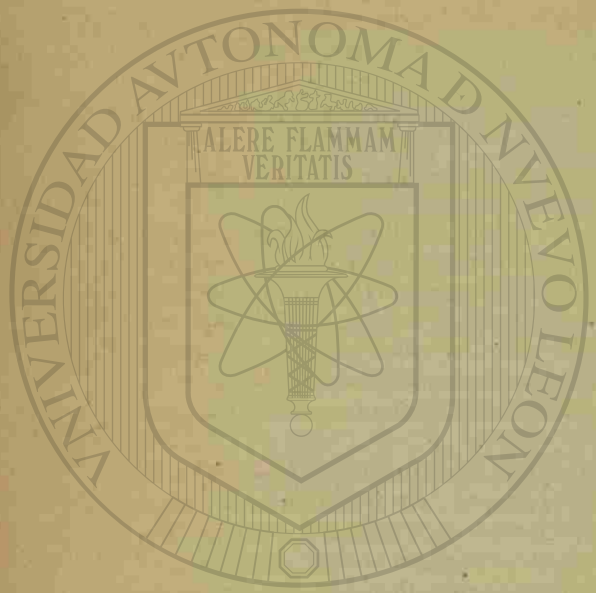
6. Are consumers and producers separate persons? Can a man exercise a demand without getting goods by some process of production (excluding gifts, inheritance, etc.)?

7. If a man producing $500 worth of goods per annum spends $100 in drink, is his family better off in actual goods if he reforms, and gives $100 to charity? Is the effect of this change in consumption moral or material?

8. If supply increases, is it possible for demand to increase also? Can you illustrate by the case of rubber?

BOOK I.

PRODUCTION.



CHAPTER IV.

THE NATURE AND REQUISITES OF PRODUCTION.

28. THAT men are getting wealth is only another way of saying that men are supplying their **wants.** Our wants, moreover, are various. "A man would not care to have many suits of clothes all alike; he may wish to have several suits, no doubt, but then some should be warmer, others thinner; some for evening dress, others for traveling, and so on. A library all made of copies of the same book would be absurd." *

Our wants, too, are infinite. No one exists whose wants are all satisfied. The greater our intelligence, the more are our wants. The uncultivated and ignorant care little for the best pictures or for the best books. The wants of a Zulu savage are much fewer than those of Mr. Gladstone. As society progresses, wants of a higher kind multiply. There is never more wealth in a country than people care for; there can never be too much wealth, because wealth is that which satisfies some want, and our wants are unlimited.

Since our wants are various, it follows that, after we have all we desire of one thing, it would be useless to produce more of it; but, if our wants are unlimited, there must be some things that we want which we do not have. Consequently, in speaking of production, we shall understand by it the production of those things which peo-

* Jevons's "Primer of Political Economy," p. 17.

ple want, and only in such quantities as are sufficient to meet those wants. No carpet-maker is so foolish as to make all the carpets he possibly can, for he knows that people need only a certain number of them. If he is so foolish, he suffers for his own blunder.

29. People do not produce for the pleasure of producing. Labor is hard and wearisome. One man wants food for his family, and so he sets to work to produce some of the things which the world wants, by which he can acquire the food he desires. He may be unable to produce the food himself, and so produces, say, a basket. He then exchanges the basket with a farmer for food. But it is plain that another person is necessary to this exchange—namely, the farmer. He also produced a portion of his crops in order to satisfy *his* desires, one of which was for a basket. In other words, for every proper act of production and exchange, a **pair of producers** working reciprocally is necessary. So that, in order that production should be properly adjusted, whenever A produces for B, B should be producing for A; and A must know what B wants, and B must know what A wants, if each would produce to a purpose, and serve the objects each had in view in working. Here we get the idea of **a market.** The fact that A can not find a market for his basket, shows that there is no one who, while able to produce what A wishes in exchange for his basket, also has a desire for a basket. In this case, there is no spring to exertion impelling B to produce what A wants. The business community form the machinery by which the actual desires of A are known to B, and *vice versa*. That is, business men are almost entirely engaged in studying how much people want of cottons, woolens, sugar, coffee, etc. They call it "studying the demand"; but this demand depends on whether other people are producing things to offer for the cottons, woolens, sugar, and coffee. A great **city market,** in which millions of goods are exchanged, depends

upon the existence of numberless producers, one member working for the other members and *vice versa*. There is never any danger of producing too much, but business men may not always find out the exact desire of each group of producers and thus enable the products of each to be properly adjusted to the other's wants. This is **ill-adjusted production.** So we see that, to be effective, production in modern times is generally reciprocal. To be sure, a hunter procures his own food, etc., but in these days primitive conditions are hardly to be considered.

Business men, of course, know more than others about the **facts** of the market in their own branch of industry; but they are often ignorant of the laws governing the production, exchange, and distribution of their own products.

30. In order to understand how each person may engage in production, and get that which satisfies his wants, it will be necessary to examine the **requisites of production.** It will be found that, to produce wealth in a continuous way, as we see it done all around us, three things are required:

1. **Land, or natural resources.**
2. **Labor.**
3. **Capital.**

If we reflect a moment about the production of anything we see about us, which we call wealth, we shall find that all these three factors enter into its making.

31. **Land, or Natural Resources.**—No single article of wealth is produced for which something is not taken from Nature, either in the form of materials or of forces. Take a coat, for example. "In the first place, sheep had to be reared, pastured, and sheared, in order that the wool necessary for the coat should be obtained. The breeding of the sheep required a considerable expanse of land on some Western prairie or in the interior

of Australia. It is obvious that without land there could be no grass, and therefore no wool. Now, land in its original state is a gift of Nature, which men can not make at all. In the further process of manufacture, a factory had to be erected, and machinery of brass and iron employed. A particular kind of earth was necessary to make the bricks out of which the factory was built, and the iron had to be extracted from iron-ore. Both these **materials** had to be taken out of the earth, and their ownership is associated with that of land. If the machinery was run by water-power, a river was necessary; if by steam-power, coal had to be dug from the earth to make the fires which produced the steam." *

Not merely materials, but also **forces,** are supplied by Nature. A ship may be propelled all the way from Liverpool to New York by the force of the wind alone. If it were not for the buoyant force of the water, the ship would sink to the bottom. Man "moves a seed into the ground, and the natural forces of vegetation produce in succession a root, a stem, leaves, flowers, and fruit. He moves a spark to fuel, and it ignites, and, by the force generated in combustion, it cooks the food, melts or softens the iron." †

32. **Labor.**—No matter how rich the soil, how luxuriant the grass, how fine the climate, how plentiful the iron, the coal, and the manifold resources of Nature, wealth can not be produced unless human labor performs its part. Pittsburg now produces vast quantities of coal and iron every day; but only one hundred years ago the Indians applied no labor to these rich gifts of Nature, and such things were never produced there. "A man would perish in the most fertile spot if he did not take some trouble in appropriating the things around him. Fruit growing wild on the trees must be plucked before it becomes wealth,

* Newcomb's "Principles of Political Economy," p. 70.

† Mill's "Principles of Political Economy," Book I, chap. i.

and wild game must be caught before it can be cooked and eaten." *

33. **Capital.**—In order to carry on production continuously, in these days, a man must have the use of some wealth while he is engaged in working. If he is making screws, he can not live on them; he must have food until the screws are made and exchanged for other things. If, as soon as he became hungry, he had to stop work, take his dog and gun, and hunt for some game, it would greatly interfere with steady work. So, also, other wealth must be given him to use while he is at work—for instance, tools, machinery, and buildings. Prof. Jevons says there is a good Japanese maxim—"Dig a well before you are thirsty." So a man must have ready for him when he begins to work all the appliances furnished by ingenious and curious machinery, and even buildings and steam-power. Some one must be willing to furnish these things for him, if he does not have them himself. **Capital is that part of wealth devoted to producing other wealth.**

34. **Exercises.**—1. Why does a shoemaker work all day long repairing shoes for other persons? How does he get his food? Can he live on shoes?

2. Because a shoemaker works on a shoe all day, does he care for but that one thing? Mention some of the things he probably gets by exchanging his shoes with others.

3. Would the poems of Shakespeare command a high price among the Zulus? Would a work of Michael Angelo buy as much corn in Central Africa as in the United States?

4. If all the various manufacturers of the United States were to turn with all their means to producing cotton cloth only, would there be people who would give their wealth for all the cloth produced? Would there be a "market" for all the cloth?

* Jevons's "Primer of Political Economy," p. 26.

5. A farmer gives money for some calico; how did he probably get the money? If he had had nothing to sell for money, would he have had anything with which to buy the calico?

6. If every person who owns land were to produce beets only, would a market be found for all the beets? Do people care for nothing but beets to eat? Would all other persons work and make things to exchange for beets only if they could induce some land-owners to produce corn or wheat for the things they offered?

7. Can you get along, in making anything, without using land? Does not a fisherman, if he stays on the water? Whence come his vessel, his fish-hooks, his fish-lines?

8. Wild strawberries are wealth in some places. Can they be gathered without labor?

9. It is very attractive to watch a cotton-mill in operation, or see melted iron poured into molds in a foundry. Why can not every man have a cotton-mill or a foundry, if he wish? What is required to pay the laborers each week? Could a man himself use that which he has already given away to laborers for wages?

CHAPTER V.

DIMINISHING RETURNS FROM NATURAL AGENTS.

35. UNDER **natural agents** are included not merely land, but minerals under the surface, water-power, and similar gifts of Nature. The wealth of a country depends largely on the natural resources of its climate, soil, and mines. The rugged mountains which run southwest from Pennsylvania to Alabama are nearly useless for cultivation, but they abound in coal and iron and limestone; while new prairie lands, where there are no mines, yield grain with little exertion. Then the nearness of mines of coal and iron to rivers or to the sea adds greatly to their capacity for producing wealth. "England's present position in the world is in a great measure due to the fact that she not only has coal-mines and iron-mines, but also her coal and iron mines are near together." * In the United States, the Mississippi, the Ohio, and the St. Lawrence, and the Great Lakes, are means of producing goods more cheaply, since it is part of production to transport goods to a place where they are wanted.

The raw materials of every industry come from the soil in one form or another. A lead-pencil gets its covering of wood from the cedar-forests, its black-lead from mines, and its paint from lead ground with oil made from flax-seed. But, generally speaking, the greatest source of all products is **land**, for almost everything comes from the

* Marshall, "Economics of Industry," p. 9.

land. Therefore, we shall speak mainly of land in discussing natural agents, and use it as representing a class of things.

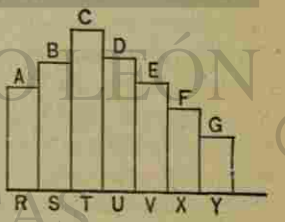
36. In order to learn how more wealth can be produced, so that the world may become richer, we must seek the rules according to which each of the requisites of production permits such an increase. Unless we consider how each factor can increase, we can not know how great the expansion of wealth may be. Our aim, then, shall be to study the increase of production from land; next, the increase of labor, that is, population; and, lastly, the increase of capital. In this chapter we shall consider only the principle according to which land yields its products, or, as it is called, the **law of diminishing returns.**

37. The supply of air or water is practically unlimited. Is it so of land? We know that on this globe there can be no more farms than would cover the fifty-one millions of square miles, which is the area of the continents and islands. This is a **limited amount.** The frugal and thrifty Dutch may sometimes reclaim a few acres from the sea by dikes; but men can not create land. The best we can do is to discover and open up lands which are unknown; and that process is going on in Africa, although even there we find people already using the land. Much land, such as the bald and rocky sides of the Appalachian and Rocky Mountains, can never be used for cultivation; and, of that which can be cultivated, not all is equally good for such things as people want for food. We can not well grow cotton and sugar in New York, nor wheat in Mississippi. The best land in any region, at all fitted for the cultivation of a particular crop, is of small extent, for a large part of the territory is always but indifferently adapted to the cultivation of a variety of products.

38. Just as every person is different from every other, so no piece of land is exactly like another in soil and fertility: one is high and dry, another is low and wet; one is

clayey, another is sandy; one is thin in soil, another is rich in deep loam. All fields in a farm, moreover, are not equally fitted for the same grain. Thus we find, for instance, that different States in the Union are in different degrees adapted for the wheat-culture. The thin, stony soil of New England can not compare with the rich prairies of Minnesota and Dakota in growing wheat. But we do not need to go beyond the nearest farm to discover that **lands vary** exceedingly in the amount which they can produce of given kinds of grains or vegetables.

39. Now, how can more food be got for our rapidly increasing population? If we were farmers, we should take into cultivation at first that land which now yields, for the least outlay, the greatest number of bushels of wheat, or oats, or corn, or potatoes. In some new lands the more the labor and the more the capital spent, the greater the product; but this will not be always true. **After a certain point is reached in the cultivation of every piece of land, it is found that, doubling the laborers and doubling the capital put upon the land will not double the number of bushels which the land will yield.** This is the **law of diminishing returns.** It is simply a physical fact; that is, it is a fact which Nature has disclosed to us, just as we say it is a fact that water runs down hill.



In order to understand this more clearly, let us refer to the accompanying diagram. Imagine that we are just beginning to work a little farm in the thinly settled parts of Dakota. With one laborer and $50 of capital (in the form of a plow and seed), only 10 bushels of wheat can be obtained, represented by AR. Of course, if more labor were to be had, more care could be taken; and, if more capital were in hand, better

fencing, tools, etc., could be used. So, if another laborer and $50 more of capital be applied to the same piece of land, the two men can so aid each other, and the better instruments will be so effective, that 12 bushels more can be produced, represented by BS. Thus we should have 22 bushels, by doubling the men and capital. It is even possible that another "dose of labor and capital"—that is, another laborer and another $50—might be so effective that 15 bushels more could be produced than before, represented by CT. The three laborers, with $150 of capital, might then produce 37 bushels, or AR + BS + CT. To this point, there has been an increasing return for every new "dose of labor and capital." But here the tide changes from an increasing to a diminishing return. If more food is wanted, and there is no other land to take, it must be had by spending more labor and capital on the same land. We can plow more deeply, or supply more fertilizers, but an additional fourth laborer, with additional capital of $50, will not cause as great an increase as before. More will be produced, but not in the same ratio to the outlay as before; in this case, perhaps, only 14 bushels—in all, 51 bushels, or AR + BS + CT + DU. From this time on, additional produce (if the conditions remain the same) can be had from the same piece of land, but only with increasing difficulty. As John Stuart Mill* has said, it is like stretching a rubber band—the more you wish to stretch it, the more force you must apply. That is, after CT is reached, new laborers and new capital will yield more, but in a diminishing ratio to the labor and capital applied. EV, FX, GY will be successively less.

40. There is scarcely a piece of land anywhere which would not yield more if new laborers were put to work draining the soil, hauling manure, or applying guano or

* "Principles of Political Economy," Book I, chap. xii, § 2.

expensive fertilizers; but the farmer always asks whether this new labor and this additional capital will produce so much more than before as to give him a reasonable profit. Some writers have, however, denied the law of diminishing returns. They think that, **as the number of laborers is increased** and as more capital is applied, **land will constantly yield more and more.** If this is so, why would not one farm do for all the United States? If labor and capital can increase the product without limit, then why not make additional applications to the same farm, and produce enough for all the United States from it? Now, no one believes that this can be done. It is not profitable to employ more than a certain amount of labor and capital on a crop of oats or wheat, because an excessive amount would be wasted without producing more oats or wheat. As soon as the population in a country becomes dense, it may be taken for granted that the return made to capital by land diminishes, unless something occurs to counteract it.

41. The **law applies in a similar way to mines.** The increase of production from mines is attended with an increasing outlay. The best mine may have its coal near the surface, and so it may cost little to carry it to the market; but, as more is mined, deeper shafts must be dug, longer galleries must be made right and left, more power will be needed to raise the coal the longer distance, and more expensive machinery will be required to lift the product as well as to provide air and pump water out of the mine. So that, in order to bring a ton of coal to the surface, it costs more, as more coal is required. But, of course, it is to be remembered that improvements in machinery can in a most marked way counteract the tendency toward a diminishing return from mines, or the natural tendency of the product to cost more. It is also to be observed that the richest mines may be completely exhausted, and so the poorer mines on the less productive

strata will then be taken up. In this way, the return to capital and labor becomes less, but not in the same regular way as in the case of land.

42. In considering the productiveness of land to-day as compared with that of five hundred years ago, or even a hundred years ago, we find that the same land is made to yield more now than then. Why is this? Because we have the experience of all our ancestors, the accumulated skill of the world, better knowledge of the soil, and of manures and fertilizers. Where men used to reap their grain with cradles (a scythe with a frame attached), they now use machines which, as they are driven along, cut and bind the grain; and, instead of the flail for threshing it out on the barn-floor, there is now the familiar threshing-machine. "Sulky plows," drawn by horses, do more work than the old plow, followed by the man in the furrow. Horse-rakes do the work of many men. More than this, the cost of sending wheat and corn by railways has been lessened.* So we see that there are many **improvements constantly tending to counteract the law of diminishing returns from land.** Whether the original tendency is the stronger, or the counteracting forces are the stronger, depends upon particular circumstances in each country. In the United States the progress of improvements is very striking. We have, moreover, scarcely taken up all our best lands as yet.

"From similar considerations, it appears that many purely mechanical improvements, which have, apparently at least, no peculiar connection with agriculture, nevertheless enable a given amount of food to be obtained with a smaller expenditure of labor. A great improvement in

* In 1855 it cost 3.27 cents on an average in the State of New York to carry one ton one mile; now it costs only between .80 and .90 of a cent. If the people of New York had paid the charges of 1855 for the goods carried in 1883 (9,286,216,628 tons, one mile), it would have cost them over $220,000,000 more than it actually did.

the process of smelting iron would tend to cheapen agricultural implements, diminish the cost of railroads, of wagons and carts, ships, and perhaps buildings, . . . and would thence diminish the cost of production of food. . . . The first application of wind or water power to grind corn tended to cheapen bread as much as a very important discovery of agriculture would have done, and any great improvement in the construction of corn-mills would have, in proportion, a similar influence."*

43. **Exercises.**—1. Along the coast of Maine the lobster-fishery has almost ceased, because of the exhaustion of the supply. Is there any law of diminishing returns which affects the produce of this kind of food?

2. In a pair of shoes, study out the materials which enter into its manufacture of which it can be said that their production is affected by the law of diminishing returns.

3. Our pine-forests are constantly being destroyed, as in Maine, in the Adirondacks, and in the districts about the Great Lakes. Does the same labor and capital get out as much lumber as before, when forests were more accessible? If lumbermen must go farther away from the rivers and coasts, haul their logs in winter farther to the streams, take more time in floating the logs down to the mills in the spring, would it require more labor and capital to get out the same quantity of lumber than before? Does the law of diminishing returns apply to lumber?

4. When trout-brooks become exhausted near the haunts of men, and no trout can be found except in distant and remote streams, by long journeys and great skill, does the law of diminishing returns apply to such fisheries?

5. In a coal-mine where mules are used to haul out the cars full of coal, when the shaft becomes a quarter of a

* Mill's, "Principles of Political Economy," Book I, chap. xii. § 3.

mile long, will more mules be required to bring the same number of cars to the mouth than when the shaft was only half as long? Does this show an increased cost to the mine-owner? Does his coal cost him more than before?

6. Three tons to an acre is a very good yield of hay. Has any land ever been heard of where thirty tons an acre can be produced, or three hundred tons? Why not?

7. If a farmer should discover a new and cheap way of getting excellent fertilizers for his land, would that operate against the law of diminishing returns?

CHAPTER VI.

LABOR AND ITS INCREASE.

44. THERE is a very ingenious machine, only, perhaps, two feet square, used in making screws. It takes out of a hopper the pieces of the proper length cut off from a rod of steel, and arranges them in a row. An iron beak, like that of a crane, then reaches out, takes one piece at a time, and places it in a vise, where the head and the thread are cut in a moment. It is very clever and wonderful, simply because man's forces are combined with Nature's forces. Men can produce more when they work in connection with the forces of Nature. Men are constantly learning how to **get Nature's forces to do work for them,** as in the windmill or by water-wheels. Every year, as new machinery is invented, work is being transferred from man to some combination of the forces of Nature. Not many years ago most of the boots and shoes we wore were made by hand; now, as a lady enters a shoe-factory, she can see the leather for a shoe cut, sewed, soled, and finished by machinery while she makes a short visit. More wealth can be produced in our country if man's forces work more perfectly with Nature's forces.

45. We often make great mistakes in talking about **laborers.** Who compose the laboring class? Are the hod-carrier and the man with a pick and shovel included in this class? Certainly. Shall we include, also, the skilled artisan, who forms, fits, and polishes the steam-engine in a

great factory which runs so smoothly that there is no noise but that of the wind caused by the great wheel? Certainly. Shall we include the man who sits at a desk all day designing engines, studying plans for the artisans to work upon? Certainly. Shall we include the man who sits a while in the office? He is engaged in consulting the designer, accepting or rejecting his plans, telling the men where to work, and in deciding whether an addition shall be built for more workmen or not. We see him running out to borrow the capital at the bank with which to build the addition; coming back to send a letter to Sweden for a particular kind of iron, and deciding how he can buy it in the best way and how much to pay; then sending an agent to the Cape of Good Hope to see if his engines can not be sold there, and he be enabled to employ more men; watching so that the men can have uninterrupted work; preventing waste; learning to whom he can sell his engines, and yet not be cheated; studying how best to protect the buildings from fire? Certainly this man is a laborer. Because one labors only with his hands, is he alone to be included in the honorable class of laborers? Certainly not. We must conclude that not all labor is physical, done with hands or with muscle. We can not look in any direction without noticing that many laborers are working with their heads, and that **labor is mental as well as physical.** A schoolmaster is not less a laborer because he does not use his hands. He is paid wages for mental work just as a hod-carrier is paid wages for physical work. Yet, if a man is well dressed and very intelligent, if he does agreeable work, or mental work in-doors, many people are apt to think wrongly that he is not to be classed as a laborer. We shall soon find that no such distinction can be drawn in political economy. All labor, mental and physical, is to be treated alike.

46. In fact, physical. mental, and moral qualities all

affect the amount of wealth produced by any laborer. Strong and healthy parents are likely to give a laborer **physical vigor**; and many qualities, both good and bad, come to him by inheritance; but each man can improve his physical power by regularity of living, wisdom in his diet, by habits of cleanliness, or by observing sanitary rules. In the temperate climates men work with best success, where the heat is not enervating, and where their energies are not sapped by malarious diseases. As medical skill increases, life is prolonged, and the longer a man lives, the more he can produce. Some races, moreover, are much more hardy and muscular than others; the American laborer, for instance, is vastly superior to the Mexican, who works for from ten to fifty cents a day.

47. The **mental power** of any laborer, however, is of peculiar importance to his productive capacity. An increase of intelligence results in an increase in the power to produce, and raises the laborer who possesses it in the scale of comfort. "Clearness of mind, quickness of apprehension, strength of memory, and the power of consecutive thought," which come from mental training, make the difference between a desirable and an undesirable laborer, and enable the former soon to pass into more remunerative work than the latter. General Walker says: "The intelligent is more useful than the unintelligent laborer. (a) Because he requires a far shorter apprenticeship; he can learn his trade in a half, a third, or a quarter the time which the other requires. (b) Because he can do his work with little or no superintendence; he is able to carry instructions in his mind, and to apply them with discretion to the varying conditions of his work. (c) Because he is less wasteful of materials. In some branches of manufacture the value of the materials used is equal to the amount paid in wages. (d) Because he readily learns to use machinery, however delicate or intricate. Brains are not alone required for the invention of machines; they are required for their

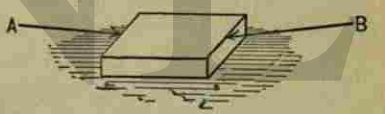
adjustment, their ordinary use, and their occasional repair." * Moreover, any education, which not only gives mental alertness but technical skill, is a great gain to the laborer. He thereby learns the principles according to which machinery is run, as well as the nature of its operations. He gains the means of easily adapting himself to new machinery, because he understands the underlying principles, and by practice he attains earlier in life that deftness and dexterity with his fingers which often so amaze a visitor in manufacturing establishments. I have seen a woman tying up packages and labeling them so rapidly that my eyes could not follow each operation.

48. The **moral qualities** of self-respect, prudence, self-control, cheerfulness, and will-power have no small influence on the quantity of wealth produced. An honest, upright character has a distinct money-value to every laborer. These are the things which permit a man to rise in the scale of laborers. The chance to improve his social position will add to his self-respect and his pride in good work. His prudence will teach him steadiness and persistence; his self-control will master the difficulties of his work, and keep the desired end in view through the dull monotony of labor. The laborer, moreover, who is working in such a way that he shares in the results of his own work, will have a peculiar energy and efficiency. When a man is working for himself, he works in a different way than when he works for another and has no share in the result. He has an incentive to become industrious, and is willing and eager to work early and late.

49. Since labor is so important to production, in order to learn how wealth can be increased, we must discover the **law of the increase of laborers.** We have seen in the last chapter that land gives a diminishing return to new applications of labor and capital, or that subsistence

* "Political Economy," pp. 52, 53.

can not be doubled by doubling the labor and capital. In regard to the law of the increase of human labor, we find that the conditions are very different. Its power of increase is marvelously great, even if it is not always used. If each family has four children, population will double in every generation; and, as each generation can double itself, the rate of increase is in a geometrical ratio. This is a physiological fact. The power of population to increase is unlimited, but the actual growth is never what it might be. If the growth of population should receive no check, the world would in time provide only standing-room for each person. **The tendency of population to increase is far greater than the power of subsistence from land to increase.** But there are forces which oppose this tendency, and keep down the growth of numbers. The actual growth of population is like the movement of a block on a floor when acted on by two opposing forces, A and B. A presses on the block, and tends to move it to the right; while B tends, at the same moment, to push it in exactly the opposite direction. If A is stronger than B, the block will move to the right, although B is operating against A all the while; but it does not stop A, it only counteracts A's power. So it is with the tendency to increase population and its checks. The tendency, like A, is always acting, and its movement is restrained by the counteracting checks, like B, which may be either equal to or less in force than A.



50. Uncivilized, thoughtless, or ignorant people often marry without thinking whether they will be able to feed and educate their children properly. Among such reckless people, who have no thought of the future, no prudence, no forethought, children are insufficiently fed and cared for; some are even allowed to die purposely;

some die of disease and want. Among savages, many are killed in war. In this way, the tendency of population to grow is restrained by the **positive check.** Even among modern nations, and in our own great cities, the number of children among the very poor who die in the hot summer months is, it is sad to say, very large. "Insufficient food and clothing, neglect, dirt, foul air, and infectious diseases hurry off vast numbers of the children of the poorer laborers in town and country to an early grave," says Prof. Marshall, of England. It is among the hopeless poor that the reckless increase of families is the greatest, though it should be the least. It is so in Ireland.

But, among civilized, intelligent, and self-contained people, marriages are not made unless sufficient means to care for a family are at hand. They postpone marriage until they have saved a proper sum. This moral restraint, or **negative check,** is strongest as we rise in the social scale to the classes of people who are intelligent and prudent, but who have limited means. They generally succeed in giving their children a better education than they had themselves. In the United States, families of American birth are usually found in this class. Mr. Malthus (who laid down the foregoing law and its checks, and after whom it is called the Malthusian law) found in Switzerland that the difficulty of finding houses and employment caused many persons to remain unmarried. It is also a well-known statistical fact that there is a smaller number of marriages in our country when business is depressed than when it is prosperous.

51. Since the undesirable classes are those on whom a regard for the future seems to have no influence, it is particularly unfortunate that these people should furnish the greater proportion of the increase of population, while the judicious, thrifty, thoughtful, and intelligent classes, who have more thought for the future, should furnish the less proportion. It is not among the intelligent people

of the community, with limited means, who are yet provident, that it is desirable to point out any more strongly the gains from a check upon increase of numbers; it is rather among the most miserable that large families should be discouraged, because they are doing harm to the state by turning children into the streets without oversight, to run into places where they become familiar with evil, and are taught to become criminals in order to get a livelihood, or even to satisfy the cravings of hunger. It is a very serious problem to learn how to infuse into these helpless, hopeless persons a sense of self-respect, prudence, and foresight which should keep them from aimless increase of numbers. If it is believed that the number of persons who belong to the lowest stratum in society are too numerous to earn much so long as they have no trade, and can do unskilled work only, and if a still further increase in numbers would make all worse off than before, then certainly those who advise moral restraint on the growth of this class of persons, in order that they may be saved from that which produces vice and misery, can not be called "hard-hearted," or "un-Christian," or "dismal Malthusians." They are rather the true friends of the unfortunate people, who need real, not sentimental and misdirected, kindness and help. It has never been suggested that people already in existence should be cruelly treated or left to starve in order that a smaller number should exist and competition be decreased.

52. When the standard of living is raised, it usually results in an increase of population. By **standard of living** I mean the average amount of necessaries, decencies, and comforts enjoyed by each class; the kind of rooms they live in, the amount and quality of food and clothing, and the little comforts, like carpets and pictures, that they can enjoy. If wages are high, laborers will always have more than the mere necessaries. This is especially true of the majority of laborers in the United States,

and consequently population in this country increases very fast. In 1800 we had only 5,000,000 of people, and now we have about 77,000,000. Chart I. shows by the movement of the center of population how rapidly the wave of increasing numbers has moved westward. In one hundred years our numbers have increased over fifteen times, an unprecedented occurrence. In France, where wages are much lower, there is scarcely any increase at all. Soon, when our unoccupied land is all gone, it will not be possible for us to increase in numbers so fast, and yet remain, each of us, as well off as we are now. Even now we are beginning to object to the coming of Chinese and Italians and Hungarians, because they make it more difficult to get work. The "standard of living" of these newcomers is less than our laborers have been accustomed to, and these latter do not want to lower the standard which has hitherto prevailed in the United States. But it will probably

CHART 1. — *Westward Movement of Center of Population.*

be lowered by the natural increase of our present population, even if we pass laws to keep some foreigners out.

53. All laborers are not equally employed in a way to produce the most wealth. Some persons labor but do not produce any wealth, and so they are called **unproductive laborers. Those who produce wealth are called productive laborers.** In order to decide whether a man is a productive laborer or not, first settle whether what he is making is wealth or not. A farmer is a productive laborer when he raises corn, because corn is wealth. The corn may be accidentally burned up, but the farmer who produced it was, all the same, a productive laborer, because the corn was wealth as long as it existed. The tailor who makes a coat is a productive laborer, because a coat is wealth. It makes no difference in this distinction whether the coat, after it is made, is worn by a laborer or an idler; of course, if used by a laborer, while it is wearing out, other wealth is reproduced in its place; or if the coat is worn out by an idler, the tailor who made it produced wealth. The tailor and the idler should not be confused. Often we can not decide certainly whether a laborer is productive or unproductive. A policeman is necessary to protect property, and so enable wealth to be produced. In this sense he is a productive laborer. But, if he does not do his duty, and wealth is destroyed through his negligence, he is not a productive laborer. So a clergyman may not directly produce anything; but if, as a fact, he ever turns a man from bad habits to good, so that the man becomes a productive laborer, the clergyman aids in production. Sometimes he is productive and sometimes not.

54. Exercises.—1. When men first contrived a sailboat, were they able to accomplish more work by using Nature's forces? Explain how. When steam was first used to draw a train of cars, was the same kind of gain attained?

2. Give a list of the kinds of labor done in some factory you know about. Which of them are performed by persons whom you would include in the laboring class?

3. The president of a New York mutual life-insurance company is paid (as is reported) thirty thousand dollars a year. Is he a laborer? Does he employ his mental and moral faculties to do something for which he gets that which satisfies his own wants?

4. Is the errand-boy in this insurance company any less a laborer because he uses his feet while the president uses his head and conscience? Is only he a laborer who does physical work?

5. Does this errand-boy use his body only? Do the moral qualities, like honesty, or the mental qualities, like brightness, help him?

6. Have you ever seen a ship in a good wind sailing slowly but majestically up stream against the tide? Because she makes headway against the tide, is that any reason why there is no tide? So, if population always increases, is that any reason why there are no checks operating to keep down numbers? Does that show that there would be no greater increase if there were no checks? Would the ship go faster if the tide were not against her?

7. Why does population increase so rapidly in the United States? Why is it that the checks which keep population down do not have much force?

8. In Mexico the laborers are very lazy, shiftless, and ignorant, and their wages are about fifty cents a day. If their wages were doubled, is it likely that they would use the increased wages to give their children better clothing and education? or would it probably result in a greater number of the same kind of laborers? Would it not be necessary to raise their character as well as their wages, in order to attain a better standard?

9. Is the man who makes a piano a productive laborer?

Is the person who plays on the piano also a productive laborer?

10. Is an artist a productive laborer? A photographer?

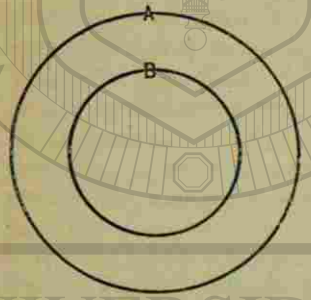
11. Is a member of Congress a productive laborer? If we agree that a Congress is necessary to our enjoyment of a government under which wealth can be peacefully produced, is a member of Congress always a productive laborer? Is he always doing that which produces wealth?

12. Does the diagram in section 49 also serve to illustrate the working of two opposing forces in regard to the production from land? (See section 42.)

CHAPTER VII.

CAPITAL AND ITS INCREASE.

55. We have already seen that **wealth** is any thing which satisfies a desire, for the attainment of which we are willing to undergo some sacrifice, and which is exchangeable. But not all wealth is **capital.** *Only that part of wealth is capital which the possessor intends to use for the production of other wealth.* Thus, in the diagram, all the wealth of a country may be represented by A, and all its capital by B. The capital can never be greater than A, and of course it is much less than A, because not all wealth, after it is produced, is used to produce other wealth again: it may be consumed in such a way that nothing else is made while it is being used up. "Thus oats are capital* if they are to be given to a cart-horse, but not if they are to be given to a race-horse." A coat may be worn by a man who does no work at all, or by a man who tills his fields early and late. In the first case, the coat is wealth, but not capital, and in the second case it is wealth used as capital. Nothing, then, is capital which when being used does



* Marshall, "Economics of Industry," p. 13.

not aid in making other wealth. All the wealth spent in buying, furnishing, and sailing a pleasure-yacht is not capital, because its use in that way does not result in the production of other wealth.

56. When we pass from the most primitive age of society, it is found that **labor can not be properly employed without capital.** There must be a store of the results of past labor laid up, so that, for example, it can furnish an artisan in a chair-factory with lumber and materials on which he can work, with tools, lathes, steam-power, and factory buildings, and with food, clothing, and shelter, while he is occupied in making chairs. If the laborer does not himself own this capital, it must be furnished to him by some one who has it. This, of course, seems clear enough as industries are now carried on; but we ought to see how this necessity for capital first arose, for without it we should be forced to live like Indians. "Let us take the case of a tribe dwelling along the shore, and subsisting upon fish caught from the rocks which jut into the sea. . . . When the fish are plentiful, the people live freely, even gluttonously. When their luck is bad, they submit to privations which involve suffering, reaching sometimes the pitch of famine. Now let us suppose that one of these fishermen, moved by a strong desire to better his condition, undertakes to lay by a store of fish. Living as closely as will consist with health and strength, he denies himself all superfluity even at the height of the season, and by little and little, accumulates in his hut a considerable quantity of dried food. . . . As the dull season approaches, he takes all the food he can carry, and goes into the hills, where he finds trees whose bark can be detached by sharp stones. Again and again he returns to his work in the hills, while his neighbors are painfully striving to keep themselves alive. At the end of the dull season, he brings down to the water a canoe, so light that it can be borne upon his shoulders, so buoyant that he can paddle in it

out to the 'banks' which lie two or three miles from shore, where in one day he can get as many fish as he could catch from off the rocks in a week. The canoe is capital; the fisherman is a capitalist."*

57. We see by this illustration that capital can result only from **saving**, or abstaining from consuming wealth for one's own pleasure. In the above example, the fisherman abstained from consuming any more fish than he actually needed, with the intention of keeping the dried fish he had saved to subsist upon while he was engaged in making other wealth, which was in this case a canoe. We may then say that **capital is saved wealth intended for reproduction.** While the capital is being consumed in reproducing something else, it can not be used for another thing at the same time. If this fisherman had given his dried food to the others for a great feast, he would have had nothing on which to subsist while making the canoe. The capital, by which more wealth may be produced, can not come into existence except by that hardship and sacrifice which is involved in the word *saving*. After going through this sacrifice in the abundant season, the prudent fisherman would justly consider it very impudent indeed if another man were to come and claim that he had an equal right to this saved food, and that he wanted to use the food, but would not pay him anything for the use of it—that is, not reward him at all for his sacrifice and abstinence. If this were ever permitted, it is not likely that much abstinence and saving for capital would go on; and so we should be without the accumulations of boats, factories, machinery, materials, houses, clothing, and food, by which so many laborers are able to continue working without interruption month after month and year after year. Wherever capital exists, some one who has had wealth, which he himself could have consumed in carriages or fine dinners or yachting, has refrained from making this use of

* F. A. Walker, "Political Economy," pp. 63, 64.

it and put it instead into a form by which, while being consumed, some new thing was produced. Only by saving capital, which is necessary to production, can the wealth of the world be increased.

58. By the very fact of deciding to use his wealth as capital in producing new wealth, a man puts his wealth where it is consumed, since **capital** is able to reproduce other wealth only by being **consumed.** The wealth is either eaten up in the food or worn out in the clothing of the laborers, or it disappears in the form of materials only to reappear in a new form. Bread, meat, woolen clothing, hides, nails, thread, all disappear; but in their place reappear shoes ready for the market. Productive expenditure, then, implies the consumption of wealth, with the usual result that a greater amount is produced in its place. This is illustrated by the career of the Duke of Bridgewater, in England.* "In his time English industries were sadly hampered by the enormous cost of carrying goods from one part of the country to another. None of the roads leading into Manchester were passable by carts. Coals, corn, cloth, and other things were carried on horses' backs in summer. But in winter, when the roads were bad, Manchester was like a beleaguered town. The duke conceived the daring project of making canals to connect the manufactures of Manchester with the coal districts on the one hand, and with the sea at Liverpool on the other. He devoted all his wealth and energies to the work. He lived in the plainest manner, had long consultations with Brindley, the engineer, in rough log huts, and derived from the excitement of his enterprise a keener pleasure than he would have obtained from spending his wealth in luxury." The enterprise was a great success. "He bequeathed vast wealth to his descendants, but in the act of saving it he gave employment to vast numbers of workingmen. His canals are a source of the prosper-

* Marshall, *ibid.*, p. 15.

ity of his country, and afford permanent employment to thousands."

59. That capital is always being consumed and being reproduced in a new form, is a truth which it is well to keep constantly in mind. In the last diagram (section 55), in which circle B represents all the capital of a country, you can understand what is going on by imagining that, as you look at B, you are looking into a kettle of boiling water, the surface of which is always in ebullition, as new particles arise from the bottom and displace others on top, causing a constant and never-ending movement. So capital is constantly disappearing, and again reappearing as wealth. As a consequence, it is evident that those who consume wealth without at the same time producing new wealth to take its place act in a way to decrease the total wealth of the community; while those who turn their wealth into capital will not only produce an equal, but usually an increased, amount of wealth, and thereby add to the total wealth of the community. In fact they do more than that. By using the wealth as **capital** it **gives occupation to laborers,** which is not the case when the wealth is consumed without having production for its aim. A thousand dollars invested in an India shawl will while it is being worn out neither produce more wealth nor employ laborers; but a thousand dollars spent in improving a farm by drains, good fences, and shelter for cattle, will not only bring new wealth in the place of that which was consumed in making the improvements, but it will also employ laborers while the improvements are being made. Indeed, one cannot make use of wealth as capital, that is, as a means of production, without employing more or less of labor; for labor is a requisite to all production, and capital cannot get on without labor any more than labor can get on without capital. They cannot get on without each other any more than one blade of a scissors can cut without the other. Turning back to our figure in section 55, we see

that, since capital is that part of wealth which is used in producing other wealth, circle B not only reproduces itself but also all that part between B and A. So, if people use as capital more wealth than before (instead of consuming it for their own enjoyment), it is evident that, circle B being larger, A would be larger, that is, the wealth of the country would be greater. **Extravagance,** certainly, *is not a gain to the poor;* more good is done to the poor when people invest their wealth as capital than when they use it without adding anything to the stock of goods.

60. Capital is of two kinds, fixed and circulating. "Capital which fulfills the whole of its office, in the production in which it is engaged, by a single use, is called **circulating capital.** The tallow and alkali of which soap is made, once used in the manufacture, are destroyed as alkali and tallow."* In a factory, some of the capital must be constantly renewed out of the proceeds of the finished goods, and when thus renewed it is again used up in buying materials or paying wages. Such, for example, is the raw cotton in a mill, or the coal for the boilers which furnish steam, or the wages of the operatives. But there are other parts of capital (used in production) which are not exhausted by a single use, and which are called "fixed capital." A machine is not used up in making one piece of cloth. In fact, before it wears out, it may have made millions of yards. A hammer will not be used up in driving a single nail, but will drive thousands just as well. "Capital which exists in any of these durable shapes, and the return to which is spread over a period of corresponding duration, is called **fixed capital.**" A hundred dollars invested by a farmer in seed must be all returned to him with a profit in the next crop; but for a hundred dollars invested in a plow he need be repaid only a part each year, a part which will give him annually a profit, and

* Mill, "Principles of Political Economy," Book I, chap. vi, § 1.

enough besides during the years it exists to make up the original cost of the implement.

61. Now that we have learned what capital is, we can go on to inquire **how capital can grow.** Then, as it is one of the requisites of production, we shall have studied the increase from all the three requisites of production, land, labor, and capital, and can then, as a result, see how wealth can be increased, and whether there is any limit to its increase.

Since all capital is the result of abstinence, the increase of capital depends (1) on *the amount which can be saved*, and (2) on *the disposition to save*. That it depends a good deal on the amount to be saved is clear. All that any man has coming to him above the amount sufficient to provide him with the necessaries *can* be saved, whether he does save it or not. This does not apply solely to a laborer, but to any one having an income. When wages are high, more can be saved by the laborer; when profits are high, more can be saved by the owner of capital. This ought to make it evident that all classes in the community can save, and that, if any man saves, however little, he to that extent becomes a capitalist. The amount, for example, which is spent in tobacco and drink could be saved, and it amounts to hundreds of millions of dollars a year. Of course, if laborers become more efficient and get larger wages, the margin from which saving can be made becomes larger.

62. Then, secondly, saving depends upon the **disposition to save.** Two men, who have the same opportunities to save, will not accumulate equal amounts of capital, because they will not be equally affected by the impulse to save. Think what it means to save. A man has wealth in his hands which belongs to him; he can do with it what he pleases; he can give himself a real enjoyment by spending it for his own uses. It is a great temptation to do so; and, if he does not yield to the strong eager desires of the

present (which are strong, because the enjoyment is capable of immediate realization), he must have some object to gain in the future which will be attractive enough to overcome his existing desires; that is, *in order to save and add to his capital*, he must be able to set a future and *unseen* object before him, as compared with a present and seen enjoyment. Consider what this means in every-day life. You have suddenly given to you a thousand dollars, and you can use it for your own enjoyment in buying guns and ammunition, in going a long distance to North Carolina for duck-shooting, or to Wyoming for deer-shooting, and spending the wealth in several months of pleasure; or you can say, "I will give up all present use of this wealth; I will abstain from consuming it, and invest it so that it shall yield me an income of fifty dollars a year; for after a while it will be of great service to me in enabling me to go into business, or in acquiring a college education, or in saving my mother and family from suffering in times of illness or hunger." The future gains, although *unseen*, are much more likely to be worth the sacrifice of saving than the satisfaction of having a good time now and losing all the wealth in an act of spending. Some people, however, especially the wretchedly poor, find it very hard to save; and yet they too can save, if they set aside all that is not necessary to live upon. Every additional saving gives them protection against "a rainy day," or the means to buy a cow or a horse, and they get thereby more chances to save. A little capital is a means of lifting a laborer out of a wretched condition, and the more capital he saves, the longer the lever he can use to raise his position in life, and the greater progress he can make. "To him who hath more shall be given."

This is the thing to teach every one: to set the *unseen* above the *seen*. The Indians in Paraguay were very industrious and worked hard all day under the direction of the Jesuits. At night, when they came home hungry from

plowing with the oxen, without thinking ahead even as far as the morrow, they killed the oxen for supper. This, of course, cut them off from plowing and from planting corn, to keep them alive during the winter. The present was stronger than the future. But here in the United States, people will work in cutting down trees, digging out stumps, and only after several years of preparation will get a piece of land ready to grow food. This is a sign that the future *unseen* object is present with them; and makes the difference between them and Indians. Can you imagine Indians or a semi-civilized people engaged on a work from which the return is spread over a hundred years or more, like the canal connecting the Mediterranean and the Red seas? As this power to set the future above the present distinguishes us from the Indians, so, among the people of the United States, it distinguishes the thrifty from the shiftless and prodigal.

63.—**Exercises.**—1. Is the intelligence of the laborer, capital to him? (Consult the definition in section 55.) Can he exchange it for something else? If he cannot exchange it, can it be wealth (section 4)? If it cannot be wealth, can it be capital? Are the results of his skill in the form of commodities wealth?

2. Are the goods on a shelf in a store capital to the owner? Does he so employ them as to gain for himself other wealth?

3. Two bushels of potatoes stand in a shop. One bushel is bought and used on a yacht to feed the crew on a voyage to Mt. Desert; another bushel is bought by a coal-heaver. Which of the two bushels could be called capital? Or are they both capital?

4. Try to name some employment, if you can, in which labor, without capital, produces wealth. Would hunting serve as an example? How about the hunter's gun, or his bow, or his trap? Would fishing serve as an example? How about the hooks and lines of the fishermen?

5. A shoemaker took some leather, pegs, nails, thread, wax, some tools, and a bench; while working, he ate some food, wore woolen clothes, and paid some rent; and at the end of a few days produced a pair of shoes. Did he have any capital? Could he have been ready to make shoes without tools and food? Did he save in order to get these things? If he had not set aside food, could he have gone on working? How else could he have got his food without saving?

6. From this illustration of a shoe, show that wealth is consumed in being used as capital. What has been consumed in making the shoes? Is the pair of finished shoes an equivalent for all that was used up in the making?

7. Does the man who keeps 500 horses in his stables for his own use, or the man who lives frugally and spends $1,000,000 in cultivating ten farms in Minnesota do the more to increase the wealth of the country?

8. Are the canal-locks which carry steamers around Niagara Falls capital? Are they fixed or circulating capital?

9. Select some establishment such as a tannery, a cooper-shop, or a foundry, and write a list of the things which would be called fixed capital in use there.

10. It is said that a Chinaman can live on ten or twenty cents a day. If he receives a dollar a day, how much can he save? If he lays by all he does not need for food, clothing, and shelter, can he save more than a European who drinks beer or wine intemperately?

11. Why do not the Apache or Sioux Indians have bank-buildings, factories, or fire-engines to protect their houses from destruction?

CHAPTER VIII.

EFFICIENCY OF PRODUCTION.

64. We have now ascertained the possibility of an increase of wealth through **land, labor, and capital,** the three requisites of production. We found that labor can increase indefinitely; that capital increases with the disposition to save (which grows with the progress of civilization), and with the amount which can be saved; but that from land there is a tendency to diminishing returns, which, however, is more or less counteracted by the progress of improvements. It is evident that there will be labor enough; there will be no limit to increasing wealth due to a scanty population. How about capital? It has a practical limit, for it cannot increase indefinitely, and its increase is kept back whenever land begins to yield diminishing returns. For, if capital and labor continue to get less and less from land, the total wealth cannot be increased so fast, and the total capital will probably be less. This, however, can be prevented by a greater disposition to save; since, even if a man gets a less return for his investment, he may become more frugal than before, so that a less return may permit as much or more saving than before. Then, although the tendency to diminishing returns from land is always felt, and so hinders the increase of production, we know that improvements, especially in the present century, have enabled all lands to yield more produce, have opened new and rich lands to

cultivation, and to that extent have deferred the effects of diminishing returns.

It is now, perhaps, evident that only through changes in some of the requisites of production, can more wealth be produced. The **amount of wealth** produced in a country, then, **will depend on the following causes:** First, not merely on the number of the laborers, but on their physique, their intelligence and skill, and their moral character; second, on the fertility of the soil, the abundance of coal and minerals, the situation of rivers and water-ways, a temperate climate, and the extent to which improved processes are being adopted to extract ores from the soil or carry them over the country; and, third, on the "abundance of roads and railroads, of canals and docks, of factories and warehouses, of engines and machines, of raw material, of food and clothing, in short, the already accumulated capital of the nation";* and on the prevalence of a disposition to save and to increase this capital. This is the general statement, indicating how each requisite of production affects the whole result by influences affecting each one by itself; but it will be evident at once that there are some other things which affect more than one of these factors at the same time, and which thus affect the total amount of wealth.

65. One of these influences is the **ownership of land,** or, as it is sometimes called, "peasant-proprietorship." This affects not only the quality of the labor, but also the saving of capital, and the amount of produce to be got from the soil. When a man owns his land, he is working for himself; there is no reason for shirking and giving poor work, for he would be cheating only himself; and so we find that the people who own their lands become noted for industry and for the care with which their soil is tilled. When a man only leases his house and land, he does not take the same care with buildings and

* Marshall, *ibid.*, p. 37.

improvements. Said Arthur Young: "Give a man secure possession of a bleak rock, and he will turn it into a garden; give him a nine years' lease of a garden, and he will convert it into a desert. . . . The **magic of property** turns sand into gold." The ownership of land is like an ever-present inducement to deposit in a savings-bank. The owner seeing where a judicious investment would improve the value of his property, is tempted to save for this purpose. In his extra hours he digs a drain here or repairs a fence there, he nails up a loose board or adds a little to his barn. The land appeals to his pride and to his self-respect; he looks forward to the future and does not live only in the present. In France the "peasant-proprietors" are widely known for their extraordinary thrift and frugality, while the poor people of Ireland, who, as a rule, are only tenants, are noted too often for their shiftlessness and imprudence. In the United States the farmer generally owns his land; and the ownership of their houses by workmen in the cities is observed to have a good influence on their general habits, and to make them better citizens.

66. Division of labor can be carried to its full extent only in the making of articles for which there is a **large demand**, such as shovels, or cotton and woolen goods; for the expense and care needed in the invention, building, and management of a machine to do a special part of the work are as great when only a few as when many goods are made. There would be waste if a machine were to lie idle; and so, in a shop where only a few goods are made, it would not do to buy expensive machinery which does only one part of the work. In the manufacture of watches, for example, so many are sold that one factory can have machines which are invented to produce but one single piece out of a hundred which enter into the finished watch. One man can thus be occupied solely in taking from each box one part after another which goes to make up a watch, and then passing it along to the next worker.

67. This makes it clear that, where the demand is large, so that division of labor can be carried out fully, the establishment must be a very large one. The tendency in such cases, of course, is to the creation of large factories under one management, which is called the system of **large production.** In order to bring many laborers together, and to furnish the specialized machinery, there is needed a great amount of capital. "Let us take as an example a set of operations, which we are accustomed to see carried on by one great establishment, that of the post-office. Suppose that the business, let us say only of the letter-post, instead of being centralized in a single concern, were divided among five or six competing companies. Each of these would be obliged to maintain almost as large an establishment as is now sufficient for the whole. Since each must arrange for receiving and delivering letters in all parts of the town, each must send letter-carriers into every street, and almost every alley, and this, too, as many times in the day as is now done by the post-office, if the service is to be well performed." *

The larger the production, and the greater the division of labor, the cheaper each single piece of goods can be sold. Once the organization is complete, an increase of business does not cause a proportional increase of expense. Again, when one manager does the work of several, there is a saving in the expenses of paying managers. Of course, in cases where the division of labor in a very large establishment enables the labor and machinery to be used with more efficiency, or renders possible a more economical arrangement of the work among the laborers, more will be produced with the same labor, and so smaller establishments may often be undersold and driven from the market. A small factory devoted to making but one thing may get along by working as subsidiary to some greater industry; but in producing the same things a large establishment has

* Mill, *ibid.*, Book I, chap. ix, § 1.

an advantage, and will generally undersell the smaller. The consumers of the goods will be benefited, however, in being enabled to make their purchases cheaper.

68. Another matter affecting production is too often underrated, and that is, **managing ability.** The manager, who selects the site of the factory, controls the finances, buys materials, and sells the goods; who decides upon what machinery to use; who deals with the workmen, allotting the tasks, and classifying their labor; who watches the market, knowing when to sell and when to withhold his goods; who can find out satisfactorily what purchasers really want, and adapts the character of his goods to these wants —such a manager, who makes the most of everything, is a rare man. As it is he who plans everything in the productive process, all depends on his skill and his ability to avoid mistakes, for his failures affect not himself alone, but all engaged in the work. "He is the general of the army; he fixes on the plan of operations, organizes its means, and superintends its execution. If he does this well, the business succeeds and continues; if he does it ill, the business fails and ceases. Everything depends on the correctness of the unseen decisions, on the secret sagacity of the determining mind." So said Walter Bagehot. In fact, we find again and again that a particular industry thrives and grows because of the organizing and executive ability of a single man. The same railway under one president earns money and all goes well; but under another it falls into arrears, and accidents or disasters are always happening.

69 The efficiency of production is largely affected by the skill of management and the organization of an industry. (1) The owner of a factory may also be the manager; or (2) the laborers may advance the capital, as in a co-operative shop, and manage it themselves; or (3) the capital may be subscribed in small shares, making by many shares a large capital, formed into a corporation, managed by a board of directors.

Large production would have been impossible without the existence of the **corporation.** Indeed, it has been a part of the democratic tendencies of society. If an investment required several millions of dollars, only a very few men would be rich enough to take advantage of it; and the small investor would be excluded. But, now, any person may go into a business requiring an enormous capital, by buying a single share, or as many shares as he pleases (at the market price). A railway company of to-day has, perhaps, 15,000 shareholders. Thus, no one person risks his all in the enterprise.

70. The corporation in the eye of the law is a *persona*, which can sue and be sued, while the shareholders may be liable only (according to special laws) for the amount of their shares. By limiting their liability, it is easier to accumulate large sums in a corporation. As our country's resources have been developed, and as the extent of our transportation facilities have, accordingly, expanded, the need for enormous capital to build railways, to open iron, copper, and zinc mines, and to create large industries, has led to the formation of great combinations in such a phenomenal way as to amaze the world. They are sometimes called "**Trusts,**" because, at the start, the original owners deposited certificates granting the management of their concerns to trustees. Most States now forbid this form of combination, and "trusts" of this kind are very rare. But the popular use of "trust" means any large combination, no matter what its legal form.

71. The great combination can, of course, if properly managed, obtain the advantages of **cheapened expenses** of production through an exceptional division of labor, thus giving bodies of labor unusual skill in separate parts of the manufacture; and giving, also, the opportunity to introduce special machinery (which would be too expensive in small establishments). But, in the main, a great industry is created and maintained by building up a highly efficient

body of selected men, who know the business better than others. A large combination has the power to pay large salaries, and thus to draw to itself the best **managerial ability** in the country. Other things being equal, this is the reason for the great success which has attended the creation of industrial establishments on a large scale. If wisely managed, the interests of the consumer may be also the interest of the producer; but that is not always the case.

72. Sometimes, in too great a haste to grow rich, the managers may resort to **illegitimate means** of obtaining results. To oust a competitor, they may try to bribe legislatures, or control courts, in order to obtain special privileges. A great combination of capital is a form of great power (like high office in political life), and it may be liable to abuse. To many, the **objection to "trusts"** is that they may monopolize the market, and keep prices too high. This is possible in some cases, but the danger is likely to be overrated. And the facts are not always easy to ascertain, although there are well-proven instances of prices being kept too high. But, in general, an entire control of the market is not often possible: the source of supply is very large, means of transportation are easy, rapid, and cheap, and in different countries the interests cannot easily combine in an international monopoly. Indeed, if any one country would refuse to give special protection to the article which it is desired to monopolize, cheap supplies would be imported from other countries, to the advantage of the consumer at home.

73. Moreover, it must be kept in mind that, ordinarily, **demand is not** always **under the control of the producer**; he can not control the subjective estimate of the voluntary buyer, nor prevent him from refusing to buy at high prices, or adopting substitutes for the high-priced goods. In short, the producer must, in the long run, sell his goods so low that it will be the selfish interest of consumers to buy the commodities on a large scale. If this

is not done, production on a large scale is impossible. Thus, railways have found that it is to their interest, when they have a roadbed and rolling stock, to set a freight rate on heavy stone, ore, coal, lumber, etc., which will induce the shipper to move the goods. So, in manufactures, an attempt is always being made to introduce methods of saving in order to cheapen each unit of product so that sales may be increased. For, if any firm, relying on its supposed security, does not keep up with invention and with new processes, firms of enterprising men arise as competitors, and, by lowering the price, take away their trade. Even when the combination is large, a rival combination may give the most spirited competition. Indeed, wise managers refrain from raising prices too high, in order to give no foothold for competitors.

74. Abuses by large corporations, however, are as likely to arise as abuses have arisen in the past among small rival producers, who have tried to drive each other out of the market. The process is as old as human nature. The magnitude of the operations in recent years calls attention to such abuses, and is therefore more likely to receive public discussion. Large production is a necessary economic evolution in industry, and cannot be forbidden; it has come to stay. The only **general principle** for their control in the hands of the state is this: whenever large combinations of capital act in a way to interfere with the industrial and personal freedom of the plain citizen, their activities become a proper subject for control. This, however, does not mean restriction in the right to sell cheaper than any other producer. To be driven out of business by a competitor who can sell cheaper is not an interference with industrial liberty. As a rule, publicity of accounts would be an effective means of preventing injustice.

75. **Exercises.**—1. What is it that prevents capital from increasing indefinitely? Provided the disposition to save remains the same, would as much be saved if

the return to capital and labor from land constantly diminished?

2. Would improvements help the increase of capital? Do they increase the returns to capital and labor? If so, of the two things on which the growth of capital depends, which would be affected?

3. If a man thinks of planting an orchard on the land he cultivates, will it make any difference to him whether he owns the land or not?

4. Think over the largest factories in your neighborhood, and see whether they are engaged in making articles of common use.

5. Recall what is meant by a "market" (section 29). Is it easy to find out what people in different parts of the country wish? In any business, who has charge of this matter? If he makes mistakes, and goes on producing when people do not care for some of his goods, does it affect his laborers?

6. State the amount of capital of some bank in your neighborhood; the amount of each share; and the liability of each shareholder.

7. Are "trusts" forbidden in your state?

8. Name some American manager who has founded a great business.

9. Take some article made by a "trust," and inquire whether its price is higher now than ten or twenty years ago.

BOOK II.

EXCHANGE.

CHAPTER IX.

VALUE.

76. It will have been noticed that in Book I nothing has been said about value, or prices, or money. It was deemed best in studying production to assume that articles were made and exchanged by barter, without the use of money. It is no longer our object now to discuss how wealth can be produced, or what will increase it, but to study how it is that **articles are exchanged for one another,** how much of one thing is given for another, and how money is used to help these exchanges. It will be necessary to think a little, and to see things as they really are, and not as they seem to be on the surface. When men are using money, they seldom think of its representative character. They generally think that money itself is the thing for which every one labors and produces. There could be no greater mistake than this. In order to understand this subject better, we shall first try to explain something about value.

77. In the beginning, we must try to find out what value is. In brief, exchange **value is purchasing power;** that is, a commodity has more or less value, as it may be exchanged for more or less of other things. The value of an ox, estimated in sheep, is the number of sheep for which the ox may be exchanged. If one ox exchanges for twenty sheep, it is twenty times as valuable as one sheep, or a sheep is one twentieth as valuable as an

ox? To express it in other words, value is a ratio, or a relation between one thing and another. We must always have something with which to compare a given article in order to determine its value. We cannot say whether a thing has purchasing power, unless there is another thing to be purchased by it, any more than we could say that one man was taller than another, if no other man existed with whom to compare him. Whenever we say that a thing has exchange value, we have in mind, consciously or unconsciously, some other thing or things with which we are making a comparison.

78. This leads us to notice another matter in connection with value. If value is a ratio, or a relation of one thing to another, **a rise of value in one thing means a fall in the value of something else.** In the illustration already used, if the ox rises in value, that means that its purchasing power over sheep has increased, as indicated by the fact that the ox, for example, is now exchanged for thirty sheep, instead of twenty as before. That very fact shows that the rise in value of the ox was the same as a fall in the value of sheep. On the other hand, the value of sheep is their purchasing power; and, since it now requires thirty instead of twenty sheep to buy an ox, it is evident that the purchasing power of sheep over an ox has declined, or that their value *relatively to an ox* has fallen. This is looking at the change from the point of view of the sheep. If the value of the ox goes up, the value of the sheep goes down. If one end of a board balanced across a log goes up, the other end must necessarily go down.

79. If we can now see clearly that a commodity has value only in comparison with another thing, we can go on to explain some other questions. We have come to understand what value means. Now it will be well to learn *why a thing has value.* If we were studying about fire and heat, we should first want to know what heat was,

and then we should want to know what makes or causes heat. So we want to find out next what gives value to anything. For this purpose let us recall our definition of wealth (section 3). Wealth was there defined as something transferable, for the enjoyment of which we were willing to undergo a sacrifice. It might have been said equally well that **wealth is that which has value;** from which it is naturally inferred that a thing (1) which is transferable, and for the (3) enjoyment of which we are willing to undergo a (2) sacrifice, has value. This is true. In order to have value an article must be: (1) **one which is transferable;** (2) **one for which we are willing to undergo some sacrifice;** and (3) **one capable of satisfying some desire.**

80. First, to have exchange value, a commodity must be **transferable.** There may be other things more desirable than wealth; but, no matter how desirable an article is, it is not wealth and has no exchange value unless it can be transferred. A man's intelligence or honesty is a desirable thing, but you cannot separate it from the man and exchange it for anything else. Who ever heard of a business man, taking an inventory of his wealth, who summed up his articles of value in this way?

Hardware	$5,000
House	2,000
Horse and carriage	400
Honesty	?
Intelligence	?

Does a poor man who is honest count his honesty in as a part of his wealth? No, it is absurd. "The gouty millionaire cannot, with all that he has, purchase the robust health of the laborer by the wayside, or buy for his empty-headed son the learning or the trained faculties of the humblest scholar. Hence, all that which some economists have called intellectual capital and all that which

by analogy might be called physical capital are to be excluded from the category of wealth."* So, also, a barrel of beef at the north pole or a bushel of wheat at the bottom of the sea could not have exchange value, because it would be impossible to transfer them to any one.

81. Secondly, to have value, a thing must be such that we are obliged to **undergo some sacrifice** in order to get it. It is very difficult, for example, to get pearls; because divers must go down into the sea for them, and even then they do not often find large ones. Under these conditions, a large pearl may be exchanged for many tons of coal, even though the coal is thousands of times as big as the pearl; because it is not so difficult to find coal and to mine it. The sacrifice undergone is greater in getting a pearl than in getting a piece of coal of much larger size; in fact, the number of days' labor spent in finding a large pearl would, if spent in coal-mining, produce several tons of coal. Then, if the pearl costs more labor to get it than a piece of coal, it is evident that more sacrifice is required in the case of the pearl than in the case of the coal.

We may see this matter still more clearly if we imagine pearls to be as plentiful as pebbles, and that any one strolling out might pick up as many pearls as he can now pick up pebbles. Would the pearls be as valuable as before? Certainly not. Would any one give several tons of coal or several large gold coins for a pearl when he could have one for the trouble of picking it up? The exchange value of the pearls would be no greater than the pebbles; we should give no more for a wagon-load of pearls than we should for the wagon-load of pebbles with which we grade our roads. Whenever the sacrifice or exertion necessary to get an article diminishes, it will be generally found that its value diminishes. If it requires a relatively less number of day's labor to produce a pair of shoes or a bushel of corn, the exchange value of shoes or corn will fall.

* F. A. Walker, "Political Economy," p. 6.

82. Thirdly, to have value, an article must **satisfy some human desire.** Would a thing have exchange value, that is, would you give for it desirable goods, if you did not want it? Would you give away things which had purchasing power for articles which excited in you no desire whatever? It is quite unlikely. Would a man who had all the water he wanted to drink give away the berries he had gathered by a whole day's labor for more water which he did not want, and which satisfied no thirst? Certainly not. People do not work steadily in heat and in cold to get something which satisfies no desire. In fact, the only reason why men work to produce wealth is to satisfy some want; because they are hungry, or want clothing and shelter, or a horse, or a gun, or some luxury, like a piano, or a picture. We saw once before (section 28) that wants furnish the reason for all production of wealth.

The same thing might serve a different use at different times and places. In cities where immense water-works, with costly stone walls, viaducts, and iron pipes, are required to carry the water throughout the city to each house, water brings a price per gallon, because it can not be had for the taking; but in the country, where springs or rivers furnish an unlimited supply, water has practically little or no value. Again, however, to a man perishing in a sandy desert, water would satisfy the strongest desire he has, and its use to him would be very great. He would give his horse, or all his money, for a pint of water. From this it can be seen that human wants vary widely; that the strength of the desire for the same thing may vary. The desire for food to eat is a very much more important one than a desire for an extra coat; but, after a certain amount of food has been consumed, there will be very little desire for any more. Up to a certain point the desire is intense, but after that it becomes very weak. Moreover, different classes of people have different desires to

satisfy. Some think that a comfortable living with very few luxuries is enough; others that a large house, horses, pictures, music, and foreign travel is not more than enough. The habits of living settle the character of a people's desires; the wants of a farmer might be very different from the wants of a skilled mechanic. The people of Mexico have a very different set of desires from the people of Ohio; or the people of India from those of England.

83. We have, to this point, explained, first, what value is; next, what it is that gives value to anything; and now it is our purpose to consider **how value is measured.** As in studying heat, after finding out what it is and what produces heat, we want to know how to measure it. You would say fire (or combustion) causes heat, and a thermometer measures it. It may be said that we are looking for a measure of value that corresponds with the thermometer as a measure of heat. We want to find whether there is any scale to which we can refer two commodities, and in which we can express their values, and can then compare them with each other.

The value of anything, as we have said, is its purchasing power, and we have compared an ox with sheep to explain that idea; but there are many more things exchanged than oxen and sheep. If I have a coat, how can I know its value relatively to sheep, oxen, corn, and thousands of other things? For how much corn will the coat be exchanged? If we had one thing with which to compare the coat and corn, then we could tell their relations to one another. It is just like reducing fractions of different kinds to a common denominator; if I want to compare $\frac{1}{2}$ and $\frac{1}{8}$, I can do nothing until I have reduced them both to fractions of the same kind, as $\frac{4}{16}$ and $\frac{5}{16}$; now I know that $\frac{1}{2}$ is greater than $\frac{1}{8}$, and greater just in proportion as 8 is greater than 5. We ought then to find a **common denominator of value.**

84. First of all, the common denominator of value must itself have value, and gold and silver have been chosen by common consent for this function. If, then, we find out for how many grains Troy of gold the coat will be exchanged, we shall learn the value of the coat relatively to gold. There are 23.22 grains of pure gold in a dollar, and, if a coat can be exchanged for ten dollars, it will buy 232.2 grains of gold. This is what we call the **price** of the coat. Its price is ten dollars; but that means only that it can be exchanged for as many grains of gold as are found in ten dollars. A dollar is not an abstract thing, but is made up of something which has value. The price of a thing is only its value relatively to a common denominator, like gold or silver; **price is the amount of money for which an article may be exchanged.** But so far we have reduced only the coat to the common denominator of value; next we must do the same with the corn. We find, for example, that two bushels of corn are exchanged for 23.22 grains of pure gold, or one dollar. At this rate twenty bushels can be exchanged for 232.2 grains, or ten dollars. The **price** of twenty bushels is ten dollars, and of one bushel one-half of a dollar. Thus we have found the value of corn relatively to gold, or its price, and have thus reduced its value also to the common denominator of value. Now it will be easy to compare the value of corn with the value of the coat without an actual exchange. The coat can be exchanged for twenty bushels of corn; or the coat is twenty times as valuable as one bushel of corn; and a bushel of corn is one twentieth as valuable as the coat. Therefore, if in the same way we compare each of the thousands of commodities in the world with money, we can get their value relatively to money as expressed in their *price*, and then we can compare any of these various articles together by means of their prices. In this way we compare the values of articles by first comparing them with a given article like gold, just as we compare

distances by referring them to a particular unit, such as a foot, or a yard, or a mile. The two sides of a room being of different lengths, we find how many times a particular length, called a yard, can be applied to each distance, and then we say that one side is eighteen yards, and another is twelve yards. If we have a piece of cloth in a store, we reduce it to a common unit of length, or yard-stick, and say it is seven yards long. The operation is essentially the same when we express the value of a thing relatively to money by giving its *price*.

85. From the fact that, when there is a rise in the value of any commodity, there is a corresponding fall in the value of some other commodity, is deduced an important proposition—**there can not be a general rise or fall in the values of commodities.** Since a fall in the exchange value of one article is necessarily followed by a corresponding rise in the value of the thing with which it is compared, it is evident that these two commodities can not both rise or both fall at once. If one half of all the wealth in the country rose in value, that would of itself show that the other half fell in value, so that a general rise or fall of values is an absurdity. As Mill says, "Things which are exchanged for one another can no more all fall or all rise than a dozen runners can each outrun all the rest, or a hundred trees all overtop one another."

86. Although commodities can not all rise or fall in value at once, it is possible that the relations between one article and all others may change. That is, one commodity, say gold, might exchange for more or less of any and all other commodities; for it is conceivable that gold might, at different times, have a greater or less value (as the case might be). Now since gold, for example, can fall in value relatively to other things, the other things can be exchanged for more gold than before; but, since the amount of gold, or money, for which a thing can be exchanged is its **price,** these other things will have higher prices. So, since the

commodity out of which money is made can rise or fall relatively to everything else, **there can be a general rise or fall of prices.** That is, when gold falls in value, all other things rise in value relatively to gold; they can be exchanged for more gold than before, and their prices are higher. When gold rises in value, all other things fall in value relatively to it; they can be exchanged for less gold than before, and their prices are lower. Therefore, although there can not be a general rise or fall of values, there can be a general rise or fall of prices.

87. **Exercises.**—1. What is exchange value? Has a chair exchange value? Has air?

2. What is meant by saying that value is a ratio? Suppose five bushels of wheat are exchanged for ten bushels of oats; show how a rise in the value of wheat would affect the value of the oats relatively to wheat.

3. Does political economy have to do only with things which have value? Does it include the consideration of such things as truthfulness?

4. Why does a chair have value?

5. Does land have value? Is it transferable? Can land be bought and sold? What is a deed for?

6. A bushel of corn is exchanged for twenty grains of gold; a pound of mutton for four grains of gold. What is the value of corn relatively to mutton?

7. When bananas grow by the road-side in profusion in warm climates, do they have exchange value?

8. Does a diamond satisfy any desire? Are large diamonds plentiful? If diamonds were as plentiful as peas, would they have any value?

9. Why does not a cart-horse have the same value as a race-horse? Is not the former more useful than the latter?

10. Would a bag of gold be of value to a shipwrecked sailor on a rocky and deserted island? Would it satisfy any desire? Could it give him food or drink? Could he clothe himself in it?

11. When people sell grain for money, what is done with the money? Do they eat the money? In selling grain for money, is it the object to get and keep money, or to get money with which to buy something else?

12. If general prices go up, what does that signify in regard to the value of gold or silver?

13. If prices fall, is the general wealth of the country any less? Are there as many articles of value as before prices fell?

CHAPTER X.

MONEY.

88. After commodities are produced, and are ready to be exchanged, all means of facilitating the exchange are of great importance. In fact, we exchange goods every day so easily that it never occurs to us to think how it is done, or what wonderful contrivances have been devised for the purpose by mankind through long centuries of experience and usage. Every man who works is actuated by a desire for something, and what he produces gives him the means of getting that which will satisfy his desires. One rich man devotes all his capital and time to employing labor in making thousands of stoves; but stoves cannot in themselves give him food, drink, shelter, or clothing. He cannot eat stoves; but he can exchange his stoves for food, or for any of the great number of things he wants. Yet it would be very troublesome to exchange one commodity directly for another, and therefore men have in the process of time contrived means of overcoming the difficulty. The two great machines discovered for facilitating the exchange of goods are **money** and **credit.** They are **the two tools of exchange** invented only after long trial and experience. At present we shall treat of money only.

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89. If there were no money, it would be an extreme inconvenience to be obliged to barter one commodity for another. Anything like the trade and business we see

around us to-day would be impossible without some **common denominator of value.** How can a person know *how many* books or eggs to give for a stove? Money solves this problem at once. We saw in the last chapter that, by finding the relation of the books and the stove to a third commodity, like gold or silver, we can find their relations to one another. On comparing a stove with gold, we find, for example, that it may be exchanged for the quantity of gold in twenty dollars; while a book purchases of gold only that quantity which is in one dollar. Inasmuch as we have agreed to call the quantity of gold for which a commodity may be exchanged its **price,** we get the prices of the two articles. Then we can compare their exchange values by comparing their prices. Thus we find that a stove will exchange for twenty books. So the first function of money we shall call the common denominator of value. Some writers speak of it as a "measure of value"; but it will be better to think of money as a means of **comparing the values of two commodities through a third,** just as we compare two fractions by reducing them both to a common denominator.

90. It must have occurred to us, however, that we cannot compare two things having value (or purchasing power) with a third thing which has no value. Whatever is used to measure the purchasing power (or value) must itself have purchasing power. You could not compare the stove or book with money, unless the money had purchasing power over stoves or books. This third thing, which we use as a **common denominator,** therefore, **must** itself in the nature of things **have value.** It is the same with other measures. Why do we not measure the distance from Boston to New York by saying it is so many *pecks?* Simply because a peck is a unit of capacity, or contents, and *length* is an entirely different thing. We can measure length only with length; we can measure the distance by saying it is so many feet, or yards, or miles,

because a mile is a unit of length. We can no more estimate the value of things in a commodity which has no value, than we can measure length by pecks.

91. We have already found that one duty of money is to serve as a means of comparing value. We shall find that it also does duty as a means of **transferring value,** or as a **medium of exchange.** This use of money is the most familiar to every one. It is difficult to realize how inconvenient it would be to go back to primitive barter, and do without money. Professor Jevons* says: "Some years since, Mademoiselle Zélie, a singer of the Théâtre Lyrique at Paris, made a professional tour around the world, and gave a concert in the Society Islands. In exchange for an air from *Norma* and a few other songs, she was to receive a third part of the receipts. When counted, her share was found to consist of three pigs, twenty-three turkeys, forty-four chickens, five thousand cocoa-nuts, besides considerable quantities of bananas, lemons, and oranges. At the Halle in Paris, as the prima-donna remarks in her lively letters, printed by M. Wolowski, this amount of live-stock and vegetables might have brought four thousand francs, which would have been good remuneration for five songs. In the Society Islands, however, pieces of money were very scarce; and, as Mademoiselle could not consume any considerable portion of the receipts herself, it became necessary in the mean time to feed the pigs and poultry with the fruit."

The difficulty of barter is that desires do not fit each other; or, if they do, it is a very unusual coincidence. One man having a stove may want a book, eggs, quinine, or twenty things in all, and to make an exchange he must find some one who, while he has a desire for a stove, has all these twenty things to offer. This is very unlikely to occur. Says Mr. Jevons:† "To allow of an act of barter, there must be a double coincidence, which will rarely

* "Money and Mechanism of Exchange," p. 1. † *Ibid.*, p. 4.

happen. A hunter having returned from a successful chase has plenty of game, and may want arms and ammunition to renew the chase. But those who have arms may happen to be well supplied with game, so that no direct exchange is possible." The same writer tells of the difficulty experienced by Mr. Wallace, the naturalist, in the Malay archipelago. Because "there was no proper currency, he could not procure supplies for dinner without a special bargain and much chaffering upon each occasion. If the vender of fish or other coveted eatables did not meet with the sort of exchange desired, he would pass on, and Mr. Wallace and his party had to go without their dinner."

92. If, now, there were one commodity which every one would be willing to take for his goods—a commodity so familiar to every one for its own value, and for its own power to satisfy a desire, that there would be no hesitation in taking or receiving it—that would obviate all these hindrances arising from barter. It would act like a new and improved tool. Some such commodity has, in fact, been chosen by people in different parts of the world, and always it has been **a commodity which the people** of that district **value highly.** In Chinese Tartary they use cubes of tea closely pressed together, and the price of a piece of silk is so many cubes of tea in their money. In Abyssinia blocks of rock-salt are used; and in many places furs have served the same purpose. Among our Indians, strings of *wampum* were employed as money. In Europe, long ago, cattle were used as money (and from the word *pecus*, "cattle," came the word *pecunia*, and our word "pecuniary"). Some metal has, however, been found to be more useful for this purpose. We hear that in very poor countries, like Sparta, iron was used; then copper came into common use; but as people grew richer they needed a metal which had greater value, and by common consent they began to adopt silver and gold. These metals had

been wanted and manufactured into ornaments or dishes for their own sake before they were generally used as money. At first, silver, as the cheaper metal, was the one most commonly adopted as money, and it has continued in use as the principal money of commerce even to the present century; but since 1850 gold has become more plentiful, and it has consequently come into more general use.

93. The **reasons why gold and silver serve the purpose of a money best** are very clear. (1) Suppose that, having a pearl, I want to get a basket. Of course, a pearl is worth many baskets. I might say to myself that I can exchange my pearl for something which everybody wants, and then take only a part of that thing and buy my basket; and I might select bread as something which everybody wants. So I get three hundred loaves of bread, and with ten of them buy my basket; but, unless I use the remainder of my bread at once to buy other things with, it will spoil, and I shall lose it all. This leads us to see that the commodity we use as money should be **imperishable;** and this is one reason why gold and silver are chosen. They are very durable. Then (2) the precious metals are **divisible** into any fractions without loss. You can thus exchange a valuable horse for gold, and then with only a small piece of this gold get some less valuable commodity, retaining a large part of the price of the horse. This is why gold is coined into pieces of given weight, each having a different amount. A ten-dollar gold piece can be melted up and made into ten one-dollar pieces without losing its value; or smaller pieces can be united into larger ones. In this way advantage is taken of the divisibility of gold and silver. (3) If bread were used as money, a small value in it would be very bulky. This is not true of the precious metals, and less true of gold than of silver. They are **portable,** and contain a great value in a small bulk. (4) Also, every one has learned what gold and silver look like; they are **cognizable.** People know the difference be-

tween gold and brass; but how many know what platinum looks like, and who could tell it at a glance from another metal. This quality in gold and silver makes them very desirable for money which is passed from hand to hand in ordinary dealings.

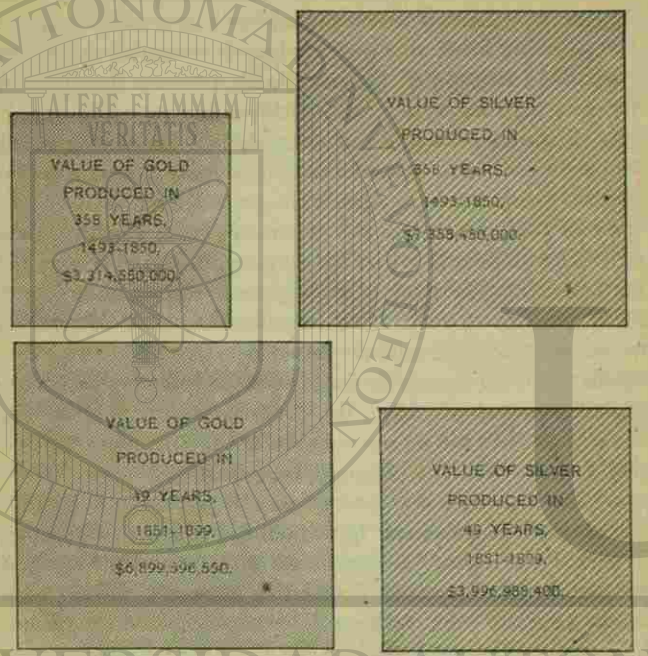
94. After people had adopted the habit of using gold and silver as a medium of exchange, it was a great gain to have some authority so stamp the two metals that every one could know just how much each piece weighed, and how pure the metal was. If some authority, like a government, which could be trusted, had not done this, the seller would be obliged to weigh each piece of gold at every bargain, and test its purity. It would, of course, be intolerable to be obliged thus to test every coin, and therefore the Government establishes a mint, where it changes gold and silver bullion into round pieces, each of which must invariably contain a particular number of grains of gold or silver, and of a specified purity. This is **coining**, and each coin is given a name. At this time the United States calls 23.22 grains Troy of pure gold a **dollar** (and to the pure gold they add alloy to harden the gold, so that the gold and alloy together weigh 25.8 grains). The pure metal plus the alloy makes the "standard" weight. Our gold and silver coins now all contain one tenth alloy. We also coin 371¼ grains of pure silver (412½ grains "standard" weight), and call it a dollar. The United States makes no charge (which is called **seigniorage**) for coining gold and silver. It is quite evident from this that the name dollar does not always have the same value, although people often think it does. We get into the habit of using names without thinking what they really mean. The 23.22 grains in a gold dollar may be exchanged sometimes for more, sometimes for less, of other commodities; when it is exchanged for less, its value has fallen relatively to all other commodities, and, even if the name *dollar* remains the same, its value has fallen. One must then offer more

dollars than before for the same commodities. That is, *when money falls in value, prices rise; when money rises in value, prices fall.*

95. To this point have we been brought in explaining, first, the function of money as a *common denominator* (or measure) *of value;* and, second, that of a *medium of exchange.* Now we shall say a few words in regard to another function, a **means of paying long contracts,** or debts which run over a long term of years. Suppose that I loaned you in 1880 one thousand dollars for twenty years. In that year the thousand dollars bought a certain quantity of corn, wheat, sugar, salt, wood, hats, and shoes. Now in 1900, when you are to pay me back the thousand dollars in money, if prices have changed, you may give me back the same amount of money, but you will not return to me the same purchasing power over other things. If for some reason prices have fallen between 1880 and 1900, it will take less money to buy the same quantity as before of corn, wheat, etc. If so, the thousand dollars you return me in 1900 will be of more value than the thousand dollars I gave you, and it would be unjust to oblige you to give me more than you borrowed. If, on the other hand, prices have risen, then the thousand dollars in money would buy me less than before, so that I should lose while you would be the gainer. Now this is wrong. Every man ought to give back just what he borrowed; no more, no less. A creditor or a debtor is at the mercy of events over which he has no control—such as great changes in the production of gold and silver, or the effect of new inventions. A great change, for example, took place about 1850, when gold was discovered in abundance in California and Australia. How great this has been may be seen in Chart II. The relative amounts of gold and silver produced in two different periods are shown by the relative size of the squares. Thus, in the years since the discovery of America down to 1850, there was less than one half as much

gold as silver produced; but in the forty-nine years after 1850, more than twice as much gold was mined as in

CHART II. — *Relative Production of Gold and Silver before and after 1850.*



the previous three hundred and fifty-eight years.* This shows what natural changes can take place in the supply

* The chart is based on the following figures mainly from Dr. Soetbeer:

PERIODS.	Gold.	Per ct.	Silver.	Per ct.
1493–1850.....	$3,314,553,000	33	$7,358,450,000	65
1851–1899.....	6,899,596,550	67	3,996,988,400	35
Total.....	$10,214,149,550		$11,355,438,400	

of the precious metals, uncontrolled by the laws of any state. Although we have heard a great deal about the vast production of silver in late years, about one and three fourths times as much gold as silver (in value) has been produced in the last fifty years. At other times in the history of the precious metals—once soon after the discovery of America, and again at the end of the eighteenth century —so much more silver than gold was produced that its value was lowered each time. Causes affecting the supply of both gold and silver, therefore, do not always remain the same. Besides these changes, prices may fall owing to improvements in the methods of producing commodities.

96. As we have seen, value is a ratio. The value of money is a relation of money to *all* things which are exchanged for it. A change in any one of the thousands of articles for which money is offered every day modifies the relation between money and other things. Changes in the way of making commodities are constantly going on; so that the amount of every article which is exchangeable for any given quantity of gold is always varying. Hence the value of money (gold or silver) does not remain the same for any length of time; and the **precious metals,** while they are very satisfactory for exchanges which do not take very long to complete, **can not serve as a proper measure of value** during a long term of years. In a garden, well planted with trees, one evergreen was by far the tallest of all; but in a few years there was a great change. Some of the trees had not grown much, while others had shot up marvelously. The former relation of the trees to one another and to the tall evergreen was entirely changed; in fact, several were almost as high as the evergreen. Likewise the relation of commodities to the precious metals is constantly changing, and therefore gold and silver can not serve as a measure of value for long periods. Nor is there another article any better, or even so well, adapted for this purpose.

97. One way suggested to get a standard of payment for long contracts is by a device known as the **multiple standard.** A long contract, like a government or a railway bond, ought not to be settled by paying back the amount of gold or silver borrowed, but by giving the lender a sum which would, at the time of repayment, purchase the amount of commodities for which the money loaned could have been exchanged at the time that it passed from the lender to the borrower. If we should keep a price-list of a large number of articles in common use, and see just how much money it would require to buy a fixed quantity of each of these things, then we could make a unit out of that amount of purchasing power, and give it back (expressed in money), no matter whether it were to take more or less money. This can be better shown by the actual facts, as exhibited by the prices * of certain necessaries of life in New York markets:

ITEMS.	1876.	1880.	1884.
1 bbl. corn-meal	$3 68	$2 80	$3 24
2 bbls. flour	12 42	11 76	11 18
1,000 bricks	7 72	7 78	7 59
500 feet lumber	7 65	7 40	8 53
1 ton coal	5 53	3 47	4 70
20 lbs. cotton	2 58	2 30	2 10
½ ton hay	8 90	7 52	9 16
2 cwt. ice	0 34	0 30	0 23
1 cwt. pig-iron	1 34	2 06	1 28
2 pair shoes	5 60	4 68	4 80
100 lbs. beef	9 00	8 80	9 90
100 lbs. pork	10 60	6 20	7 90
30 lbs. butter	7 20	5 10	5 40
10 doz. eggs	2 80	1 60	2 10
10 bushels potatoes	6 12	7 50	6 75
40 lbs. rice	2 84	2 92	2 40
1 bushel salt	0 36	0 30	0 39
100 lbs. sugar	10 70	9 00	7 10
1 cord wood	2 98	2 98	3 58
10 lbs. wool	3 30	3 80	3 00
Total (1 "multiple unit")	$111 66	$98 27	$101 33

* Newcomb's "Principles of Political Economy," p. 211.

Now, if a government commission should collect and publish the prices of a large number of commodities in this way, we could know just how much money was necessary to get the same purchasing power at different times. In the table above, in 1876, $111.66 were required to exchange for the same quantity of goods as could be bought by $98 27 in 1880. From such a table, if honestly prepared, we could get a **standard for long contracts.** Suppose I had loaned you $11,166 in 1876, to be repaid in 1880. That bought in 1876 one hundred times as many goods as are included in the table above, or 100 "multiple units." But in 1880, if it is understood that I am to receive back the same amount of purchasing power, or the same value in other commodities, I ought to receive from you only 100 "multiple units" as before. A "multiple unit" in 1880, however, could be bought for $98.27; therefore, if you give me in money 100×$98.27, or $9,827, I shall receive all I can justly claim, even if I did give you $11,166. For $9,827 of money in 1880 will have the same purchasing power that $11,166 had in 1876. Neither you nor I had the power to control the change in the purchasing power of money between 1876 and 1880; and so neither of us ought to suffer for it. If you were obliged, as you would be under the present business arrangements, to pay back $11,166 in 1880, you would be giving me back more purchasing power than you received (or about 113 "multiple units" instead of 100).

98. It must now have distinctly appeared that money is mainly an instrument of exchange, a machine by which goods are transferred in a way to suit the convenience of those among whom the goods are distributed. It has been devised to save us from the great inconveniences of barter. Even when it serves as a common denominator of value, it has no more use than a yardstick. On the other hand, when money is used as a medium of exchange, **an increase in the quantity of money** by which goods are

exchanged **does not in any way increase the quantity of the things which are transferred by its means.** Money is a means of getting from one commodity to another; just as a railway-car is a means of transportation from one place to another. It is absurd to suppose that an increase of cars would increase the amount of goods carried; and so it is just as absurd to think that an increase of money can increase the things which are exchanged by its instrumentality. Money is like a stairway from one story to another; it is a means to an end, not the end itself. To increase the quantity of money by which goods are exchanged is simply to offer more money than before for the same goods; but he who **sells the goods for more money** (that is, for higher prices) will have to **pay more for the goods he buys,** and he is no better off than when there was less money. If a milkman counts each quart of milk he leaves at the house by one notch cut in a stick, does it increase the number of quarts of milk he gives, if he chooses to cut two notches in the stick for each quart? In that case he merely uses two notches to count where one served before, and that is all. So, if I sell a bushel of wheat for two dollars instead of one, and then give two dollars instead of one for a plowshare, I am no better off than before. Before the increase of money and the rise of prices, I sold the wheat for one dollar, and with the one dollar bought the plowshare. The wheat was equal in value to the plowshare in either case. A man has no more purchasing power when prices are high than when prices are low; when prices are high, he uses more money as "counters," in which are estimated the value of his goods relatively to money, just as when the milkman used two notches instead of one. There are no more goods in existence, and no one is the richer, because prices are high.

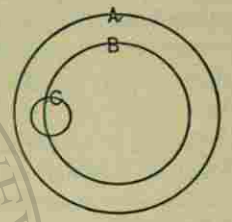
99. Some people say: "Well! a dollar is a dollar, and you cannot make it anything else," implying that what is

named a "dollar" is always equally good because it is so called. This is utterly fallacious. Suppose that we agreed to call 23.22 grains of pure gold a "dollar" (as is the case now). On this supposition a bushel of wheat, for example, may be exchanged for this dollar, or 23.22 grains of gold. But, if the state were to take out twenty per cent of the gold and leave only 18.576 grains in the dollar, would the wheat bear the same relative value to the 18.576 grains that it did to the 23.22 grains? Certainly not. If the "dollar" is lowered in value, it is implied, as we have seen, that the wheat has risen in value. Then, of course, **the dollar has not remained the same.** A dollar is only a name for a given quantity of gold or silver; and, since gold or silver can change in value, certainly the dollar can.

To be sure, a man who had a debt to pay might like to have the dollar lowered; for then his goods would sell for more of the cheapened units, and these cheapened units may be as good as the old ones as a legal payment for his debt. In this way he could relieve himself from paying the full amount of his debt without violating the law. But this is nothing more than to attempt to steal—to cheat the man who loaned him the means, which he made a promise to repay in full. No condemnation can be too severe for this kind of monetary dishonesty. It is bad policy, too, for the next time such a man wishes to borrow, he will not get a loan so easily. Any business-man who fails to meet his engagements will be distrusted by the rest of the business community.

100. Having now discussed the nature and uses of money, it will be easy to distinguish between wealth, capital, and money. Many persons, without thinking, might say that capital was the money a person had, or that his money was his capital or his wealth. These ideas are wholly wrong. We can return to our diagram in section 55. Circle A represents by its area wealth; that part of wealth which is used in the production of other wealth is

capital, and is represented by the area of circle B. Now gold and silver have value, and are included in the wealth of a country, but not all money is used in exchanging goods to be employed for the production of other wealth. If so, then that part of money can not be called capital. It is wealth, but not capital. If the area of circle C represents the amount of money in a country, part of it lies within and part of it without circle B. That is, some money is capital, and some is not. When you take a gold dollar and offer it for a pair of kid gloves, which are purely a luxury, and the use of which does not aid in making anything else, the money is not used as capital. But, if a gold dollar is exchanged for a hammer to be used in building a house, it is capital.



The distinction between money and wealth is thus well explained by Mill: "Money as money satisfies no want; its worth to any one consists in its being a convenient shape in which to receive his incomings of all sorts, which incomings he afterward, at the times which suit him best, converts into the forms in which they can be useful to him. The difference between a country with money and a country altogether without it would be only one of convenience; a saving of time and trouble, like grinding by water instead of by hand, or (to use Adam Smith's illustration) like the benefit derived from roads; and to mistake money for wealth is the same sort of error as to mistake the highway which may be the easiest way of getting to your house or lands for the house and lands themselves."*

101. Exercises.—1. If you want to put a nail through a board, you use a hammer to drive it in. If you have a telescope, and want to exchange it for other things, one of

* "Principles of Political Economy," vol. i, p. 23.

which is a book, what tool do you use to perform the operation? Could you do it very easily without some tool of exchange?

2. By the use of money how could you determine how much more valuable the telescope was than the book? What term would you apply to this use of money?

3. If gold were to become as cheap as copper, would it be as well fitted for money as now? Why not use pebbles for money?

4. It is said that money is a labor-saving machine. Explain in what manner money saves labor. (Consider the waste of time in barter.)

5. If there were no money, how would a man who made only rivets for pen-knives get along?

6. If two things have the same price, do they have the same value? What is the difference between price and value?

7. Would you take a French as readily as an American coin? Should you know how much gold was in the French coin, or how many dollars it was equal to? Is it of any advantage to have our own coins?

8. If money falls in value, what effect is produced on prices?

9. Why is it unjust to agree to pay a debt in money which does not fall due for very many years? If the same amount of money that was borrowed is paid back, is not that just?

10. Does changing bullion into coin increase the wealth of the country? Was the bullion wealth before it was made into round disks, called coin? Is the wealth greater because there is more coined money in use?

11. When have there been great changes in the supply of gold or silver?

12. If in 1870 I agreed to pay $1,000 in 1880 for money I borrowed, and if the "multiple unit" in 1870 could be bought for $125, how many "units" should I

pay back in 1880? If in 1880 the unit could be bought for $110, how much money ought I in justice to return?

13. If payment of debts were excluded from consideration, would it make a difference whether we had more or less money in our country? Would the higher or lower prices, if general, make a difference to any one but debtors and creditors? If the multiple standard were in use, need we care much about the quantity of money?

14. Is a carriage capital? Is the money paid to a policeman by the city capital? Consider whether the policeman is a productive laborer (see section 53). Is the money paid to a molder in a foundry capital? Why?

15. Name some article which is wealth, but not capital. Mention some use of money when it is not capital.

CHAPTER XI.

HOME AND FOREIGN TRADE.

102. To any one looking over a great city during working hours, the confusion of noises and movement of people indicate a variety of occupations which, regarded as a whole, seem like an incoherent jumble, without method or purpose. Chimneys are smoking, machinery is rattling, wagons going in opposite directions are crowding the streets, and people swarm the footways. The complexity of business affairs seems hopelessly intricate, and we might possibly think that what we see is merely the result of chance. Every person is expected to choose an occupation, and in one way or another take some part in this bustle of work or production. In short, all this marvelous world of **trade exists to satisfy human wants.** It is the result of efforts to get those things which satisfy our desires. And it is this seemingly complex organization of the business world which we are now to study. It is complex, because man has summoned to aid him in this struggle for wealth all the resources of invention, all the accumulated skill of centuries, and all the results of civilization. This is also the reason why it is of such great interest. Ships, railways, warehouses, carts, express-wagons, stores, and their thousands and millions of laborers are doing the work of exchanging goods. It is not sufficient simply to produce in Vermont what a man wants in Texas. That must be carried to him and something

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brought back. Cotton and woolen goods are rolled into Boston or New York by trains, shipped by steamer to Galveston, and cotton is carried back by water, or cattle are driven northward to be sent by rail to the eastern seaboard. Each man's goods must find a **market**—that is, they must find a man who wants them, and who, at the same time, can give in return articles desired by their owner or manufacturer (see section 29). No one can make for himself all the things he needs.

103. All this marvelous machinery of exchange, which has grown up by the slow experience of men, is due to the fact that men and places are differently adapted for different purposes; or, in a word, it is due to **division of labor.** It has been found that, by confining themselves to one thing, persons can produce a greater total of wealth than if each person worked by himself and tried to produce everything he wanted. For example, each man of a thousand, working by himself, might produce a barrel of flour, a pair of shoes, and a coat in a certain time; and so the thousand men might produce one thousand barrels of flour, one thousand pairs of shoes, and one thousand coats. But if one third of them devoted themselves solely to producing flour, another third to shoes, and another to coats, they could, by this division of labor (to say nothing of being able to use machinery), produce a vastly greater amount in all than one thousand barrels of flour, one thousand shoes, and one thousand coats. It is no exaggeration to say that, with the stimulus of competition, with the inventions, and with the acquired dexterity and experience which familiarity with one occupation gives, they would produce ten, or a hundred, or a thousand times as much wealth as if each tried to produce all these things by himself. One hundred years ago, it is said, one person out of five was needed to supply the clothing of the people; but to-day only one person out of two hundred and fifty is needed, and we have much more and

better clothing now than then. It has been found, consequently, that, if each person selects one occupation, and works only in it, he can, by his increased product, really get more of the other things he wants. By producing more of one thing which others want, he can get in exchange more of the things he himself wants. This truth is so generally acted upon that it causes a great **diversity of occupations** in every community. Indeed, no community can reach the stage of civilization and the slight density of population which of itself leads to division of labor without having a great variety of employments or trades. In every little country village we find a blacksmith, a carpenter, a shoemaker, a merchant, a physician, besides farmers and others. A physician, by devoting himself to the study of medicine, can gain more knowledge and skill than each person could get for himself while working in other ways all day long. By giving his services, he can get a blacksmith to shoe his horse cheaper and better than he could do it himself; he can buy more of the things he wants by what he earns in his practice than if he tried to make each thing himself. So it is with all the others. By looking at Chart III, on the next page, we can see the relative proportions of occupations in the United States. It will be observed that one very large division—called trade and transportation—is engaged simply in exchanging the goods produced by those in the agricultural and manufacturing classes. This separation of employments, by leading each person to do only one thing, at the same time makes him more dependent on his neighbors, for it **creates the necessity of exchange.** If each person tried to produce all that he wanted, as Robinson Crusoe did, there would be no reason for an exchange of goods with others. There would, in that case, be no busy cities, no steamers, no vast network of railways, and no great stores and warehouses. The reason why goods are exchanged at all is because every person can do some

CHART III.—*Chart showing for the United States, in 1890, the ratio between the total population over ten years of age and the number of persons reported as engaged in each principal class of gainful occupations. Compiled from the returns of the Eleventh Census.*

NOTE.—The interior square represents the proportion of the population which is accounted for as engaged in gainful occupations. The unshaded space between the inner and outer squares represents the proportion of the population not so accounted for.

(1.)	Engaged in agriculture, fisheries, and mining	9,013,201
(2.)	" manufactures and mechanics ...	5,091,669
(3.)	" trade and transportation	3,325,962
(4.)	" professional and personal services	5,304,829
		22,735,661
	Not so engaged	24,677,898
	Total population over ten years of age	47,413,559

one thing better than many things by concentrating his power rather than by scattering it. All this is implied in selecting a profession or a trade.

104. When we see that exchange of commodities is due to the separation of employments, or division of labor, and when we reflect for a moment on what a **variety of desires** each person has, we can begin to understand why the world of trade seems so complicated. One workman in a factory may make nothing but the screws used in a watch, and yet how many and various are his desires. It is really surprising to find out what such a man gets in return for working only on screws. "We do not think it remarkable to sit down to a table covered with articles from all quarters of the globe and from the remotest isles of the sea—with tea from China, coffee from Brazil, spices from the East, and sugar from the West Indies; knives from Sheffield, made with iron from Sweden and ivory from Africa; with silver from Mexico and cotton from South Carolina; the apartment being lighted with oil brought from New Zealand or the Arctic Circle. Still less do we think of the great number of persons whose united agency is required to bring any one of these finished products to our homes—of the merchants, insurers, sailors, shipbuilders, cordage- and sail-makers, astronomical-instrument makers, men of science—before a pound of tea can appear in our markets." * By making screws alone, the workman gets some of all these things, and more besides. Indeed, so varied are each person's wants that it seems almost inconceivable that he should be able without fail to get every day or week, when he wants them, these many things in exchange for his single product. How is it arranged so that steamers coming from India bring him just the thing he wants, and in just the quantity? Neither the owner of the steamer nor the captain knows this particular workman; but they both do know that millions of

* Bowen, "American Political Economy," p. 25.

changed for other goods. A large part is used in buying more material for his mill, to repair machinery, or pay wages, and another part forms his profits; but he does not eat this money. He spends it for goods in one way or another; he pays it out for the expenses of his household, for horses, or books, or pictures. No one produces and sells simply to get money: we work to get money only for what the money buys. Money is merely a road—not the place to which the road leads.

107. Since, therefore, each person who is producing is looking for a buyer, and since the buyers are scattered everywhere, it is a convenience for both buyer and seller, if some one spot is provided as a common place for meeting. A man having butter to sell may not know who wants butter, but, if there is a place where butter is taken to be sold, he will expect to find buyers there. Such a place is a **market,** or store. This is the way trade goes on. Originally people held fairs, such as the one described by Scott in the "Pirate," or such as are now held annually at Nizhni-Novgorod, in Russia, and at other places where buyers and sellers may meet. Every store is only a species of *fair.* A large dry-goods store in a city is a very large fair. Articles of all kinds are kept on hand, ready for the buyer. The reason that stores exist is that there is a separation of employments. **Merchants** make it a business to open a place where certain goods are kept, so that producers may know where their goods can be offered, and so that buyers who want a particular thing can know where to go to get it. If each person supplied all his own wants, there could be no trade, and there would be no such thing as a merchant or a "business-man." But we have seen (sections 10–12) that it is an enormous gain to have a division of employments, so that the existence of a class of men "in business" and trade, who keep stores where certain goods can be found by any buyer, is a natural consequence of the separation of employments. A great market where

a seller can find a buyer is a saving to both not only in time but in convenience. In European cities you will find fixed spots in the market-places where peasants bring their fruit, vegetables, and fish, and where buyers constantly go. So it is in many places in the United States. There is no difference in principle between a house in which thousands of packages of cotton and woolen goods are kept and a place like the square in Nuremberg where peasants gather to sell fruit and fish. The object is the same. The business-world, then, contains a vast number of "markets," or contrivances by which buyers and sellers can be brought together. It is in the occupations of producing goods to satisfy some desires, and in exchanging them, that the people are engaged whom we see in the noise and confusion of a great city, rushing about hurriedly and without any purpose that we can observe. It is a puzzling sight, because of its seeming intricacy, but the object is not hard to understand. Of course, the detailed process by which the buyer and seller find each other differs with each particular kind of goods, and to understand this practical method is what is meant when one speaks of "learning a business." This is something which can be learned only by experience. No science can teach this beforehand, and yet this thing, which may result, when successfully done, in "getting rich," is by some uninformed people wrongly supposed to lie within the province of political economy. This study, however, discovers the principles governing the exchange of goods; but the actual means of carrying out the exchange is left to the "business-men."

108. It is to be noticed, however, that those persons who become merchants, and devote themselves and their capital wholly to making it possible for producers to exchange their goods, demand payment for their time and the use of their capital in this occupation. This is a charge which all people must pay who deal with merchants; that is, one person sells his eggs to the merchant for 18 cents,

and the merchant demands from the buyer an increase, say, of 4 cents, as his profit. It is evident, of course, that the merchant must get the ordinary rate of payment for his capital and time, or he will give up the occupation. Yet a good many people think that these middlemen, who, like merchants, stand between buyers and sellers, are useless, and the expense of supporting them unnecessary. If, however, they are unnecessary and costly, it is strange that the world continues to make use of them in increasing numbers. In fact, it must seem clear that, **because of a division of employments, some common place of exchange like stores is needful,** and that we can not get along without them. If each person were to try to find a buyer for his products, instead of finding one man who would do that for many persons (and so more cheaply for each), he would waste a great deal of valuable time and money. This is the reason why a vast number of the exchanging class are necessary to the production and distribution of wealth. Of course, if merchants were to become exorbitant or their methods wasteful and expensive, some cheaper means would be devised by which the same exchanges could be carried on. One such method has been devised in co-operative stores, which will be described later on (Chapter XXXIV).

109. Let us take one example of the **way in which exchanges go on** all around us. The man who makes only screws for watches is paid by his employer in money for his screws; with the value of his screws now expressed in money he goes to a retail "market," where a merchant has brought together flour from Minnesota, spices and sugar from the West Indies, sago from South America, etc. There he breaks up the value of his wages into small parts by the use of money, and so gets that which feeds and clothes his family, and in just such quantities as he wants it. So with the manufacturer himself. He has advanced capital as wages, materials, buildings, machinery, etc., to keep

the factory going. His capital is consumed, but it reappears in the form of watches. He finds in watch-stores a market for his goods, and sells them for money; and with the money he then renews his capital and keeps a profit for himself. The money is all exchanged for goods either in materials, wages, etc., or in supplies for his family. Money is in this case only a convenient way of exchanging watches for the objects of the manufacturer's desires. Here, again, money is only a road between the thing produced and the thing desired. In a similar way this can be shown of all other employments. Later we shall see how bankers come in to assist in the same processes of exchange (Chapters XVI and XXXI).

110. The people of the United States, we now see, have a great variety of occupations, because it has been found that there is a gain in having some men engaged in one and some in another process of production. All men can not do all things equally well. By **division of labor men are classified according to their ability and capacity.** It would be absurd to make a great lawyer like Daniel Webster sweep out his office and run errands, because by his talents he could earn enough while a boy was running one errand to hire him for a year. No doubt the lawyer could do the errand as well as, or better than, the boy; but he can confine himself to work which the boy or even most men can not do, and thus he can accomplish more for himself and for the community in which he lives. In the same way, some places are better suited for one kind of production than for another. New England, with its thin, stony soil, can not produce wheat as well as Dakota, while Dakota can not as yet produce cotton prints as well as New England. So it would be as absurd to expect New England to give up making cotton goods and set to work growing wheat as it would be to make the great lawyer run errands. New England is acting on this principle of **division of labor, according to places,**

every day: by making cotton goods in which its advantage consists, it gets a vastly greater quantity of wheat by exchanging its cotton goods for wheat than it would by producing wheat at home. It is hardly necessary to say that different parts of our country are differently adapted for producing the same things. It is a truism to say that no State in the Union is like every other State in its soil, its moisture, its extremes of heat and cold, its forests, its rivers, its mineral resources, and fuel. Every one knows this. This is the reason, then, why there is a separation of employments in the United States, according to natural advantages. At first, in a new State, when the inhabitants are few, they are chiefly engaged on the soil; then, by a natural and inevitable step, as soon as population increases, the separation of employments begins. Carpenters, shoemakers, doctors, lawyers, teachers, cabinet-makers, etc., appear. Some spot, probably, is found to contain rich deposits of coal, or iron, or copper; consequently, the main occupation of the people there will be the mining and transportation of coal or the smelting and rolling of iron. Near Lake Superior copper was found in enormous quantities, and that gave a special character to the employments of that region. With the copper they bought the other things they needed. They could get more of other things, because a day's labor would produce more copper in value than it would of grain or cloth. Lately, new and rich copper-mines have been discovered in Montana, and this has reduced the special advantage of people near Lake Superior. The persons who want copper, however, should be able to get it cheaper if a new and superior source of production is found. In this way, then, we find that there is a separation of employments, owing to different natural resources, as well as to different capacities among men. One has but to consider where sugar, and cotton, and lumber, and tobacco can best be grown to see this truth.

111. If a farmer in Dakota, growing wheat, wants a piano, we can see how he gets it. One set of men in the United States are manufacturing pianos, while he grows wheat. When he wants a piano, why does he not make one himself? The reason is plain. He would evidently waste a vast amount of time even in learning how to do the simplest work in connection with the keys or the strings, and when it was done, with perhaps 700 days' labor, he would have an inferior instrument. Suppose, however, he should set to work to break up more prairie soil, and sow more wheat. By 500 days of labor he might have 1,000 bushels of wheat to offer to some one who, in a separate employment, had been making pianos all his life. He sells his 500 days' labor, in the form of 1,000 bushels of wheat, to a dealer for money, and with the money buys a piano. In this way, by "sticking to his last," and doing the thing for which he was suited by experience and capacity, on land especially adapted for wheat-growing, an amount of wheat was produced in 500 days of labor which enabled him to buy the piano. If he had foolishly tried to make the piano himself when he might have been growing wheat, it would have taken him 200 days more (or 700 days) to produce an instrument which would never be mistaken for a piano, and which would not have had a perfect octave in it. By raising wheat, he produced directly, with the least possible exertion, that which bought the piano for him. He used seed, plows, and land in order to get a piano, instead of using piano-making tools; for the reason that he could attain his object with less labor in the former than in the latter process. On the other hand, the piano-maker could not at the same time carry on his manufactory, buy land, learn how to raise wheat, and finally produce a crop of a thousand bushels as easily as the farmer could. By spending 400 days' labor he might make a piano, which would buy for him 1,000 bushels of wheat; but, if he should set to work growing wheat on his own account, it

might exact 800 days of his labor on the poor soil near his factory. Now see what the advantage is from division of labor:

Farmer in Dakota.	Piano-maker in New York.
500 days' labor gives 1,000 bushels wheat.	800 days' labor gives 1,000 bushels wheat.
700 days' labor gives a piano.	400 days' labor gives a piano.

By spending 500 days of labor in wheat-growing, the farmer gets wheat enough to buy a piano, which would have cost him 700 days of labor. By the principle of division of labor, he saves 200 days of labor, or as much wheat (400 bushels) as he could produce in 200 days, by sticking to one industry. On the other hand, the piano-maker by 400 days of labor gets an instrument which buys him 1,000 bushels of wheat. If he had tried to produce the wheat himself, it would have taken 800 days; consequently, he has saved 400 days of labor by the principle of division of labor. We can even count up the total gain arising from the separation of employments. If the farmer had produced the piano himself, and the piano-maker had grown the wheat, together 700 + 800 days of labor would have been demanded from them. But, if each produces that in which he has an advantage, only 500 + 400 days of labor is spent by both together; and yet each has secured the same satisfaction of his own wants. Without separation of employments, it took 1,500 days of labor to get the wheat and the piano for each; with this separation, according to relative advantages, 900 days of labor accomplished the same results. So it is in all the variety of trades in the United States. **Whatever a man can best produce,** in the least number of days' labor, owing to his capacity and training and the natural resources at his command, **that he will use as the means of purchasing** for himself, by trade with other employments,

the many objects of his own consumption and use. The farmer in Dakota can best supply himself with clothing, carpets, books, plows, and reapers by raising cattle or growing grain, simply on the principle of division of labor. All home trade, then, is the result of this separation of employments.

112. If this farmer should want a silk dress from France for his wife, he would do exactly the same thing as he did in getting a piano. Why should he not produce the silk goods himself? Simply because he would gain more by working with those conditions about him which are favorable for producing the most grain with the least number of days' labor. His wheat and flax are his best means of buying silk. In 100 days' labor he can produce, perhaps, 100 bushels of wheat. But it may happen that silk can be produced in the United States. Then why should he send to France for it? In the United States it requires the silk manufacturer, say, 120 days' labor to make 25 yards of this silk. In France, however, suppose 25 yards of silk can be made in 90 days, while it requires 115 days' labor in France to grow 100 bushels of wheat. France has an advantage in silk over wheat; but in the United States there is an advantage in wheat over silk. Now here are conditions which fit each other, and lead to a trade which would be a gain to both the Frenchman and the American. By producing silk, the Frenchman can buy more wheat; by producing wheat, the American can buy more silk. This is the same result which was reached before in regard to people in the different industries of the United States. Each person, by doing one thing to which he was suited by training and natural resources, was enabled thereby to buy more of other wealth. In the same way we can see how each may gain by the trade between France and the United States. The case of international trade is, then, no different in principle from that of domestic trade:

United States.	France.
100 days' labor gives 100 bushels wheat.	115 days' labor gives 100 bushels wheat.
120 days' labor gives 25 yds. silk.	90 days' labor gives 25 yds. silk.

Imagine a ship leaving the United States with 100 bushels of wheat on board bound for Havre. It is found on reaching Havre that 100 bushels of wheat are produced in France by at least 115 days of labor, and so would be worth more than 90 days' labor in silk (nearly one third more). Consequently, the American wheat would buy more than 25 yards of silk (nearly one third more). With this silk the vessel returns to New York. Now what has been the use of going to France? It is found that the wheat has brought back at least 25 yards of silk (leaving out the one third for freight charges), which in the United States would have required 120 days of labor; that is, 100 days of labor in the United States, when directed to producing wheat, would buy silk from France, after paying all expenses, which, if it had been produced in the United States, would have cost the farmer 120 days of labor. He can thus save himself 20 days of labor by trading with the country which has an advantage in producing silk, when he, on the other hand, has an advantage in producing wheat. Wheat and silk could both be produced in the United States; but one required a less number of days' labor to produce than the other, and that is itself a reason for trade with France. The article **which could be produced more easily by comparison with the other** would be sent to France, and the other brought back. This is the reason for the existence of all foreign trade, and is a very important principle.

113. But, if we think a moment, we see that the same principle determines all home trade. It is simply the

result of division of labor which is the cause of all trade, both home and foreign. The people and countries of the world produce various things with different degrees of ease; England has cheap coal and iron, France produces silk and wine cheaply, Germany produces linen successfully, the United States yields cotton, tobacco, and provisions at a low cost. Owing to this **division of labor, arising from the natural resources** of different places, or from the peculiar training and qualities of a people, there is a separation of employments, just as in all trade within the United States. A person in our country naturally wishes to take his goods where he can get the most for them, and that is where the things he wants are produced at the least cost. When he brings back the products of other lands, he does not want to have any regulations interfere to take away a part of his gain from the foreign trade, and give it to some one else. On one farm A has land which yields potatoes with excellent results; he gets 100 bushels from an acre, but he can raise only 18 bushels of oats. Next to him is a farm owned by B, whose land gives him 40 bushels of oats to an acre, but only 20 bushels of potatoes. Would it be better for A to grow potatoes entirely, or use some land for oats? Let us see. Potatoes sell, we will suppose, for 80 cents a bushel, and oats for 50 cents. At these prices A could get $80 an acre from potatoes, but only $9 if he raised oats. B, however, gets $20 an acre for oats, but only $16 from potatoes. By devoting an acre to potatoes, A could get $80 in money, or enough to buy 160 bushels of oats from B; when, if A had been forced to grow oats, he could only have produced 18 bushels. By producing that in which he has an advantage compared with oats, A gets his oats at less cost to him. He would regard it as a great hardship, indeed, if any one were to draw an artificial line between the two farms, and say to A: "You must produce your own oats, if you want any"; and to B: "You must raise potatoes,

if you want any, and not grow oats alone, and with them buy potatoes from A. It is better that each man should do more things." But B says: "I can buy more potatoes by growing oats than I can by using land suitable for oats in growing a scanty crop of potatoes. A gains likewise. I have less by this new rule; and A has less. It is rank injustice. I do not wish you to interfere, if interference means such a mistake as this." He would most likely say the same thing if A were in France and B in America, for home and foreign trade are carried on in accordance with the same rules. Each arises solely from division of labor.

114. By this explanation we see why it is that a gain is derived from exchanging goods with foreign countries. It seems, at first glance, as if the freight on goods brought from such distant places would be so much as to deter people from trading there. The gain is, of course, greater than the charge for freight, or such trade would not go on. As it is, our foreign trade amounts annually to, perhaps, $1,500,000,000. Goods to that amount would not be exported and imported, if there were a loss in the transaction. Our foreign trade is, moreover, increasing. The real gain is that by sending away our cheapest exports we get more imports than we could get for the same labor at home. As Mill says: "A country obtains things which it either could not have produced at all, or which it must have produced at a greater expense of capital and labor than the cost of the things which it exports to pay for them." He also says: "Setting aside its enabling countries to obtain commodities which they could not themselves produce at all, its advantages consist in a more efficient employment of the productive resources of the world. If two countries, which traded together, attempted, as far as was physically possible, to procure for themselves what they now import from each other, the labor and capital of the two countries would not be so productive, the two together would not obtain from their industry so great a quantity of commodities as when each employs itself in producing both for itself and for the other the things in which its labor is relatively most efficient. **The addition thus made to the produce of the two combined constitutes the advantage of the trade."*** This, also, is the explanation of the gain in all home trade. The gain is not in what we give, but in getting what we receive at a lower cost than if produced at home, or by ourselves.

115. The utility of place is an important factor in causing persons to set an increased value upon goods when carried to the spot where their consumption gives greater satisfaction than at the spot where they may be produced. Goods thus acquire a higher value under this demand, if effective on the part of purchasers, in different parts of the country than in others. This is the justification for railway transportation: it adds a value often much greater than the freight charges from place to place. Wheat gains in value by being sent from the grain fields of the West to the Atlantic seaboard. The Illinois Central Railway made a careful examination as to prices of goods at the place of shipment and at the place of destination. On a total price of goods shipped in the year 1900, valued at the place of shipment at $920,083,726, the total prices of the same goods at their destination was enhanced by $226,272,923 (of which the railway received for its services $11\frac{4}{10}$ per cent). These facts give a concrete illustration of the material gain to the community by transportation.

116. Exercises.—1. A cooper is making barrels. By what means can he pay the expenses of his son at school? Does he use barrels for this purpose?

2. Do you know of any person who produces all the things he uses? Does a hunter? Did he make his tin cup?

3. Why does a tailor go to a shoemaker when he needs a

* "Political Economy," Book III, chap. xvii, §§ 3, 4.

pair of shoes? How does he pay him? Could he pay him, if the shoemaker did not want work done by the tailor?

4. Why is it that the cargo of an ocean steamship coming to the United States is generally made up of a great variety of articles? Why should not all imports be of one kind?

5. A farmer came into a store in town and exchanged calico for his eggs. Was he a buyer or a seller? If he had sold his eggs the week before for money, and now offered the same money for calico, would there be any difference in the trade?

6. One manufacturer is producing stoves. Who are his consumers? Is he a consumer of anything? If so, can he be a consumer and a producer at the same time? Mention, if you can, a producer of something who consumes nothing. When a pencil is made, is anything consumed?

7. Why is it that a country store keeps a little of everything, while many city stores, as china stores, bird stores, stationery stores, etc., sell but one kind of thing?

8. Why is it right that a retail merchant should charge a higher percentage on the price of the goods he sells than the wholesale merchant? Even if a retail dealer does a small business, must he not have a store open all the time?

9. A boy bought a stylographic pen made of rubber. His father gave him the money. Lately his father, a lawyer, had successfully won a suit for a maker of colored beads. The maker of the pen brought the rubber from Africa. Trace the various steps by which the exchange for the pen and the money was effected. Was the bead-maker paying the natives who collected the rubber in Africa?

10. Some mountainous districts of Alabama are found to contain rich deposits of coal and iron. If the people there want carpets, what is their best way of satisfying that want? Would coal-miners make carpets as well as they are made in factories built for that purpose?

11. Why should a Texas ranchman send his cattle to the East, and with his money buy clothing to take home? Why could not each ranch have a woolen-mill or a tailor-shop? Why should not each ranch also have a physician, a teacher, a shoemaker, a carpenter, a sugar-refinery, a rolling-mill, and a button-factory?

12. Why is it that trains go in opposite directions carrying goods? Does a railway company generally carry loaded cars in one direction, and bring back empty cars in the other direction?

13. In a mining region mention some of the things which are probably brought by the railways to the district, and some which are carried away.

14. Would the great ocean steamships be built, if each country were as exclusive as China, and shut itself in with a wall?

15. Would a State be richer if it had no railways or steamboats? Why is it that a district "builds up" when a railway passes through it?

16. Think of something which we send abroad, and of something which we import from abroad. Then state what are the advantages enjoyed in the production of the thing we export. Try petroleum or provisions as exports.

17. Is the United States richer for its foreign trade? If we were forbidden to import anything, would it cost us more to produce at home the things we now import? Why are they now imported? If a country gets more wealth by importing a few things, why would it not gain by importing many things? Would people import, if there were no gain in it? If there is a gain, why should it not be allowed? Ought not imports to be increased, if it is desired to increase a country's wealth?

CHAPTER XII.

DEMAND AND SUPPLY.

117. We have seen that men who have stores and warehouses, those who are engaged in transporting goods to and fro by wagons and railways, are all devoted to the task of exchanging goods, so that men from the results of their own work can get in exchange the things they want. Though we have learned that goods are everywhere exchanged in vast quantities, we do not yet know by what general rules these exchanges are governed. Why is it, for instance, that a pine table may be exchanged for five bushels of wheat? Why should it not be exchanged for only one, or for one hundred? Why may a table made of mahogany, of exactly the same design, be exchanged for five pine tables? In exchanging goods, we are comparing a quantity of one article with another; that is, fixing their exchange values relatively to one another, and so we are to seek the **laws which regulate the values of commodities** which are exchanged against one another. We must now try to discover why it is that one thing may be exchanged for more or for less of another thing.

118. It must be understood, however, that in this and the following chapters (from XII to XIV) we take it for granted that **competition is free.** By this is meant that nothing exists to prevent each person from satisfying his economic wants in the quickest way, or along the line of least resistance; that, if labor is more highly paid in one

industry or in one place than in another, laborers will be able to move at once, and take advantage of the fact; and that capital, likewise, both knows and seeks its own advantage by going where it can get the highest profit; that is, when free competition exists, we say that there is nothing to interfere with the free migration of labor and capital. We must also understand by it that people do not follow customs and traditions which interfere with the natural exercise of their impulses. Competition, to be sure, does not always exist; but for the present we are searching for the laws which govern values in the long run, and in permanent conditions, and we shall assume that it does exist. Later we shall take other influences into account.

119. If A has money and B a coat, and a trade is taking place, we can easily see that, if A is very anxious for the coat (because it may be essential to protect him from the cold in work out of doors), he may raise his offer of money for the coat until, because of A's eagerness, B gets a better bargain. On the other hand, if A held off, and B seemed very anxious to sell, and, rather than not dispose of his coat at all, would sell it for less money, then A would get the better bargain. The price, then, would depend on the relative eagerness of A and B, the one to sell and the other to buy; or, as it is called, on **the demand and the supply.** Here A represents the buying class, because he has general purchasing power, having already parted with his own produce for money; and B represents the selling, or supplying class, who wish to exchange goods for general purchasing power.

120. Yet we should keep in mind a distinction already made (section 106), that, if we assume a position where we can take in the whole industrial community, we can see that all are at once producers and consumers. Of course, no one can get money, or general purchasing power, unless he has goods of value; so that no one who has not produced, or does not control the production of wealth,

can have a demand for other goods. All producers, therefore, form the class, which, having goods, convert them into money, and so create a demand. As before said, if all industries are represented by the alphabet, A is producing for B, C, D, etc.; B, for A, C, D, etc.; C, for A, B, D, etc.; and so on. So, when we take all the industries together, all are producers, and solely for that reason all can have a demand. This is true, however, only when we take demand in its general sense.

So, also, of supply. A, B, C, D, etc., are all supplying something, and it is only because they can supply a thing that there can be any demand. In brief, when we look at **demand and supply generally,** we find that they are but two sides of the same thing. All our wealth is a supply, and all our wealth is also a demand.

121. We can from this see the error of those who talk of **general overproduction.** For, the more there is produced of things which others want (and for which others are willing to work in order to give things in exchange), the more is the general supply increased; but, if properly adjusted to people's wants, the more the general supply, the more people have to offer as demand. A produces in order to get the product of B; and B produces in order to get the product of A. If A and B both come to have more productive power, A and B can produce more things, and so have the means with which to buy more things from each other, and so to satisfy a great many more desires than before. If this be true of all in the country, and all produce more, they will all have the means to buy more, and all can satisfy more wants than before.

But, if it is clear that there can be no such thing as a general overproduction of goods from increasing the supply, can it come about because people have more than they want, and so do not create a demand, because there is a lack of desire for goods? Think for a moment. Did

you ever know a person, all of whose wants were satisfied? Did you ever know of a community in history who had all they wanted? If there is a lack of desire anywhere, why do the people go on producing? People do not undertake arduous labor, unless they have some desire which can be satisfied by their productive power. They work in order to get something they want. Never before in the world's history were men producing as much as now. In fact, as civilization progresses, new desires come into existence.

122. It is, however, essential that only so much of a particular commodity should be produced as people want. Even though the productive power of a community may be increasing, by use of new machinery and by newly-discovered processes, yet some persons may not calculate correctly the quantity of a particular thing which other people (who at the same time are producing, and so have something to offer as a demand) want. In this case, there may be an **overproduction of a particular commodity.** If there are several industries of which this can be said, it is then possible that some persons should suppose they see in it a general overproduction—which is impossible. For, if the power to produce increases greatly, and if many industries suffer from overproduction, that means, of course, that the productive power is not properly adjusted to people's wants. To use an illustration, in certain caves there are stalactites and stalagmites; that is, drippings from the roof form long pendants, like icicles, hanging downward, and corresponding forms rise from the floor upward to meet those above. When there is overproduction of a particular commodity, it is as if there were a stalagmite without a corresponding stalactite; that is, that the persons who want the particular commodity, and have purchasing power, do not turn demand in this direction, or who, because of a distrust of the conditions of trade, are not producing at all. Reciprocal production for

reciprocal wants is necessary to properly-adjusted demand and supply. The business-world is all the time occupied in trying to make this adjustment; but errors are often made, and so goods are often in supply greater or less than the demand.

123. If, as is commonly the case, we are thinking of the **demand and supply of a particular thing,** then we see at once that **demand comes from buyers only,** or from those who offer money for the thing which they desire. Desires alone do not create a demand—"if wishes were horses, beggars might ride." Together with a desire, the buyer must offer purchasing power. Our ideas as to money now come in to help us. We see that men have money only because they first get goods of value, which they exchange for money (in order to be a buyer, one must first be a seller); that is, the possession of goods of some kind is the source of purchasing power, and of demand. Hence some people wrongly think that the quantity of money in existence is the only purchasing power, and that demand for goods is synonymous with the quantity of money. Since demand is seen to appear only in the form of money offered for goods, men often get exaggerated and distorted ideas of the office performed by money. In truth, money (as a medium of exchange) is only like a bridge, by which we cross a stream from one bank to the other—it is a means by which goods get from one person to another. The seller brings his commodity and gets money for it, and with his money he straightway goes and exchanges it for goods again, or becomes a buyer through the intervention of money. The real object of the operation was not to get money alone and keep that, but to get money so that one could conveniently buy the articles which satisfy one's wants. **The supply is furnished by those who have the desired goods, and who at the same time wish to exchange them for money, or general purchasing power.**

But it will be found that, when the supply of an article is very great as compared with the demand, it sells cheaper than usual; and the lower price in turn brings out more buyers. By this we see that the amount of a commodity which can find purchasers depends on the price, or value. The cheapening of cotton goods has greatly increased the quantity which people consume. If they were to rise in price, there would be a less amount wanted than there is now; that is, the supply which people want rises when the price falls, and diminishes when the price rises. As people's wants are constantly varying, there is a constant oscillation going on in the market between demand and supply, and so there are constant changes in market prices. It will appear, however, that these fluctuations can not go beyond certain limits under the operation of demand and supply; for a point will be reached where, if a less price were accepted by the seller, he would not get back what he has a right to expect in making the article. He will not do this usually or often. In the next chapter we shall try to find out what that point, or limit, is.

124. **Exercises.**—1. What is the difference between the cause of the existence of value and a measure of value? What is the difference between the cause of the existence of heat (as fire) and a measure of heat (as a thermometer)?

2. If I had a secret chemical process by which ink could be made well and cheaply, and were to gain large profits thereby, would you say that my profits were exposed to competition and regulated by it?

3. If I were the only man in my town who could manage a bank well, would my salary be lowered by competition of other persons? Would my wages be settled by competition?

4. Why is it that perishable ripe fruit sells at a lower price on Saturday night? If market-men have accumulated a large stock of poultry, why is it sold cheaper when warm weather comes?

5. If a man were lazy and would not work, and if no one were to give him anything, how could he have any demand for goods? How could he get his food? What would he have to do before he could get money to offer for food? If he succeed in creating a demand, has he at the same time increased the supply of something?

6. If all the manufacturers in all the industries of the United States were to take a whim to make axes and nothing else, why would that not be a good thing? When a man goes into manufacturing, does he ever consider whether there is a limit to the amount which he ought to make of anything? Could he spread his factories over acre after acre without limit as to his market? Why can he not do this?

7. Since the metallic money of the world is far less than the value of goods in existence, how is it that any man having goods can get money, and so create a demand? Compare the case of a general commanding a hundred thousand men, on approaching a pass in the mountains through which only four men can walk abreast, and who is alarmed because all his men can not go through the defile at the same moment. The hundred thousand men, however, all get through the narrow pass. Are all goods offered for money at once?

8. Why is it that, in good fruit years, apples are cheaper than in other years?

9. If hearses were to fall in price, would there be an increased demand for them? Would it be the same if woolen goods and flannels were to fall in price? When but a few of a thing are desired, does a fall in price affect the demand as much as when the article is in common use?

10. What is the difference between a buyer and a producer? Can a producer be a buyer if he has not sold his commodity for money? Which do you think stands in the more favorable position—the buyer or the seller? Why? Does not every seller soon become a buyer?

CHAPTER XIII.

COST OF PRODUCTION.

125. In seeking to find out the laws of value, it will be convenient to classify commodities according to the possibility of increasing their supply, as follows:

I. Articles whose **supply is incapable of increase, or whose production is monopolized**—e. g., Raphael's pictures, or a patented article.

II. Articles whose **supply can be increased, but at an increasing expense**—e. g., grain (when the law of diminishing returns begins to act).

III. Articles which are practically unaffected by the law of diminishing returns, and whose **supply can be increased indefinitely at a diminishing rather than at an increasing expense**—e. g., hammers, shovels, clocks.

In this chapter we shall discuss the law of value of only the last class, which includes commodities of ordinary manufacture, and many of common use.

126. In the beginning, however, we must clear away a possible confusion of ideas arising from the use of the phrase **cost of production.** Business men use it to express the expenditure of money incurred in making their goods, exclusive * of their own "profit." Cost, however,

* This corresponds closely with the idea conveyed by "cost of labor to the capitalist" in Mill's treatise, Book II, chap. xv, § 7 (abridged edition, Book II, chap. v, § 5).

means sacrifice, and **cost of production should mean the sacrifice undergone in production.** In the manufacture of a shoe, the man who furnishes capital, which he abstains from using for his own consumption, undergoes, on his part, a sacrifice of abstinence; but he is not the only party to production. Labor, as well as capital, is essential to production; and the laborer's exertion, or physical and mental energy, is sacrifice to him. The sacrifice, or abstinence, of a capitalist is, to be sure, a thing different in its nature and quality from the physical or mental sacrifice of a laborer, but both must be taken into account in speaking of cost of production. In the ordinary use of the phrase in the business world, the sacrifice of the capitalist only can be included in its meaning. This, of course, is an error; and we shall use the expression to describe the **sacrifice of both the laborer and capitalist undergone in the production** of an article.

127. Let us take the simple case of a cabinet-maker making tables. First, before tables can be begun **capital is necessary,** in the form of lumber, tools, and a workshop; so that some one must have abstained beforehand in order to save this capital out of the results of past production. Some one, therefore, has chosen to abstain from wealth which he might have consumed for his own enjoyment. This giving up, this sacrifice, must be rewarded, or it will not be repeated. This is not a small matter. Think what it really means. Imagine that you own a horse, and are using it to plow your land. Now I come along and ask the loan of your horse (which is capital to you) to plow my own land. You know well enough that, if you give up your horse to me, your land must wait and your crops must suffer by delay; and you would never think of granting my request unless you received from me a sum which would be a fair compensation for the losses you would suffer. If you consent to abstain from the use of your own horse, you must be **paid for your abstinence,** or

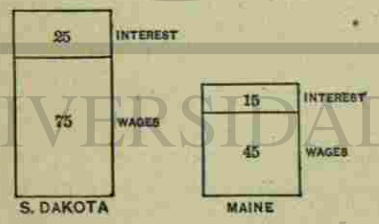
sacrifice. So it is with the cabinet-maker. He must receive from the sale of his tables enough to pay him back his capital again, and also give him something for his abstinence while his capital was invested in lumber, tools, and workshop.

128. Secondly, **labor is necessary.** The mere tools, lumber, and workshop will not by themselves make a table; the time, skill, and handicraft of the carpenter, or his energy as a laborer, are an essential part of the process. This exertion is a sacrifice to the laborer; but it is, to be sure, a very different kind of sacrifice from that required in abstaining from the consumption or use of wealth. Yet, although different in kind, each is to be rewarded by a payment. Just as capital receives **interest** for the sacrifice of abstinence, so labor receives **wages** for the sacrifice of exertion. No one works month in and month out for the pleasure of working without any hope of recompense. The cost of production, then, of a commodity is the sacrifice involved in producing it; and wages and interest are the sums paid as rewards for the various sacrifices.

129. This shows us that there is a vast difference between the **sacrifice** to the persons engaged in production and the **compensation paid for that sacrifice.** The toil of the laborer which wearies his body is one thing, and the wages he receives for that toil is another; to be cut off from the use of one's capital is one thing, and the compensation paid for that abstinence is another. Yet people constantly speak as if the "cost of production" of an article was the amount of wages or profits paid out. This ignores the fact that sacrifice is one thing, and remuneration for that sacrifice is another. By considering "cost" as sacrifice, we give due importance to the sacrifice of the laborer as well as to that of the capitalist. The way of looking at cost of production only from the capitalist's standpoint leads to error. It is not a laborer's wages

that tire him out; nor, when a man receives interest, does it cause him to suffer abstinence.

130. Where competition is free, although the sums paid as wages and interest can not **measure** the actual sacrifices, yet they will tend, on the average, to be **in proportion to the sacrifices.** We can find an illustration in knife-making, where one man drills rivet-holes and another grinds the blades. In the latter work, minute particles enter the mouth and nostrils of the grinder, and it is known that he does not live as long as workmen in other departments. Now, if the same wages were offered for both kinds of work, every one would choose the safer and less disagreeable task; and, as a consequence, no one could be got to do the grinding until the wages given for it were so much higher than for making rivet-holes that they would compensate the laborers (according to their own estimate, since they have free choice) for the greater sacrifice. So that, while it may be impossible to estimate or measure in dollars and cents the sacrifice undergone by a laborer, yet the payments of wages for two kinds of sacrifice will, where competition is free, be (in the minds of the laborers themselves) *in proportion to* the degree of sacrifice.



131. It is a mistake, then, to say that, because wages and interest are high, cost (or sacrifice) of production is high (except in so far as the capitalist must abstain from more capital). Let two men employ equal amounts of labor and capital on two different pieces of land—one in Maine and one in S. Dakota. The same outlay and labor will yield very different returns in these two cases: in Maine perhaps only 60 bushels of grain, but in S. Dakota probably 100 bushels. If one fourth of the product goes to interest and three fourths to wages in both cases, then the same exertion of the laborers in S. Dakota gains for them a reward of 75 bushels of grain, and in Maine only 45 bushels. Even though wages and interest are higher in S. Dakota than in Maine, no one would think of saying that the cost of producing grain was greater in S. Dakota than in Maine. On the contrary, we should say that the cost of production of grain was less in S. Dakota than in Maine; and this properly means that, owing to the fertile soil of S. Dakota, the difficulties of production are less there than in Maine, or that the sacrifice involved in producing an equal amount of grain was less in S. Dakota than in Maine. In brief, **where the cost of production is least, there wages and interest are highest.**

132. Since cost of production means the sacrifice of production, and since both labor and capital (the payment for land can be omitted for the present, see Chapter XXIV) are necessary to production, we may state the manner in which they enter into the manufacture of such a commodity as a table as follows:

Capital will be required for:	**Labor** will be that of:
1. Buildings and ground-rent.*	1. Workmen.
2. Taxes.	2. Manager.
3. Insurance.	
4. Machinery.	
5. Materials.	
6. Wages { a. Of workmen.	
6. Wages { b. Of a manager.	

The cost of production will be greater, the greater the amount of capital required, and the longer it is needed. The wine-maker, for example, after growing the grapes,

* For the meaning of this word, see section 262.

making and bottling his wine, will let his product stand for some years to improve in quality; and in that case the interest on his capital must be estimated according to the **time** the principal is invested, and the cost of production will be greater the longer the capital is abstained from.

The cost of production, too, will be greater or less, according to the **quantity** of labor needed in making an article. In working ten days to make a table, more sacrifice of labor is needed than if the same laborer made a chair in five days' labor. Of course, if skilled labor is employed, that will be equivalent to greater sacrifice to the laborer; since the skill on the average represents training and previous outlay by the laborer for his education.

Cost of production of a commodity, then, varies with the quantity of capital abstained from, together with the time it is employed, and with the quality of labor engaged, together with the time it is employed. What the payments are for these sacrifices is another thing.

133. Where competition is free, the wages paid for work involving the same sacrifice in different employments will be the same, and the payments for capital will be the same. We do not say that competition always exists; but where it does, this is true. The charge for the use of capital, where the security is the same, would not be different to different persons and industries. If it were, there would then be a **migration of capital** to the spot where it would earn more, and away from the spot where it would earn less, until the rates were equal—just as water, when nothing interferes, tends to seek a level. So with labor. If wages were higher in some places and industries than in others, the tendency would be for **laborers to migrate** where wages are highest, and thus to equalize wages. If, then, there is the same sacrifice to laborer and capitalist involved in making a shoe and a hat, the

payments for the sacrifice should be the same in each case; that is, the wages and interest would amount to the same sums in each case. When this happens, it is clear that the two articles will exchange equally for each other; the value of the shoe will be equal to the value of the hat. Therefore, **where competition is free, commodities exchange for each other in proportion to their cost, or sacrifice, of production.** This is the **law of normal value** of manufactured goods, or articles unaffected by the law of diminishing returns, for which we were seeking in this chapter.

134. The **fluctuations of value** may carry the price of a hat, for example, above or below that sum which is proportional to its cost of production. If the price in the market were **less** than the normal value, men would not long be content with receiving a smaller remuneration for their labor and capital than they could get elsewhere, and they would seek some other industry. The most skillful would probably remain in the business, but others would gradually withdraw from it. This would result in a reduction of the supply of hats; and, as the supply fell off, the existing demand would finally raise the price to a point where it would equal the normal value.

If the price of hats were **greater** than the normal value at any time, each producer would try to increase his product in order to reap the advantage of the high remuneration; and, if it were believed that the demand would continue to keep up the price, others, hearing of it, would enter this industry, and increase the supply. These causes would increase the supply until the price fell to the normal value. According to the law of demand and supply, **a fall of price increases the demand for the goods and lessens the supply, and a rise of price diminishes the demand and increases the supply.** The manufacturer watches the market closely: if he sees that the supply is large, he will limit his production; that

the supply is short, he will increase his production. In this way the self-interest of the manufacturers is enlisted to **keep the supply in the market sufficient to satisfy the demand for the goods at a price which will just equal the normal value.** The market value, therefore, may fluctuate above or below the normal value, but will always tend to recur to it. Although waves are rising above and falling below the surface, yet the water of the ocean is always seeking its level.

135. It may be well to remember, however, that the normal value does not always remain the same. If materials, for example, increase in value, that would cause an increase in the outlay of capital. When, on the other hand, the laborers become more efficient, or improved machinery is introduced, or a better division of labor is rendered possible by the system of large production, then more can be produced for the same outlay, and so the value of each article can be reduced in value and price. To illustrate, suppose that 1,000 tables are produced in three months, at an expense, all told, of $30,000, or $30 each. But, if new machinery were introduced which enabled 1,500 tables to be made in the same time, by the same number of men, then, even allowing a greater charge for the use of better machinery,* each table could be sold for about $23.33⅓. In other words, the cost of production or the sacrifice involved in making a single table has been diminished by the introduction of more efficient machinery, and this result becomes apparent in the lowered normal value of the article made.

* This supposition may be roughly stated as follows:

(1.) Buildings, etc.	$600	(2.) Buildings	$600
Materials used up	9,280	Materials	13,820
Machinery (use and wear)	300	Machinery (use and wear)	700
Taxes	250	Taxes	250
Insurance	1,000	Insurance	1,000
Wages (100 men)	17,000	Wages	17,000
Manager's wages	1,200	Manager's wages	1,200
	$29,630		$34,570
Int. 3 months, 5 per cent.	370	Int. do., about	430
1,000 tables, at $30 =	$30,000	1,500 tables at $23.33⅓ =	$35,000

The great improvements in machinery and the marvelous progress of invention and skill have, in the last one hundred years, reduced the prices of manufactured goods to a very remarkable extent. This has been done in just the way we have explained, although wages of hired workmen have also risen. It is precisely with manufactured goods that division of labor, large production, and improved processes have had the greatest influence in cheapening their attainment (see Chapter VIII). We give herewith Chart IV, which shows the movement of prices* since 1850. Starting in 1850 from the same line marked 100, the rise or fall of the lines indicates how the prices have fluctuated. It will be seen that the fine dotted line, representing the prices of manufactured goods, rose from exceptional causes during our civil war, but fell afterward from about 128 in 1873 to 100 in 1885. If it had not been for the great production of gold, these prices would have shown a still greater fall. We shall refer to the chart again when we come to discuss agricultural products. But it will be well to remember that the general tendency of manufactured goods is to fall in price, as people grow in skill, intelligence, and experience, and as invention furnishes new machinery. We shall soon find that the value of this class of goods stands in marked contrast to those articles affected by the law of diminishing returns, whose value tends to rise as more is wanted by an increasing population.

136. A distinction should be kept in mind between cost of production and expenses of production. Cost, of course, means sacrifice, and is subjective; and it is incapable of definite measurement. But, for the personal sacri-

* The chart is based on prices at Hamburg, published by Dr. A. Soetbeer in 1886 ("Materialien," etc.).

fice, society gives industrial rewards in the form of wages, interest, etc. Hence, the subjective costs are represented in practical experience by the quantitative rewards given for them; that is, the quantitative rewards for subjective sacrifices make up the **expenses of production** of one article. And, in everyday life, it is the expenses of production which business men have in mind when they use the term "cost of production." Only by using concrete expressions for costs could we give them any economic treatment. For instance (in section 132), the subjective estimates by laborers and capitalists are both a part of production; but the expenses of production appear by adding up the sums paid for each of the subjective estimates, as may be thus illustrated:

Cost of Production of a Table.		Expenses of Production of a Table.	
Subjective estimate on use of Capital for	Buildings, etc.	Buildings, etc.	$600
	Materials.	Materials used up	9280
	Machinery.	Machinery (use and wear)	300
	Taxes.	Taxes	250
	Insurance.	Insurance, etc.	1000
	Wages.	Wages (100 men)	17,000
	Manager's Wages.	Manager's Wages	1200
			29,630
Labor of	Workmen.	Int. 3 months, 5 per cent	370
	Manager.	1000 Tables, at $30	$30,000

The distinction is largely one of convenience, to avoid misunderstanding; because most persons really mean expenses of production when talking of cost of production. In speaking of price corresponding to "cost of production," of course it can be true only in the sense of expenses of production. For a rise in the amount of wages paid, or in the amount of interest exacted, would increase the price which must be sufficient to cover the expenses of production.

137. Exercises.—1. Is there any limit to the production of cotton cloth? To which class would you assign it?

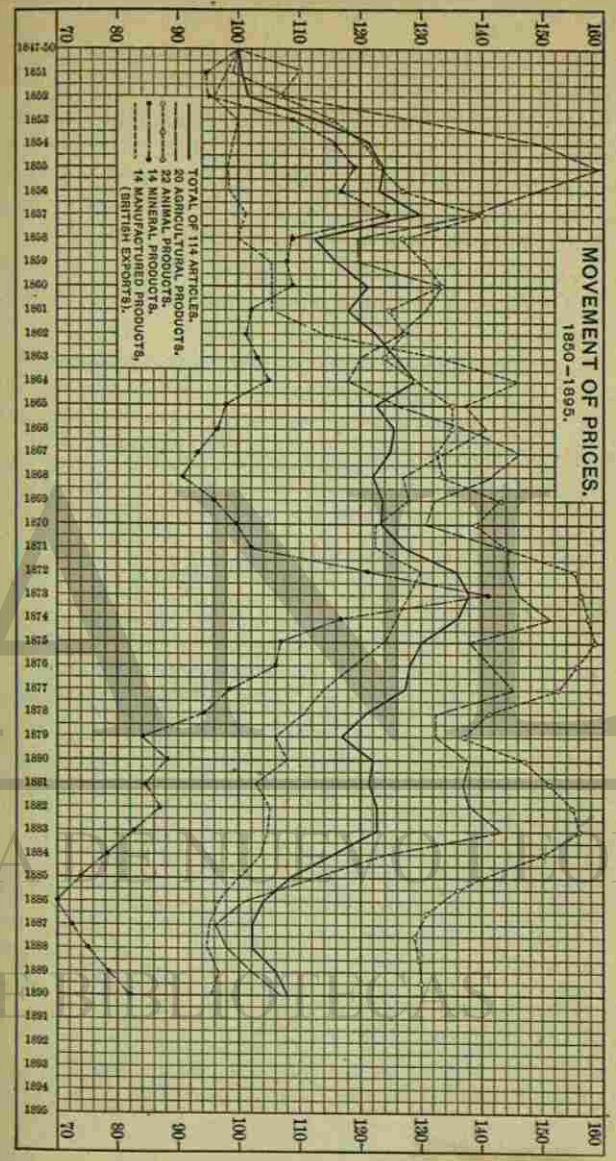


CHART IV.

To which class would you assign the raw cotton out of which it is made?

2. If you were poor, and had saved enough money to buy a pair of shoes just as winter was coming on, why would you not be willing to let another person use them for a month? Could any one complain if you refused?

3. If you depended on hunting for your existence, would the deer shot by your rifle be wages for labor or payment for the capital in the form of your rifle? What kinds of sacrifice were necessary before the deer was shot?

4. When large and efficient steamships drove sailing-vessels, to a great extent, out of the carrying-trade on the ocean, what happened to the value of sailing-vessels? Why were some to be seen rotting in our harbors? What effect would be produced by a falling off of the demand?

5. Why is it that, when the demand for shoes is good, the factories are all busily occupied? What effect has demand on the supply? How can the supply keep the price down to the normal expenses of production?

6. If all the workmen in the cotton-mills strike and get higher wages, and those in the woolen-mills do not, will that affect the value of cotton goods in respect to woolen goods? Will it raise the cost of production in the cotton industry? Will cotton goods exchange for more woolen goods than before? Will more capital be advanced in the form of wages?

7. Show how it may be possible, by the introduction of new machinery, to pay more wages to workmen (as in the second case in the note, section 135), and yet sell the 1500 tables for, say, twenty-seven dollars each.

8. If improved machinery lowers the price of manufactured goods, does that mean that gold is scarce? If the price is the amount of gold for which the goods exchange, then, when the price falls, does that imply that the rise in the value of gold is due to its scarcity? Has gold moved away from the goods, or the goods away from the gold?

CHAPTER XIV.

THE VALUE OF COMMODITIES AFFECTED BY THE LAW OF DIMINISHING RETURNS.

138. We may now go on to study the law which governs the value of commodities affected by the law of diminishing returns, of which agricultural products furnish the best example. (Class II in section 125.)

It will appear at once that, unless the price of an article is equivalent to the normal value, just as in the case of manufactures, it will not be regularly produced. This is true. But there are **different costs of production** in growing such things as grain, and we must decide which one is to be taken as the regulator of value. A bushel of wheat when raised on poor land at great cost sells in the market for no more than another bushel grown on rich land at comparatively little cost. The sacrifice necessary to get a bushel of wheat from the soil is thus not the same, and yet the two products have the same value in the market. Why is this? If the cost of production is higher in one case than in the other, why is it that both exchange for the same amount of money?

139. Recall, for a moment, what is meant by the law of diminishing returns (see section 39). **After a certain point in the cultivation of land has been reached, any additional supply can be obtained only at an increasing cost.** This means that the same labor and capital will obtain a less quantity of products than before.

To which class would you assign the raw cotton out of which it is made?

2. If you were poor, and had saved enough money to buy a pair of shoes just as winter was coming on, why would you not be willing to let another person use them for a month? Could any one complain if you refused?

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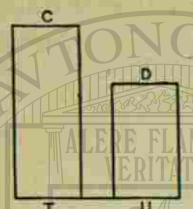
139. Recall, for a moment, what is meant by the law of diminishing returns (see section 39). **After a certain point in the cultivation of land has been reached, any additional supply can be obtained only at an increasing cost.** This means that the same labor and capital will obtain a less quantity of products than before.

But land is of very different grades of fertility. The highest grade, moreover, may not be of sufficient extent to furnish all the agricultural products needed by the world for food and for materials of manufacture. Hence, if population becomes more dense, and more is wanted from the land than the highest grade can produce, the increasing demand for these articles will raise the value and price, so that it will pay to cultivate poorer soils (or to spend more money on soils already in use).



By way of illustration, we may suppose that for the same labor and capital one kind of land, C T, yields 30 bushels, and another kind, D U, yields 20 bushels of wheat, which sells at one dollar a bushel. When only C T was cultivated, 30 bushels sold for $30, and this sum paid the wages of labor and the interest of capital; but it is clear that at one dollar a bushel D U can return only $20, and that this will not equal the $30 required to pay wages and interest. Therefore, so long as wheat is only one dollar a bushel, D U will not be cultivated. If, however, people demand more wheat than can be produced on C T (as at present cultivated), the price must go up under the demand high enough to enable the $20 bushels of D U to sell for $30—the sum necessary to pay the current wages and interest for a certain amount of labor and capital. In this case, the value must rise to $1.50; or, in order to get an additional 20 bushels, the community must by its demand have raised the price of all the wheat to a point where it would be profitable to work the poorer lands. It is evident that the wheat grown on the more fertile land, C T, at a cheaper rate, is sold at the same price as that grown on D U, which is produced at a higher rate. We can see, then, that, when agricultural produce is cultivated

on lands of different grades of fertility at the same time (provided people need all that comes from the poorer as well as from the better grades), the **value of all depends on the cost of production of that part which is grown at the greatest expense.** Where competition is free, this is the **law of normal value** of agricultural produce, or of any commodities affected by the law of diminishing returns.

140. Though the normal or general level of value is determined by the cost of production on the worst land in cultivation which yields a profit, yet it is to be remembered that **fluctuations above and below this general level occur, owing to the changing movements of demand and supply.** A lake in the mountains may be many thousand feet above the sea-level, but its surface may constantly be elevated and depressed by the movements of waves. Whether the general level is high or low, oscillations about this level can take place. Whether the normal level of value is high or low, fluctuations above and below this level constantly take place under the influence of **demand and supply.**

The market value thus varies about the normal value. But, after one harvest is gathered, no new supply can be brought forward until the next season. In this interval of time the supply is fixed in amount, and, when the demand increases or falls off, the supply can not adjust itself accordingly. When the harvests in Europe are deficient, and a demand arises for our cereals for exportation, the price rises; but the higher price can not at once increase the supply (as it could in the case of manufactures), for one must wait for the proper season of the year, and time is necessary for planting and to permit the seed to grow and produce ripe grain. Thus, **between harvests, agricultural commodities are entirely under the influence of demand and supply;** because, if the value is greater or less than the normal value (regulated by the

cost of production on the poorest land cultivated), it is neither possible to increase the supply and bring the value down, nor to stop production, so as to limit the supply and raise the value to the point where it meets the normal value.

If the price, however, keeps up until the next season, it is quite likely that more land will be sown, and more of the grain produced than before, in order to reap the advantages of the high price. In this way, sooner or later, the value which has been temporarily raised by demand will be brought down to the level of normal value. If, on the other hand, the price was below the normal level of value, the opposite of what has just been described will take place—less land will be planted, and the supply will be shortened until the price rises sufficiently in course of time to equal the normal value.

141. Other articles which come from the earth, such as coal and minerals, are affected by the law of diminishing returns; for the deeper the shaft, the longer the galleries, the greater the outlay in keeping the mine ventilated and free from water, and the greater the expense in bringing coal or ores to the surface. The normal values of these articles are regulated by the cost of production at those mines which are worked at the greatest cost, provided the whole amount thus produced is necessary to meet the demand at that price.

The same is true of **gold** and **silver** when they are produced by regular mining processes. There is one peculiarity of gold and silver, however, which has a great influence on their value. Many articles, such as wheat, exist but a short time, and are then wholly consumed; **gold and silver, on the contrary, are durable.** You can melt gold in a crucible, and then make it into a coin; then you can melt the coin and change its form to jewelry, and nothing is lost. Moreover, in collections you often see coins bearing the head of Alexander the Great or of the

Emperor Augustus. Unless gold and silver are lost by wear, or by shipwreck, or in some such way, all that has ever been produced is still in existence. Think what an effect this must have on its value. What would be the effect on the value of wheat if all that had ever been produced were still in existence? Owing to their **durability,** the supply of gold and silver is the result of accumulations from the annual supply as far back as they have been produced, less the usual losses. The total supply of gold or silver in the world is, therefore, very great. The production since the discovery of America is shown in Chart II. Not all of this total production, of course, remains in existence; but, as the production of gold in the world in 1900 was about $255,924,654, and of silver about $112,205,772, it can be readily seen how small a proportion the annual supply bears to the total supply.

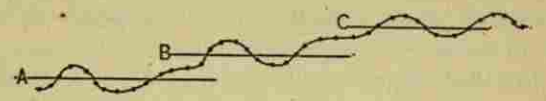
142. We can now better understand what it is that governs the value of gold and silver. We can not explain the value of gold and silver as we can that of spades or cotton cloth. If the price of a spade is at any time greater or less than the normal value, the supply is accordingly increased or diminished at once, and the whole existing supply is of such quantity that a moderate addition to it will speedily change its value. It is not so with gold and silver. If their value is at any time very high, and if the annual production is thereby greatly stimulated, the new supply will even then bear so small a ratio to the total supply that it can not materially affect the value in a short interval of time; just as, when you pour a pail of water into a pond, the level of the whole pond will not be perceptibly raised. When the cost of production is less than is compensated for by the existing value of gold and silver, the existing value can not be at once brought down by increasing the supply. Consequently, for a considerable time, the value may, owing to some increased demand (or to some withdrawal of the supply), remain above the sum

which compensates for the normal cost of production. This is because **the existing supply is so very great that yearly additions are small in comparison with it.** It would not be so with spades, whose quantity could be quickly increased if their value were greater than the normal value. Spades wear out, and all that are made do not forever remain in existence; but the total supply of gold and silver is large, because of the durability of the metals.

If the yearly supplies of the precious metals were for a long time increased, they would finally have a perceptible effect on the total supply. By continually pouring pailfuls of water into a pond for a long time, you could materially raise the level of the whole pond. **In the case of such durable articles as gold and silver, then, the value may remain for long periods above or below the sum which meets the cost of production**—that is, the value may be above or below the payments for the cost of production at the poorest mine worked; and so **during these periods the value can not be said to conform to the cost of production** (as in the case of spades), **but is regulated by fluctuations of demand and supply.**

Yet, in the long run, it will be found that the value will be brought to conform to the cost of production. For, after a long enough time, an additional production will affect even a large existing supply, or a slackened production will eventually, although very slowly, allow the existing supply to wear away, and thus diminish the total supply. We must, then, conclude that, for any short period of time, the value of gold and silver is dependent on the play of demand upon the large existing supply, without assigning much influence to the annual supply. The fear of a falling off of the annual supply of gold has, therefore, less importance than is usually ascribed to it.

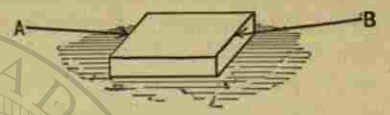
143. The normal values of agricultural and mining commodities, in general, as we have seen, exchange in proportion to their costs of production on the poorest soil or mine whose use is required to satisfy the demand. The minor changes about this line are caused by the fluctuations of demand and supply. Thus, in the diagram, when



only the best land, A, is in cultivation, the normal expenses (represented by the straight line) will be low, and the fluctuations in price (represented by the dotted line) will rise and fall about a low level. Then, when an increased demand for food comes, and poorer soils like B are taken into cultivation, the normal expenses of production on the poorest soils cultivated will be higher than before, and the fluctuations will now be about a higher general level. And so on, in the same way, with C. When an increasing demand for food forces poorer lands into cultivation, **the general tendency will be toward higher prices for agricultural products.** In the United States we have not as yet cultivated more than the best lands, and have not practically felt the law of diminishing returns; but in England and in Continental countries it is otherwise. By referring to Chart IV (page 139), we can see how the prices of agricultural commodities since 1850 have tended upward, in marked contrast to the prices of manufactured articles whose prices have shown a downward movement.

144. Although this force is always in existence, tending to raise the value of agricultural products, there are **counter-forces of greater or less strength operating against this tendency,** and the normal value, at any given period, is the resultant of these opposing forces. It can be illustrated by a diagram like that which represented

the actual growth of population (section 49). A block of wood on the floor, when acted on by two forces, A and B, pushing in opposite directions, will move in the direction in which the stronger force is acting. So of the value of agricultural products. If the strength of the tendency to higher prices, owing to the law of diminishing returns, is greater than the progress of improvements which tend to cheapen all processes of cultivation, then prices will continue to rise, although counteracting improvements are constantly at work.



These improvements, which serve to retard the law of diminishing returns, are of various kinds. New methods of cultivation, such as rotation of crops, better drainage of land, a more scientific knowledge of the use of manures, greater skill in feeding and breeding cattle, and deeper plowing, are examples. Then machinery is now applied to plowing, harrowing, sowing, and reaping grain in marvelous ways by the use of steam and various ingenious inventions. The growth of our railways and the cheapened cost of transportation have had a marked effect; for the railways bring hitherto unused lands of great richness within reach of the markets, and thus place the produce of fertile prairie soil in the markets of the world at a lower price than that from poorer lands nearer those markets, in spite of the charge for freight (see section 42). Therefore, if it were not for wonderful inventions, the prices of grain would be much higher than they are now. In Chart IV we see that the demand of an increasing population for food has been a stronger force than even improvements and the opening up of new lands, because agricultural products are higher in price now than they were in 1850, in spite of the great industrial progress during this period.

145. **Exercises.**—1. Explain how the market price of a commodity is constantly drawn toward that sum which is just enough to meet the sacrifices of production. Take a hammer and a bushel of oats, and suppose the price of each to be above or below the normal value, and then consider what would take place.

2. Are manufactured commodities regulated by the same laws as those which regulate agricultural commodities?

3. Why is an increased supply of food demanded? Is more food wanted as countries become more densely populated? If more people require more food, why can they not get it without raising the price of food? (See section 139.)

4. When we have an abundant harvest of wheat in the United States and a slight foreign demand, how is the value of wheat affected?

5. Can you think of any improvements which operate against the tendency of coal and minerals to increase in value as the mines become deeper? How about the means of raising them to the surface?

6. Houses are more durable than some other things. If they become very profitable, is the supply of houses increased? If they become very unprofitable, is the supply diminished accordingly?

7. We consume nearly the whole quantity of wheat produced each year, and comparatively little is left over. Why is it that merchants eagerly watch the reports as to the probable yield in order to know what the price will be? Why should they not do the same for gold or silver?

8. If a man having $40 a month spends $20 for food and $20 for clothes, shelter, etc., will he be any worse off if the price of his food goes up to $25, and the price of clothing, etc. (owing to improvements), goes down to $15?

9. If good wagon-roads were made through a country, would that affect the value of agricultural produce in any way? If the steel used in a plow were cheapened, would that have any effect?

CHAPTER XV.

VALUE OF COMMODITIES WHERE COMPETITION IS NOT FREE.

146. We have hitherto been discussing value under the supposition that competition was free. We have supposed that, whenever the price rose above the sum which would be proportional to the cost of production, the supply could be increased, because nothing interfered with the producer in his attempts to produce more in order to gain the exceptional rewards; so that, **where competition was free,** it was not possible that the price of a commodity could long exceed the normal value. By free competition we mean the ability to transfer labor and capital freely to a new channel, without the interposition of any natural or artificial barriers; so that the supply can be more or less increased by any producer. But we know very well that free competition does not always exist; and that commodities are often produced under conditions which do not admit of the free movement of labor and capital. It will be necessary now to consider how the values of articles produced under such conditions are regulated.

147. There are many things which are controlled by a natural monopoly; and, since their supply can never be increased, it is evident that the price may remain permanently above or below a sum which is proportional to their actual cost. The pictures painted by Raphael or Murillo,

for example, can not now be increased in supply. What is the principle which governs their value? A merchant with an elevator full of wheat may have a desire for a Murillo. What law determines the ratio of exchange between these things? It can not be the cost of production, for the picture rises in value irrespective of the original cost, simply because men show a strong desire to get possession of one. We can not increase the supply when the value rises, and thus bring down the price to a sum proportional to the actual cost. In short, **where the supply is thus absolutely limited, the value changes according to the demand.** If the merchant is exceedingly anxious to buy the picture, and the owner is not eager to sell it, the former will offer more wheat for it than if Murillos were abundant. The strength of the desire aroused by that picture, and which that picture only can satisfy, will determine how high the price can be forced up. In such cases, the cost of production has nothing to do with the value, which depends solely upon **demand and supply.** De Quincey* illustrates happily this principle of monopoly value: "You are on Lake Superior in a steamboat, making your way to an unsettled region 800 miles ahead of civilization, and consciously with no chance at all of purchasing any luxury whatever, little luxury or big luxury, for the space of ten years to come. One fellow-passenger, whom you will part with before sunset, has a powerful musical snuff-box; knowing by experience the power of such a toy over your own feelings, the magic with which at times it lulls your agitations of mind, you are vehemently desirous to purchase it. In the hour of leaving London you had forgot to do so; here is a final chance. But the owner, aware of your situation not less than yourself, is determined to operate by a strain pushed to the very uttermost . . . upon the intrinsic worth

* "Logic of Political Economy," p. 258, Works, xiii, Ed. 1863.

of the article in your individual estimate for your individual purposes. He will not hear of [the cost of producing a music-box] as any controlling power or mitigating agency in the case; and finally, although at six guineas apiece in London or Paris you might have loaded a wagon with such boxes, you pay sixty rather than lose it, when the last knell of the clock has sounded, which summons you to buy now or to forfeit forever."

If the supply is fixed, the value varies directly with the demand. By demand, we mean **effective demand**; that is, a desire coupled with purchasing power. A beggar, without purchasing power, may have a desire for a horse, but his "demand" will not affect the price of horses.

148. With these exceptional cases of value, in which the supply can not be increased at pleasure, are to be associated instances where the limitation of supply is not a natural but an **artificial monopoly.** The owner of a patent can control the supply of an article at his will, although many others might be equally capable of producing it; but the patented goods can be sold at a price above the normal value, because there is no possibility of other producers increasing the supply, and thus bringing the price down to the normal value. The value of this article will depend wholly on **demand and supply**: an increase of the supply to a certain point will result in a fall of price; but a fall in price may lead to an increased demand. The quantity produced will vary with the strength of the demand for the article at a given price, so that the maker will try to sell only that quantity which will yield the largest total return.* In most cases, as the price rises, the demand falls off; as the price falls, the demand

* Marshall says: "If he calculates that, at the price y, an amount x can be sold, and that for this amount the expense of production would be z per unit of the commodity, he will try to fix the price so as to make $xy - xz$ a *maximum*." ("Economics of Industry," p. 181.)

increases. In this way the play of **demand and supply governs the value of commodities artificially limited in quantity.**

Other instances are to be found in the temporary effects of combinations. The coal companies in certain districts combine to restrict the total number of tons of coal to be produced each year, and assign to each company a quota. In this way, the price may be kept above the normal value of coal; because, with a given demand by the public, the supply is limited in order to cause the whole to be taken off at a price independent of the normal value. The same forces are at work in the temporary manipulations of grain, or other produce (called "corners"), by which a large supply is for a time withdrawn from the market.

149. There are, however, other conditions in which there is no free movement of labor and capital which are far-reaching and very important in their effects. It is often assumed that, while labor and capital may not move freely from one country to another, yet that this movement is perfectly free within the limits of a country. If free competition of labor exists in the United States, then, when higher wages are paid, for instance, in Iowa than in Vermont, it would follow that laborers would move from Vermont to Iowa until wages for similar work are equalized. Now this we know to be untrue. Although laborers do move more or less in order to improve their position, they do not, for various reasons, move with that freedom which lowers wages where they are high and raises wages where they are low, by increasing the supply of workmen in the one case and diminishing the supply in the other. A cook will get $16 a month in Boston, but $40 in Montana. The well-known difference in wages for the same work in different parts of the United States is conclusive proof that **there is not perfectly free competition of labor.** To leave a well-known region for one

unknown; to abandon friends and familiar associations; to have the enterprise to look out beyond one's surroundings; to choose to live among people of different habits of thought, and who observe religious customs in wholly new ways; to expose political opinions to criticism; to learn new social customs; to possess intelligence enough to find out the advantages of distant employments; to save the necessary capital which will pay for transportation; to be superior to ignorance, sluggishness, and inertia—all these obstacles are constantly preventing laborers from bettering their condition in life by a change of home. Of course, workmen are daily gaining enterprise in this direction, and are becoming more and more cosmopolitan; but the movement is only partially effective in equalizing wages.

Moreover, **there is no real competition between different classes of laborers.** If it is found that there is a great demand for skilled chemists and engineers in manufacturing establishments, will this demand be met by men engaged in unskilled occupations rushing in to increase the supply? Certainly not. To pass from an unskilled to a skilled employment requires time, patience, industry, and training; and this serves as a barrier to protect the higher occupations. If an employment requires merely a good knowledge of arithmetic and ascertained honesty, that serves to keep out of the competition vast numbers of people; so that there are various strata of workers in our industrial system who practically do not compete with each other. People do move from one to another, but still the different groups are quite distinctly defined. The laborers in the different groups do not, in fact, compete. A cotton-operative may compete with a woolen-operative, but not with a book-keeper, a cashier, a jeweler, or a surveyor.

150. So, likewise, **there is not perfectly free competition of capital.** The alertness, sagacity, and watchfulness of capitalists are proverbial, and capital moves much more freely than labor from places where the returns are low to places where they are high; but still we all know that the rate of interest paid for the use of capital is much greater in the Mississippi Valley than on the Atlantic coast, and much greater west of the Mississippi than east of it. Thus there is not perfectly free competition of capital with capital within the limits of the United States. If there were, the rates of interest would not vary so greatly as between five per cent in New England and perhaps eight or ten per cent in Montana (for similar securities).

151. Wherever, therefore, there is no free competition of labor and capital between different groups of industries in the same countries, between different parts of the same country, or between two different countries, we shall find that **for the same exertion and sacrifice the rates of wages and interest may be regularly higher in one than in the other.*** Let us understand, by way of illustration, that there is no free competition of labor and capital in the industries which produce corn and iron in the State of Ohio. What is the principle which governs the exchange value of corn and iron? If the iron-manufacturer exacted a price higher than would repay, in the opinion of the farmer, proportional rewards for the sacrifices of producing iron, what recourse has the farmer? He must have the iron, and he must buy it by means of his corn. If the price of iron goes up, does he take some of his capital and labor and set to work making iron? No; because, by the supposition, there is

* The rewards for the sacrifice to laborer and capitalist will consequently be regularly higher for one and the same thing in one country than in another, provided that the same amount of labor and capital is required to produce the given commodity in both places. Even if wages and interest, however, are higher in one place than in another, then peculiar advantages in skill and natural resources might enable so much more to be produced that the value of each (unit of the) commodity might be low, in spite of the high wages and interest.

no free movement of labor and capital between the corn and iron industries.* The farmer probably does not know the processes of making iron, and might not succeed in making iron if he did; and his farm-hands without training would not know how to manage a blast-furnace or be molders. In short, he must make the best terms he can with the iron-manufacturers, and each will confine himself to his own industry.

152. In such circumstances, what will settle the terms of exchange between iron and corn? The **reciprocal demand.** Suppose the farmer to be in want of iron for a plowshare, but able to postpone his purchase. Not being over-anxious to buy iron, if for any reason the manufacturer raises prices, the farmer may lessen the strength of his demand. But, at the same time that the farmer's demand for iron may be weaker, the manufacturer's demand for corn may become more urgent. In this case, the reciprocal demand for corn and iron is such as to give the advantage to the farmer. Therefore, iron will fall relatively to corn, and corn will rise relatively to iron. **The strength of the demand for iron on one side, compared with the strength of the demand for corn on the other, will determine the exchange values of the two commodities.** If the demand for iron increases at the same time that the demand for corn falls off, the value of corn will fall relatively to iron, and that of iron will rise relatively to corn. In this way the play of reciprocal demand will govern the values of commodities not produced in the same competing group of industries, or in non-competing districts of the same country, or in different countries.

153. This principle of **reciprocal demand,** as already said, determines the exchange values of commodities which are produced in different countries, between which there is no free competition of labor and capital. If England wants corn from the United States, and we want iron from England, then the case is just the same as that given above of the farmer and manufacturer in Ohio. The iron from England will cost us just what the corn which we give for the iron costs us. If European harvests are good, and we are building railways rapidly, then the foreign demand for our corn will be weak, and our demand for English iron and steel will be strong. The consequence will be an increased value of iron and a diminished value of corn in the United States. To get the same amount of iron as before, we are obliged to give more corn in exchange. The country which has the stronger demand for the commodities of another country, as compared with the demand of the latter for the commodities of the former country, will exchange its productions in general at the lower value. The **value of an imported commodity depends** on the cost of acquisition—that is, **on the value of the things exported in exchange for it.** If we export one hundred gallons of petroleum in payment for an imported French clock, the clock should exchange approximately for what the one hundred gallons of petroleum will exchange for in the United States.

154. Because goods are sold for money, people sometimes think wrongly that for all goods which are sent abroad money is imported. This is, of course, a great mistake. The **imports are set off against the exports, and only the balances are paid in money.** In this way exports are bartered against imports, and the only means a country has of paying for her imports is by her exports. Such a statement must, however, include all that a country exports; it must include not merely what is generally understood as merchandise, but also such things as bonds, securities, etc., and even gold and silver,

* If he should go into the manufacture of iron, and if there were free competition, then the price of iron could be kept down by that means, and the wages and interest in both industries would be proportional to the sacrifices.

when sent as merchandise. In the United States we produce large amounts of gold and silver, and the shipment of gold and silver is often of exactly the same nature as the shipment of grain. When we import $10,000,000 of goods, and export $5,000,000 of merchandise, $2,000,000 of railway bonds, and $3,000,000 of silver bullion, the exports and imports balance, and pay for each other just as truly as if we had exported $10,000,000 in merchandise alone.

155. The values of imported and exported commodities, moreover, will tend to adjust themselves so that the **exports will balance the imports.** This follows from our law of reciprocal demand. If, owing to bad harvests, there is an increased demand in Europe for our grain, our exports will increase; and, if we buy no more from Europe, then our exports may exceed our imports. This situation contains in itself the forces which will bring about a movement toward an equilibrium between exports and imports. Any continued excess of exports will necessitate the shipment of money to this country; for, if this excess can not be paid for by imported goods, then resort must be had to money. When money is sent to us in international trade, it tends (other things being equal) to raise prices (section 170), and, as the prices of products at home rise, that will cause a falling off in their exportation; for we often see our exports of wheat or cotton stopped for a time by a rise of price in our markets. In this way the excess of exports will be gradually diminished. On the other hand, however, the withdrawal of money from abroad, to be sent to the United States, will affect prices abroad in a contrary way, and create a tendency to a fall of prices. If so, this will stimulate us to buy more from Europe than when prices were higher. Moreover, the fullness of our bank reserves with foreign gold will allow an expansion of loans, and so give people more purchasing power (see Chapter XXXI). This will make it more likely that the United States will buy more from abroad.

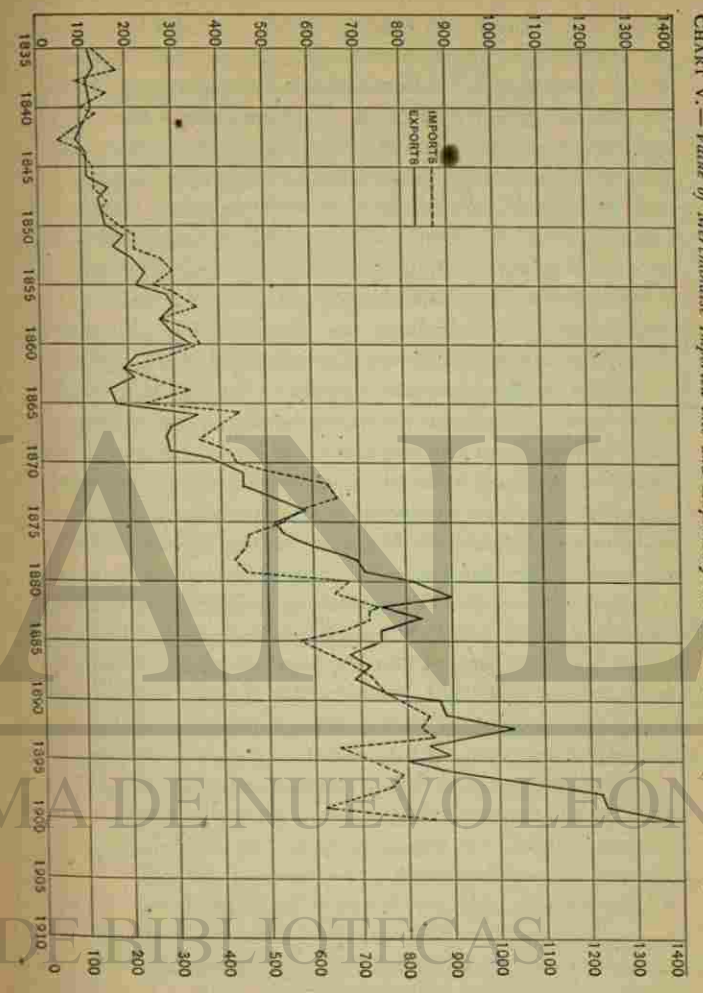


CHART V.— *Value of Merchandise Imported into and Exported from the United States (in Millions of Dollars).*

So that, whether our exports exceed our imports, or our imports exceed our exports, there are in constant operation forces which tend to cause the values of exports and imports so to adjust themselves that they shall balance each other.

This is illustrated by Chart V, which shows the exports and imports solely of merchandise into and from the United States. This does not include the shipments of gold and securities, but it shows how general the tendency is for exports of merchandise to keep near to the imports. From 1850 to 1860 the great addition of gold to our exports made them about equal to our imports. When, for a considerable period, from 1862 to 1873, our imports of goods greatly exceeded our exports, it was but natural that the excessive purchases abroad in such a speculative period should eventually be liquidated by a corresponding excess of exports over imports, from 1873 to 1883. It is to be remembered, however, that we have no statistics of the shipment of securities, bonds, etc., and that an apparent excess of imports or exports of merchandise may be entirely counterbalanced by the sending of these securities.

156. In Chapter III, our analysis of utility was made in connection with demand. Some writers have (in my opinion, erroneously) stated that the **final utility** of an article regulates its exchange value in the market. We would not undergo a sacrifice for anything, of course, which had no economic utility to us; hence, an article not having utility could not have value (*i.e.* purchasing power over other goods). But something having utility may have no exchange value: for instance, water in the country at a bubbling spring. In fact, utility is one, but only one, of the requisites for value. Although we shall find some writers regarding utility as the sole cause of value, we must keep always in mind that unless it has **scarcity** it will have no exchange value. That utility is not the only consideration affecting what we will give for a thing, can be easily seen by an illustration: a man lost in the alkali deserts for days,

arrived in an Arizona town of 3000 people, exhausted by hunger and thirst. There were several bakeries. A loaf of bread—out on the desert—would have been of limitless value to him, perhaps he would have offered $100. Why is it unnecessary now for him to pay more than ten cents? The utility of the bread is just as great as when he was lost; he is just as hungry. Evidently, the difference between the two situations is, briefly, this: in the town scarcity of bread is expressed only by the expense necessary, under ordinary conditions, to get flour and bake it; if this expense is covered by ten cents, one can get at that price a large number of loaves. So the excessive utility of the bread to the hungry wanderer does not determine its price (and value). In the desert, the expense of getting bread was infinity: there was no bread to be got. Hence, its value might rise to any price which desire might suggest.

157. In brief, when scarcity means an actual inability to increase the article, as in the case of a painting by Raphael, or of a piece of sculpture by Phidias, then final utility may properly be said to be the influence most influential in fixing the price. But, in the case of articles capable of reproduction, at more or less sacrifice, the scarcity is due to the fact that human costs must be incurred to produce a supply.* The **cost side can not be eliminated** from the equilibrium of demand and supply for ordinary goods capable of reproduction, any more than utility can be overlooked in analyzing demand. On the side of supply, there is the dominating element of human costs; on the side of demand, there is the ever present action of utility (provided demand is backed up by the possession of goods). Scarcity arises from conditions opposite to those affecting utility: (1) on the supply side, we have a scarcity determined by the relations of human effort to natural resources; (2) on the demand side, we have effective demand based upon subjective estimates (utility) united with purchasing power.

* Cf. Hobson, "Economics of Distribution," pp. 67–88.

And the exchange price results from the equilibrium arising from adjusting these two sets of forces.

158. Exercises.—1. Was there free competition between the North and South in the days of slavery? Did labor and capital move freely from the North to the South?

2. Even when Raphael was alive, did the value of his pictures depend upon cost of production? Did he possess any natural monopoly when alive?

3. Why is it that the possession of a successful patent insures a great fortune? By what means is a vast surplus from the business left for the owners of the patent? (Section 148.)

4. Great numbers of people come from Scandinavia to the United States. But should you say that there was free competition of laborers between these countries? Wages are higher in the United States than in Scandinavia.

5. More or less English capital is every day invested in the United States, but the rate of interest on capital for the same security is higher here than in England. Is there free competition of capital between England and the United States?

6. Is there any essential difference between trade between country and country and trade between county and county, or even between man and man? Discuss this in connection with the absence of free competition.

7. Even if the farmer and iron-maker (in section 151) lived in close proximity, would the values of their commodities be determined in the same way as those of two persons between whom there was free competition?

8. If a farmer wants a suit of clothes, will he gain more by growing wheat than by making cloth? If he sells 25 bushels of wheat for $25, and pays $25 for a suit of clothes in the United States, would he be better off if he could take only 15 bushels to England and buy as good a suit of clothes for $15? (See sections 111 and 112.)

9. What determines the exchange value between the beads which traders carry to Central Africa and the ivory which they buy with the beads? The traders pay a certain sum of money for the beads, and sell the ivory for a certain sum of money. Does the intervention of money affect the exchange values of beads and ivory?

10. A farmer sells his products for money, and with the money buys clothing, dry-goods, fish, etc. The value of his product is equal to the value of his purchases. Is the situation any different between two countries?

11. If the farmer buys more than he has products with which to pay, and so gets in debt, how else can he balance his purchases in the end but by producing more? Is this situation any different from that when one country has an excess of imports?

CHAPTER XVI.

CREDIT.

159. UNDER the general subject of exchange, we have been discussing the reasons why goods are exchanged, the principles of value (or the proportions in which they are exchanged), the aid given to exchanges of goods by the use of money, and now it will be our object to explain the operations of credit.

We often hear men in conversation placing a very high estimate on honesty and integrity as sources of business success. This has a close connection with the exchange of goods. The forms of credit are created by the business world to transfer capital to those who will make the most effective use of it, and to facilitate the exchange of goods. **Credit** (from the Latin *credo*, "I believe") **means belief, or confidence.** If A hands over some of his wealth to B, with the understanding that B will return it to him again, A **gives credit** to B; or, in other words, declares a certain **confidence** in B. If B is honest, and as good as his word, he keeps his "credit" high by always justifying the confidence placed in him. In times of business depression, however, people find it hard to borrow, because there is a general distrust, or lack of confidence in everybody; for, in a financial crisis, firms which had had the confidence of all have suddenly been unable to fulfill their promises.

160. In common practice people think of credit only

in connection with borrowing money; but this is not the whole truth. For **people who borrow money on credit really borrow the use of the wealth which that money will buy.** No one ever thinks of borrowing money merely for the sake of keeping it; on the contrary, it is at once exchanged by the borrower for goods, or used to buy land, or to build a house. "In some countries, where coins are not yet used, people lend and borrow corn, oil, wine, rice, or any common commodity which all like to possess. In the parts of Africa where palm-oil is produced in great quantities, people give and take credit in oil."* Of course, in civilized countries where money is in general use, the borrowing and lending of wealth is masked under the forms of borrowing and lending money. The real thing dealt in, however, is the wealth itself; and when A lends money to B, A is really giving B the use for a time of a certain part of the wealth in the community.

161. There are good reasons why credit should be used. Many widows, children, invalids, and others may have some wealth, but are unable or unwilling to undertake its management in active business enterprises. Others may have more wealth than they need. On the other hand, there are many keen, energetic men naturally fitted for managing industrial operations, who understand men, get on well with employés, and have hard-earned experience, but who may have little capital of their own to start with, or who can profitably employ much more capital than they own. These two classes of people supplement each other; and by credit wealth passes from the hands of those who can make little to those who can make the best use of it. In other words, **credit allows the wealth of the country to be more effectively employed in production.** The banks of the country are the "markets" for credit—that is, they are the places where people leave their sur-

* Jevons, "Primer of Political Economy," p. 110.

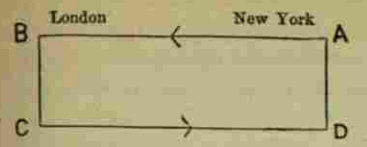
plus funds, and where borrowers go in order to get the use of wealth. What banks are, and how they are carried on, will be described in another chapter.*

162. The forms of credit, however, aid in the exchange of goods, and serve as a substitute for money. In its simplest form, this can be seen in the operations of two shopkeepers—a grocer and a butcher. The grocer buys meat of the butcher, and the butcher buys supplies of the grocer. Now, it is wholly unnecessary that each should carry money every time that he buys of the other. If the grocer should keep a careful account of all he sells to the butcher on credit, and if the butcher should keep a similar account of all he sells to the grocer on credit, then, at the end of a month or a year, the sum of the two accounts can be compared, and it can be found out to which of the two a balance is due. This balance only need be paid in money, and may often be no greater in amount than some of the daily transactions. A single payment of a small sum of money is all that is required to settle a great number of transactions, involving hundreds and thousands of dollars. So long as **confidence** exists between the two dealers, so that they give to each other the use of wealth, with no other security than the entries in an account-book the use of credit **saves the use of actual money.** This is often called **book-credit.**

163. Another form of credit, however, serves to economize the transfer of money in a more marked way than book-credits. When persons are buying and selling between distant cities in the United States (as between New York and Chicago, or even between Boston and New York), or between the United States and Europe, a very clever device is adopted to save the use of money in making payments. Let us take, by way of illustration, a simple trade between New York and London. A sends a

* Part II, chap. xxxi.

cargo of wheat, worth $100,000 (or £20,000), from New York to B in London; and C, without knowing of B's transaction, sends a cargo of steel rails, worth $100,000, to D in New York. If money were used, two large sums of gold would cross the ocean, each running the risk of loss, and causing a good deal of expense. This is all obviated by the use of a **bill of exchange.** A has a claim on money due to him in London, and he is willing to sell this claim to any one (like D) in New York who is obliged to make payments to some one in London. A is an exporter; D an importer. A makes out a title to this money due him from B in London, in the form of a bill of exchange,* sells it for $100,000 to D (who is inquiring for some one who has a claim on money in London), and thus A gets the pay for his wheat at once. D now has a title to the £20,000 in B's hands, and so he pays C for the steel rails by sending C this claim on B (in London), properly indorsed † in C's favor. In this manner, D sends by mail to C (different copies in different steamers, "first" in one,



* The actual form is as follows:

NEW YORK, *January* 1, 1886.

At sight of this first bill of exchange (second and third unpaid), pay to the order of D [the importer of steel rails] £20,000, value received, and charge the same to the account of

[Signed] A [exporter of wheat].

To B [buyer of wheat],
London.

† He does this by indorsing the bill of exchange he bought from A as follows:

Pay to the order of C [the seller of steel rails], London, value in account. [Signed] D [importer of steel rails].

To B [buyer of wheat],
London.

"second" in another, etc., to insure certain transmission) a demand on B, and C then calls on B for the £20,000. Thus all four men have settled their transactions by a bill of exchange without any risk arising from the use even of a single piece of coin. By credit, or confidence in one another, this exchange of goods without the use of money was rendered possible. Thus, in 1885, goods to the amount of $1,319,717,084 were exported and imported into the United States; but gold and silver coin and bullion were imported and exported in the same time to the value of only $85,473,848. For the rest, no money was needed.

164. We have already seen (sections 107, 108) that, when persons have goods to sell and others wish to buy such goods, a common place of meeting for both buyers and sellers in a "market" is a necessity among civilized people. The same is true of buying and selling bills of exchange. A in New York will not know that D wants a bill, and D will not know that A has one to sell; for in a great commercial city one man is not informed of the actions of many other persons. Consequently, banks have been selected as places where A can sell his bill, and where D can come to ask for one. In practice, therefore, **banks buy and sell bills of exchange,** and get a profit by charging a small commission. Like other things, bills of exchange rise and fall in price with changes in the demand and supply. If many merchants are exporting cargoes to England, bills are abundant, and their price falls; that is, when exports exceed imports, bills are low. On the other hand, if many merchants are importing from England, there will be a strong demand for "bills on London" (by which they can meet their purchases from England), and bills will rise in price. A bill, or title to a pound sterling in London, is worth at par just the amount of gold in the pound, which is equal to $4.866 + of our gold coins; and the price may rise above or below this par value. Therefore, when exports balance imports, bills of exchange will be selling for about $4.86; when exports exceed imports, for less than $4.86; when imports exceed exports, for more* than $4.86.

165. The act of giving credit creates other forms than bills of exchange by which the act is signalized. These forms of credit signify that property has changed hands. In the case of A, whose cargo of wheat was handed over to B in London, the confidence placed in B permitted the use of a bill, by which B was drawn upon with a certainty that he would meet the demand. Likewise, to consider a new case, X, a merchant in Boston, might sell cotton goods to Z, a retail buyer in Ohio, on a credit of sixty days. Z does not pay the money, but gives a note, promising to pay in sixty days a given sum to X. This use of credit creates a form called a **promissory note.** X has confidence in Z, and is willing to give him the cotton goods merely on his written promise to pay. The merchant X often takes this note, if he is in need of ready money, and has it discounted at a bank; and the bank will collect the sum from Z when the note falls due.

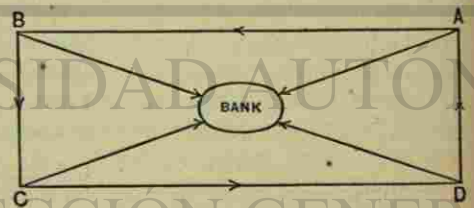
If the promise to pay is made, not by an individual, but by a banking institution, or by a State, it is clear that people will take these promises in exchange for goods so

* The price can not go up beyond about $4.90, the "shipping-point." To send $4.86 to London, about 3½ cents is charged for brokerage, insurance, and freight. Therefore, if D wants to get a pound sterling ($4.86) to C, his creditor, in London, he will not pay more for a paper title to a pound sterling (i. e., a bill) than he would pay if he sent across $4.86 in gold, and paid the 3½ cents of charges. When the price rises to $4.90, gold will be shipped to London in preference to buying bills.

When the price falls, it can not, for the same reasons, fall more than about 3½ cents below $4.86. When the price is as low as about $4.83, gold will be imported into the United States. That is, persons having bills to sell will not sell for less than 3½ cents below par; for they can bring across the gold itself for that. So $4.83 is called the "importing-point."

long as they have confidence in the promise of the issuer. The note of a private person might be so used, but it could be passed only in a limited district, because the value of his promise might not be known outside of it. This objection would be less true of a bank, and still less true of a State. Just in proportion as people take these promises to pay instead of money is a certain amount of metallic money rendered unnecessary. It is the credit of the issuer which makes their circulation possible. If no confidence were reposed in the issues, no one would give away goods of value for what would be worthless promises. **Banks,** therefore, rely on their credit with the community, and **issue notes,** or promises. Following their example, when they can not get sufficient means in ordinary ways, **governments also issue their promises to pay,** or "coin their credit." In this manner they get the use of wealth by giving in return only a form of credit.

166. We have now mentioned book-credit, bills of exchange, and promissory notes as forms of credit. Another and fourth form is the **check,** which serves as a substitute for money in a very remarkable way. A check is an **order on a bank to pay some one a given sum of money.** The person who signs it keeps a deposit account at the bank, and by the check he transfers to another the right he had to draw on that deposit. A simple illustration may serve to show how checks save the use of money.

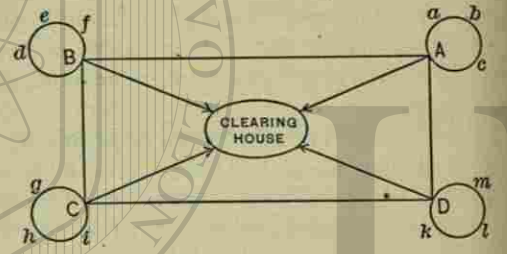


Suppose that a country merchant, A, has been buying wool, which he takes to New York and sells to B, a wool-broker, for $1,000. B pays A by a check on his bank, X. B at once sells the wool to a manufacturer, C, and C pays B by a check on the same bank. Then C sells cloth to D, a wholesale dealer in dry-goods, to the amount of $1,000, and is also paid by a check on X. Finally, A, before going home, purchases dry-goods of D to the amount of $1,000, and pays D by giving him the check he received from B on the bank X. No money was required in all these transactions. A was the owner of B's deposit, and he gave his right to D. Now D gave a check to C for $1,000, and thus transferred his right to a deposit of $1,000 to C, and C gave a check for the same sum to B. So, at the end of the whole circle of transactions, B has the same sum (leaving profit aside) on deposit as at first; no money has left the bank; no money was used by any of the four; and yet the four transactions amounted to $4,000.

167. The **use of checks depends on the habit of depositing** funds in banks. This habit exists chiefly in England and the United States, and does not prevail generally on the Continent of Europe. People must have confidence in banks, to leave their property there; but it is a great advantage to have a place of deposit, where money is safe from fire and robbery. Without confidence, or credit, the check system could not exist. In our illustration, A had confidence that B's check was good, and gave his wool for it; but, if A had gone to the bank and drawn out the actual money, the advantage of the check would have ended there. When he went to the bank and presented his check, however, **he did not want the actual money,** for he had **confidence, or credit, in the bank,** and only wanted the right to draw a similar check to pay for his purchases. The banker then took $1,000 from B's account and credited it to A. When B brought C's check, the bank took the $1,000 from C's account and credited it to B. D also found it useful to pay by means of a check, and he did not draw out the money. He paid C

by a check, and then C appeared on the books of the bank as the owner of the deposit instead of D. When A paid D by a check for $1,000, the bank took the $1,000 away from A's account and credited it to D, and matters stood as at first. So long as people pay by checks, payments may be made by transfers of deposits on the books of a bank performed simply by written entries. The extent to which checks thus save the use of money is marvelous.

168. It may not happen, however, that all the parties to a transaction have deposits at the same bank. Persons buying and selling may give checks drawn not on one bank but on several. So let us understand that in this case A, B, C, and D represent different banks in the same city.



One group of persons, *a*, *b*, *c*, deposit in bank A; another group, *d*, *e*, *f*, in bank B; another group, *g*, *h*, *i*, in bank C; and another group, *k*, *l*, *m*, in bank D. Now when *a* pays *d* by a check on bank A, *d* does not want the cash if a check is just as good to him. So *d* deposits the check of *a* in his bank B. Now the bank B becomes the owner of the check drawn by *a* on the bank A. In a similar way *e* pays *c* by a check on bank B, and *c* deposits it in bank A. Thus bank A has a check, or demand, on bank B; and bank B has a check, or demand, on bank A. So it goes on in all the other groups who deal with banks C and D. There will be checks given by *g* to *k*, by *m* to *h*, and cross-payments by *b* to *g*, by *m* to *d*, etc. If each bank demanded cash for every check it held against another bank, there would be a constant carrying of money back and forth between the banks. This useless and risky transfer of money between the banks is obviated by resort to a *clearing-house*. The bank A presents there its checks against banks B, C, and D, and these banks present all their checks against bank A. So, likewise, with B and each other bank. They assemble in a room called a clearing-house, where these checks are brought and offset against one another, and only the balances are paid in money. In the clearing-house there is a circular railing containing as many openings as there are banks in the association. At a given time, a clerk from bank A appears outside the opening assigned to his bank, and hands in all his checks against the other banks, and the sum of these checks is the amount demanded from the other banks. Then a clerk inside distributes the bundle of checks, by dropping each check on the counter opposite the opening of the bank on which the check is drawn. The same is done with the checks belonging to B, C, and D. Then all the checks dropped at the opening of bank A represent the sum of demands against his bank. The difference between the claims of bank A against other banks and the claims of the other banks against bank A can then be paid; but balances are very small in comparison with the sum total of transactions. In the year 1881, at the clearing-house in New York city, goods to the value of $48,565,818,212 were exchanged, and only three and a half per cent of this sum was paid in money to settle balances. To such a marvelous extent has the system of checks and deposits saved the use of money.

169. The **price** of a thing is the quantity of money for which it will exchange (see section 84). The price of steel is the number of grains of gold for which it will exchange; hence the price may be changed by anything affecting either the gold side or the commodity side of the price-ratio. Therefore, normal credit can affect prices only in so far as it touches one or the other side of the price-ratio.

Evidently, credit does not change the expenses of production of steel, for instance (or only indirectly, by enabling capital to be turned over more rapidly). Does credit affect the value of money on the other side of the price-ratio? Only in so far as it can change the supply of gold or the demand for gold. Credit can act as a medium of exchange for goods, and thereby relieve gold of a possible demand; or it may work to produce the same result as if gold had been increased. If credit is not fictitiously or abnormally expanded beyond a basis of actual goods behind each transaction, there can be no general change in the prices of goods, although there may be a readjustment of values relatively to each other. Just as general demand and general supply are but different views of the same things, so when all goods, expressed in terms of the common denominators, are exchanged against each other by credit forms, as a medium of exchange, there should be no change in the general relations between gold and goods. It is only when fictitious credit (not based on goods, whether knowingly or unknowingly) is offered that there is a seeming increase in the offer of purchasing power in general, and thus there ensues a fictitious rise in the prices of goods. It is this abnormal use of credit before a crisis which raises prices unusually, and the collapse of this kind of credit after a panic which causes the disastrous fall of prices.

170. The relation of credit to goods and to money may be seen by the adjoining diagram. The prices of all goods (1) are adjusted by the relation of goods to money (2). The total wealth of a country is the sum of (1) and (2). But money (2), or goods (1) expressed in terms of money (2), by being exchanged, give rise to forms of credit (3), which aid in the processes of exchange. (3) do not add to the wealth of a community. The amount of purchasing power a man may possess is not only the actual money he has

(1)	(2)	(3)
Forms of Wealth.	Money.	Forms of Credit.

(which is often very little), but the property which (through banks) he can have coined into means of payment by credit (i. e., bankable property). So that credit makes it possible to set a larger proportion than would be otherwise done of (1) in motion, exchanging for other goods. Yet under normal credit (based upon actual ownership of salable goods to the amount of credit granted) the prices of those goods in general, as expressed in (2), would not necessarily be changed.

Of course, in time of recovery from depression, an increase in wages, materials, interest, etc., the items entering into expenses of production, may thereby increase the price of a commodity relatively to gold; but this kind of change in prices, made possible by a growing demand, should not be attributed to an increasing offer of credit. By reference to the example in section 143, we may see that in times of depression the item of wages may be forced down, or interest even wiped out (i. e., the establishment may be running at a loss), because demand for the goods has decreased so much that the price of the product will no longer cover all the former expenses of production. Either some of the items must be reduced or the industry given up. It may be run at a loss, hoping for better times. Then, as soon as trade recovers and demand springs up again, the producer will be able to increase his price enough to raise wages, to give an ordinary rate of interest, and in some cases to put up prices temporarily, so as to earn excessive profits. This rise of prices (as in 1880–1883, or in 1898–1900) after a depression, therefore, cannot be attributed to any increase of money, nor to any of the operations of credit. This kind of a change in prices arises from an increase in the expenses of production relatively to money, and may bring about a general rise of prices, just as, in the contrary case, a depression brings about a fall in general prices. Such changes, it should be noted, cannot be assigned to the changes in the amount of credit. Credit may rise or fall off, but only as a consequence of the antecedent rise or decline in property transactions.

171. The way in which an expansion of credit raises prices and a contraction of credit lowers prices, excessively, without any change in the quantity of money in the country, may be seen by Mr. Jevons's account* of the progress and end of a commercial crisis: "There can be no doubt that in some years men become confident and hopeful. They think that the country is going to be very prosperous, and that if they invest their capital in new factories, banks, railways, ships, or other enterprises, they will make much profit. When some **people are thus hopeful,** others readily become so too, just as a few cheerful people in a party make everybody cheerful. . . . Clever men then propose schemes for new inventions and novel undertakings, and they find that they can readily get capitalists to subscribe for shares. . . . When the schemes . . . begin to be carried out, great quantities of materials are required for building, and the **prices** of these materials **rise** rapidly. The work-people who produce these materials then earn high wages, and they spend these wages in better living, in pleasure, or in buying an unusual quantity of new clothes, furniture, etc. Thus the demand for commodities increases, and trades-people make large profits. . . . Every trader now wants to buy, because he believes that prices will rise higher and higher, and that, by selling at the right time, the loss of any subsequent fall of prices will be thrown upon other people.

"This state of things, however, can not go on very long. . . . Manufacturers, merchants, and speculators, who are making or buying large stocks of goods, wish to borrow more and more money, in order that they may have a larger business, the profit seeming likely to be so great. Then, according to the laws of supply and demand, the price of money rises, which means that the rate of interest for short loans, from a week to three or six months in duration, is increased. The bubble goes on growing, until the more venturesome and unscrupulous speculators have borrowed many times as much money as they themselves really possess. **Credit is said to be greatly extended.** . . .

* "Primer of Political Economy," pp. 116–119.

172. "But the sudden rise which, sooner or later, occurs in the rate of interest, is very disastrous to such speculators; when they began to speculate interest was, perhaps, only two or three per cent; but when it becomes seven or eight per cent, there is fear that much of the profit will go in interest paid to the lenders of capital. Moreover, those who lent the money, by discounting the speculators' bills, or making advances on the security of goods, become anxious to have it paid back. Thus the speculators are forced at last to begin selling their stocks, at the best prices they can get. As soon as some people begin to sell in this way, others who hold goods think they had better sell before the prices fall seriously; then **there arises a sudden rush to sell,** and buyers being alarmed, refuse to buy except at much reduced rates. The bad speculators now find themselves unable to maintain their credit, because, if they **sell** their large stock **at a considerable loss,** their own real capital will be quite insufficient to cover this loss. They . . . stop payment, or, in other words, become **bankrupt.** This is very awkward for other people, manufacturers, for instance, who had sold goods to the bankrupts on credit; they do not receive the money they expected, and as they also, perhaps, have borrowed money while making the goods, they become bankrupt likewise. . . .

173. "Not only does this collapse ruin many of the subscribers to these schemes, but it presently causes work-people to be thrown out of employment. . . . No one ventures to propose new [schemes]; people have been frightened by the losses and bankruptcies and frauds brought to light in the collapse, and when some people are afraid,

others readily become frightened likewise by sympathy. . . . In a year or two the prices of iron, coal, timber, etc., are reduced to the lowest point ; great losses are suffered by those who make or deal in such materials, and many workmen are out of employment. The working-classes then have less to spend on luxuries, and the demand for other goods decreases; trade in general becomes depressed. . . . Such a **state of depression** * may continue for two or three years, until speculators have begun to forget their failures, or a new set of younger men, unacquainted with disaster, think they see a way to make profits. . . . After a time, bankers, who were so very cautious at the time of the collapse, find it necessary to lend their increasing funds, and credit is improved. Then begins a new credit cycle."

174. **Exercises.**—1. A borrows $1,000 from a bank. B, a farmer, had just deposited in the bank $1,000 in money, so that A was able to get the loan. How did B probably get his $1,000 of money to deposit? When A parts with the borrowed money in buying goods, does he still have the loan? If A should buy wheat, whose wealth may he be using through the intervention of the bank?

2. Is book-credit of use as purchasing power to any one else than the two persons mentioned in section 135? Can the grocer's accounts be passed along as a substitute for money? Can a note?

3. A is an agent in New Orleans buying cotton. On shipping 1,000 bales to New York, he draws a bill for the price paid on the firm B in New York for whom he has bought the cotton. If C in New Orleans wanted to pay

* In years of depression we hear most of the irrational theories of a general over-production in all industries. It is only an ill-adjusted production which has been caused by the ruinous speculation; and, as soon as the adjustment is properly made, people go on producing far more than in the years when they talked of over-production.

for dry-goods bought from D in New York, how could he make use of A's bill on New York? Write out the bill and the indorsement.

4. Look at a greenback and see whose promissory note it is. Do the same with a national-bank note.

5. Get a blank check and see how it reads. If it reads "pay to bearer," can any one get it cashed? If it reads "pay to the order of John Doe," can any one else than John Doe get it cashed? Why is it safer, in sending a check by mail, to make it payable to the order of a person? Why must a stranger be "identified" at a bank when he wants a check cashed?

6. Let the members of the class be supposed to deal with three banks. Let each member make out a check. Then form a clearing-house, and strike a balance between the various banks.

7. If a man gives $100 in gold for clothing, and gets provisions on credit to the amount of $50, what is the whole amount of his demand for commodities? Would the price of provisions be affected if many persons should be unable to get credit, who had had it before?

8. Why do prices rise in the beginning of a speculative period? Why do they fall as soon as the tide turns?

9. Why is it hard to borrow, or to get credit, in the crisis of a commercial panic? Why is it hard to get anything when everybody wants the same thing?

CHAPTER XVII.

PAPER MONEY.

175. **Paper money arose from** that form of credit which we have described as a **promissory note.** People became accustomed to receive the promise instead of the thing promised. The idea was understood before gold and silver were used as money. "One of the earliest mediums of exchange," says Mr. Jevons,* "consisted of the skins of animals. The earliest form of representative money consisted of small pieces of leather, usually marked with an official seal. It is a very reasonable suggestion . . that, when skins and furs began to be found an inconveniently bulky kind of money, small pieces were clipped off, and handed over as tokens of possession. By fitting into the place from which they were cut, they would prove ownership." The common form of paper money, such as the modern bank-note, however, originated with the **deposit-banks of Italy,** established from four to seven centuries ago.† The coins of Venice and Italy were of many values, often clipped and worn. To save weighing each coin at every transaction, the coins were deposited in the banks, where they were weighed, and a credit given to the depositor on the books of the bank. Thus transfers of the metallic money credited to a depositor came to be used instead of the money itself.

* "Money and the Mechanism of Exchange," p. 196.

† Ibid., p. 199.

Moreover, so long as **the promise** is always found trustworthy, the note which promises to pay gold or silver is **a great convenience to trade.** It **saves the trouble and risk of handling large sums** of the precious metals. Any large sum of money is very bulky. In Mexico, where roads are unsafe, and where silver is the only money, a cotton-mill retains its own company of soldiers to guard the agents when they go out to collect bills. Even in more civilized countries the transportation and handling of large sums of specie is very hazardous.

176. Paper money, for which there is not the slightest doubt that **specie can be obtained on demand, is called convertible paper.** The distinctive quality of good paper money is that it can be converted into gold or silver at any time. No paper money is good unless the promise to pay means what it says, and unless the convertibility is constantly tested. Since the resumption of specie payments in the United States on January 1, 1879, our "greenbacks," or United States notes, are examples of convertible paper money. By taking one of these notes to a Government sub-treasury, you can get gold for it, dollar for dollar. On reading the words on a United States note, you will see that it is a promise of the United States to pay to bearer a certain number of dollars (in coin). The notes issued by the national banks in this country are promises of the given bank to "pay the bearer on demand" a certain number of dollars; but in the latter case these dollars may be any kind of "lawful money" of the United States. A national-bank note, therefore, may be convertible into United States notes; but, so long as the latter are as good as gold, the national-bank notes will be also.

177. If you examine the back of a United States note, you will see the words: "This note is a **legal tender** at its face value for all *debts, public and private, except duties on imports and interest on the public debt.*" A legal tender is

that kind of money which the laws of the United States declare to be a full acquittal when offered in payment of a debt. If you promise to pay one hundred dollars five years from date, and say nothing in the promise as to the kind of payment, you may satisfy the creditor by giving any kind of money which may then be a legal tender. At present gold and silver coins of denominations of one dollar and upward are legal tender to any amount; but subsidiary silver—the fifty, twenty-five, and ten cent pieces—can be offered in sums no greater than ten dollars; and lower denominations of nickel and copper are legal tender to the amount of only twenty-five cents. The United States notes* are legal tender for all purposes except duties on imports and interest on the public debt. Some people, however, think that legal-tender money can be offered for goods in a store, and that the shop-keeper is obliged to hand over the goods. This is absurd; for no one can be obliged to part with his property in any such way against his will. Before goods are purchased there is no debt created for which money can be offered as a legal means of payment.

178. The step from the actual use of gold and silver to promises to pay gold and silver was easily made, and as long as the promise was faithfully kept such kind of paper money was very convenient and economical. The next step also was easy. The experiment was tried of issuing promises to pay without having anything with which to pay. During our civil war (February 25, 1862) the United States began to issue United States notes ("greenbacks")

* The national-bank notes are not legal tender for *private debts*, but are, in the language of the act of June 3, 1864 (section 23), "received at par in all parts of the United States in payment of taxes, excises, public lands, and all other dues to the United States, except for duties on imports; and also for all salaries and other debts and demands owing by the United States to individuals, corporations, and associations within the United States, except interest on the public debt and in redemption of the national currency."

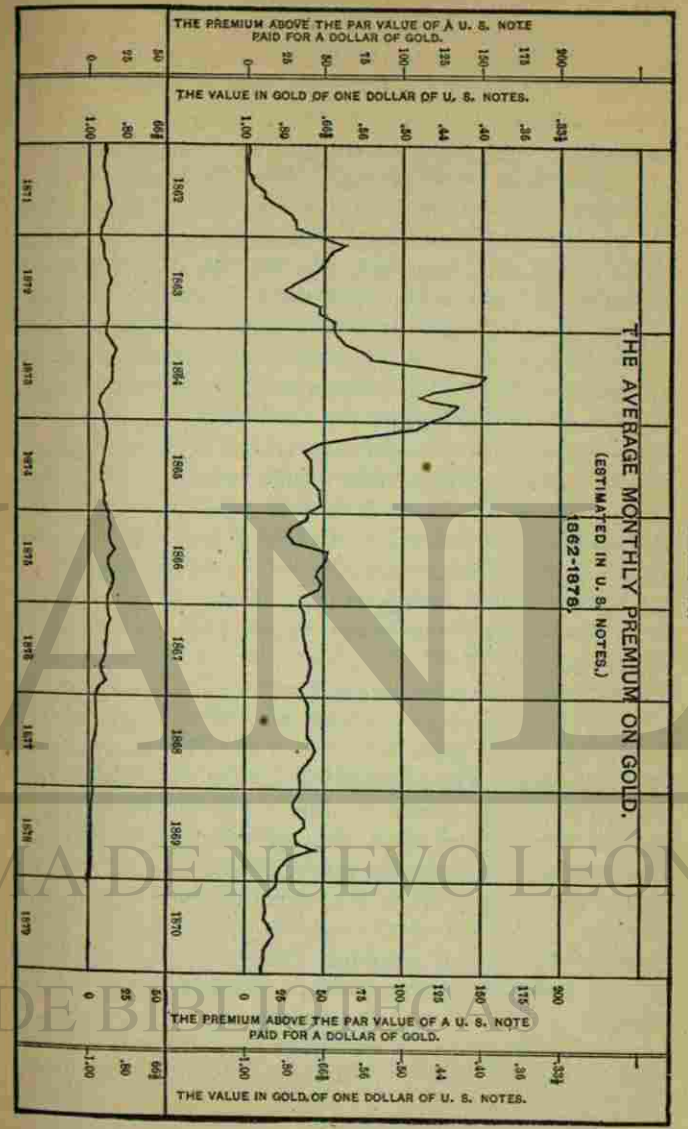


CHART VI.

when the Treasury was practically empty, and when there was no intention of redeeming them at that time. Such paper money is called **inconvertible paper,** and is an evidence of bad financial management. It is practically a confession of bankruptcy. When a merchant can not meet his note, it is protested, and his credit is ruined; but governments are generally given more confidence. If the notes issued are promises to pay, account must be taken of the possibility that the issuer will eventually be able and willing to redeem the promise. This possibility is connected with the quantity of notes issued. **The quantity of inconvertible paper in circulation chiefly affects its value.** If the Government is reckless in issuing unlimited quantities of paper money, that is increasing evidence that the currency may not be redeemed at its full value. Consequently, inconvertible paper is liable to **depreciate,** or to fall below its face value.* During the civil war, when the greenbacks were inconvertible, a promise of the United States to pay a dollar in gold fell in value as low as thirty-five cents in gold; for once, in 1864, it required two dollars and eighty-five cents of paper to buy one dollar of gold. On January 1, 1879, however, the Treasury had collected gold enough with which to redeem its promises, and since that time (when it was said that specie payment was resumed) a United States note has been convertible paper money. The depreciation of United States notes from 1862 to 1879 may be seen in Chart VI, which shows the premium on gold. Of course, as the line goes upward, the value of paper depreciates, because it requires more paper to buy gold than when the line falls. For seventeen years the promise of the United States to pay in coin was not worth its face value.

* In 1781 the inconvertible paper issued by the Continental Congress became worth nothing; in fact, so entirely without value was this paper money that we still have a by-word for any worthless thing ("Not worth a continental"), derived from this experience.

179. The descent to Avernus is easy. For an impecunious state, the step from putting out promises which are not redeemable to issuing a still worse kind of paper money is quite natural. The Government, seeing paper pass from hand to hand as money, conceived that the authority of the State would be sufficient to give value to paper which had no intrinsic value in itself, and which was not even a promise to pay value. It created **fiat money.** Instead of reading, "The State promises to pay one dollar," the fiat money reads, "This is a dollar." Such was the character of some of the paper money issued by the colonies. In Rhode Island the issues read as follows: "This three-shilling bill due from y^e^ colony of Rhode Island, &c. to the Possessor shall be equal to money," etc. This kind of paper depreciated until it was comparatively worthless. In truth, such paper money would have had no value had it not been for the fact that the laws gave it a certain power to pay debts, and that it was received by the State for taxes. No policy can be worse than that which leads a state to declare that a piece of paper shall have value when it has none. If the State is willing to take the paper instead of gold or silver, it establishes thereby a means of redeeming it to a certain extent, and, if there were little of it in circulation, it is possible that it may have full value. But, in every case in the past, this kind of paper has been issued in undue quantity, and has depreciated enormously. The finances of a State must be egregiously mismanaged if it is forced to issue inconvertible money, to say nothing of "fiat money." It is a confession that a country can not, by legitimate borrowing or by taxation, get the means of paying its expenses, and that it is necessary to resort to a trick like issuing false money.

180. From various causes, **inconvertible paper, however, often has value** to a greater or less extent. It is probably **at first issued as convertible paper,** and is received by the people as such. Thus, at the start,

there was an intention to keep its value intact. Too often, also, not enough account is taken of the **habits of a people in regard to money.** The name for a coin retains an association of value independently of changes in its weight or character. People easily fall into ruts in regard to things which are intricate and puzzling. The persistence of monetary names is shown by the fact that in the city of Boston goods are sold over counters to-day, and reckonings made with purchasers, in the names of coins (such as "ninepence" and "shilling") which have had no legal existence since 1792, and have not been in circulation for generations. So, when persons get a fixed idea of a dollar in gold, or in a sound paper money convertible into gold, and are accustomed to reckon prices in it, they are very easily led into taking inconvertible money in much the same way, because it also is expressed in terms of dollars, or the same units. Even though the paper depreciates, it will be persistently said, "A dollar's a dollar, and you can't make it anything else." It is not realized that the dollar changes in value, and that it is only a means of exchanging goods, not an end in itself. As Mr. Jevons* says: "After the promise of payment in coin is found to be illusory, the notes still circulate, partly from habit, partly because **the people must have some currency,** and have no coin to use for the purpose, or, if they have, carefully hoard it for profit or future use." Moreover, inconvertible paper is given more or less value by impressing on it the **legal-tender quality.** When the State receives it for taxes, or for customs, and when it can be used to discharge debts, it is so far put on an equal basis with good money, and it acquires some value. But in the end, when issued to any considerable amount, not even the legal-tender quality, or habit, can save it from depreciation. There is scarcely a case in history where, when

* "Money and the Mechanism of Exchange," p. 234.

once begun, the first step has not been followed by a great expansion of the issues, and a consequent depreciation. Of paper money Webster said: "We have suffered more from this cause than from every other cause or calamity. It has killed more men, pervaded and corrupted the choicest interests of our country more, and done more injustice, than even the arms and artifices of our enemy."

181. As soon as inconvertible paper has slightly depreciated, it drives out coin, or convertible money. This takes place under the principle of **Gresham's Law: Bad money drives out good money, but good money can not drive out bad money.** The manner in which it works is simple, and may be thus illustrated: Suppose that the paper has depreciated so that a dollar of it is worth only ninety cents in gold (as was the case in June, 1862; see Chart VI), and suppose also that you have a debt of $1,000 to pay. If both gold and paper are legal payment of your debt, in which will you pay? With $900 in gold you can buy $1,000 in paper, and with that pay your debt; by paying the debt in gold, $100 more of gold would be needed. There is thus a premium in favor not only of using paper, or the cheapest money, but also of selling the gold as merchandise, or exporting it. People will generally follow the easiest way of paying which is permitted by the law of the land. As now constituted, men, when required to pay one hundred cents, do not choose a dollar worth one hundred and ten cents when a poorer money serves equally well to extinguish the debt (that is, if both kinds of money are legal tender). Thus **the poorer money drives out the good.** During the whole period of the depreciation of United States notes, 1862–1879 (see Chart VI), our country was exporting its gold in large quantity. The money in general use was paper money, and gold was not in circulation (gold being used only for paying customs duties to the United States, and for interest on the national debt). The reason why

gold was exported, leaving only paper at home, was that the United States paper would not circulate beyond the limits of our own country. The paper money is a legal payment only according to our own laws, and consequently is not received as a legal payment by foreigners. Hence, when payments are to be made abroad, metallic money is always sent.

182. We have already seen that an increase of money or credit raises prices (section 169). A change in prices indicates a change in the value of money. When inconvertible paper money depreciates, paper prices necessarily rise as the paper depreciates. A pair of gloves, selling for one dollar in gold, will, when paper depreciates to ninety cents, sell for one dollar and eleven cents in paper; when the paper depreciates to fifty cents in gold, the gloves will sell for two dollars. And, since depreciated paper money drives out gold and silver, the paper will be the only money in use, and prices will be reckoned only in paper; so that, if the paper money rises and falls in value, as our United States notes did during the war, **prices will be constantly changing.** This is an evil to trade which can not be overestimated. If a manufacturer or merchant does not know what the price of his goods or materials will be a week ahead, he is cut off from any legitimate estimate of his coming receipts or expenses, and is obliged to guess at the course of the market. This, however, is mere **speculation,** and trade is consequently turned into betting and gambling as to the change of prices—one man gains at another's loss. This speculative spirit changes the whole moral tone of business, and transforms trade into a system of wagers. Then, too, speculation aggravates the changes in prices. An increase of paper money raises prices; but speculators, who believe that prices are going up because of an issue of more paper, will try to get on hand as large a stock of goods as possible before the rise, in order to sell out when the rise comes. This creates an

excessive demand at times, and under it prices are advanced far higher than they would be merely by the issues of paper. Speculation (engendered by the issue of paper) raises prices beyond the limit established solely by the extension of the quantity of paper; and so, as prices have risen in a greater proportion than the increase of the money in circulation, a difficulty is experienced in exchanging goods for money. Money seems scarce, although more has lately been issued. So it has been after an excessive issue of paper money, whenever it has been tried. The more there is issued, the more is craved, and the Government is never able to withstand the demand for more of this financial intoxicant.*

183. There is a delusion, fatal in its bad results, to the effect that a period of inflation and high prices is a period of prosperity. Those who are ignorant of the nature and functions of money think that, when prices in paper rise, the dollar is the same that it was before the rise. A farmer, for example, has a piece of land valued at $1,000 in gold; then comes an issue of paper, and prices rise to double what they were before. Now the farmer, finding that his piece of land is valued at $2,000 (in paper), without reflecting that the paper "dollar" is worth but one half as much as before, and that his land is worth no more

* "It is my firm belief that the issue of inconvertible paper money is never a sound measure of finance, no matter what the stress of the national exigency may be. I believe it to be as surely a mistaken policy as the resort of an athlete to the brandy-bottle. It means mischief always. If there is ever a time when a nation needs its full collected vigor, with a steady pulse, a calm outlook, a hand and a brain undisturbed by the fumes of this alcohol of commerce—paper money—it is when called to do battle for its life with superior force. It is, to my mind, the highest proof ever afforded of the supreme intellectual greatness of Napoleon that, during twenty years of continuous war, often single-handed against half the powers of Europe, he never was once driven to this desperate and delusive resort."—F. A. Walker, "Political Economy," p. 169, note.

than $1,000 *in gold*, is often deluded into thinking that he is twice as rich as he was. Although all that he sells is doubled in price, all that he buys is likewise doubled, and the products he sells bear the same relative value to what he buys as before. He now sells his wheat for double the money he did formerly, and he gives double the money for clothing and dry-goods, so that he is just where he was before. Not understanding this, however, **people often believe that when prices rise they are richer than they were before**—that they are worth more in "dollars." They do not reflect that each "dollar" is worth less in the proportion that the prices have risen. This delusion leads them to buy more lavishly, and display greater extravagance. This explains why the period after our war was one of only apparent prosperity, and why it generated that boundless extravagance and great extension of credit which caused a reaction in the disastrous commercial crisis of 1873, from which we were years in recovering.

184. High prices, however, seem desirable to many people for very different and for dishonest reasons. High prices and inflation, under cover of law, enable debtors to levy a forced contribution on their creditors, to **pay their debts with less wealth than they borrowed.** It would hardly seem necessary to refer to such degraded morals, were the policy of inflation not openly advocated on such grounds. To those who think stealing is no wrong, such a method of escaping from just obligations may commend itself. We have already pointed out (section 95) that long contracts should not be settled by a standard of gold, silver, or any money. The debtor should pay back just what he received—no more, no less. The farmer referred to, when his land was valued at $1,000 in gold, may have mortgaged it for $500. After prices have risen by an issue of paper, his products will sell for more paper dollars than they did for gold dollars, and yet each paper dollar (if legal tender)

pays off one dollar of his original loan of $500 which he received in gold. Thus, after paper prices have risen, it will not require the sale of so many of his products to pay off his mortgage as it would have required with gold prices. This is only another way of saying that the farmer **gives back less than he receives.** It is, therefore, unjust to make inconvertible paper, which is morally certain to depreciate, a legal tender for *past debts*. A large amount of capital loaned in this country is made up of the savings of people with small incomes, and they can not afford to have the provision for their old age thus eaten up by unjust acts of debtors under the guise of legal-tender laws. It is a reason why even convertible paper should not be made legal tender, that it may in some emergency become inconvertible and depreciate, and produce the effects of robbery.

185. **Exercises.**—1. In the middle ages a twig, or a clod, was handed by the seller to the buyer as a sign that the ownership of the property was transferred. Was there any likeness to paper money in this procedure?

2. A deed is a title to a piece of land. Is a promise to pay gold on demand something of the same kind?

3. Could you oblige a customs official to-day to receive a national-bank note in payment of duties?

4. What is the advantage of having a convertible paper money?

5. Is there any cost of production (beyond paper and printing) for paper money below which its value can not fall by an increased supply of it? Is it the same with gold?

6. With the word dollar we associate some idea of value. If a paper money were printed so as to read "This is a George Washington" instead of "This is a dollar," would it make any difference to people in receiving it?

7. President Garfield once said, in a speech, that we did not export paper money, for the same reason that we

could not export bad cheese or rancid butter. Wherein is the resemblance?

8. Men properly accumulate wealth by producing it. In what different way than this do they gain wealth by fluctuations in the prices of commodities due to changes in the currency?

9. What tendency has an era of high prices upon the use of credit? If people are really no richer when paper prices have risen, how do they get increased purchasing power?

10. Name some of the different legal ways in which you can pay a debt of $25 to-day. What different kinds of money can you use, and to what amounts?

BOOK III.

DISTRIBUTION.

CHAPTER XVIII.

THE PROBLEM OF DISTRIBUTION.

186. In Book I we were concerned with the production of wealth, and with inquiries as to the possibility of increasing wealth; in Book II we investigated the causes which give value to what is produced, and we explained the methods by which those products are exchanged against each other by means of money and the various forms of credit; in Book III we shall discuss the question of the **distribution** of what has been produced among the persons who have had a share in its production. Until we had learned the principles of value which determine the total amount to be divided, it was not possible to discuss properly the respective sums which each party to the production should receive out of that total amount. This brings us to study the principles which govern the sums paid to the laborer, to the capitalist, and to the owner of land, and the respective shares of these persons will be treated under the head of **wages, interest, and rent.**

187. In the first place, we may pass by rent, or the **share of the landlord.** It will be later seen (in Chapter XXIV) that no error is committed by doing so. In regard to the total value of articles of ordinary manufacture, or of articles produced on land which pays no rent, the question of distribution is one solely between the laborer and the capitalist.

In case a manufacturer pays a rent for the use of land

on which his buildings stand, or for water-power, or other gifts of Nature, it can be regarded simply as an additional outlay of capital. The return to this outlay is a return to capital. The same may be said of **taxes and insurance.** Such payments to the Government, or to insurance companies, require more capital to be advanced by the employer, and a return is expected from this outlay, just as in the case of capital which expects more interest when it is invested a longer time. When an employer makes advance payments for ground-rent, taxes, or insurance on his buildings or materials, additional capital is to that extent required; and an additional sacrifice is exacted from the owner of capital, for which there must be made a return in proper proportion to the return made to any other capital.

The question for us to decide, then, is solely the principle of division between the capitalist and the laborer. Although the two things are dependent on each other, we shall first consider the share belonging to capital; after that, we can proceed to discuss the principles which govern the distribution of the laborer's share.

188. It may be necessary, however, to describe more fully the product which is to be divided. In any industry, of course, the actual products are not divided between labor and capital; in a stove-foundry laborers are not paid in stoves. What we mean by speaking of the product is the **exchange value of that product**; and in a stove-foundry the value of the stoves expressed in money and goods is what is divided between the persons concerned in their production.

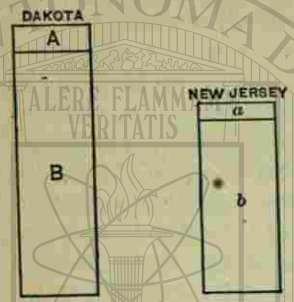
It is also to be understood that we are not speaking of a single article, or unit, of the goods made, when we are discussing the value of the product to be distributed; we have in view the total production of the industry in a given period of work, such as a month, or year, or season. Thus, in six months, or a year, 10,000 stoves may be

manufactured and sold; and our problem is to discover what proportion of the value, or equivalent, of these 10,000 stoves—not of one single stove—goes to the laborer, and what proportion goes to the capitalist.

189. The value of this product will vary according to the laws of value discussed in previous chapters. The sacrifice to capitalist and laborer will (where competition is free) regulate the value of manufactured goods in general. Fluctuations in market values, or the action of reciprocal demand between different groups of industries, may, however, cause this **sum total to vary in amount,** and thus yield a larger or smaller value to be divided. Thus, when "business is poor," and demand is slack, the value of the annual sales in a mill may be less than usual, and less may exist for both labor and capital; or when "business revives," and "buyers are plenty," the better demand from people in other groups of industries raises the value of the total production, and increases the sum to be divided. Ignorance of this variation in the sum to be divided has been the basis of many errors by strikers. They have often demanded an increased share for wages just at a time when the total value of the product was diminishing. If they act at a time when this sum is rising in value, they are more likely to succeed.

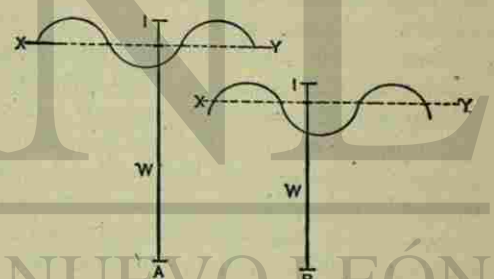
190. A very important matter to keep in mind, also, in regard to the share of labor and capital is the **quantity of the product compared with the sacrifice to labor and capital** (that is, compared to the number of days' labor on the average, and to the amount of capital employed). If we were to employ $500 of capital with 100 days of unskilled labor in growing wheat in New Jersey, we might reap 100 bushels; but if the same amount of labor and capital were applied to the virgin prairie soil of some great wheat-growing district in the West, like Dakota, it might easily produce 150 bushels. The same labor and capital was used in both places, but the total product

in the one case was much larger than in the other. Thus there was more to divide between labor and capital in Dakota than in New Jersey. If capital were to have one tenth of the product in each case, it can be seen by the adjoining figure that in Dakota the share A, which is one tenth of the whole, is a larger quantity than *a*, which is one tenth of a smaller product in New Jersey. Likewise B is greater than *b*, because it is nine tenths of a larger sum than in New Jersey. To express it in other words, nine tenths of a large loaf is more to a laborer than nine tenths of a small one. The returns to both labor and capital, consequently, will be high in countries where the return to the exertions of labor and the use of capital are great.



191. The reasons why this return is great are illustrated by the causes which are in active operation in the United States. The vast extent of our rich agricultural land, our great mineral deposits, our supply of natural products (like petroleum), are the sources of great industrial advantages. With these conditions we must take into account a population already highly civilized at the time when that portion of the country was first occupied; the inventive character of the people; the appliances and machinery in all industries which enormously multiply the productive power of men; the water-ways and network of railways which afford easy and rapid transportation both for men and ideas; and such density of population as permits of an organization of efforts, and a division of labor on an advantageous scale. These are some of the **causes which in a new country make the return to labor and capital very much higher** than in an older or a less favored country.* The return to a given exertion of labor, and to the use of a certain sum of capital in most portions of the United States is greater than that in England or on the Continent. The loaf of bread to be divided is larger in the United States than in Europe. This is why *both* wages and interest are generally higher here than abroad.

192. We can not insist too carefully on keeping this before us in discussing the rewards to labor and capital. It fixes the level, or plane, on which the principles we arrive at for governing wages and interest will operate. It makes a great difference whether these principles operate on the high level of a great quantity of product or on the low level of a small quantity of product. If the share of labor varies, as compared with the share of capital, in the two cases it will vary on different levels. The height of the line A might represent the productiveness of an industry in the United States, and that of B the relative productiveness of the same industry in Europe. If A and B are divided in the same proportion (say one tenth for interest and nine tenths for wages), the share for capital, I, and the share for wages, W, will be much greater in the case of A than of B. In the first case, the point of division will be on the level of X, and in



* This will be true also between parts of the same country, differently favored by Nature, so long as competition between them is not free. If labor and capital will not move freely between them, the rates of wages and interest may be higher in one part than in another.

the second case on the level of Y. Now, if there are variations in the shares of wages and interest relatively to each other (while the total product remains the same), the point of division will move up and down about the level of X for A, as indicated by the curved line, and for B up and down about the lower level of Y. We have not yet found out, of course, where to draw the point of division between wages and interest (that is, the places X in A and Y in B); that is our problem in Book III. But, when we do arrive at this principle, we must remember that it makes a vast difference whether it applies to a large or small dividend, to A or to B. If a father dies leaving his property to his two children in equal shares, it makes a great difference, so far as the share of each child is concerned, whether each receives one half of a large or one half of a small fortune.

193. It is also to be remembered that **industries vary as regards the amount of labor required** in their operations; some demand a large number of laborers with a small capital, and others demand a large capital with a small number of laborers. Thus farming usually calls for relatively many more laborers and less capital than an iron-foundry, in which molders and machinists are working with machinery and buildings and materials which require a heavy outlay of capital before the business can be begun. As a rule, most manufactories require more laborers to a given amount of capital than agricultural industries, though a good deal depends on the character of the industry itself, and the kind of machinery used. As machinery is improved, a less and less number of workmen are required to work and feed it.

194. **Exercises.**—1. Apart from rent, between what two classes is the main question of distribution concerned?

2. Is it correct to say that labor and capital are paid out of the product of their industry?

3. If the summer is very long and hot, and a strong

demand for ice is felt, so that ice rises considerably in price, how would that affect the sum from which labor and capital in the ice industry is to be paid?

4. Two men have respectively a little capital in the form of a spade and some seed. One digs up rich soil for a day and plants it; the other digs up poor soil for a day and plants it. Why does the first get larger wages and interest?

5. When Oregon was held by the Modocs and other Indians, it was as rich in natural resources as now. Did the Modocs get as high wages as settlers do now? What is the reason for the vast difference between their earnings?

6. What effect has the great productiveness of an industry on the payments for labor and capital? If the "Mikado," written by Gilbert and Sullivan, is very popular, and earns a large royalty for the authors, is it just to say that this enlarges Gilbert's share only (without having any effect on Sullivan's share)? Is it just to say that the great productiveness of an industry enlarges wages only (without affecting the share of capital)?

CHAPTER XIX.

INTEREST.

195. In many treatises on political economy, and in the language of business men, the word "profits" is employed to include three different payments, which should be kept separate. It is made to cover interest, insurance, and wages of superintendence. Interest is, however, **the payment made solely for the use of capital,** and wages of superintendence form the reward paid for the exertions and skill of the manager. There is an obvious error, then, in including both under the term "profit." The amount to be paid to a manager for his work as a highly-skilled laborer is not determined by the same principle that fixes the rate of the interest which must be paid as a return for the use of capital, and it is an unnecessary confusion to include them both under the general term "profits."

The **wages of superintendence,** or the reward of the manager, we shall rigorously exclude from our present consideration, which pertains solely to the sum paid for the use of capital. The manager's wages will be considered hereafter. We can see what constitutes interest if we consider the case of a man who puts his capital into business with other partners who agree at once to secure him against all risk of loss, and to release him from any work or any superintendence of the business.

196. In connection with interest, it is well to consider

the addition made to the rate by the **risk** attendant in each special case on the loan or use of the capital. This extra payment, beyond the rate which would be paid for undoubtedly safe securities (such, for example, as United States bonds), is called **insurance.** Whenever the returns from the investment are more or less uncertain, or if the lender has some doubt that he will ever get his capital back again, the price exacted for the use of the capital will rise to a point at which it will (in the opinion of the investor) be a compensation for the amount of risk. In proportion as the investment is safe, the payment for risk will be low; in proportion as the investment is hazardous will it be high. In most enterprises, a very large amount is annually set aside as a reserve, or protection against losses and years of depression.

There are many inexperienced persons, having some money to invest, who seem to care more for their interest than for their principal. They are attracted by a high rate of interest, but do not realize that the high rate always goes with a high risk.*

197. The ordinary rate of interest on safe securities will not attract capital to an employment which is known to be uncertain in its returns, or exposed to dangerous accidents. In such industries as mining or the making of

* A few years ago an institution known as the "Woman's Bank" was founded in Boston on a pretended basis of philanthropy, of which the chief evidence was its offer to pay eight per cent per month on all deposits. The offer of eight per cent a month, or ninety-six per cent a year, ought of itself to have warned any informed person of the utter untrustworthiness of the bank. Of course, the money deposited never earned such returns, and the high rate of interest was paid, not out of earnings, but out of the principal left by other depositors. When the bank was investigated, and fresh deposits were stopped, the means of paying the high dividends ceased, and ignominious failure and prosecution of the manager followed. A little knowledge of what affects the rate of interest would have saved many confiding people from serious losses.

dynamite, for example, the payment for interest must be so much beyond the rate paid by money employed in safe investments as will cover the average losses, and put the business, in the long run, on the same footing as less hazardous industries. If a gunpowder factory blow up occasionally, the rate of interest on the capital invested in it must be high enough to make up for the mischance. The principle involved in the insurance of buildings is the same. No one knows just how many houses will burn up in a month; but a fixed charge is paid to the insurance company which experience has shown to be sufficient to cover average losses. In ordinary business, the rate is more or less varied by the circumstances of the country, the prevalence or non-prevalence of order or of commercial integrity, and the opinion formed as to the honesty of the borrower; for all of these circumstances influence the investor in estimating his risk of loss. The rate of interest is high in rough mining regions, or in places where life is held cheap, because the lender feels that his risk is enhanced in such places, and he adds a high charge for insurance. The proper payment for such insurance is a sum sufficient, in a long term of years, to make the returns from a hazardous investment equal to that which a safe investment would give throughout the like period.

198. Understanding as we now do the payment made necessary by risk and for the wages of the manager, we may go on to study **the principles which govern the rate of interest.** We want to learn what determines the amount which the owner of capital can demand for its use, wholly apart from any payment for risk or for the wages of superintendence.

It is sometimes assumed that this can be fixed by the rate of interest paid for the use of capital in the loan market; but the loan market, where some offer and others borrow capital, is merely the machinery by which the capital of the country gets into the hands of producers.* **The rate of interest in the loan market will generally be somewhat less than the rate which can be earned in production** by borrowers, or else there would be little reason for borrowing. The market rate will tend to follow the rate which can be earned by capital in production, although there will be a thousand causes for temporary variations about this normal level. The ultimate destination of capital is production, and the rate which will be paid for its use will depend upon the rate earned by producers with their capital.

199. The connection of the rate of interest in the loan market with that earned in productive employments is evident. At a time when the market rate is low, the conditions exist which create a demand for capital in production. Not content with the very low returns offered by safe securities, owners of capital begin to look yearningly at investments, like mining stocks, which, because they are less certain, offer a higher return. Then, too, a well-heralded prospectus for a new venture comes out, and tempts investors. Moreover, when rates of interest are low, even good business managers find that more capital can be used in legitimate business, for the reason that it can be got cheaply. So the low rate of interest causes an additional demand for capital, and in this way calls out a demand sufficient to employ the existing supply, or the rate will rise to a point at which the whole supply will be employed. On the contrary, when the rate is high, the

* Those who borrow to consume unproductively produce the effect, for the time, of diminishing the capital of the country, and of reducing the amount which can be offered by producers for labor. The greatest sinners in this respect are the governments who borrow enormous sums and consume them in wars and expenditures, from which no equivalent wealth is reproduced. It is said that, during the years 1870–1875, in England alone, loans were granted to foreign governments to the extraordinary sum of $1,300,000,000. (See Wallace, "Bad Times," p. 18.)

use of capital in production is discouraged, and the rate will fall until all of the supply is loaned. Thus, **capital can not be permanently loaned at rates much higher or lower than the returns to capital actually engaged in production.**

200. This leads us at once to the crucial question of distribution. What principle determines the respective shares of labor and capital when engaged in production?

We have already seen that a supply of capital is necessary to every industrial operation as now carried on, and we have seen that labor is likewise necessary. They are as necessary to each other as the two blades of a scissors. Hence, of two things both essential, if one becomes abundant relatively to the other, that one must get a smaller return provided all of it is put into use, and the one which is relatively scarce will get a larger return. In brief, **the proportional shares of labor and capital out of the product will depend upon the relative scarcity and abundance of labor and capital.** Capital, by its very definition (see section 55), must be employed in production; and capital can not be so employed without hiring labor. In order to ascertain the relative shares of laborer and capitalist, it is impossible not to compare the amount of capital offered for laborers with the number (and quality) of the laborers competing for the capital. If, for example, immigration, or the simple increase of population, should add greatly to the number of workingmen in the United States, without a corresponding addition to capital, then the share of the product which each laborer can demand will be somewhat less than before. If capital, on the other hand, should increase more rapidly than laborers, the division of the product will be altered in favor of the laborer. This last seems to have happened in the past century in a marked manner. The invention of the steam-engine, the spinning-mule, the power-loom, and the vast increase in fixed capital, have

made the accumulation of capital so great as to lower the rate of interest in all law-abiding countries. The competition of capitalists with one another, whenever a remunerative employment is disclosed, is far keener than the competition of laborers with one another for employment, great as that is; and, when capital grows rapidly, the fall in the rate of interest is a natural result. In the United States in the last thirty years every one recognizes that the rate of interest (solely for the use of capital, not for its management) has been constantly declining.

201. In Book I, Chapter VII, we found that the supply of capital depended on (1) the amount which could be saved, and (2) on the disposition to save in the minds of persons in the community. But, as civilization makes the conditions of life and property more safe and stable, it is noticed that **accumulations of capital do not necessarily diminish with the fall in the rate of interest.** As the amount which can be saved may diminish, the desire to save may increase. In fact, when men save in order to secure an income on which to retire, a fall in the rate at which they can invest their savings will probably tend to induce further savings; a larger capital is necessary to secure the desired income than when the rate was high. Yet, in general, it is probable that a fall in the rate will more or less affect the tendency to save capital. When the rate is high, men will strain a point in order to get all the capital they can save to invest; but, when the rate is low, they will have a less incentive to cause them to undergo a great sacrifice.

202. The supply of capital, however, is practically increased by any devices or means by which it is **turned over more rapidly** than before. These means have been increasing in a variety of ways of late years, and have had an important influence on the quantity of capital needed by a producer. The shortening of the period of manufacture in an industry by the introduction of improved

machinery is an example. If it formerly required ninety days, after buying materials, to make, finish, pack, sell, and get payment for a case of shoes, and if now it requires only thirty days for the same thing, it will be evident that the capital, by being turned over more rapidly, becomes three times as efficient; or, what is the same thing, only one third as much capital is required for the same results as before. Any means by which the **rapidity of circulation of the capital** can be increased will have practically the same effect as an increase in the supply of capital. The introduction of the electric telegraph, of the telephone, and of rapid communication by steam, have had a great influence in this direction. In the old days it was required that capital should be invested for months in a cargo of wheat shipped from New York to Liverpool before the payment was made. Now, without leaving the floor of the New York Produce Exchange, A may receive a telegraphic order from B, in London, to buy a cargo of wheat; may purchase the wheat; charter a vessel to carry it; engage an elevator to load the vessel; insure the cargo; draw a bill of exchange on B for the amount of the purchase; sell the bill, and get his money; and send back word by cable of the transaction—all in a few minutes.

203. We have now explained the principle according to which—if the value of the product is given—the respective shares of labor and capital are determined. This furnishes us with the principle governing the division; but it does not explain why in some cases the rate of interest is high or low. It determines the proportional, not the absolute, amount. If the proportion set aside for interest remains exactly the same, **the absolute amount of the interest will vary with the value of the product to be divided.** To this point we have already referred (sections 190 and 192). If capital gets one tenth of a large product, its share will be absolutely larger than when it gets one tenth of a small share. In short, the actual reward of capital in production at any time depends upon two things: (1) The abundance or scarcity of capital and labor relatively to each other, and (2) the value of the product to be divided.

204. In young countries, or in newly-settled districts, capital is not abundant; neither is labor. Capitalists find it difficult to engage the necessary workmen, and yet the interest for capital is large. Why is this? The abundance of fertile land and rich mineral resources give a large return to the application of labor and capital, and so **the shares of both labor and capital are large.** In Montana, and in the less settled portions of the United States, the market rate of interest is yet as high as twelve per cent.* In the North Atlantic States the market rate is from four to seven per cent. And yet in the former districts wages are higher than in the latter. We should thereby understand that high interest does not imply low wages, but that both are large because the amount to be divided is large. From this some writers have tried to show that an increase of the product necessarily increases wages alone. We can see, however, that it increases both wages and interest. A greater *proportion* can go to wages only if the relations of labor and capital to each other are altered. In other words, if workmen become scarce relatively to capital, even in a new country of great natural resources, wages will rise beyond what was before considered a high rate.

205. It is well known that natural agents lie at the basis of all production: agriculture furnishes food and animal products; mines give fuel, oil, and minerals; forests yield lumber and materials for every trade. These are the main industries in a new country. When capital is first invested, the productiveness of industrial operations is so great that both high interest and large wages can be paid.

* In many cases, however, the high rate is due to the element of risk, and in a new country this ought to be given full weight.

But these very industries are the ones which are most affected by the law of diminishing returns; so that, as population grows, and the natural resources are more and more worked, the yield to the same amount of capital and labor becomes less. Sooner or later the diminishing returns from natural agents will lower the sum to be divided between capital and labor. So that, apart from the growing accumulations of capital by saving, **capital, as well as labor, is likely to receive a less share, because the sum to be divided will become less.** Improvements which offset the action of the law of diminishing returns will, of course, tend to keep interest from falling. But the accumulations of capital are steadily increasing, even though the natural agents of our country are being more and more taken up, and we need have little doubt as to the tendency of interest to fall. **The share of the capitalist is becoming less and less.** This is a statement which may seem strange to some minds, but the truth of it may become more apparent when we have discussed the share of the manager of capital.

206. The income on any investment, like the dividend on a stock, the interest on a bond or mortgage, or the rent of a farm, will govern the **selling-price.** About 1876 the United States Government sold $737,000,000 of bonds, which pay four per cent interest—that is, they could then borrow capital at four per cent. Since then the general rate of interest on equally safe securities has fallen to less than three per cent. As a consequence, the selling-price of a four-per-cent bond has risen far above par. The reason is plain. Such a bond yields annually four dollars to its owner, and, if he is content with less than three per cent on his investment, he will be willing to pay more than one hundred dollars for such a bond; he will pay so much more (say one hundred and twenty-seven dollars) that four dollars will be about three per cent on his purchase-price. If the income from bonds, land, or stocks remains steady,

their selling-price will rise when the general rate of interest in the community falls; and their selling-price will fall if the general rate of interest should rise.

207. Exercises.—1. Distinguish between interest and the common use of the word "profits." If A puts capital into a business, and is excused from all work, and warranted against all business risks, what would you call his remuneration?

2. If A gave all his time and energies to the business, besides putting in capital, ought he to receive any more remuneration than in the first case? What would you call such extra remuneration? Does he get it simply because he owns capital? Could he get anything for the use of his capital without working?

3. Why is it that a widow, who had a little fortune left to her, can get a higher rate by investments in railway stocks than in United States bonds? Are railways always honestly and safely managed?

4. If people of many countries go to London to borrow capital, what effect would that have on the rate of interest in London? If they go from other countries to England, what is probably the relative rate of interest in the countries from which they come?

5. If strikers burn up warehouses or factories, do they lessen the capital by which they or other laborers can be employed?

6. Why are both wages and interest higher in the United States than in England or on the Continent?

7. If great numbers of foreigners emigrate to the United States, how should that affect wages? If capital, however, increases still faster than the workmen, would wages fall?

8. Why should the rate of interest on a Western farm mortgage be greater than on a mortgage on improved real estate in the midst of a great city?

9. If the rate of interest falls, does that mean that

capital can not find employment at all? Will the rate have any effect on the demand for capital?

10. If a farm, always yielding $100 rent, sold for $1,000, when the general rate of interest was ten per cent, show that its selling price will be $2,000, if the general rate of interest falls to five per cent.

CHAPTER XX.

WAGES.

208. Before going further, it will be well to define the various meanings associated with the word *wages*. The distinction between *money wages* and *real wages* is highly important. By **Real Wages** is meant **the amount of commodities of value received by a laborer for his exertion,*** either physical or mental. It is in this sense that wages vitally concern the laborer. Adam Smith says: "The real wages of labor may be said to consist in the quantity of the necessaries and conveniences of life that are given for it; its nominal wages in the quantity of money. . . . The laborer is rich or poor, is well or ill rewarded, in proportion to the real, not to the nominal, wages of his labor." By nominal, or **Money, Wages** is meant **the amount of money a laborer receives for his exertion.** People who think only of the money they receive forget that the money buys sometimes more, sometimes less; they overlook the fact that an increase of Money Wages, when prices have risen, does not increase real wages. During our civil war prices in depreciated paper rose enormously, and wages in paper money were higher than in the days of a gold currency; and many persons were ignorant enough to think they were better off simply because

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they received more dollars per week, no matter whether or not those dollars bought as much as their former gold wages. The question of real importance to the workingman is the quantity of commodities he gets for his work.*

209. Closely connected with Real Wages is the idea expressed by the term **standard of living** of a class of laborers. Having become habituated to a certain kind of living, a certain quality and quantity of food, clothing, and comforts, laborers may be so strongly desirous of keeping this standard that rather than forego any of their satisfactions they will limit the increase of their numbers. This may be done through fewer births, or by emigration. Persons who want a higher standard of living than they can get in Germany, Italy, and Scandinavia, are constantly emigrating to the United States, where they can secure a greater remuneration for their labor and a higher standard. In France, rather than submit to a lower standard of living, the small farmers limit the size of their families.

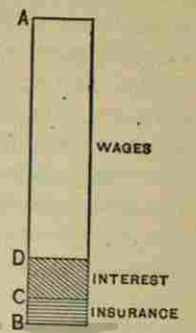
It can not be said, however, that the standard of living is a fixed and invariable thing. It is much more easily lowered than raised, although there can be no question that in Europe and the United States during the last fifty years it has been slowly raised. Workingmen have more commodities which yield satisfactions now than at the beginning of the century. Machinery has cheapened many articles of common use so that they are within the reach even of the poor. The humblest cottage now contains articles which a few hundred years ago were beyond the reach of nobles in their princely castles.

210. It is now necessary to state the principle governing **the general sum paid as wages.** Although this

* In case a man is paid by the piece, his wages are high or low according to his dexterity and skill. But the total payment for his day's work, although estimated as so much money, is still to be really tested by the quantity of desirable things which he can command as the result of his work, not merely by the money he gets.

has already been given (section 200) in discussing interest, or the share of capital, a further statement is desirable.

After setting aside from the total product to be divided the sums paid for taxes and rent, the problem was to ascertain the point of division of the remainder of the product, expressed by A B in the accompanying diagram, into wages and interest. This point of division is fixed by the **relative abundance or scarcity of labor and capital.** This is the principle of which we were in search. It is to be observed, however, that this does not tell us what governs the rate of wages for a class of laborers, or for any individual laborer; it tells us only how **the total sum which goes to labor** is fixed, regardless of the different kinds and conditions of labor. We shall defer to the next chapter the explanation of the principles by which the total sum, A D, is distributed among the various classes of laborers.



211. The payments for taxes, insurance, etc., are necessary in order that both capital and labor can continue their joint operations. The important point is as to the **relative shares which capital and labor get** out of the remaining product. If one becomes relatively less abundant, it can hold back, and the other must come to it, for the other can do nothing alone in production. If one of the two is anxious to make an agreement, it is only because its relative position is such as to create this anxiety for its employment. To illustrate this, suppose the number of workmen competing for employment in the United States were greatly increased by the arrival of Hungarians and Italians (who work for very low wages), and, also, let us suppose that capital is no greater than it was before the arrival of these laborers—it will be evident

that capital has the relative advantage, and labor the relative disadvantage, when they begin to enter into an agreement to work together. Each of the increased number of laborers will not now receive the same amount as was before given to each of a smaller number. There are no more shops or factories than before, no more employment offered; for no more capital exists than before, though there are more laborers competing for the same opportunities of employment. In such a case, laborers, by their own competition, will agree to work for a less sum per day than before their numbers were increased. The result of this is to increase the share of capital, D C, relatively to that of labor, A D, if all the laborers are to be employed by the existing capital.

212. Some one may say, by way of objection, that if there are more laborers ready to work they will bring with them more hands, and they will thus produce more wealth in direct proportion to their increased numbers. This, however, can not be true; and it brings us to understand how intimately production and consequently wages depend upon capital. Suppose that the area of circle A represents a given capital, employing a given number of laborers, resulting in a certain amount of wealth, represented by the area of circle B. Now suppose that there is a considerable increase of laborers competing for work, but that there is no increase of capital. If there is no more capital than before, there are no more factories, railways, docks, no more tools, machinery, no more materials and food to be used productively by the additional laborers. The increased number of workmen will therefore have only the same instruments and materials of production as before. Two carpenters with one hammer can not drive as many nails as they could if each had a hammer. Since capital is necessary to production, we **can not increase the production of wealth simply by increasing laborers.** It is conceivable that more laborers *might* use the existing capital more effectively, and thus perceptibly increase the wealth from B to B′. That is, two men with one hammer, by relieving each other, might drive more nails in a day than one man alone with one hammer. But to suppose that doubling the laborers without increasing the capital will double the wealth produced is seen to be absurd as soon as we realize what capital means. The production of wealth, not having been increased in proportion to the increase of the laborers, the sum to be divided among them can not be increased in the same proportion, and there can not be enough to give the former wages to each of the new-comers.*

213. If, on the other hand (taking a supposition the reverse of that in section 212), saving is going on rapidly, if business is prosperous and "profits" are high, then capital will be accumulated with great rapidity. Or, if the Government is paying off its public debt rapidly, that will add to the capital seeking investment. Should the growth of capital exceed the increase of the population seeking work, there would be an increased number of opportunities offered to men for employment. There would be more men wanted in already-established mills; new factories, new mines, new railways, and new enterprises would start up, because the increased capital would be seeking

* I have taken the case of ordinary manufactured goods as most favorable to objectors; but, had I considered commodities affected by the law of diminishing returns, it would need no explanation to show that additional labor would not insure a proportional increase of product, even if capital had increased.

investment, and thus more superintendents, more laborers, and more artisans of every kind would be wanted. The demand for labor would be stronger than before. Labor would be at a relative advantage and capital at a relative disadvantage if all of both are to be employed, and labor could drive a better bargain than before. In such a case the share of labor (A D) relatively to that of capital (D C) would be increased.

214. We can now make some modification of our general statement as to wages. **The productiveness of a country's industries determines whether the general level of the wages shall be high or low. But about this general level** (see the movement of the curved lines in the figure of section 192) **the amount of wages will fluctuate; since the demand for labor, compared with its supply, will determine in fact what the employers will promise to pay, and what the employed will agree to receive.** To illustrate: The industries of the United States are at present more productive than those of France, and consequently the general level of wages is higher in the United States than in France. But a variation in the demand for labor, relatively to its supply, is constantly going on; and so the general rate of wages may rise or fall above or below the high level fixed merely by the productiveness of our industries. If capital increases more rapidly in the United States than the number of our workmen, the capitalist, in order to invest, will necessarily promise to pay out of the total value of his product a relatively greater share to labor in wages. If, on the other hand, capitalists lose confidence, if they are timid and shrink from investment (as in times of depression in trade), and laborers continue to increase as in prosperous times, the latter, of course, in order to get employment, will agree to work for less wages than before. Both capital and labor are essential to production; each requires the other. No matter

what the conditions of productiveness are, if either is eager for the other, because of stress of competition (on one side or the other, either of laborers against laborers or of capital against capital), that one will get the poorer bargain.

215. Labor unions have grasped this principle whenever they have limited their membership, and then by various means made it impossible for any other than one of their own members to get work. They thus shorten the supply of labor in their trade relatively to the demand for it, thereby raising wages at the expense of other laborers who are kept from competing with them. So far as such restrictions on numbers affect only one trade, it is at the expense of some other workmen; but, were the idea generally followed out, and had the poorest class of workmen smaller families, making fewer additions to the ranks of competitors in that poorest class, they could better their condition as a whole. **Labor organizations** of the present day try to collect all workmen into one association, and from this coigne of vantage to better their position as receivers of wages relatively to the capitalists. Theoretically, this may work well for laborers; but, when they strike to enforce their demands for higher wages, the employers have so far seldom failed to find a sufficient number of other laborers ("scabs," so called) ready to take the place of the strikers. Usually the efforts of the strikers have been directed against the "scabs," who, by intimidation and riots, are sometimes driven from work. Here, again, unless numbers in general are lessened relatively to the demand for them, the strikers **gain at the expense of other workmen.**

216. The same principle that we have been discussing affects the **wages of one trade relatively to the wages of other trades.** In the United States, for example, we often see the iron industry stimulated by a good demand for iron; and the trade is then said to be

prosperous. Under the new demand the price rises; or, in other words, the producers of other things who want iron are obliged to give more of their wealth than before for the same amount of iron. The producers of iron receive a larger share than before of the wealth of the country, and have more to divide as wages and interest. In this way the wages of one industry may become higher than the wages of other industries. Whether they will remain higher depends on whether workmen from other trades are competent to come in and compete with those already employed (that is, if there is "free competition").

We have before noticed (section 107) that the proper adjustment of production in a community is exceedingly intricate. Each industry is seeking a **market**; that is, each industry depends on the demand of other producers for its own goods, and what every merchant or "business man" is doing is to discover practically the mere facts as to the desires of other producers for his goods. Hence it is natural that in the complexity of exchanges between all trades, producers should sometimes make miscalculations as to the facts; and so there are periods when more of one class of goods is produced than is wanted, and other periods, again, when there are not enough of certain products to satisfy the demand. In the first case, prices fall, and wages are lowered; in the second case, prices rise, and wages can be raised. So we see that the **varying movements of demand and supply between different trades will affect the relative rates of wages.*** We shall have occasion to refer to this again in considering the wages of particular employments.

* "The recent advance in England's wealth has caused a great demand for building; and those who produce other things have had to give more of them than before for the purchase or hire of a house. There has been an increased competition for the aid of the building trades, which has raised their wages and enabled them to obtain a larger share of the wealth of the country than before. Now suppose that during such a rise in the price of houses there is a sudden check to the supply of (say) house-carpenters. The rest of the building trades will then find it difficult to obtain the aid of carpenters to supply roofs, floors, etc. And since the work of masons, plasterers, and master-builders will be of little use without such aid from the carpenters, the competition of the other building trades for the aid of carpenters will force up the wages of carpenters, and enable them to obtain an exceptionally large share of the earnings-and-interest fund."—Marshall, "Economics of Industry," pp. 128 and 129.

217. It should be clearly understood here that, in speaking of the shares which go to labor and capital respectively, we consider the share of capital solely as interest (together with insurance for risk), and that we do not include as the reward for the possession of capital the wages which a capitalist or manager receives for his time and ability, and which is usually included under the term "profits." With this understanding, the "conflict between labor and capital" assumes a different phase. As we have seen (section 205), **interest, the share of capital, is decreasing.** The whole tendency of civilization works to strengthen the providence of mankind, to create greater security for life and property, and so to increase the desire to save. The growth of capital is now going on in the United States at a rate which far outstrips the growth of numbers; and the rate of interest, or the sum which any employer need pay for the use of capital in his business, is steadily diminishing. The rate of Money Wages, on the other hand, is rising, and also many articles of common consumption have been lowered in price, so that Real Wages have risen still more. So long as these facts exist, it can hardly be said that the "conflict" between the laborer and the capitalist is going against the laborer. In fact, the real difficulty with the labor question is not at this point. Later we shall see that in reality it is a **contest between different classes of laborers** (considering all managers as laborers who receive large wages for conducting their business).

218. **Exercises.**—1. M received as Money Wages $2 a day in gold. Prices then rose 100 per cent, or were exactly doubled. M's wages then rose to $3 a day. How much had his Real Wages changed?

2. Would you say that the Chinese had a different standard of living from that of native American laborers? Do they expect the same quantity and quality of food, clothing, shelter, amusements, and comforts?

3. Can laborers, by strikes and combinations, raise their wages to a point where nothing is left for capital as interest? Why not?

4. If, in a small town where one blacksmith had done the work, nine more blacksmiths set up forges, would that affect the wages of blacksmiths? Why? They could do more work than one, and why could they not all get good wages provided they were industrious?

5. Why is it that, when "times are good," and business is profitable, we see few laborers out of employment?

6. In our western territories both the land is highly productive and laborers are scarce. What would you conclude as to the rate of wages there? Would they be high or low? Why?

7. How can you account for the fact that wages are higher in England than in Germany and France? Why are wages higher in the United States than in England? Is our land more productive than in England for the same application of labor and capital?

8. When labor unions shoot and pelt other laborers who are working in the place of strikers, do they injure their employers? If they burn the buildings and property of employers, will there be as much as before with which to employ labor?

9. When our civil war broke out, there was a great demand for woolen blankets and clothing for the army. How could that have affected wages in the woolen industry

relatively to industries which did not feel such a stimulus?

10. Why is the rate of interest decreasing? Does that mean that employers who superintend their own business are getting decreasing shares? If interest falls, does that imply a fall of the manager's *wages?*

CHAPTER XXI.

WAGES OF DIFFERENT CLASSES OF LABORERS.

219. HAVING discussed the principles which govern the general share of labor in the product, and in one trade relatively to another, we now continue this discussion by trying to find how the total share of labor is divided among the various classes of laborers. If, for example, the general level of wages is high in the United States, we want to know why some laborers have higher or lower wages on this general level than others. We shall thus carry the question from the point of its application to laborers as a whole to that of classes of individual laborers. Referring to our figure (in section 210), it is our purpose to decide **how the sum** represented by A D, or wages, is **divided among the various classes of laborers.** So far as the individual laborer is concerned in bettering his position, this is to him really the important question in the distribution of the product; for we shall soon see why, out of this sum, A D, one laborer receives a higher share than another.

220. The members of the industrial world resolve themselves into groups, or different layers, one above another, with more or less defined limits. Mr. Mill spoke of the grades of labor in England as divided into about four*

* "The divisions between the various grades of English society are not so clearly marked in this generation as they were in the last. Each of Mill's four grades is subdivided into a number of lesser grades, rising one above the other like the steps of a long staircase that is arranged in four flights, with a short landing at the end of each of them." —Marshall, *ibid.*, p. 108.

classes, with a line of demarkation so strongly drawn as to be almost equivalent to a hereditary distinction of caste—the liberal professions, the more highly skilled artisans and tradesmen, the lower classes of skilled laborers, and, lastly, unskilled laborers. In the United States the lines of demarkation are far less distinct, and, from the common unskilled day-laborer who works with pick and shovel to the most highly successful "captain of industry," the **various industrial groups shade into one another imperceptibly.** Yet there is a marked separation into the unskilled laborer; the little skilled and slightly educated (these two classes are largely composed of foreigners); the skilled mechanic, the overseer and accountant; the chemists, engineers, and members of the liberal professions; and the successful managers, or *entrepreneurs*. As we look into a great factory of the present day, we shall find men engaged in carting and lifting, which requires no skill or training; others stand by feeding machines in a purely mechanical manner, without the least knowledge of the machine; others perform marvelous feats of dexterity; others are pointed out as most skillful molders, or glass-blowers, or furnace-men; or there is the superintendent of the carding-room, or the weaving-room, or the bleaching and dyeing; others in a laboratory are testing metals, experimenting scientifically on materials, oils, and machinery, working out better processes for the industry; and, finally, at the head of all, the cause of its existence, the director of the whole establishment, a financier as well as a practical manager, watching all details, and yet keeping an eye on the broad extent of his market, buying materials and selling his product to the best advantage, the most skillful laborer, and the worker most necessary of all to the permanence of the establishment.

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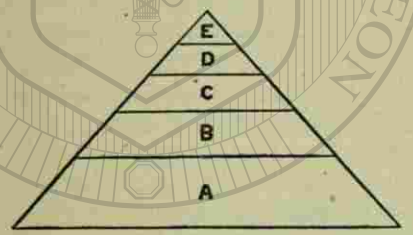
221. There is a great difference, however, as to the

numbers in each group or layer. The supply of unskilled laborers is, as every one knows, vastly greater than highly skilled artisans (such as good machinists), while the number of successful business managers is, relatively to the number of other classes of laborers, very small. There is a false idea current which prompts us to separate the manager of a business from the men he employs, and not to call him a laborer, which he unquestionably is, as if labor were not honorable. As well say that pleasure-yachts should not be classed as sailing-vessels, because their sails are used for different purposes than carrying merchandise. Taking a general view of all the different classes of laborers, the most striking fact to be noticed, then, is the **large numbers in those groups lowest down in the scale relatively to those higher up.** This can be best represented by the accompanying figure, in which the unskilled laborers, A,



form the largest layer at the bottom of the industrial world. The class who have attained some slight education, can probably write and use figures, and have some acquired skill, will be less in number, like B. In C will be found the skilled artisans; in D the engineers, chemists, superintendents, and professional men; while E will then be composed of a small number of competent industrial managers. This shows how our classes of laborers are divided, forming as it were an industrial ladder from the lowest place to the highest, up which any man can go who has ability, character, industry, and ambition.

222. The whole sum, A D (in the figure of section 210), which goes to wages, is divided among the different classes of laborers, from A to E. In any great factory you will

see all kinds of labor employed, from the lowest to the highest. What is the principle of distribution between these various kinds of labor? Simply, **the supply of any one kind of labor relatively to the demand for it.** Let us consider first the **supply of unskilled labor,** and then the demand for it.

To this class of laborers are especially applicable the principles enunciated in the Law of Population in Chapter VI. The tendency of numbers to increase faster than subsistence has its strongest bearing on the least intelligent, most improvident, and most unprogressive portion of the community. They do not seem to be able to look forward with such distinctness as to value a future gain sufficiently to repress a present gratification. Because they are ignorant, they thoughtlessly add to the size of their families without heeding the question as to where employment is to come from. It is generally found that in the lowest group extreme poverty and wretchedness destroy all motives to better their condition, and thus these persons are the very ones to increase in numbers faster than classes far above them in character and intelligence. It would be far better for the human race were the best stock to increase faster than the poorest. The class of common unskilled laborers are governed more by feelings, customs, and traditions than by judgment and reason. They get stolidly accustomed to a certain kind of existence, and rarely care for anything better. A most promising sign would be dissatisfaction with their condition (accompanied with some understanding as to the means of bettering it). When, for any reason, wages rise, and this kind of laborer gets the means of living more comfortably, the result generally is an increase of numbers, so that the greater number can live at nearly the old level, instead of the former number rising to a really higher level. Increased wages will almost invariably result in increasing the supply of unskilled labor. If, on the other hand, wages fall,

numbers are lessened by the sad effects of want, of disease, and often of crime; or at least the growth of numbers is checked. Anything which affects the opinions and habits of this class, and raises the standard of living,* causes their children to become healthier, better educated, and more efficient workmen in the next generation. Although the standard of living varies in different countries, and at different times in the same country or place, yet **the tendency is for population to accommodate its numbers to this standard.** Where the standard is very low, there is little provident control over an increase of numbers. Brought up in a single room, with unwholesome air, poor food, and accustomed to dirt, evil, and vice, it will require a considerable wrench for many to think that similar things are not good enough for them when they grow up. There is, therefore, very little check upon the supply of unskilled labor because of any real consideration as to the actual or probable demand for it.

223. When we come to consider the **demand for unskilled** labor, it will be found that it is not such as to give high wages to the large supply of laborers of this class. Some unskilled labor is needed, in varying proportions, of course, in almost every kind of enterprise. The railway needs the laborer with his barrow and shovel, or as brakeman; the builder requires the hodman; the factory, the carter, the porter, or watchman; and a multitude of small offices in society demand the labor of un-

* "Experience shows that, in the existing state of society, the pressure of population on subsistence, which is the principal cause of low wages, though a great is not an increasing evil; on the contrary, the progress of all that is called civilization has a tendency to diminish it, partly by the more rapid increase of the means of employing and maintaining labor, partly by the increased facilities opened to labor for transporting itself to new countries and unoccupied fields of employment, and partly by a general improvement in the intelligence and prudence of the population."—J. S. Mill, "Chapters on Socialism," "Fortnightly Review," 1879.

skilled workmen. But the advance of inventions, knowledge, and skill make it impossible that production in general should go on without at the same time the aid of higher groups of labor. The unskilled labor forms but a part of the labor needed. In producing articles which satisfy people's wants (and find a "market"), the greater the general means of production in actual employment, or the greater the amount of capital ready to furnish materials and aid to labor, the greater the chances are that more unskilled labor will be wanted. Even skilled labor will require the co-operation of some unskilled labor; the plasterer needs his tender, the bricklayer his hodman. But **the supply of unskilled labor relatively to the demand for it is out of all proportion to the supply of skilled labor relatively to the demand for it.** Consequently, disagreeable work, provided it requires no skill, is not paid a high price. As Mr. Mill says:* "The really exhausting and the really repulsive labors, instead of being better paid than others, are almost invariably paid the worst of all, because performed by those who have no choice. If the laborers, in the aggregate, instead of exceeding, fell short of the amount of employment, work which was generally disliked would not be undertaken, except for more than ordinary wages. But, when the supply of labor so far exceeds the demand that to find employment at all is an uncertainty, and to be offered it on any terms a favor, the case is totally the reverse." If anything should occur in society to increase the demand for unskilled labor relatively to skilled, it would give the former a larger share of the product than before as wages. But it would probably not be permanent; for mere birth, mere existence, creates an unskilled laborer, while training and capacity stand as barriers to protect the skilled laborers from the competition of those below them; and this barrier keeps out an

* "Principles of Political Economy," Book II, chap. xiv, § 1.

unfortunately large number from the class of skilled laborers.

224. Not merely the expense required in getting educational advantages and mechanical training, or the loss of time involved in trying for better qualifications, but the moral energy necessary to overcome mental difficulties, the determination, character, industry, ability, and ambition implied in making the attempt to rise from one class to another, give those who succeed in doing so a position in the **nature of a monopoly.** They are fewer in number than those below them, because the qualities required for rising are not possessed by every one. The advantage of being in a privileged class, for natural and intrinsic reasons, is that they are **shut off from the competition** of the larger number who are not skilled; and, as their numbers are smaller in proportion to the demands made upon them by productive operations, they receive higher wages than their more numerous brethren below them. The only true **remedy,** therefore, **for low wages** of unskilled labor, if not simply a restriction of numbers relatively to the demand, is a persistent and intelligent effort to raise their condition by means of Christian teaching, which gives the true value of self-sacrifice and the proper estimate of the future over the present (which affects the accumulation of capital and the size of families); the better training of those classes by industrial schools; and, in fact, by everything which makes for character and greater productive capacity. The improvement of the lowest of the laboring classes is simply the question of improving mankind. It is not a thing to be accomplished in a day or a year, and it needs all the forces of Christian civilization. It will not be accomplished at once by any nostrums, or by an appeal to the State. Legislation is not a remedy for low wages; for the question which really concerns the workingman resolves itself into a division between different classes of laborers; and those most in demand, and

who at the same time are relatively fewest in number, will get the largest share, whatever legislators may enact.

225. We must by this time understand that there are classes of laborers, separated by distinct lines of division, within which there is free competition, but between which there is little or no competition. A teamster for a flour-mill may easily transfer himself as a teamster to a rolling-mill; but he can not compete with a wheelwright who arranges the machinery of a flour-mill. A laborer may move about in different industries (with some exceptions) on his own level, but he does not compete freely with those above him in his own industry. There is not, in fact, free competition of labor with labor; and so we find a number of **non-competing groups,** or classes. Geographical distance, different language, customs, religion, and political ideas also tend to prevent those on the same level from competing freely with one another. So that, whenever (as mentioned in section 216) the products of one industry, or those in one place, are in greater demand than those of other industries or places, it may readily happen that wages may be higher in the former than in the latter; and, so long as these higher wages are not lowered by competition with other laborers (on the same level, or because of being on different levels), wages will continue to be higher in the former than in the latter. **Wages in non-competing groups may consequently be on different scales, even where the sacrifice and exertion of the laborer is the same;** that is, wages may thus be disproportionate to sacrifice. But, so fast as the spread of knowledge and greater enterprise give the laboring class more mobility, the less will this hold true. Like capital, labor is every day becoming more cosmopolitan.

226. When we come to consider **skilled laborers,** we see at once that there are several influences which act to limit the supply of them, influences, too, which work with

greater force the higher up we go in the various groups. (1) First, we find that to secure the training of such a one, an **outlay of capital** is essential, even though he may hope for higher wages in the future as a consequence of this expenditure. This requires a sacrifice of present enjoyments for the purpose of gaining an indefinite future gain, which has no substantial influence on the commonplace mind. It tends to keep many a sluggish temperament confined to the condition of life in which he was born. A man educated at considerable expense for a calling which requires skill and dexterity, however, should expect that his wages would be at least increased by a sum equal to the interest on the capital expended. But it will be found that it will be something more than this, because the mere existence of a barrier to be overcome keeps out many who could cross it, and so creates a partial monopoly for those who are on the fortunate side.* Wages of the higher industrial orders will exceed the wages of those below them by more than the mere interest on the quantity of capital necessary to acquire the desired instruction. (2) For in many cases the parent, or laborer himself, may fully appreciate the advantages of

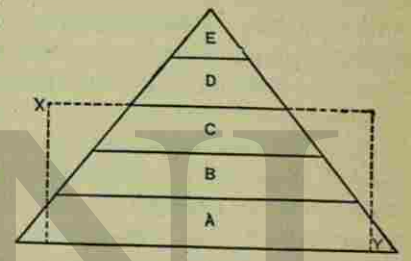
* "A poor and ignorant parent is not likely to think of obtaining for his son a lot in life very different from his own. A man brought up with narrow surroundings is apt to acquiesce in them. His own start in life was a poor one, and it seems to him quite reasonable that he should make what he can out of the labor of his son; his wages almost imply that the world expects him to do it, and his neighbors do it; so he allows a small present gain to himself to outweigh a great future advantage for his son. The poor are moved as much as any other parents by the sight of the sufferings of their children, but they are careless about the distant future, both of their children and of themselves, for they have not a vivid imagination—they are ruled by custom, and not by the deliberate use of their reason. The lower we go in the social scale the less do parents seem to see the benefits that they may confer on their sons by investing trouble and money in their education, and the smaller is their power of making such sacrifices."—Marshall, "Economics of Industry," pp. 106 and 107.

thus using his capital, but may find it very **difficult to borrow** or save a very large sum. This difficulty, to be sure, is not so great in States where children have access to free public schools of a high grade, with the occasional addition of good, free scientific and industrial training. Again (3), the number of persons who can profit by education and training, **who are fitted** mentally, morally, and physically for higher occupations is not equal to the number of those who make the attempt. Honesty, for example, is not universal, and an employé of known and proved honesty in a bank, or diamond-store, receives high wages simply because his qualities are so rare as to command a monopoly price. So with an expert accountant, an expert assorter of wool, a successful dentist, or a shrewd and skillful lawyer. Not every man in these occupations can stand at the top, and some should not be in them at all. On the other hand (4), some occupations, like those of the blacksmith, set a **premium on large and strong men,** and are avoided by those who are physically weak.

227. The **demand for skilled labor** depends more or less upon the nature of a country's industries, and upon the state of the arts. (1) In manufactures, the **knowledge of the arts,** the control over physical laws, as shown by more or less improved machinery, and the processes of treating materials, largely determines the number of skilled laborers in a particular kind of employment. For instance, at a given time, with a given knowledge of the arts, the demand for skilled labor in the manufacture of cotton is a definite thing; but if a revolution comes, by reason of some discovery in the processes of weaving or dyeing, it may change the demand for skilled labor in that industry relatively to the demand for unskilled labor. (2) If there are industries, like glass-blowing, in which trained laborers are largely employed, and then if there comes an increasing demand from other industries for the products

of the glass-blowers, that will have the effect of increasing the wages of these skilled laborers. If this were general, all skilled laborers would be the gainers. But, as a matter of fact, skilled and unskilled laborers are most commonly at work in the same industry; and the real cause of higher wages for the skilled is due to their possession of a natural monopoly in qualities which the many lack. There can be scarcely any enterprise undertaken which does not create a demand for skilled labor; so that (3) the **general increase of capital**, its increased investment in railways, factories, houses, etc., will necessarily increase the demand for skilled labor. As civilization progresses, also (4), the desires of society multiply. People begin to set a high value on things of a less material character—pictures, musical instruments, etc., are wanted. Hence, as a country grows in wealth and has a wider range of ideas, it is likely that there will be a greater demand, other things being equal, for those articles for whose creation skilled labor is essential.

228. Thus we see that an increase in the **demand** for skilled labor, by reason of a change in our knowledge of the arts, or the increasing investments of capital, or the widening desire for articles requiring skilled labor, will alter the rate of wages in its favor. Moreover, the **supply** of such labor does not readily, or even in a long time, increase because of the existence of any new demand; for **the barriers which protect the skilled laborer from the competition of those below him practically limits the numbers of his class. It is this restriction upon numbers, owing largely to natural causes, that has the chief influence in raising the wages of skilled above those of unskilled labor.*** Were the lower strata in the laboring class to become as skilled as those above them, then skilled labor would command relatively less wages than it does now. If class A became as skillful as class B, there would be free competition between all members of both classes, and the wages of all would be alike. So, also, if the supposition were extended to the farthest extreme (a quite impossible supposition), and if it were true that all laborers in A, B, C, D, E were equally skilled, then those in E could expect no higher wages than those in A, for there would be no different classes. The triangle in our figure, with its layers growing smaller toward the top, would disappear, and all would be thrown together in a common field like X Y, where each is on equal terms with every one else. There would be no non-competing groups but only such as are created by distance, language, customs, institutions, etc., founded on differences in skill; but differences do exist, and probably always will exist, in natural and acquired aptitudes. We all know that distinct classes of skilled labor exist; and while this is the case their wages will be higher, because, while they are as necessary to production as unskilled laborers, skilled laborers do not increase in numbers in the same proportion.



* "There is a natural monopoly in favor of skilled laborers against the unskilled, which makes the difference of reward exceed, sometimes in a manifold proportion, what is sufficient merely to equalize their advantages. But the fact that a course of instruction is required, of even a low degree of costliness, or that the laborer must be maintained for a considerable time from other sources, suffices everywhere to exclude the great body of the laboring people from the possibility of any such competition." — J. S. Mill, "Principles of Political Economy," Book II, chap. xiv, § 2.

229. On the other hand, for the very reason that skilled labor requires some previous expenditure of time, money, patience, and industry, any unforeseen **withdrawal of demand** for it, as in particular industries, may be quite serious. If the acquired skill is such that it can not be easily transferred to other occupations, the forced change to some other employment involves the loss of all special training. For example, if the demand for glass were to fall off suddenly, skilled glass-blowers would be quite unable to make use of their skill in swinging and blowing the pipe were they forced to seek some other occupation, such as shoe-making. They, therefore, have a large self-interest in the continuation of the industry; and in such employments it ought to be easy for the manager and employés to see that their interests are closely bound together.

The introduction of machinery, however, has lessened this general difficulty. The ability to feed and manage one kind of machine is such that it is easily possible to learn how to manage another kind. A few years ago the operative in a shoe-factory was of necessity something of a shoemaker; now, owing to the use of marvelously well-adapted machinery, he need know nothing whatever beyond the easily acquired knack of managing and working his particular machine. It would not be difficult now for a man to pass from the shoe to the cotton or woolen industry, or, indeed, to many others.

230. There are, however, some considerations affecting the wages of laborers in different employments, which have not yet been touched upon. If one trade, requiring labor of the same skill as another, offers inducements in the way of **adventure, healthy or attractive climate, clean instead of dirty work, personal honor or social position, constant employment, or certainty of success,** wages will be less in that trade than in another in which the conditions are the reverse. A soldier's or a sailor's life is dangerous, and often implies hardship and

great exposure; but, owing to the attractions of a life of **adventure,** their ranks are kept filled, and their wages are low. Yet the wages of sailors may vary according to the **climate.** Marshall * says: "If equal wages were offered in ships going to the Mediterranean and the North Sea, the former would be full and the latter empty; so higher wages are offered to the latter ships to counterbalance the disadvantage of the ungenial climate to which they sail." The **dirty** and dangerous work of a collier, in the depths of a mine, receives much higher wages than that of common labor above ground. As Adam Smith said: "A journeyman blacksmith, though an artificer, seldom earns so much in twelve hours as a collier, who is only a laborer, does in eight. His work is not quite so dirty, is less dangerous, and is carried on in daylight and above ground." People, too, expect some recompense for work which involves **disagreeable service, or loss of social position.** The same author says: "The trade of a butcher is a brutal and an odious business, but it is in most places more profitable than the greater part of common trades. The most detestable of all employments, that of the public executioner, is, in proportion to the quantity of work done, better paid than any common trade whatever." Literary work, on the other hand, because (if well done) it brings reputation and honor, is much more poorly paid than the same grade of work in other professions.† "**Employment is much more constant,**" says Adam Smith, "in some trades than in others. In the greater part of manufactures, a journeyman may be pretty sure of employ-

* "Economics of Industry," p. 103.

† "Again, the wages of domestic servants, including their board and lodging, are much higher than are those of women who do work of equal difficulty in factories or in their own homes. For the servant must always submit to some loss of freedom, and, if she happens to fall under the control of an ill-mannered mistress, to some loss of dignity." —Marshall, *ibid.*, p. 109.

ment almost every day in the year that he is able to work. A mason or a bricklayer, on the contrary, can work neither in hard frost nor in foul weather, and his employment at all other times depends upon the occasional calls of his customers. He is liable, in consequence, to be frequently without any. What he earns, therefore, while he is employed, must not only maintain him while he is idle, but make him some compensation for those anxious and desponding moments which the thought of so precarious a situation must sometimes occasion." "One of the points best illustrated by Adam Smith is the influence exercised on the remuneration of an employment by the **uncertainty of success** in it. If the chances are great of total failure, the reward in case of success must be sufficient to make up, in the general estimation, for those adverse chances. Put your son apprentice to a shoemaker, there is little doubt of his learning to make a pair of shoes; but send him to study the law, it is at least twenty to one if ever he makes such proficiency as will enable him to live by the business. In a perfectly fair lottery, those who draw the prizes ought to gain all that is lost by those who draw the blanks. In a profession where twenty fail for one that succeeds, that one ought to gain all that should have been gained by the unsuccessful twenty. How extravagant soever the fees of counselors-at-law may sometimes appear, their real retribution is never equal to this." *

231. In regard to women's wages, it will be found, in the main, that they are low for the same reason that the wages of unskilled labor are low. "In the occupations in which employers take full advantage of competition, the low wages of women, as compared with the ordinary earnings of men, are a proof that the employments are overstocked; that, although a much smaller number of women than of men support themselves by wages, the occupations which law and usage make accessible to them are comparatively so few that the field of their employment is still more overcrowded." * Shop-girls receive very low wages, because of the very great numbers who are glad to get such employment. Other professions, however, are slowly opening to women. In music, literature, and art, as nurses and physicians, they have already gained success. A fair field for the exercise of suitable artistic talent might be found in architecture. As copyists, clerks, book-keepers, telegraph operators, and type-writers, they find their competitors more or less numerous.

* J. S. Mill, "Principles of Political Economy," Book II, chap. xiv, § 1.

Yet it is also unfortunately true that custom exercises more or less influence on woman's wages. In teaching, where women have been equally efficient with men, the former are often paid lower wages. Where this is not due to the fact that there are many competitors for the place among women, it is due to the custom which has generally fixed a lower rate of remuneration for women than for men in performing the same kind of work.

232. Exercises.—1. From the product of an iron-mill, in what form does a stockholder, who owns a share of the mill, get his part of the return?

2. Can either employer or employed arbitrarily decide what the total product of an industry shall be? Can, then, either fix the total sum out of which wages are to be paid? Can legislation do it?

3. All men are said to be born free and equal. Does this political statement apply to industrial equality? Can the socialists justly claim equal wages for every man, regardless of his industrial capacity?

4. What consequences would follow if the policy of limiting the number of apprentices were carried out in all forms of industry requiring skill?

5. Why pay a glass-blower for five-hours' work more than a porter in the same establishment for a whole day?

* *Ibid.*, Book II, chap. xiv, § 5.

6. Why do men working in a powder-mill expect higher wages than they would ask in a flouring-mill?

7. On what grounds may an eminent surgeon charge a fee of a thousand dollars for an operation which occupies but two hours?

8. Why does a railway brakeman receive lower wages than a locomotive engineer?

9. If prices of all commodities rise because of a fall in the value of the money in use, have laborers any reason for demanding higher wages? Should they not have the same Real Wages as before?

10. When skilled labor is paid high wages, and unskilled labor low wages, in the same factory, is there not a "conflict" between different classes of labor? If the capital invested receives only interest, is there any "conflict" between labor and capital? Why does the unskilled laborer not receive as high wages as the owner and manager of the mill (irrespective of his interest on capital)?

11. Mention five kinds of laborers, and consider whether they belong to the same competing groups.

12. On what grounds can it be said that honesty has a market value?

13. Why is more skilled labor employed in the United States than in Africa or South America?

14. What is the principle governing the distribution among the different classes of laborers of that part of the product which goes to wages?

15. Does unskilled labor suffer as much as skilled by forced changes to new employments?

16. When business is depressed, and the total product of an industry possesses less value, is it right that high dividends to stockholders should be maintained by reducing wages?

17. When prices of goods decline, and the value of the total product declines, is there any reason for a reduction of wages?

18. Why should a baker get less wages than a butcher?

19. If a woman thinks her wages should be raised, and threatens to resign her position, can she help herself so long as other women stand ready to take her place at the old rate of wages? Is it the same when men are ready to take the place of strikers?

CHAPTER XXII.

THE INDUSTRIAL MANAGER.

233. WHAT was said in discussing the general principles governing the wages of skilled labor in the last chapter will apply, with slight exceptions, to all classes of skilled labor, including under that term the class of industrial managers, or *entrepreneurs*. The manager of an industrial operation is of the first importance, and his share of the product is large, because he stands in the highest rank of the various classes of laborers. He therefore demands further consideration. Although highest in the scale, he is, however, only a laborer, and may be said to be the child of modern industrial conditions. "In its first stages, the division of labor does not necessarily imply the introduction of the master-class. When the forms of production are few, when the materials are simple, when only hand-tools are used, when each artisan working at his bench makes the whole of the article to be marketed, when styles are standard, and the consumers of his product are found in the immediate neighborhood, perhaps within range of his personal acquaintance, the **need of the master is not felt.** But when the hand-loom gives way to the power-loom, when the giant factory absorbs a thousand petty shops, when many persons, of all degrees of skill and strength, are joined in labor, all contributing to a result which perhaps not one of them comprehends perfectly or at all, when machinery is introduced which deals

with the gauzy fabric more delicately than the human hand, and crushes stone and iron with more than the force of lightning, when costly materials require to be brought from the four quarters of the globe, and the products are distributed by the agencies of commerce through every land, when fashion enters, demanding incessant changes in form and substance to meet the caprices of the market, the **master becomes a necessity** of the situation, not alone to enforce discipline through the body of laborers thus brought under one roof, not alone to organize these parts into a whole, and keep every part in its place, at its proper work, not alone to furnish technical skill, and exercise a general care of the vast property involved, but, beyond these, and far more than these, to assume the responsibilities of production, to decide what shall be made, after what patterns, in what quantities, at what times, to whom the product shall be sold, at what prices, and on what terms of payment. The armies of industry can no more be raised, equipped, held together, moved, and engaged, without their commanders, than can the armies of war."*

234. It is not generally realized how constantly the desires and tastes of mankind undergo alteration as different countries are modified by civilization, and to what extent these alterations cause a readjustment of the exchange of goods in one trade with every other. Such changes must be watched by the manager, and the character of his products modified accordingly. So intense is the **competition of modern trade** that he who controls a large capital actively engaged in production can never remain at a standstill; he must be full of new ideas; he must have power to initiate new schemes for the extension of his market; he must have judgment to adopt new inventions, and yet not be deceived as to their value and efficiency. The movement of late years, also, as we have

* F. A. Walker, "Political Economy," pp. 76, 77.

seen before (section 67), shows an increasing tendency toward **large production.** The gains from large production, however, can not be garnered except in so far as the executive ability of the industrial manager can be found capable of carrying it on. In fact, it seems as if large production, as a feature of modern industrial life, were a result of the development of the manager's functions. As the capacity to control large affairs has been displayed, the management of wider industrial operations has been given over into the hands of single individuals. It is said that a single sugar refiner supplies one half the consumption of sugar in the United States; but this is largely due to the intense competition of refiners since the Civil War. The "profit" on a pound of sugar was once about two and a half cents, but, as refineries increased in number, the "profit" dropped to as low as one quarter or one eighth of a cent a pound. Under such conditions it became desirable to refine as many pounds as possible in order to get a proper payment for the supervision and care of an establishment. One refiner, having great executive capacity and managing skill, began to gather under his own management and ownership the ships which imported the raw sugar, the wharves, the factories wherein are made the boxes and barrels, and refineries of greatly increased capacity. Where so much was produced, greater division of labor and the use of expensive machinery was made possible, and, as a consequence, the expense of producing a single pound was less for him than for the managers of smaller refineries. He was thus able to sell all his product at the same price as other refiners and gain a larger return, or he could undersell them and get the same gain on each pound. Similar results are to be noticed in almost every trade. In fact, the intensity of modern competition and the characteristics of modern commerce are themselves acting to create a demand for the higher class of industrial managers.

235. It may be thought, by a casual observer, that no one becomes a manager of capital and labor unless he is himself a capitalist. It is quite true that a very great number of industrial establishments are entirely managed by their owners; but it is also true that, practically, no business is now carried on simply with capital owned by the manager and employer. Under the extended use of credit now obtaining, every manager is a borrower of capital from banks and other lenders; and the actual capital owned by him often bears but a small ratio to the total capital used by him. He gets the use of capital largely because of his reputation as a successful manager in his own trade. More than all this, **it is by no means necessary in these days that the most skillful manager should be the owner of the capital which is invested and employed under his management.** If we examine the greatest investments of capital under one head in this country, we shall find that their managers are selected irrespective of the amount of capital they own, or even of the amount of capital they put into the business they manage. It is no longer true that, because a man is wealthy, he is competent to manage a cotton-mill; nor that, because a man owns many shares in a bank he is competent, or likely to be chosen, to be its president or manager. Certain kinds of business which employ the largest amounts of capital choose their managers irrespective of the capital they own, and pay them a sum, as wages, entirely distinct from any earnings their capital may receive in the form of dividends. We need only mention, in illustration of this statement, establishments such as banks, insurance-companies, railways, cotton- and woolen-mills, mines, etc., in which the manager only represents the owners of the property, and receives wages for his care and superintendence. The millions of dollars invested by mutual-insurance companies requires the highest financial skill obtainable, and the wages of such

managers has reached, in one case, it is said, the sum of thirty thousand dollars a year. Banks are also, like cotton- and woolen-mills, ready to pay large sums for successful and trustworthy managers. The dividends of a cotton-mill depend almost entirely on the skill of the manager (technically known as a "treasurer"), and high wages are gladly paid, because of the larger returns given by the mill under his control. So with railways and other corporations. In fact, the creation of corporations controlled by directors, who choose a manager, renders possible the aggregation of small savings into large sums, which are then as a whole wielded by the skill of a single person. One person thus controls the capital contributed often by thousands of shareholders; and, although the owners of small capitals may have no great business capacity, yet, by the collection of their funds into one large sum, they may be able to secure the services of the best executive skill in the community.

236. This distinction between the function of capital earning interest, and of business capacity earning wages for great skill in mental work, is of peculiar importance in all discussions on the labor question. It opens an avenue for any man, whether rich or poor, leading upward to the highest prizes of industrial life, provided he has the natural or acquired ability. "Business men are chosen by a process of natural selection from among many millions of competitors. Of many employers of labor," says Marshall,* "in some parts of England, more than half have risen from the ranks of hired labor. Every artisan who has exceptional natural abilities has a chance of raising himself to a post of command." In our own country, the meaning of the constant talk in commercial life about "self-made men" is that these men have begun at the bottom, and by the exhibition of the rare powers of the

* *Ibid.*, p. 144.

industrial manager have easily risen* to positions of great business power and responsibility; but the **class of skillful business managers is small relatively to any other industrial class.** There is thus a process of natural selection† going on, by which those who have some capital and great business power soon get control over a large capital; while, on the other hand, those who have not business power will speedily dissipate a large capital if they happen to get control of it." It must be evident, then, that the supply of industrial managers does not adapt itself to the demand with as much readiness as in the case of highly skilled artisans (and this was far from being great). In fact, the demands made upon the powers of a manager in charge of a great establishment preclude the supposition that many persons can be found all equally competent for the task. It does not at all follow‡ that, because some men earn large wages of management, this will fill up the ranks by stimulating the supply of competitors. This may happen where no special skill is necessary; but, where great skill is required, those who have it enjoy a practical monopoly, and this is the reason for their

* "A man who has all the rare qualities that are required for managing a large business will, unless he is specially unlucky, make a high rate of profits on his capital. These profits will increase his capital, and will encourage him to devise and carry out bold plans on a broad basis. The confidence that others have in him will enable him to borrow capital easily, and thus, because he has the faculties which are one condition of getting high earnings of management, he will rapidly acquire that control of a large capital which is the other condition."—Marshall, *ibid.*, pp. 139, 140.

† Marshall, *ibid.*, p. 140; cf. Walker, "Wages," chap. xiv.

‡ I can not agree with Mr. Marshall, who thinks that competition will force down their earnings (p. 143). I rather agree with his statement elsewhere (p. 115): "Much of the work of business is then so difficult, and requires so much special training and such a rare combination of natural qualities, that the earnings of management got by it may be very high, without there being many men who can do the work and get these high earnings."

high wages. **Industrial managers, of proved success, get higher wages than the skilled laborers they employ, because a master is the most important laborer in the establishment, and because, at the same time, the number in his class is less in proportion to the demand than is the case in regard to any other kind of labor.** It is true that managers for kinds of business which require no excessive power and skill are much more numerous than they used to be; but, as Marshall says, "the continual increase in the complexity of business, and the continual increase in the amount of capital that can be employed in business under a single management, are indeed giving to business ability of the highest order the opportunities of obtaining greater earnings of management than were ever heard of in earlier generations."

237. In regard to the distribution of the product among the different classes of laborers, we now see that a very large share goes to the industrial manager as wages for a kind of skill which, for natural reasons, is practically monopolized. As usually viewed, this large payment is connected with the ownership of capital, and it is said that a manufacturer is getting enormous "profits." This way of looking at it obscures the real truth. For the ownership of capital, a manager can get no more than any investor of equal judgment, and this payment is **interest.** But, when we see—as is very often the case in countries like the United States, where the natural resources are great, and where favorable opportunities are often open for great skill in industrial management—a few men earning vast sums from the management of railways, or timber lands, or oil-wells, it is largely in the form of wages for superior skill in grasping the opportunity and knowing how to follow it up successfully. **These large earnings are not so much interest on capital as they are wages of management.** For without the manager's peculiar and individual power the industries they bring into operation could not be successfully continued. Many a town owes its material prosperity to the chance that a successful manager has chosen to establish himself there rather than elsewhere.* One man can make the same business profitable while another can scarcely save himself from failure. In common language, the interest for capital and the wages of management are thought of as a single payment to a "capitalist," and called "profits"; but nothing is more confusing. It is necessary to separate the idea of "profits" into its parts, especially as the amount of the two parts is governed by different principles: (1) The payment for capital, according to the laws governing interest, and (2) the payment for managing ability, according to the laws governing the wages of skilled labor.

238. Under these conditions we can see that the continuance of a business depends on whether or not the manager receives his wages of management. In the friction between an employer and workman, which appears in times of strikes, it is commonly said that his "profits" are high, and that he can afford to raise wages. Granting that the employer is receiving a large share, it is wholly a mistake to consider it a payment solely for capital. There is no little nonsense talked about labor and capital. Of the employer's large share, by far the largest part is wages of management. These wages of management are large, and fill the imagination of the poorly-paid laborer, simply because the manager stands higher up in the scale

* "There is many a thriving town in New England whose only reason for growth, through fifty years from small beginnings, has been found in the accident of the birth there, and the long life, of a single energetic, able, careful man of business. There is many a 'deserted village' whose decay dates from the sickness or death of one man out of the many hundreds who thronged its streets."—F. A. Walker, "Political Economy," p. 75.

of workmen than his employés. Any of his workmen can get up into the same place if he is equally capable. The workman lower down in the scale, paid a low rate of wages, looks at the capable manager above him, paid a very high rate of wages, with envy, wrongly calls him a "capitalist" solely because of his high wages, and believes himself oppressed; when, in reality, the whole truth lies in the fact that **the conflict is not between labor and capital, but between different classes of laborers.** In the distribution the most numerous and unskilled class gets the lowest wages, while the least numerous and most capable industrial class of managers gets the highest wages, and those between them fill up the intermediate scale. Managers could not get the highest wages if they were as many and as easily obtained as the unskilled or little-skilled laborers. In order to raise their wages in any permanent and lasting way, the laborer must enter into a **contest of capacity.** If he moves up the scale, his wages will increase; if he is careless, lazy, unthrifty, dishonest, unintelligent, without ambition, he will remain where he is, in the lowest and largest class who receive the least and most precarious wages. To be sure, there will be cases of injustice on the part of employers so long as human beings continue imperfect, and against these the combinations of laborers have every reason to contend. But wages of the lower classes of labor can not be raised by strikes to the extent of trenching on the wages of the higher classes of labor, as governed by their relative numbers and the relative demand for them. When a manager, by a rise of wages, is driven to a point where he sees that his own wages of management are cut into (irrespective of interest or capital), he may decline to work, and the whole establishment hinges on this decision.* Therefore,

* "The *entrepreneur* finds his motive for organizing and conducting the great enterprises of modern industry in the profits which he hopes individually to realize. . . . It is, perhaps, to secure a net profit to himself of fifteen or twenty thousand dollars that he leases land and buildings and borrows capital, and hires the labor requisite to achieve an annual product of half a million of dollars. If, then, the conditions of trade and industry are such as to destroy, for the time, his profit, much more if they are such as to threaten a loss which will impair the integrity of the capital for which he has become responsible, his interest in production is greatly diminished, if not destroyed; he will either cease producing entirely, or, what is more likely, will contract the scope of his operations."—F. A. Walker, "Political Economy," pp. 183, 184.

a rise of wages can not be pushed on indefinitely. **The play of demand and supply,** working, as described, between the various classes of laborers, from the unskilled to the industrial manager, will determine the relative wages of each class; and these wages will vary by changes in the numbers of the classes, the character of the industries, methods of business, and the various causes affecting the relative demand of one kind of labor as compared with another. **It is absurd to think that,** because men are equal politically in the exercise of civil rights, **they are also equal industrially and economically.** In proportion to his business capacity and skill will a man in the long run receive wages.

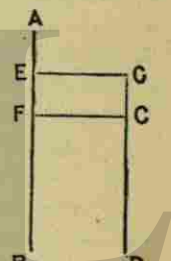
239. There are cases, however, when labor may not get its due share of the product. As production is now carried on, the capitalist, or the manager representing capital, occupies a position of vantage; the manager offers employment, and taking full advantage of the competition of laborers, he engages men to work at a fixed price per day or week. So long as laborers are not owners of capital (as they are in a co-operative establishment), their wages are for a given time a fixed sum. While this is so, it may happen that a rumor of foreign wars or some other cause entirely outside of the control or skill of the manager, and so not due to his exertions, may cause such a change in the demand for his products as to increase their value largely. His goods may sell for ten or even

twenty per cent more this month than they did last month. Consequently there will be a larger sum to distribute; and, if laborers receive the same fixed wages as agreed upon before the rise in price, the increase due to the accidental change of demand will wholly fall to the manager, being independent of any increased exertion on their part. In this way, so long as wages of employés are fixed by agreement with employers, any **unusual gains will inure to the advantage of the manager or the owners of the capital.** It is to be remembered, however, that an unexpected failure of demand is quite as likely as an increase of demand; and, while capital may gain by unusual good fortune, it is as often exposed to unusual bad fortune. If the laborers demand a share of the unusual gains beyond the control of the manager, they ought, in justice, to suffer a reduction of wages in case of unusual losses.

240. The business man generally offsets losses by gains, and in the long run expects to get an average return such as he considers sufficient to recompense him for interest and for wages of management. This brings us to the so-called doctrine of "equivalence of profits," by which it is claimed that "profits" tend to an equality. Considering this doctrine in the light of the distinction between interest and wages of management, it does not seem possible to establish its truth, as usually stated. If "profits" include wages of management, then there is not only no tendency toward an equality between profits in the same trades, but not even between the profits of different men in different trades.* The only possible way in

* As Mr. Mill, who included wages of management under profits, says of "gross profit," it "varies very greatly from individual to individual, and can scarce be in any two cases the same. It depends on the knowledge, talents, economy, and energy of the capitalist himself, or of the agents whom he employs, on the accidents of personal connection, and even on chance. Hardly any two dealers in the same trade, even if their commodities are equally good and equally cheap, carry on their business at the same expense, or turn over their capital in the same time" (Book II, chap. xv, § 4). But Mr. Mill urges the tendency of profits to an equality in different employments, thus: "On the average the various employments of capital are on such a footing as to hold out, not equal profits, but equal expectations of profits to *persons of average abilities and advantages.*" But there can be no real comparison of managers in different employments any more than in the same employments, so far as their earnings of management are concerned.

which the doctrine can be truly stated is that there is **a tendency to an equality of return on equal investments of capital,** or, in other words, that the rate of interest tends to an equality. If in one trade there are peculiar risks incident to the investment of capital, as, for example, in the manufacture of gunpowder or dynamite, then such capital will expect a larger rate than in another trade where these risks do not exist. But in two trades where the risks are the same, and the security for the investment of capital is the same, the rate of interest expected will be the same. For, if the rate be not the same, there will be a removal of capital from the less remunerative to the more remunerative industry; provided, of course, that the two trades lie within competing groups, between which capital can readily move. The increased competition of capital will then lower the rate of interest in the more remunerative trade to a common level. This transfer of capital goes on with great readiness through the agency of banks.* Each industry is constantly borrowing capital from the general reservoirs of capital seeking investment, that is, from the banks. If A B represents the amount of capital used in one industry, and C D that in another, then it is not necessary that the whole of the sur-



* See Part II, chap. xxix.

plus of capital (A F) in the former over the latter should be transferred to create the equality, but only one half of it (A E). This is a process constantly going on between different trades. If furniture-men find a lively demand for their goods, while the demand for shoes is decidedly slack, the former will be frequent borrowers at the banks, while the latter will have less than their former need for loans. In this way the stream of capital seeking investment is diverted from industries where less capital is wanted to those where it is in greater demand.

241. **Exercises.**—1. In the mountains of Tennessee families make their own cloth, raise their own food, live practically under a system of barter, wages are generally paid in kind, and money is little used. Compare these industrial conditions with those of Pittsburg, Pennsylvania. Why is the industrial manager likely to be found in one of these places and not in the other?

2. Can you mention any large factory or institution in your neighborhood which has grown in size and prosperity chiefly through the skill of some one manager?

3. How do you explain the fact that men who have held the offices of Secretary of the Treasury, or Comptroller of the Currency, are sought for by banks as managers?

4. In a shoe factory, employing one thousand men of varying capacity, there is one manager controlling the whole. Why can not each of these one thousand men manage a factory equally well?

5. What just criticism could you make of the statement that, "when *profits* increase, wages suffer"? If, however, it were said that, of a given product, "when the manager's wages increase, other wages suffer," does that have any bearing on the question whether or not there is a "conflict of labor and capital"? Is the manager's share due to the ownership of capital?

6. If the rate of interest for the use of capital is falling, and yet the efficiency of modern processes of production tends to increase, thereby giving more to divide, can it be said that capital is receiving an increasing share? Between what classes, then, is the real contest going on for shares in this portion? Has every laborer a chance?

7. If trades unions refuse to admit ambitious men from lower occupations to their more highly-skilled trades, does that stand in the way of any laborer who wishes to fit himself so that he can stand higher up in the scale of industrial capacity, and so claim a larger share of the product? Yet, if the unions increase in numbers, will not that lower their wages?

8. Why is it that strikes made at times when the manufactured goods are falling in price are almost inevitably failures?

9. Are the wages of managers equal in the same employment? Are all managers in the same employment equally successful? Is the rate of interest for use of loaned capital generally the same to all the managers in the same employment?

CHAPTER XXIII.

WAGES AND PRICES.

242. In studying the principles according to which the value of the product was governed, we found (Chapter XIII) that, where competition was free, two articles whose **costs of production** were the same would exchange equally for each other. But the cost of production means the sacrifice undergone in producing a thing. Men labor and save to make production possible. The exertions of labor and the abstinence required for the use of capital form the sacrifices in all production. In proportion to these sacrifices will commodities be exchanged for one another, or, in other words, when the sacrifices are the same, their value will be the same ; so that, where competition is free, commodities will exchange for one another in proportion to their sacrifice in production. If a bag of potatoes requires two days' labor, and a bag of corn one day's labor (and the same capital is needed for each) in production, the bag of potatoes will tend to exchange for two bags of corn.

When commodities are produced in different groups, as in the case of corn and iron rails, and there is no free competition of labor and capital between the two different groups of industries, the exchange value depends not on the cost of production, but on reciprocal demand (see Chapter XV). We have seen that, when labor could not move readily between two industries, the same exertion might

be paid at different rates. If the demand for corn is strong, and that for iron rails is weak, then corn will exchange for more of iron rails than it would under other conditions. So the value, where competition is not free, varies according to the demand for the products of a given industry as compared with the demand of that industry for other products.

243. In connection with this brief review of the causes which give value to the product, let us recapitulate the parts into which this value is divided according to our principles of distribution. Corresponding to the various sacrifices there are sums given as remuneration for the sacrifices ; for labor, wages, for capital, interest, etc. These remunerations, or sums into which the product is divided, may be usually found in the following form :

1. Payments for rent of buildings, ground-rent, etc. 2. Taxes. 3. Insurance. 4. Machinery, tools, etc. 5. Materials. 6. Wages of workmen.	**"Cost of labor," or outlay, to the employer (1–6).**
7. Wages of manager. 8. Interest on capital engaged (1–6).	**"Profits" of employer (7, 8).**

These various sums added together (1–8) may be properly called the **expenses of production** of a commodity. A certain sum is to be paid for given kinds of labor (determined as in Chapter XXI) and a certain sum for interest (see Chapter XIX). The expenses of production, being a concrete payment for the various sacrifices, when added together, make up the **price.** The value, or price, should, of course, cover all the expenses of production, if conditions are normal.

244. Under the industrial system now existing, the employer takes a position, as it were, between 6 and 7 in

the preceding list, facing 1–6, with 7 and 8 behind him. To him 1–6 are all in the nature of outlay.* Whatever he advances for buildings, machinery, materials, taxes, insurance, and wages for his workmen, he properly regards as an outlay which must be repaid to him out of the product. The product, in addition to returning the outlay (1–6), must also give him wages (7) and interest (8) on all the capital he advanced. For his outlay he gets a finished product from the laborers: he advances the capital in the form of wages, material, etc., and runs all the risks of failures, errors, and unexpected disasters like fire, explosion, war, etc. The manager, then, bends all his energies to see how this outlay can be made to bring the greatest return. The important matter to him is not the actual or absolute amount of the outlay, but the **relation of the outlay to the return.**† His return costs him what he gives as an outlay. Now, if the return increases without any change in his outlay, his "profits" (7 and 8) are larger; if his return diminishes, without any change in his outlay, then his "profits" are less. Also, if he were to increase his outlay, and thereby increase his return in greater proportion he would gain greater "profits" (wages and interest).

245. At first sight, this might make it appear that the interests of the employer and the workmen were directly opposed to one another, that what the employer gained the workmen lost, and what the workmen gained the employer lost—but this is not necessarily true. We can now see the importance of the truth that the **relation of the outlay to the return** is what the employer is most concerned about. Here is a manufacturer of calico who advances $80,000 during the year, of which $50,000 may be spent in wages; this is his outlay. He gets from his factory during the year 2,000,000 yards of calico, which he sells for five cents a yard, making his return $100,000. His "profits" (wages and interest) are then $20,000. But suppose he can so manage his factory and workmen that, with no more outlay, their efficiency is so greatly increased that they turn out 200,000 yards more of calico—perhaps because the machinery is run faster, or waste is saved, or the men work in better quarters. In that case the return is increased by $10,000. Thus the employer might be able to increase the wages of his workmen by $5,000, and yet increase his profits by $5,000. In this case his outlay is increased to $85,000, and his return to $110,000, so that his "profits" (wages and interest) are now $25,000. Here is a case, then, which illustrates that **increased efficiency in the processes and labor of production may raise both wages and "profits,"** without taking from the one at the expense of the other. It is consistent, moreover, with our statements that an increase in the value of the product will make possible an increase in the fund from which both wages and interest are paid (see section 203).

* Business men sometimes loosely speak of 1–6 as their "cost of production," meaning really the outlay, before they get their own "profits."

† This is the conception known to economists as "cost of labor" to the capitalist (cf. Mill, Book II, chap. xv, § 7).

246. In connection with efficiency of labor in production we must, of course, consider everything which tends to increase the return to a given amount of sacrifice, or exertion. The same farmer, with the same capital, can raise many more bushels of grain on the rich prairie-lands of the Western States than he can on the thin soil of New England; thus it is clear that **natural resources** have to be taken into account (see Chapter VIII). In fertile countries wages and profits can be higher than in those countries which are less favored by nature. It will be remembered here that this agrees with our results as to cost of production: where cost, or sacrifice, was low, wages were high (see section 131).

Above all, we must consider **inventions and machinery** as affecting efficiency of labor. If the sacrifice of a laborer, working with his hands, produces 1,000 yards of calico; and then, if, by the introduction of helpful machinery, the same laborer, in the same time, produces by its help 10,000 yards, the value to be divided between wages and interest will be greatly increased. So that labor-saving machinery, which allows more to be produced with less labor and sacrifice, increases the efficiency of labor, and makes higher wages possible. Those who have not studied the subject might say that other laborers are thrown out of employment. But, without arguing the principle, the facts in the United States are against this theory.* In 1890, as compared with 1860, the number of manufacturing establishments increased from 140,433 to 355,415; the capital engaged, from $1,009,855,715 to $6,525,156,486; the number of hands employed, from 1,311,246 to 4,712,622; and the total amount paid in wages, from $378,878,966 to $2,283,216,529. In this period, during which great improvements in machinery have been going on, not only were an increased number of workmen employed, but the wages paid were increased in a still greater ratio than the number of workmen. The reason of this has been explained (section 213). In the cotton-mills of Lowell in 1830, one operative produced 4,321 yards (standard sheetings) per year; but in 1884, because machinery had been wonderfully improved, he produced 28,032 yards. In 1830 his wages were $164 per year; in 1884, $290. Moreover, the hours of labor have fallen from 13 and 14 hours per day to 10 and 11 hours.

247. At the same time that efficiency of labor has increased the value of the product, and so increased wages, it has made possible a **fall in prices.** Between 1840 and 1883, cotton goods have fallen in price 22 per cent, although wages have increased 64 per cent. Referring to

* See United States Census, abstract for 1890, p. 141, and Compendium for 1880, pp. 928, 930.

our list of elements in the manufacturers' outlay (section 243), we can see that, even if wages (**No. 6**) rise, an increase of the product by a better use of their exertions with machinery and materials will compensate the manufacturer for the higher wages. An employer, therefore, has no opposition to high wages in themselves; he is most concerned with the results of the labor. He can pay high wages, if the labor is efficient. This also explains the fact that, when "business becomes dull," an employer prefers to discharge the poorest men, who are paid the least wages, and keep with him his best men, who are paid the highest wages. The highest paid laborer is usually the cheapest man. The workman who foolishly "makes work," by prolonging a task as long as possible, is a dear man, and is the first to be dropped in bad times.

We have thus seen that **prices are not necessarily high because wages are high.** The price of a certain thing can be low if many of that thing can be produced for no great sacrifice. Thus, in our western grain-fields, wages are high; but the price of a bushel of wheat is so low that we undersell Russia and India in the markets of Europe. This is because the labor and capital produces so many bushels in a joint effort that, although the price of one bushel is low, the value of the total product is great, and so a large share out of the product can go to both labor and capital.

248. It may happen that wages may be raised or lowered in a single industry and not in others. In such a case the change of **wages will affect the price;** but only because the change is not universal over all industries. For (in section 243), in the items entering into the expenses of production of a commodity, one is wages; and the price has been supposed to cover the expenses of production. Now, if by a strike or other cause the employers in a certain industry were obliged to pay higher wages

for the same efficiency, they would make an increased "outlay" for the same old return. They would, therefore, raise the prices of their particular commodity. In Cambridge, a strike of horse-car employés for higher wages once caused a rise in the price of a ticket from five cents to six; the increase of wages being taken from the patrons of the road, rich and poor, not from the pockets of the company. If such a process were to be followed equally in all other industries, if wages were to be raised proportionally in all industries, then the price of every commodity would be raised proportionally to every other, and no producer would be any better off. For it makes no difference whether A sells his commodity for five cents, and buys another from B for five cents, or whether A raises the price of his goods to six cents, and B does the same, and then they exchange their goods for one another. They would be exactly where they were before. Just in proportion as A raised his price, would he be obliged to pay more for everything else he bought, and his expenses would be increased accordingly. If all laborers, in all industries, receive higher wages, the values of commodities relatively to one another will not be changed, and their relation to the single commodity money, or their prices, will accordingly not be changed. In fact, however, a change of wages is never universal, but affects one industry or one district at a time; so that the rise of wages, unaccompanied by an increase of efficiency, is usually followed by a rise of price for the article affected by the change.

249. **Exercises.**—1. Do wheat and iron exchange between England and the United States according to their costs of production (i. e., sacrifices)? Is there free competition (i. e., free movement of labor and capital) between the two countries?

2. If the price of steel rails should fall temporarily below the expenses of production, what would be the effect on the supply? If the price rose above the expenses of production?

3. Are there any reasons why it is an advantage to an employer to make his workmen feel contented, or to see them grow in intelligence?

4. Should laborers feel that machinery is hostile to their interests?

5. Laborers on railway embankments in India were paid, according to Mr. Brassey, from 9 to 12 cents a day, but in England from 75 to 87 cents a day, and yet the expense of building a mile of railway was about the same in the two places. How do you account for this?

6. If wages are high in agriculture in the United States, and yet prices of agricultural products are so low that we can undersell European countries, what must be the natural conclusion in regard to other industries than agriculture which can not sell at low prices and also pay high wages? Are these other industries as productive?

7. The late fall of silver considerably cheapened the material used in making silverware, but the rate of wages paid in this industry was increased at about the same time, and prices of the ware remain about the same as before. Has the "cost of labor" to the capitalist, or employer's outlay, remained the same?

8. If wages of shoemakers rise while those of bakers do not, what will be the effect on the relative prices of shoes and bread?

CHAPTER XXIV.

RENT.

250. THE ordinary use of the word **Rent** is so different from its meaning in political economy that some confusion may be avoided by noting this difference. Persons speak popularly of paying a "rent" for a house, or a store, or a warehouse, but a large part of such a payment is really a return for capital invested in the buildings. The return to capital is termed interest, not rent. In the economic sense, however, rent is the **payment which an owner receives for the use of natural agents,** and these "natural agents" include land, whether arable or timber land, mineral deposits, water-power, or land peculiarly suited for building purposes. Rent is a payment, not for the use of another's capital, but for the use of natural agents belonging to another. Rent is possible because natural agents are not unlimited in quantity, as air or sunshine is. As soon as certain kinds of land are in supply less than the demand, a price can be exacted for their use by the one in whom ownership is vested.

We must now try to find the general principle which regulates the amount of rent that each owner can take from the produce as his share. For this purpose we shall speak only of land, and of agricultural land; for the principles thus found will also be applicable to other natural agents.

251. The whole theory of rent, which forms one of the

fundamental parts of political economy, is based upon the **law of diminishing returns** from land. If we accept that physical law, affecting the powers of the soil, we must logically accept the doctrine of rent. On every farm in the country the law of diminishing returns is being daily exemplified; for every farmer knows that, if he were to double the capital and labor on each acre in cultivation steadily, he could not each time double the produce. The law in question is not based upon what men may be able or willing to do, but upon the inherent physical capabilities of the soil which Nature has given us. Private dispatches are sometimes written in invisible ink, which, when exposed to certain treatment, reveals the words of the message; in a similar way, the soil, by its very nature, is required to reveal the law of diminishing returns, and the process which reveals it is the **demand for an increased amount of food.** This increased demand for food comes with the growth of population. So we see the connection of the various forces leading up to rent: (1) an increase of population, causing a demand for more food; (2) the demand for more food, which brings to light the fact of the diminishing returns from land; (3) consequently, because the best grade can not produce unlimited food, this explains why different grades of land are in cultivation at the same time. Whenever this situation is created, rent will exist, as we shall soon see.

252. Lands are of **varying degrees of productiveness.** They vary not only in their power of producing different articles, such, for example, as wheat and tobacco, but they do not all produce the same thing equally well. No state, county, township, or farm is like any other state, county, township, or farm. The slope, drainage, constituents of the soil, vary from field to field even in the same farm, so that some lands afford a large return to labor and capital, while others do not; the former are **superior,** and the latter are **inferior,** soils as regards fertility.

Two pieces of land, which are of equal fertility, as regards their natural productiveness, might also be so affected by **situation** that one would be classed as superior and the other as inferior. Suppose that one piece, A, were situated near a railway station, and another, B, twenty-five miles away from any market, and that each parcel of land produced one hundred bushels of wheat. In the case of B, the value of ten bushels might be spent in carrying the produce to the station near which A was situated. The farmer of B would be no better off than if he cultivated land close by A, which produced but ninety bushels. The cost of transportation enters into the outlay of producing wheat on B, so that, although equal in natural productiveness, **B is really inferior to A by situation**; consequently we may speak of superior and inferior lands, although this difference of grades may be due solely to situation.

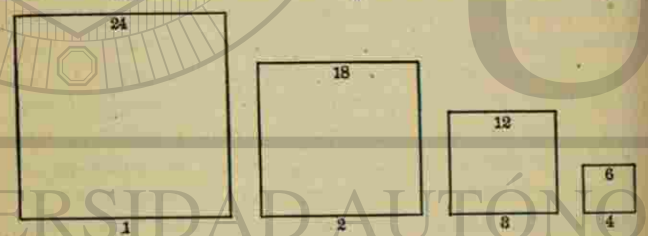
253. It has been already explained (in section 139) that there can be but one price, or value, for grain, although it is grown on soils of different degrees of fertility. It was shown that the demand of increasing numbers for food raises the price until it is sufficient to repay the farmer for producing more food from poorer soils. It is more expensive to grow grain on the inferior soils, and yet the demand for food is not satisfied by the quantity produced on the better grades (and sold at a price which is low, but still enough to reward the sacrifices incurred on rich soil). The **grain produced on both the superior and inferior soils is needed**, and that is the reason why the price was forced up until more was supplied from inferior land. The people on the rich land, however, growing grain at less cost, might be willing, some one may suggest, to sell their grain for a less price than that necessary for those cultivating inferior soils. They might, it is true, and so a millionaire might give away his fortune to the first poor man he met, but such things are rarely done.

If the price were lowered by such underselling, the cultivators on the inferior lands (whose cultivation is necessary to supply the food for the whole community) would not receive the usual returns for the cost of production, and they would cease to be worked. This would cut off the supply, and there would not be enough food for all. Thus an urgent demand would be created, and the price would be instantly raised, and would be kept permanently at a rate which would repay the farmers for cultivating the poorer soils. The value of this class of commodities is, in short, regulated by the cost of production on the poorest soils in cultivation (Chapter XIV); the cultivator of rich soils gets just as high a price as the cultivator of poorer soils.

254. When different grades of land are in cultivation *at the same time* (producing the same article), the cultivator of the richer soil receiving the same price per bushel as the cultivator of the poorer soil, the former will get more for his work and capital than the latter. The same capital and labor produces on the rich land more bushels per acre than it does on the poorer land; and, as the price at which each bushel is sold is the same, the return to the former capital and labor is greater than the return to the latter capital and labor, although they are equal in both cases. This surplus of the value of the product of the richer over the poorer land, when both are needed for cultivation, is **Rent**; and the whole of it goes, under free competition, to the landlord or owner of the land. Suppose one man, A, to be using the same amount of capital and labor in agriculture as another man, B. Although working on inferior soil, B gets enough to pay him the customary returns for his sacrifice in production (the main part of which is interest on his capital and wages for his laborers in working the land). A, however, having rented a better piece of land, gets more of a return than B. Now, if B's return is the sum which one would ordinarily ex-

pect for the given amount of labor and capital here employed under free competition, A can not hope to get more. The owner can say, "B shall have the land. All the surplus over the sum which repays him for his sacrifices in production he will pay to me. For he goes on working now for a sum just equal to the latter amount; he gets interest on his capital and good wages for his labor, and he could not do better than that in any other business." Just so long, then, as there is any one, like B, who will take the richer land and agree to pay the landlord the excess above the sum which repays him for his sacrifices in production, the **amount of rent on that grade of land will just equal the excess of the value of its product over that of the poorest land which is cultivated to meet the demand of the community.** The law of rent was first stated and applied in a clear way by Ricardo at the beginning of the present century. It is, therefore, commonly called Ricardo's law.

255. This law of rent is capable of simple **illustration.** Suppose we have four grades of land which pro-



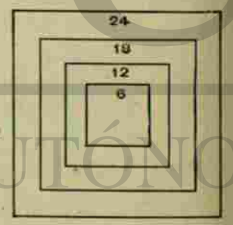
duce, respectively, 24, 18, 12, and 6 bushels of wheat whenever a fixed amount of capital and labor is expended on each. At first suppose that the demand for wheat can be wholly supplied from the first grade when the price is $1 a bushel, so that $24 is the return necessary to satisfy the labor and capital. As yet the other three grades can not be cultivated, for the second will yield only 18 bush-

els, or $18, while $24 is needed to pay the sacrifices of production. Whenever, by an increase of population, more wheat is needed than can be grown on the first grade, the price will go up under the increasing demand until more can be supplied from the second; but the second will not be cultivated until the same amount of capital and labor, which, when employed on the first, received a return of $24, will also receive a return of $24 when employed on the second. So 18 bushels must sell for $24, and the price must rise to $1.33⅓. Now, we have **two grades of land in cultivation at the same time,** producing the same grain, and the **better of the two must, therefore, pay a rent.** The price now being $1.33⅓, the 24 bushels grown on the first, by the same amount of labor and capital which produces 18 bushels on the second, will have a value of $32. But we have supposed that $24 was sufficient to pay the sacrifices of production on the first grade, so that land of the first grade is yielding, at the higher price, $8 more than the usual returns to labor and capital. Then the first grade can pay $8 of rent, and yet the capital and labor will be as well paid as that employed on the second grade of land. The payment of rent equalizes the position of the two farmers.

Then, if the price should rise to $2 a bushel, the third grade will return $24, and it will come into cultivation; but at that price the first grade will return $48 and the second $36; so that the first grade will pay in rent $48 − $24, and the second grade will pay in rent $36 − $24. In a similar way, if the price should ever rise to $4, the fourth grade would pay the necessary expenses of production, $24, and the first would yield a surplus over the fourth of $72, the second of $48, and the third of $24.

256. It might be said, however, that instead of cultivating new land more capital and labor might be put upon

the first grade. But this will follow exactly the same principle as that just explained. Suppose that a second application, or "dose," of labor and capital were made on the first grade, and that it yielded only 18 bushels. There are now two "doses" of labor and capital on the best land, the first yielding 24 bushels and the second yielding 18 bushels, or, altogether, 24 + 18 bushels. But this second "dose" would not be given unless it received a sufficient compensation, which, again, we may suppose to be $24. When the price goes up to $1.33⅓, so that 18 bushels will yield $24, the second "dose" will be applied, and not before. The first "dose," however, still yields 24 bushels, and at the higher price returns $32, or a surplus of $8 over the second "dose." Therefore, the first application of labor and capital can pay a rent of $8, and yet receive as much of a compensation as the second "dose." In the same manner, successive "doses" can be applied to the **same piece of land,** as well as to different grades of land, as shown in the annexed figure. But the third "dose" will be applied only when the price has gone up to $2 and when its 12 bushels will sell for $24, and the last "dose" will be applied only when the price has risen to $4 and when its 6 bushels will sell for $24. The basis of the whole theory is the law of diminishing returns to the application of equal amounts of labor and capital; and it makes no difference whether these successive applications are made on the same land or on different grades of land.

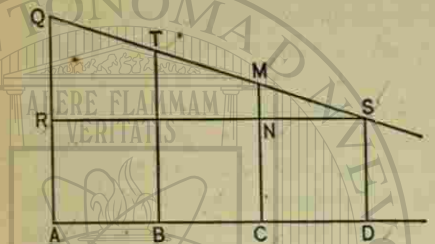


257. When a farmer is looking over a farm which he intends to rent, he will consider how much each field can

produce. He will estimate his expenses as nearly as he can, and he can offer as rent the surplus of the produce over these expenses (which include wages and interest on his working capital). Land lying within the limits of the farm, which will only pay for the sacrifices of production, will have no effect in fixing the rent; for they do not offer any surplus which can be paid as rent. The farmer will consider those fields only which give a surplus over the wages and interest, and, considering them alone, he will count up the amount of rent. But when he gets possession of the farm he will cultivate the other land within the farm which yields only sufficient to pay him wages and interest; for the cultivation of this land is needed by the population, since the price would not have advanced sufficiently to warrant its cultivation had not its produce been demanded by the community. This land which pays no rent the farmer will work for a very good reason. If he has any capital to invest, he can put it into the cultivation of this kind of land, because it returns him, besides wages, the usual interest, and that is all he could get if he invested his capital in any other occupation, and it is all he gets on any of his land, even on the richer land for which he pays rent; for the rent takes off all the surplus. So that almost every farmer who leases land finds some fields in his farm **on which he pays no rent,** but which he will cultivate because they return him the current rewards for his sacrifices. This kind of land is conveniently termed the **margin of cultivation**; for land poorer than this will not be cultivated for a profit, and this kind of land marks the poorest quality, whose cultivation is rendered possible by the existing prices of agricultural products. If the price rises, poorer land can be cultivated; or, as it is said, "the margin of cultivation descends."

258. The margin of cultivation gives us a means of estimating the amount of rent. If, on the horizontal base line A D, we erect perpendiculars at A, B, C, and D, in

height proportional to the returns from applications of equal amounts of labor and capital on four different grades of land (or from successive applications of equal amounts of labor and capital on the same land), S D will represent the return to the last application, and S D will be the product of that land which yields a sum equal to the current rewards for sacrifices in production but pays no rent. Since S D is a sufficient remuneration, M C will be more than a sufficient remuneration by just the amount M N cut off by the line R S drawn through S parallel to A D; and so on with B T and A Q. Thus the whole product of the farm which contains these four grades of land is represented by the whole area contained by A D S Q, the whole of the various expenses of production by the area A D S R, and consequently the part of the produce which can be paid in rent to the owner is represented by the area R S Q (that part above the line R S). From this illustration we may understand the statement of the law of rent. **The rent of any piece of land is the excess of its produce over the produce of that land which just repays the current rewards for the sacrifices of production.**



259. We are now in a position to accept as true what at first seems to be a startling error. We hear a great deal about the incomes of landlords and the immense sums paid to them as rent by tenants. The sums are no doubt very great; but **rent does not affect the price of agricultural products** in the least. No matter what the rent is, the price of wheat or of the bread made from the

wheat will not be affected thereby. Rent does not affect the price. On the contrary, price affects the rent; price is the cause and rent is the effect. It has been already explained (section 139) that the value and price of grain are fixed by its cost of production on the worst land which is cultivated in order to supply the quantity needed; and we have just seen that this land (the "margin of cultivation") pays no rent. It is very clear that the price is determined on land which pays no rent, and, if that land pays no rent, it is evident that rent can have nothing to do with the price.

The proposition that it is the price which governs the rent follows from what was said in a previous section (251). The demand for more food raises the price. This makes it necessary to cultivate inferior soils. The further down cultivation is forced to poorer and poorer soils, the larger the surplus of the better lands over the poorest in cultivation, and consequently the larger the amount of rent which can be paid. In the figure in the last section, if S D were shorter, the line R S would be lower down, and this would increase the area R S Q, which represents the rent. Rent, then, does not affect the price of agricultural products, but the price affects the rent.

On the land which pays no rent but which fixes the price of the product, the shares of labor and capital will be distributed independently of rent. Rent, then, does not affect the value of the product to be divided between labor and capital. The sum paid for rent is in proportion to the superiority of the land used by the farmer, and this places all farmers on an equality. We now see why it was possible without error to pass by the share of rent (in section 187) before settling the shares of labor and capital.

260. We have thus explained how an increase of population demanding more food brings the law of diminishing returns into operation, and, by requiring the cultivation of

different grades of land, at the same time creates rent. It now remains to state what the **forces are which counteract the tendency of rent to increase.** In brief, they are those which we saw before (section 42) counteracting the law of diminishing returns. Any improvements in cultivation, in machinery, in intelligence, in chemical knowledge of the soil, in methods of transportation, etc., which check the law of diminishing returns, will help to keep rent from rising. But every such gain which cheapens food only makes possible a larger population. The tendency of population to increase is so strong that cheapened food is only a permission for further increase. The discovery of new lands, the cheapened cost of transportation by railways and steamers from the Western States to England, has enabled England to maintain a larger population than could otherwise have been possible; thus **the growth of population has generally been manifest as soon as improvements come,** and has kept agricultural products from falling (see Chart IV). The opening up of new lands by railways and the progress of improvements in agricultural machinery ought to have materially cheapened food for our people; but this has been prevented by the steadily advancing tread of an increasing population. As fast as improvements lower prices the growth of population raises them.

261. Where the farmer is also the owner of the land, as is generally true of the United States, the principle by which the rent is ascertained holds true all the same. In considering the share which goes to the landlord it makes no difference as to its amount whether the farmer pays it to another person as landlord or pays it to himself as landlord. **If the farmer is also the landlord he pays rent to himself,** and may also receive a return for his wages and for the use of his working capital. Whenever the return is greater than will pay the rewards of sacrifices in production, the excess is rent to whomsoever it is paid.

The doctrine applies to any land in any country where the law of diminishing returns is in operation. In the United States, however, as regards wheat, it may be said that we have as yet scarcely occupied all our best grade of land; but the time will soon come when that can no longer be said.

262. The general principle of rent, as thus explained, applies also to natural agents of any other kind than agricultural land, such as water-power and mineral deposits. But we will confine ourselves here to one other case, the one in which land is used for building purposes. The payment for such land is called **ground-rent.** No one, of course, would let land for building purposes, unless the builder would offer more rent than the land would yield when used for agriculture; that is, the ground-rent must always be more than the agricultural rent of the same land. But the best business sites in the closely-settled centers of great cities are, in their nature, limited in quantity, and bear a very high price. A good situation gives the opportunity to sell goods rapidly, and it is much sought for; but, on the outskirts of a town, the land will not be so valuable for building purposes. On the basis of desirability for buildings, land in a town or city can be arranged on a graded scale, from the land which pays a fraction more than agricultural rent to the land which contains the largest warehouses, or dry-goods stores, or banks. In proportion to its desirability will it obtain a higher rent, and this may be raised to any sum.

263. It is to be observed that, in stating the process by which the amount of rent is to be ascertained, we have gone upon the supposition that **competition is free.** By this we mean that the owner is trying to get the utmost he can in rent, and that there are farmers competing together for the land, so that the one who gets it is obliged by competition to give in rent all that a competent farmer could pay. It is to be understood, however, that, while the eco-

nomic rent is thus to be ascertained, the actual rent may be less or more than this. A landlord may not wish, or public opinion will not permit him, to exact the whole of the surplus which we have explained as rent; and, on the other hand, tenants may be ignorant, or may be over-reached by the landlord or his agent. A farmer, also, may have taken a lease for a long term of years at a fixed rent in money, and when grain falls in price he gets less for his produce, but is under an obligation to pay the same rent as before. In such ways a farmer may suffer so long as he holds the lease, while the landlord may be protected from a loss which should fall wholly on him. In all such cases, although there are modifications in the practical operation of the principle, the principle is still there; and because of its existence only are we able to know whether the tenant or the landlord is getting his proper share.

264. Exercises.—1. When a ship is chartered for a voyage, should you say that rent is paid for its use?

2. Before the pilgrims landed at Plymouth, is it likely that the Indians paid rent for land? Give reasons for your answer.

3. It is said that a seed of grain, if planted, will reproduce many of its kind. This is true. Then why is there any limit to the amount of grain which can be grown? Is land necessary to the planting? Is suitable land unlimited? Mention, if you can, any piece of land you know of which you can have for the asking.

4. Which lands would you say were the superior lands for wheat-growing: those in Massachusetts or those in Minnesota and Dakota? Little or no wheat is grown in the former, and yet Massachusetts is much nearer European markets.

5. If it is cheaper to grow wheat in Dakota than in New York and to send it to Europe, can it be said that the railways are hostile to the interests of farmers in the West? Is it not also for the interest of the railways that grain should be sent to Europe in order that they may have freight to carry?

6. Why can a land-owner exact rent?

7. Why should a tenant be satisfied with merely his wages and interest on his capital? Is a cabinet-maker satisfied to get merely this for his table?

8. In section 255, after grade four was in cultivation, what would happen if a new and large amount of land as good as grade one were suddenly discovered, or reclaimed, close by? Would the price fall? Would it be cheaper to grow wheat on grade one than on grade four? If so, would rent fall?

9. Why does the "margin of cultivation" change with changes in price?

10. If the farmer were to keep the rent, instead of paying it to a landlord, would the price of grain be lowered? What controls the price? Is grain any lower when the farmer is also owner and pays rent to himself?

11. Why is it that land becomes more valuable as a town grows in size?

12. Did the man who owned a farm on which a city was built grow rich by producing anything? Was it his work that added value to the land?

PART II.

DESCRIPTIVE POLITICAL ECONOMY.

CHAPTER XXV.

SOCIALISM.

265. In Part I we have made a statement of the principles of Political Economy; in Part II we shall discuss some applications of these principles to questions of the day. There is a great difference between the two parts; as great, in fact, as the difference between the work of the chemist and of the physician. The chemist experiments in his laboratory with gases and solids, combining and analyzing substances, discovering the properties of matter; he discloses, perhaps, the action of an acid or an alkali. The physician, on the other hand, takes the results of the chemist's work, and, accepting the chemist's knowledge of the properties of various drugs and compounds, attempts an entirely different office: he attends a sick man, and he adapts the action of these drugs and compounds to the particular and special conditions of this individual disease. So, in our present chapters, we are in Part II acting as the physician. No longer occupied in educing principles, we are now concerned to see how social problems and economic questions can be treated with these principles.

We shall find, however, that other than economic considerations often enter into our decisions; for we may quite as likely be desirous of finding the means of changing some conditions whose causes have been explained by our economic principles; and thus moral or political influ-

ences may be taken into account. It should then be distinctly understood that, when we are discussing socialism, or free trade, or protection, we are not discussing the principles of political economy, but only **questions into whose solution economic principles enter.** The principles of political economy could be stated from beginning to end without ever mentioning the question of free trade or protection. The difference between Part I and Part II, in brief, is the difference between the study of principles and the study of their applications.

266. Before going further, however, we ought to understand what relations the State bears to economic principles. Some say that the State is a fundamental element in economic principles; but we can not admit this. The relation of the State to economic laws may be best shown by an illustration. If a teacher of physical geography were describing a river, he might say that it was a stream of water under the force of gravity flowing to the sea in a depression of the land; that it received water from tributaries which drained a large area about its sources; that when it rained much or when the snow melted, the river increased in volume, and by its properties as a river carried this added water down to the sea according to natural laws. But some might think it desirable to build dykes to confine the action of the river within certain limits, or jetties to carry its current in particular directions, or even to change its exit to another channel; and, although the course of the river might be changed by the dykes, the river with its natural force would remain in existence all the same, and would have to be looked out for. If its old course were blocked up, a new one would have to be found for it, or it would do great damage. In a similar way economic principles are related to the State. **The State is like the dykes which people build, and the economic principles are like the river.** These principles will go on in their action as expressions of the

causes and effects of things whatever may be done by the State. The State may modify the direction and scope of their action, and many reasons, political and moral, may be adduced to show why it should, but it can not change the nature of the principles themselves except by changing the conditions which brought them forth. A dyke may be a very necessary protection from the river sometimes, and so the action of the State may be necessary sometimes in order to protect the individual citizen in the enjoyment of his freedom and independence.

267. One of the questions about which many people are thinking is whether or not existing industrial conditions are right and just to all classes of persons in society. Distress and poverty are found next door to luxury and magnificence. The poor day-laborer jostles the millionaire on the street and wonders what reason there is why he works all the day long when the other man is luxuriating in leisure and comfort. As a remedy for this excessive difference, perhaps no one panacea is more generally discussed than an appeal to the State. Believing that when left to individual initiative the condition of the poor is hopeless, a class of persons advocate legislation by the State to remedy these evils. This **system of appealing to the State rather than to individual action is socialism.** The essence of socialism is **State-help** as opposed to **self-help.** If a man can not get on by himself, the State must, they think, do something for him by legislation; so that, whenever laws are passed interfering with industrial matters, we say of them that they are socialistic. This term may, therefore, apply to many things about which there is often little difference of opinion, as when the State regulates education, or makes roads, or cares for the insane; but it may also apply to the extreme proposals of agitators who desire the State to take charge of all the food, clothing, materials, machinery, and appliances of production, and manage all the industries of the nation

just as they manage the post-office or the minting of coins. It is in this last and extreme sense that people use the word socialism to-day, and in that sense we shall discuss it here.

268. We have in the United States justly heard a great deal about political equality; but recently there has been slipped in with it, as if the two were somehow connected, the doctrine of industrial equality. Much is now said about the right of the poor to a share in the accumulated wealth of the rich irrespective of the producing capacity of the persons compared. Every one wishes, of course, to see an advance in the comfort and well-being of the poor; but we are also obliged to consider whether moral justice is satisfied when A, who is a meager producer, claims a right to a part of what is produced by B, who is a capable producer. As regards their industrial capacities, Nature has not made all men equal. The fact that A's vote is as good as B's does not make him equal to B in the power to produce.

Still, while acknowledging industrial inequality, those who are capable are not freed from a responsibility to treat their poorer fellows rightly; but each man ought to be protected by the State in the enjoyment of the result of his own exertions. The very fact that men are differently constituted for industrial operations makes it evident that the State can not possibly treat them in masses, and it is equally impossible to treat each citizen individually. **It is quite out of the range of possibility that the State should know the industrial capacities of each individual,** and so arrange just the right work and wages for him. The State has tried in the past to tell the citizen what religion he should adopt, but that has been abandoned as a false and erroneous policy by most nations. So it must be in regard to any policy of interference with the individual activities of mankind. They must be left to work out an adjustment for themselves under the general protection of the State.

269. Socialism, or the reliance on the State for help, stands in antagonism to **self-help,** or the activity of the individual. That body of people certainly is the strongest and happiest in which each person is thinking for himself, is independent, self-respecting, self-confident, self-controlled, self-mastered. Whenever a man does a thing for himself he values it infinitely more than if it is done for him, and he is a better man for having done it. A saves $1,000 and B inherits $1,000. B loses all the discipline of character which A gained by going through the process of saving; he values his inherited money less than A does his hard-earned money. The man who hews out his own path gains power by so doing, and becomes self-reliant, sagacious, foresighted, and ready for further advance. Such a man knows that he can get nothing except by his own exertions, and as a consequence he exerts all his energies to accomplish his aim. He knows that two and two make four. He does not wait supinely for "something to turn up," but puts himself in a position where he needs no help.

If, on the other hand, men constantly hear it said that they are oppressed and down-trodden, deprived of their own, ground down by the rich, and that the State will set all things right for them in due time, what other effect can that teaching have on the character and energy of the ignorant than the complete destruction of all self-help? They begin to think that they can have commodities which they have not helped to produce. They begin to believe that two and two make five. It is for this reason that **socialistic teaching strikes at the root of individuality and independent character,** and lowers the self-respect of men who ought to be taught self-reliance. It is from such teaching that men have been led into the delusion of believing that by printing unlimited paper money or by coining millions of cheap silver dollars they shall somehow become rich. They do not realize that

every commodity requires labor and capital for its production (section 56), and that there is no other way to acquire wealth except by theft or robbery. Self-help leads to activity in production and healthy exertion; State-help tends to make all individual energy weak and flabby, because it teaches one to rely on an outside power.

270. When men are left to themselves, it is astonishing how much they accomplish by self-help. "Let any one propose to himself," says Dr. Whately, "the **problem of supplying with daily provisions of all kinds a city like London,** containing about 2,000,000 of inhabitants. . . . A failure in the supply even for a single day might produce the most frightful distress. . . . The city is also of vast extent—a province covered with houses—and it is essential that the supplies should be so distributed as to be brought almost to the doors of all the inhabitants. Again, the supply of provisions for an army or garrison is comparatively uniform in kind; but here the greatest possible variety is required suitable to the wants of the various classes of consumers. . . . Again, and above all, the daily supplies of each article must be so nicely adjusted to the stock from which it is drawn, to the scanty or abundant harvest, importation, or other source of supply, to the interval which must elapse before a fresh stock can be furnished, and to the probable abundance of the new supply, that as little distress as possible may be felt. . . .

"Now, let any one consider this problem in all its bearings, and then reflect on the anxious toil which such a task would impose on a board of the most experienced and intelligent commissaries, who, after all, could discharge their office but very inadequately. Yet this object is accomplished, far better than it could be by any effort of human wisdom, through the agency of men who think each of nothing beyond his own immediate interest. . . .

"It is really wonderful to consider with what ease and regularity this important end is accomplished, day after

day and year after year, through the sagacity and vigilance of private interest operating on the numerous class of wholesale and, more especially, retail dealers. . . . The apprehension, on the one hand, of not realizing all the profit he might, and, on the other, of having his goods left on his hands—these antagonist muscles regulate the extent of his dealings and the prices at which he buys and sells. An abundant supply causes him to lower his prices, and thus enables the public to enjoy that abundance, while he is guided only by the apprehension of being undersold. On the other hand, an actual or apprehended scarcity causes him to demand a higher price, or to keep back his goods in expectation of a rise. Thus **he cooperates, unknowingly, in conducting a system which no human wisdom directed to that end could have conducted so well**—the system by which this enormous population is fed from day to day."

271. "The office of the legislator," says Professor Bowen,* "is not, by his own superior wisdom, to chalk out a path for society to move in, but to remove all casual and unnatural impediments from that path which society instinctively chooses for itself. Human laws, if wisely framed, are seldom *mandatory*, or such as require an active obedience; they are mostly *prohibitory*, or designed to prevent such action on the part of the few as would impede or limit the healthful action of the many. . . . An individual may not erect a powder manufactory in the midst of a populous village, nor carry on any operations there which would poison the air with noxious exhalations. His neighbors would have a right to call out to him, 'Let *us* alone; you endanger our lives, and prevent us from pursuing our ordinary occupations in safety.'"

So that it may be impossible to draw a definite line beyond which the action of the State can never go. Some

* "American Political Economy," p. 18.

action may be healthful; but that which results in an interference with private industries will generally be hurtful. Walking is regarded as a healthful exercise; but, when walking is continued for successive days and nights for a week, it may be highly injurious to the bodily system. If the action of the State goes to the extreme of interfering with the growth of individual self-help, it is an injury. The danger of enervating results flowing from dependence on the State for help should cause us to **restrict the interference of legislation as far as possible**; it should be permitted only when there is an absolute necessity, and even then it should be undertaken with hesitation. We should rather stimulate the individual to act for himself—in fact, self-help has been the characteristic of the Anglo-Saxon race, and it is intimately connected with the origin and success of local self-government. The right policy is a matter of supreme importance, and we should not like to see in our country the system of interference as exhibited in the paternal theory of government existing in France and Germany. The maxim, however, which urges the restriction of State activity should always be followed according to its spirit, and not according to its letter.

272. The socialists of the United States are mostly foreigners, and have divers beliefs, but these are commonly derived from the teachings of Carl Marx, Lasalle, or Proudhon, the originators of French and German socialism.* They claim that **"the means of work are the monopoly of the class of capitalists,"** and that consequently the laborers become the slaves of capitalists. Were the State to take charge of all the capital and to employ all the laborers, they think that the "iron law of wages" would be broken down and labor "emancipated."

Without capital labor can not be employed, and the

* See Rae, "Contemporary Socialism," and Ely, "French and German Socialism."

present employment of labor exists only because there are reasons for the saving of capital (see Chapter VII). Take away these reasons by giving the ownership of capital to the State, and there would be little or no saving and small means of employing labor. But, granting the existence of sufficient capital, there is no reason to suppose that the State would be able to conduct the processes of production with satisfaction to workingmen or to the varying needs of consumers (see section 270). The duty of adjusting demand and supply of goods now requires the best ability of the most active industrial managers in this civilized age. It is scarcely likely that men, elected to office, acting not for themselves, but for others, would display this extraordinary wisdom. Moreover, after all the difficulties of production might have been overcome, there would still remain the enormous responsibility of fixing upon **some theory of distribution.** Who shall decide how much A or B should have as wages? Shall each man have an equal share whether he is lazy or skillful? These are insuperable objections to any scheme of State control of labor and capital. "It must be acknowledged," says Mr. Mill,* a well-known friend of workingmen, and one inclined toward certain forms of socialism, "that those who would play this game [of State socialism] on the strength of their own private opinion, unconfirmed, as yet, by any experimental verification, must have a serene confidence in their own wisdom on the one hand, and a recklessness of people's sufferings on the other, which Robespierre and St. Just, hitherto the typical instances of those united attributes, scarcely came up to."

273. **Other forms† of socialism** have been tried which differ widely from State socialism. Such, for example, are the societies (existing within a State, and under its

* Chapters on Socialism, "Fortnightly Review," 1879.

† See Mill's "Political Economy" (Laughlin's ed.), pp. 165–171.

protection) established by St. Simon and Fourier in France, or those of the Economites in Pennsylvania, the Zoarites in Ohio, the Shakers, or the well-known experiment at Brook Farm in Massachusetts some years ago. In many of them the property is held in common by all the members, although some retain private property. While every member of the community is provided for by a minimum allowance, as in Fourierism, the produce is generally distributed in some way so that the more capable get more than the less capable. The great **difficulty with these schemes** has generally been in adapting each person's work to his capacity, and assigning a remuneration justly corresponding to his merits. There can be no objection whatever to permitting the trial of these experiments, because people go into them of their own free will. It is far otherwise with State socialism, where there would always be a large class of persons who would be forced into the experiment against their will.

CHAPTER XXVI.

TAXATION.

274. WHEN men form a State, they hand over to certain selected persons the duty of protecting life and property, and caring for the best interests of the citizens. In the United States we put this national power into the hands of Congress, the President, and the Courts. Whether it is intended that they should interfere much or little with the industries of our citizens, it is necessary, in either case, that the State should be provided with a **revenue** from which the expenses of carrying on the Government can be defrayed. For the years 1886, 1895, 1899, and 1900, the United States had the following expenses to meet:

[In millions and tenths of millions.]

Expenditures of United States.	1886.	1895.	1899.	1900.
Civil Expenses (including foreign intercourse, public buildings, District of Columbia, etc.)	$74.2	$101.9	$119.2	$105.7
Indians	6.1	10.3	12.8	10.2
Pensions	63.4	141.2	139.4	140.9
War Department	34.3	54.6	229.8	134.8
Navy Department	13.9	31.7	63.9	55.9
Interest on the Public Debt	50.6	27.8	39.9	40.2
For Sinking Fund	44.5			
Total	$287.0	$367.5	$605.0	$487.7

It is manifest, therefore, that a State has many expenses to meet, and that taxes should exist in order to raise the money necessary to cover these expenses.

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Besides paying taxes to the United States, the people are also obliged to pay something to the State, to the county, and to the city or town in which they live. Thus a resident of New York city helps to pay taxes, among other things, for the maintenance of Congress, the President, and the United States courts; he also pays taxes to allow New York State to conduct its own affairs with a governor, a legislature, and State courts; taxes to provide for county expenses; and finally he pays taxes to maintain a city government, comprising a mayor and aldermen, with expenses for water-works, street-cleaning, fire-engines, etc. In all these cases, of course, a revenue is necessary; and this revenue is obtained by taking some part of the wealth of each person for the use of the Government. **The whole object of taxation, therefore, is to provide the means for defraying the proper expenses of the Government,** whether it be the national, state, county, or town government.

275. In taking a part of each man's property, the State deals with delicate matters, and should be obliged to consider its action carefully. When persons work and toil for the wealth they own, they will not consent to part with it except for good reasons; and they may justly demand that Governments should follow certain well-accepted rules which experience and justice have found to be necessary. (1) Each man should be taxed **in proportion* to his ability to pay,** and the tax ought not to change the relative standing of men in the community. This is what is meant by saying that the **tax should be equal;** for, of course, the State should act impartially with all of its citizens. Then (2) the amount to be paid in **taxes ought to be certain** and definite, and ought not to be changed arbitrarily; for if producers know beforehand just how much the tax will be they can arrange their business accordingly. Even a very high tax can be paid, provided it is certain and not fluctuating. (3) The State will also do well to **collect the tax when it is most convenient for the tax-payer.** When a person is about to buy an article of luxury, he can be best taxed in the form of an increased price; for, if he does not want to pay the tax, he need not buy the luxury. And (4), finally, the Government ought not to levy a tax, which is intended to pay the expenses of Government, in such a way that any considerable part of that which is taken from the tax-payer does not go to the State. Apart from the smallest necessary expenses for collecting the tax, the **whole amount should go to the Government,** and not to persons who have no right, such as the state has, to take property from citizens.

* I shall not, of course, discuss in an elementary treatise the various theories by which equality is best realized, nor the principles according to which equality is tested.

276. Most writers on taxation distinguish between direct and indirect taxes. **Direct taxes** are those which are levied on the very persons who it is intended or desired should pay them, and which they can not put off upon others by raising the prices of the taxed article. The best example of a direct tax is one on a man's income; others are poll-taxes, licenses, taxes on horses and carriages, on books and furniture, on dogs, and on houses (if levied on the occupier). Some one, for example, is obliged to pay a dog-tax; he can not arrange it so that another person shall pay it. He may escape it only by giving up the dog; but, if he keeps the dog, he can not throw the tax on any one else. **Indirect taxes,** on the other hand, are those which are levied on persons who expect to get back the amount of the tax by raising the price of the taxed article. A good example of an indirect tax is one on the importation or manufacture of commodities. When an importer pays $1 for a yard of silk in France and brings it to the United States, where he is obliged to pay a tax of 60 cents on importing it, he adds

the tax to the purchase-price, and charges his customers as much as $1.60 a yard, if not more; in this way he throws the tax on the consumer. Other instances of indirect taxes in the United States are internal-revenue duties on the manufacture of tobacco and spirituous liquors. The price of these articles is raised, if the producers pay a tax on them; and so the consumers really pay the tax to the Government in the higher price they pay to the producers of the articles.

277. During our civil war (1861–1865) a very great change was made in our taxes, as can be seen by reference to Chart VII, which shows the fluctuations in the sources of national revenue. During that time the Government was very anxious to raise money to pay the war expenses, and so resorted to every possible means of taxation. As one of the forms of direct taxes, they tried the **income-tax**; and, although it has been given up by the national Government, this tax is still used in some States. It is a kind of tax which in theory is excellent, but in practice is unjust. In favor of it, it is to be said that, if we are to tax men in proportion to their ability to pay, a man's income indicates very fairly this ability. Incomes, however, below a certain amount should remain altogether untaxed. This exemption is $2,000 in Massachusetts, and only incomes above that sum are taxed. So that an income of $2,500 is taxed on only $500. Again, saving from an income ought not to be discouraged, and, if it could be justly arranged, a man ought to be exempt from taxation on all that part of his income which he has saved. With all these exceptions, the income-tax would be as good as any tax which could be imposed. But, on the other hand, there is an overwhelming objection to it. In practice, no reasonable means exist of finding out what a man's income is; only the conscientious and honest will report their income exactly, while, in order to escape paying taxes, the dishonest will conceal their income. Thus

CHART VII.

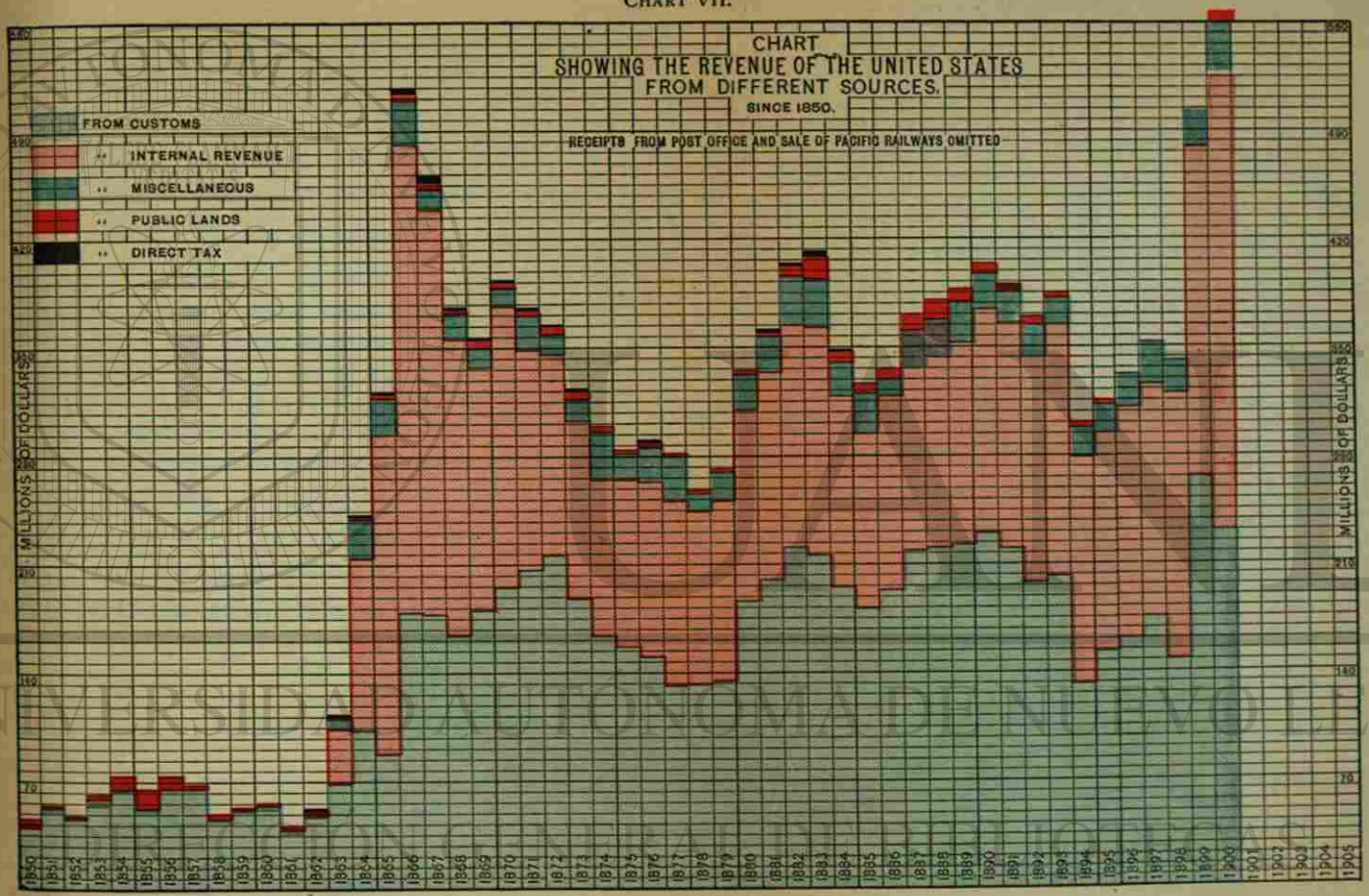


CHART
SHOWING THE REVENUE OF THE UNITED STATES
FROM DIFFERENT SOURCES,
SINCE 1850.
RECEIPTS FROM POST OFFICE AND SALE OF PACIFIC RAILWAYS OMITTED
FROM CUSTOMS
" INTERNAL REVENUE
" MISCELLANEOUS
" PUBLIC LANDS
" DIRECT TAX
MILLIONS OF DOLLARS
MILLIONS OF DOLLARS

the tax falls only on the conscientious, while the unconscientious escape. This makes it an unequal tax, falling on some and not on others; and for that reason it is a very objectionable one. **In practice the income-tax is not fair.** It has also been questioned whether Congress has a constitutional right to impose an income-tax for national purposes.

278. In this country the national revenue is practically all raised by indirect taxation on commodities; so that it is scarcely known that taxes are being paid. It remains true, all the same, that we pay taxes in the increased prices of the goods we buy. But the taxation which, in practice, most people regard as onerous, is that levied for **state, county, and municipal purposes.** This is chiefly in the form of direct taxes on real estate, on personal property, carriages and horses, or income. Here there is no little difficulty. Apart from the amount collected, which is very high, owing to municipal extravagance, it is found that persons having personal property escape, while those having real estate do not. Personal property is in the form of bonds, stocks, mortgages, or notes. Here, as in the case of the income-tax, the **tax on personal property** is unjust, simply because it falls unequally; the honest and conscientious make a full return of their personal property, and are taxed accordingly, while those who conceal this kind of property escape altogether. Consequently it is sometimes proposed to abolish the tax on personal property on the ground of its unfairness. This tax, however, is likely to remain, because the amounts received from it are large, although it falls unevenly, and the towns can not well get on without it.*

* A perfectly fair tax, and one which would yield considerable revenue, is that on bequests. The heir in receiving a bequest receives that which was the result of another's exertion, and the State is warranted in taking a sum out of this by taxation. The heir then comes

279. When we come to consider indirect taxes, or those imposed on commodities, so that the person who pays the tax can raise the price of the commodities, and thus force the purchaser to pay him back the tax, there are some general remarks to be made as to the kind of articles which it is best to tax. (1) In the first place, **taxes should never be levied on the necessaries of life,** or on the materials or instruments employed in producing these necessaries. The reason of this is very plain; for the poor ought not to be taxed on the necessaries of life when there are so many other things used by the well-to-do which can be taxed. Necessaries of life should be excluded for the same reason that an exemption should be made of small incomes under an income-tax. On the other hand (2), **articles which have most connection with vanity,** such as expensive jewelry, diamonds and lace, or horses and carriages,* ought to be taxed as much as is expedient. If people are obliged to give up such articles by reason of the tax, there is no harm done. (3) A tax on a commodity should be levied **on the consumer and not on the producer** of it; because, if levied on the producer, he will raise the price, not merely by the amount of the tax, but by much more than the tax. He will want interest on the additional capital required for paying the tax, because there will be more for him to risk. The person who buys the articles will thus be paying a tax to the State, and also a tax to the producer, which violates that one of the canons of taxation (section 275) which requires that the tax should be levied solely for the State. (4) Among luxuries, articles used as **stimulants** may be properly selected for taxation. For, if any article of luxury is to be chosen, a tax on that which causes evil and misery is better than that on another which does not entail similar consequences. (5) But care should be taken that the tax is not so high as to cause evasion; for in that case the revenue will be less than if the tax were lower and if it were generally paid. There is a rate of duty for a commodity which is known as **"the revenue point,"** at which the State can get the largest revenue. If the tax is lowered just to the point where it permits the largest possible amount of the commodity to be consumed, the large amount of the article on which the tax is paid will produce a larger revenue than if the tax were higher and paid on a less amount. Just where this point is, the financier can find out only by careful trial.

to regard the bequest in the beginning as less by the amount of the tax, and there is not the same feeling as when taxes are taken out of one's acquired property in which an unquestioned right of property exists.

* Some regard should be paid for cases where a horse is used as a means of income, and not for luxury or pleasure. A drayman's horse ought not to be taxed the same as a horse used by some one for pleasure purposes.

280. In taxing a commodity in order to obtain the largest revenue with the least burden on the people, the tax should not be imposed on only one of two methods of obtaining it. If this is done, it constitutes a **discriminating tax.** When left to themselves, men will naturally adopt that one of two methods which produces the best article at the lowest price. If the United States were to tax cane-sugar and not beet-sugar, and if cane-sugar alone had been produced before, this would create a necessity for employing what producers, by their former action, admitted to be the inferior method of getting sugar—that is, from beets. This action would render the sugar either poorer in quality or more expensive; and the additional labor and capital required would be wasted "as uselessly as if it were spent in hiring men to dig holes and fill them up again." The sugar-makers would raise their price enough to cover this waste to them, and the people who buy sugar would really pay for the waste.

This violates the rule that taxes should take as little as possible from the tax-payer beyond the amount covered into the treasury of the State; and, in proportion as sugar should be no longer produced from the cane, the State would lose its revenue, for the tax was to be levied only on the cane-sugar.

281. As the United States provides its revenue almost entirely by means of indirect taxes, people seldom realize that they are paying taxes to the United States out of the price of a blanket or of a pound of sugar. The state, county, and municipal taxes, on the other hand, are generally direct, and these are the taxes which people feel the most; for the money, after all, which a man pays out directly as taxes is generally the only money which he believes he is paying as taxes. With indirect taxation it is different. We can see from the following **Treasury statement of the income of the United States,** for the years 1886, 1895, 1899, and 1900, how large a sum is collected from taxes on commodities:

Receipts of United States.	1886.	1895.	1899.	1900.
Customs	$192.9	$131.8	$273.4	$233.2
Internal Revenue	116.8	147.1	206.1	295.3
Sales of Public Lands	5.6	1.7	1.7	2.8
Taxes on National Banks	2.7	1.6	1.9	2.0
Profits on Coinage, etc.	5.9		6.1	9.9
Consular Fees, etc.	3.4	2.8	2.4	3.3
Miscellaneous	9.1	12.7	12.5	20.8
Total	$336.4	$297.7	$504.1	$567.3

Customs are taxes levied on goods when imported into the country; the internal-revenue duties are taxes on tobacco and spirituous liquors produced within the United States; so that both customs duties and internal-revenue taxes are indirect. The latter, being taxes upon stimulants or luxuries, are a highly proper means of raising a revenue. These sources of taxation in past years are to be readily seen in Chart VIII.

282. The customs duties levied on goods imported from foreign countries yield the largest part of our revenue. They are not laid in such a way as to bring in the largest revenue, and nothing has been done to find the "revenue point," chiefly because the duties are believed by some to exist for other reasons than for providing an income. But, in order that we may see for ourselves, let us collect together in groups the **articles on which import taxes are levied,** and see what commodities are taxed by the United States. Then we can better judge whether or not our national system conforms to the general principles of taxation already stated. In one column is given the value of the goods, and in the other is given the amount of the tax which is levied on the given value. This table is taken from the United States Statistical Abstract (sums are given in millions and tenths of millions):

Leading articles which pay import duties.	1885.		1899.	
	Values.	Duty collected.	Values.	Duty collected.
Sugar, confectionery, and molasses	$73.5	$52.1	$38.2	$29.5
Wool, and manufactures of	45.6	27.5	18.3	12.5
Silk, manufactures of	28.1	14.0	22.6	12.2
Iron and steel, and manufactures of	34.0	12.0	12.8	5.8
Cotton, manufactures of	27.2	10.9	26.7	14.6
Tobacco, and manufactures of	9.1	7.4	8.2	9.9
Flax, hemp, jute, etc., and m'f'res of	32.7	9.1	20.5	8.4
Liquors (malt, distilled spirits, wines)	9.3	7.1	8.6	5.7
Chemicals, drugs, dyes, and medicines	11.7	3.8	15.4	4.8
Glass, and manufactures of	6.4	3.7	3.7	2.1
Fruits, including nuts	13.0	3.7	9.1	4.3
Leather, and manufactures of	10.3	2.9	11.3	3.7
Earthen, stone, and china ware	4.8	2.7	6.4	3.6
Jewelry and precious stones	6.1	.6	7.5	.9
Breadstuffs	6.6	1.0	.9	.3
All other dutiable articles	68.3	19.6	85.4	25.8
Total dutiable merchandise	$386.7	$178.1	$295.6	$144.1
Per cent. of duties on values		45.86		48.75

From this official account we see that taxable articles to the value of $295,600,000 were imported, and that on

these the United States collected taxes to the sum of $144,100,000; or, in other words, the United States collects as taxes, under present laws, about 48 per cent. of the value of the goods imported. And to this extent are the taxed articles necessarily increased in price to the people of this country.

283. In considering whether such a system of taxation is a good one or not, we should apply to it the general rules previously stated. First, we find that in our system many necessaries of life are taxed: such as clothing, blankets, flannels, iron, cotton goods, flax, hemp, drugs and medicines, glass, leather, and earthenware. The bulk of the taxes are not on articles of vanity; and the duties are so high as to keep out foreign goods to a considerable extent. Just so far as taxes keep goods from being imported do they lessen the revenue which might be obtained by lower duties. Then, also, many of the taxes are discriminating; that is, one method of getting an article, importation, is taxed, while another method of getting it, by home production, is untaxed. This obliges the country to get its goods by the more costly method, or home production (see section 280). To illustrate this point, suppose that the United States has need of 10,000,000 tons of steel, and that she produces at home 6,000,000 tons and imports the remaining 4,000,000 tons. If a duty of $10 a ton is levied on imported steel, the price at home must be as much as the price abroad and $10 more, or else none would be imported. The price in the United States of the steel made here will bear the same price as that which is imported. The Government will get the $10 a ton on 4,000,000 tons imported, or $40,000,000; but the 6,000,000 tons produced here will also bring the same price, of which $10 on each ton is paid by purchasers as a tax, but not to the Government. The $60,000,000 is paid by the consumer to the producer, not to the United States; for the United States receives only the $10 on the imported steel. If the

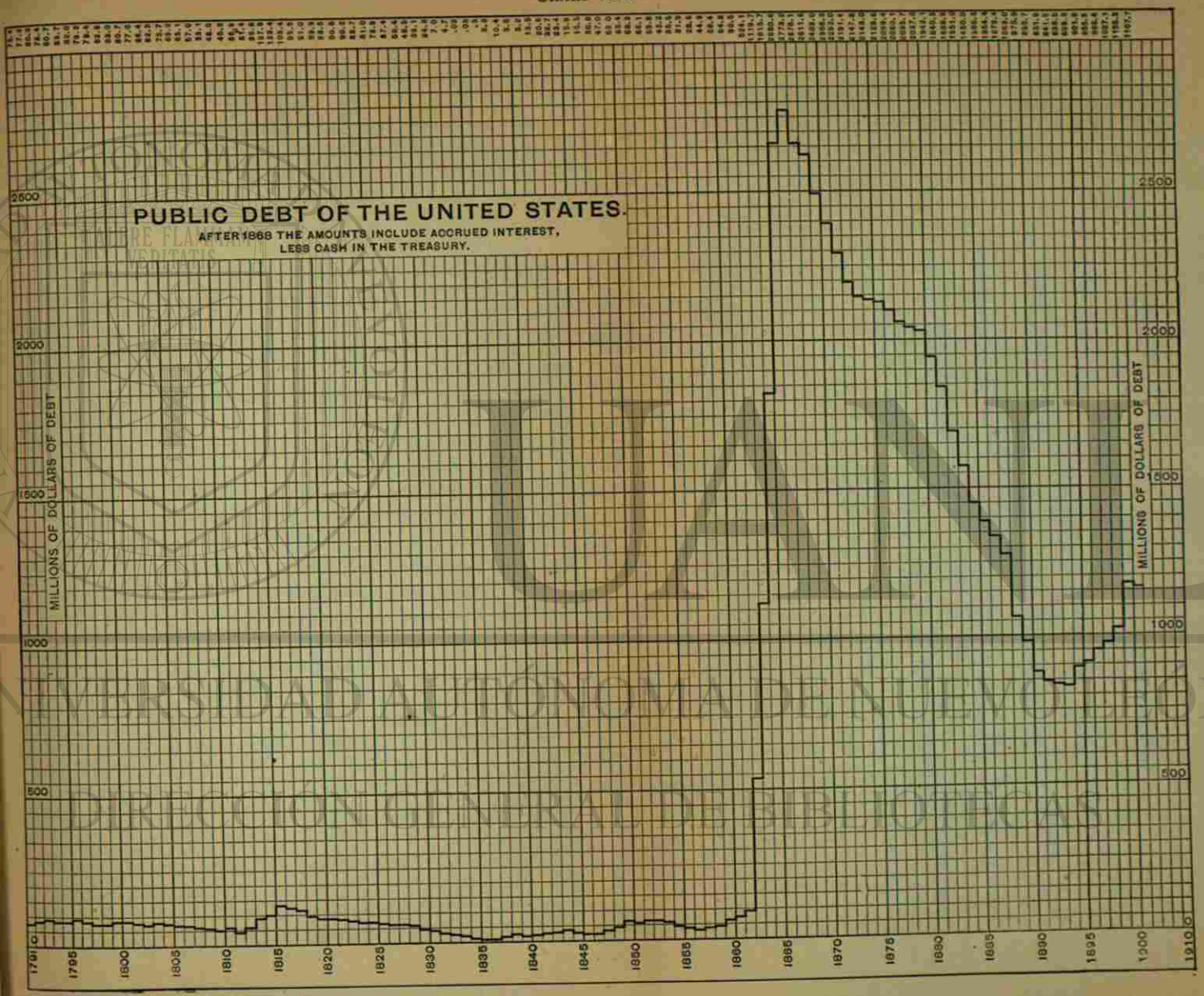
home price is kept up by the duty, and if imports still come in, the one method of getting the article is encouraged at the expense of the other, and the consumer pays a large tax to those who produce the goods and not to the Government. In the chapter on Protection and Free Trade we shall discuss whether there are advantages to compensate for this large payment by one set of private persons to another. Here we are discussing solely the means of raising an income by taxation, and how to do this most effectively.

CHAPTER XXVII.

THE NATIONAL DEBT.

284. When the American colonies became a united nation in 1789, the country was suffering from the distress caused by the War of the Revolution, and especially by the ruinous issue of irredeemable paper money. The young nation was sunk deep in financial difficulties, and it had no adequate income. Taxes were at once laid, chiefly on imports, in order to meet this need; but the income was insufficient to pay off the debts previously incurred to carry on the **Revolutionary War.** Money had been borrowed from France and Holland; and on January 1, 1790, the outstanding debt of the United States, including the debts of the several States assumed by the General Government, amounted to $71,000,000. It was a very heavy burden at the time, and, as can be seen by Chart VIII, it rather increased than diminished for a while.

285. The national debt was thus first caused by the war of the Revolution. It dates from 1789, but it was afterward greatly increased by two other wars. Under the skillful management of Mr. Gallatin, it had declined somewhat before the **War of 1812**; but the struggle with England raised it again, and it reached a point higher than any known before 1862. The national revenues, which grew with the country, paid off the entire amount by 1835, and for a few years the debt was but a few thou-


PUBLIC DEBT OF THE UNITED STATES.
AFTER 1868 THE AMOUNTS INCLUDE ACCRUED INTEREST, LESS CASH IN THE TREASURY.
MILLIONS OF DOLLARS OF DEBT
2500
2000
1500
1000
500
1791
1795
1800
1805
1810
1815
1820
1825
1830
1835
1840
1845
1850
1855
1860
1865
1870
1875
1880
1885
1890
1895
1900
1910

sand dollars. The **Mexican War** caused another increase before 1850, but even that was slowly reduced, and at the time of the outbreak of the Civil War the national debt was very small indeed in comparison with its size since.

286. On the breaking out of the **Civil War** in 1860, the Government committed the error of supposing that the struggle would be a short one. The expenses of the first year were estimated at $300,000,000, while the revenue was only $56,000,000 (see Chart VII). The people expected to be taxed heavily at once to make up the difference, but the **timidity of the Government led to borrowing** instead of taxing. In July, 1861, Congress authorized the Secretary of the Treasury to borrow $250,000,000; in February, 1862, $500,000,000; in March, 1863, $900,000,000; in June, 1864, $400,000,000; in March, 1865, $600,000,000; and in addition other acts were passed to permit borrowing in different ways. Of course, the Government was not always able to borrow when it gave authority thus to the Secretary of the Treasury to ask for money. Its credit varied, and it had to offer various kinds of inducements. The war became a long, costly, and doubtful struggle, and, because taxation had not been at once undertaken, borrowing had to be resorted to to an unfortunate extent.

287. When people loan their wealth to the State, they get in return something which is a claim, or evidence, for the amount. This claim appears in various forms. When borrowing for a number of years, the Government usually gives a **bond,** in which it agrees to pay back the principal at a stated time, paying, meanwhile, a certain rate of interest. Attached to each bond are a number of "coupons" (French, *couper*, to cut), one for each payment of interest until the bond falls due. The owner of the bond can cut off a coupon semi-annually or quarterly, and present it to the Government to be cashed, and thus

get his interest. A bond is said to be "registered" when the owner's name and the number of the bond are registered on the books of the United States Treasury. If such a bond is lost or burned up, the owner can still get his principal and interest. If an unregistered bond is burned up, its owner loses it, just as if an equal value of bank-notes were burned up. Some bonds were known according to the time they ran. A "five-twenty" bond was one which the United States could pay off in five years, but was not obliged to pay before twenty years; a "ten-forty" bond was one redeemable in not less than ten nor more than forty years. Besides bonds, the United States issued various forms of **notes**, or promises to pay at a short time in the future. A "seven-thirty" note was one on which interest at 7.30 per cent was paid, although it was payable in at least three years. Of the United States notes, or "green-backs," we shall speak in Chapter XXX. When the Treasury had no other funds, it was also allowed to give its creditors certificates that the United States was indebted to them for given amounts; and these "certificates of indebtedness" ran for only a year, bearing interest. It sometimes happened that the United States Treasury was nearly empty, and was obliged to resort to all kinds of devices in order to meet its expenses during the war.

288. It was not until 1864 that any large sums were obtained by taxation, and yet to that time the daily expenses of the Government had been enormous. In fact, it was not until the year 1866 (see Chart VIII) that the Government received its largest war revenues. Resort was consequently had to every device for borrowing. Thus, the United States borrowed money by offering the different kinds of obligations described in the last section, and in October, 1865, after the close of the struggle, the national debt stood in the following form, expressed in millions:

Old debt			$65	
Bonds:				
Twenty-year bonds of 1861,	6	per cent	265	
Five-twenty " "	6	"	660	
Ten-forty " "	5	"	173	
				$1,163
Notes:*				
Seven-thirty notes	7.30	"	830	
Compound-interest notes	6	"	173	
Legal-tender Treasury notes	5	"	32	
U. S. notes ("greenbacks")	—	"	428	
Fractional notes	—	"	26	
Temporary deposits	4, 5, 6	"	99	
Certificates of indebtedness	6	"	56	
				1,644
				$2,807

The "United States notes" were promises to pay on demand, and were a legal tender, but bore no interest; while the "legal-tender Treasury notes" were issued for terms of not more than three years, and bore interest at the rate of 5 per cent. The "fractional notes" were the paper notes ("shin-plasters") for parts of a dollar, issued to supply the absence of subsidiary silver coins. "Temporary deposits" were received by the Government, and were payable to the depositor after ten days' notice. They gave the United States the use of capital while it was waiting for investment.

289. The doubt which had attended the success of our armies and of our finances affected the credit of the Government. The United States was not able to borrow sometimes at a rate as high as 12 or 15 per cent; and the six-per-cent bonds were at some periods given in return for depreciated paper, worth in gold only 40 or 50 cents. Thus the annual interest to be paid on our debt after the war was very onerous, amounting in 1867 to $143,000,000. By the end of the war the United States had begun to

* In J. J. Knox's "United States Notes" are given cuts with the wording on the various kinds of notes.

tax heavily, as may be seen in the increasing revenues in Chart VII, and, when the war expenses ceased, the income was considerably greater than the expenditure. Thus the surplus revenue was available to pay off some of the debt. As the resources of the country in paying heavy taxes thus became manifest, and as the debt was manfully reduced little by little, our **credit improved**; and, when some parts of the debt fell due, the Government was able to borrow money at lower rates of interest, replacing the old debt with new but less burdensome forms of debt. It was, therefore, a great advantage that many bonds were issued in the form of the "five-twenties," for when our credit improved it was possible, after five years from the date of their issue, to pay them off and put other bonds in their place bearing 5, or $4\frac{1}{2}$, or 4 per cent interest. This change in the debt is called "**refunding.**" Beginning with 1870, the war bonds were almost entirely changed into those bearing lower rates of interest; so that, by refunding and by paying off the principal, the annual payment for interest has fallen from $143,000,000 in 1867 to $50,000,000 in 1886.

290. As a result of the various refunding measures (including those of the Spanish war), and of a steady payment of the public debt with the surplus revenue, the main items of the public debt on June 30, 1901, were as follows, expressed in millions:

Consols of 1930 (March 14, 1900), at 2 per cent	$445.9
Loan of 1908–1918 (June 13, 1898), at 3 per cent	99.7
Funded loan of 1907 (July 14, 1870–January 20, 1871), at 4 per cent	257.4
Loan of 1925 (Jan. 14, 1875), at 4 per cent	162.3
Loan of 1904 (Jan. 14, 1875), at 5 per cent	21.8
Total interest-bearing debt	$987.1
Non-interest-bearing debt (including U. S. notes, $346.7)	383.0
Debt matured	1.4
Total debt	$1371.5
Less available cash balance in Treasury	176.8
Net debt, June 30, 1901	$1194.7

On May 1, 1896, the net debt was only $948.2, showing an increase, due mainly to the Spanish war, of about $250,000,000.

The annual interest charge, which was highest in 1865, at $150,977,697, was lowest since then in 1892, at $22,893,883, and stands, in 1900, at $33,545,130.

291. By noticing the dates at which the various bonds fall due, it will be seen that, when the war bonds were refunded, the Treasury sacrificed a very important advantage in order to secure a low rate of interest. It was a fortunate thing that so many bonds had formerly been issued like the "five-twenties," so that, when better days came, advantage could be taken of the privilege of redeeming them after the five years had passed. In refunding, the **later bonds were made redeemable only after a long period.**

The general principle that bonds should run only for a term, which would permit their early payment, if the Treasury has funds, was violated March 14, 1900, by refunding old bonds into those which do not mature before 1930. The few 5 per cents (due in 1904) and the 4 per cents (due in 1907), however, afford a sufficient amount maturing at an early day, which will give employment for all surplus revenue. The surplus can, however, be used in paying off the United States notes. The existence of a large surplus revenue which cannot be used readily to pay off the debt is an unfortunate temptation to useless and extravagant expenditure. The only rational step to take is to reduce taxation; and, as the internal revenue taxes on spirituous liquors and tobacco fulfill all the requirements of good taxes (see section 279), they ought to be retained; and, because some of the customs duties are laid on necessaries of life, they should be reduced in such a way as to lessen the revenue, and at the same time to cheapen those articles to the advantage of the poorer classes. This can be done by putting them on the free list.

292. While the debt of the United States has been reduced, since 1865, to about $838,000,000, in 1893, it has risen from the lowest figures because of the expenditures of the Spanish war. But since 1880 the decrease in the debt, as compared with the statements of other countries, may be seen in Chart IX. France appears to have the largest national debt, followed closely by Russia, while the United States is seventh in the list.

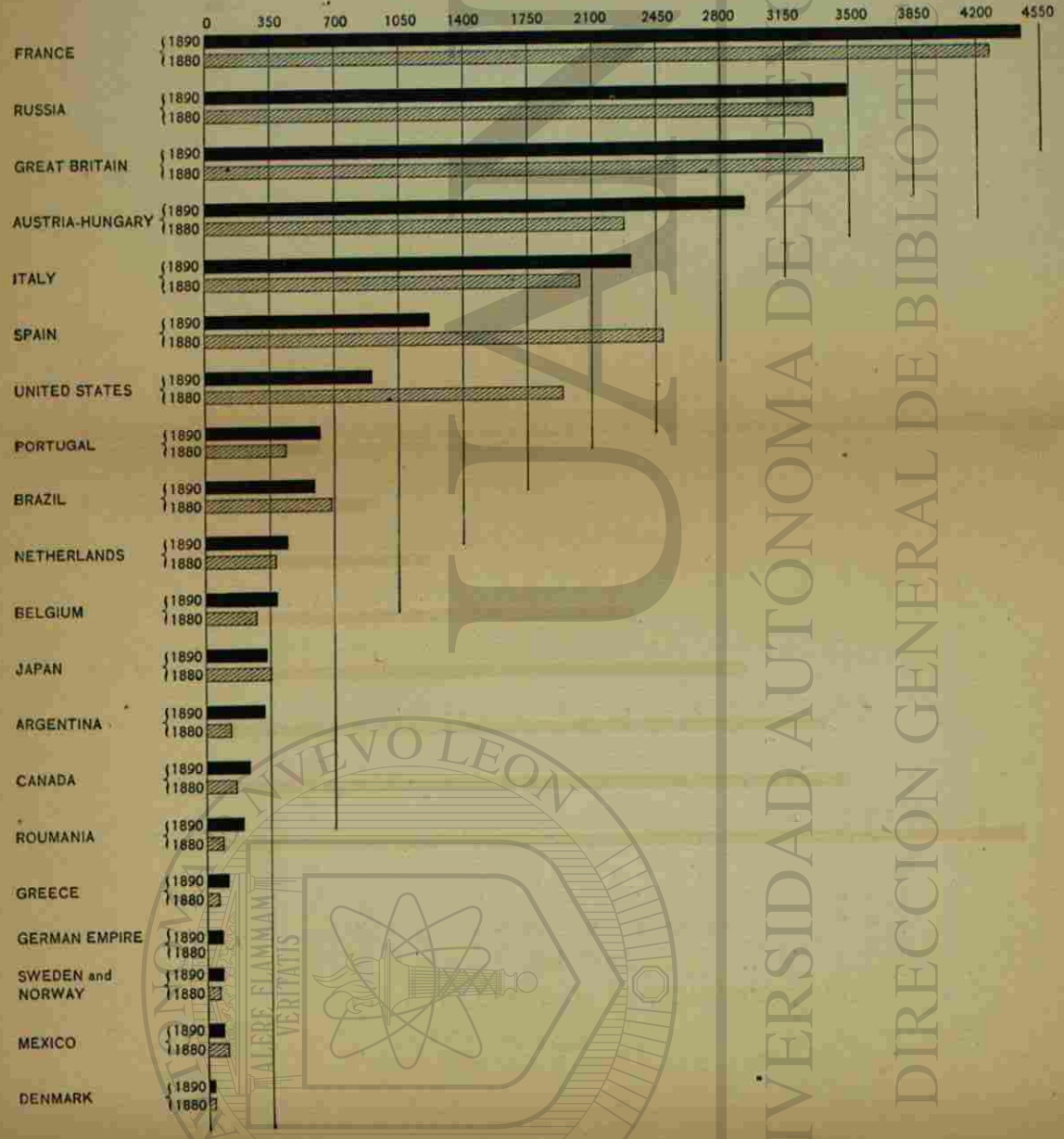
CHART IX.

NATIONAL DEBTS OF PRINCIPAL COUNTRIES.

1880 AND 1890.

[IN MILLIONS OF DOLLARS.]

[TAKEN FROM ELEVENTH CENSUS.]



CHAPTER XXVIII.

FREE TRADE AND PROTECTION.

293. PROTECTION to home industries has for its object the employment of labor and capital within a country in the production of commodities which would otherwise be imported from abroad. The "protection" is obtained by levying a duty on goods when they are brought into the country. This tends to keep them out, and, if it does not keep them out, it is necessary for the importer to charge a price so high that the same goods can then be produced by home producers at a profit. Protectionists argue that each country should form an independent, self-sustaining unit, able to produce everything which it consumes. They appeal to the **national feeling** in man which sets his own country above every other. They feel that legislation and the powers of the State should be used to encourage manufactures at home, believing that when goods are imported from abroad a country thereby encourages foreign, and discourages home, industry. If any economic losses result from restricting international exchange, they argue that these are fully compensated for, or even outweighed, by the moral and political gains of protection.

294. Free-traders, on the other hand, urge that by **division of labor** more can be produced than is possible when each man tries to produce everything he consumes; and they claim that all exchange is based on this principle.

One man produces shoes and buys bread, because he can produce more wealth in the form of shoes than in any other way, and thus has more purchasing power to buy bread. So he satisfies his wants by producing the particular thing which satisfies the desires of many other men, who exchange what they produce for his shoes (see sections 103 and 113). People when left to themselves exchange goods because they benefit from it. No one would think of forbidding the exchange of wheat for cloth in Ohio, and, since the exchange of goods between two countries goes on for exactly the same reasons as between two persons within the same country (see section 112), free-traders do not see why international exchange should be interfered with by the State. They assert that by international trade some goods can be got at a less expenditure of labor and capital than when they are produced at home. Referring to the trade stated in section 112, they say that, if there were free trade, the United States might get 100 bushels of wheat and 25 yards of silk by 200 days' labor (in growing wheat), and France might get the 100 bushels of wheat and 25 yards of silk by 180 days' labor (in making silk). While, if free exchange were prevented, and each country produced both commodities at home, the wheat and silk would cost the United States 220 days' labor, and France 210 days' labor. Under free exchange, both countries together supplied themselves by 380 (200 + 180) days' labor; while, under protection, they got exactly the same articles by 430 (220 + 210) days' labor. By protection the two countries spent 50 days' labor unnecessarily, which by free exchange might have been used to produce additional wealth to be divided between labor and capital. Thus free-traders stand upon the ground of benefits to both countries arising from a larger production of wealth. Foreign exchange, they urge, is only an extension of the principle of division of labor.

295. Protectionists argue that, when a foreign country

can sell goods to us cheaper than we can make them, a customs duty should be put on in order to prevent **foreign competition.** By manufacturing goods within the United States, they argue that wages of American laborers are kept at a higher level, and also that more laborers can find employment, than if the goods were bought abroad. If any industry in the United States should cease to exist because of the withdrawal of protection, they say that it would be a great misfortune to both capital and labor. The laborers would be thrown out of employment, and the capital could not find satisfactory investment. Every industry, therefore, which feels the influence of foreign competition should receive attention from Congress, and be protected by sufficiently high duties to keep the foreigners from underselling.

296. The free-traders, on the other hand, say that, in order to participate in the gains of international trade, it is absolutely **necessary that foreign goods of some kind should be imported.** Unless foreign countries send us the goods in the production of which they possess a relative advantage, and we send them goods in which we have a relative advantage, there can be no gain in international exchange, and the world will get its goods with more exertion and cost than is really necessary. They point out, too, that goods are really exchanged for goods, and that money is only a convenient medium for the purpose. The imported goods are not offered us for nothing: goods which foreigners want are given to them in exchange. If a home industry ceased to exist because protection had been withdrawn from it, and if we thereby imported the articles from abroad, free-traders would say that it would be necessary to produce goods to give for the new imports, and consequently the displaced **labor and capital would find just as much employment as before.** If we could not produce any thing foreigners wanted, they would

not send us the imports; and then the old industry could go on as before.

To the claim that the laborers would not find employment if some protected industries ceased to exist, free-traders reply that hundreds of millions of home and foreign capital are being constantly invested in the United States; and it can not be said that we have as yet reached the stationary state when interest on capital has no existence. So long as capital can find an investment, of course laborers can be employed, since production can not go on without labor. And, as will be seen later (section 301), free-traders believe that the new industries taken up will be more productive than the old ones abandoned, and that wages and interest for labor and capital will be larger.

297. Protectionists assert that industries can not be established in a new country in the teeth of foreign competition, and that **infant industries** should be protected until they can get on their feet and go alone. Protection is like the scaffolding around a building—only necessary for its erection, and to be taken down when the building is finished. It is claimed that, in many instances, industries in the United States have been ruined by foreigners who have temporarily lowered prices until the home market was entirely in their control, and then raised them again; so that a tariff which keeps out foreign goods allows the young industries to get a foothold.

To this it is replied that no case has ever been known where industries once protected have been willing to have the tariff reduced on the ground that they could go on alone; that, because of leaning on the protection of the State, they do not exert themselves to produce as efficiently as they might when exposed to free competition; that, in the history of the tariff of the United States, it is shown that the cotton, woolen, and iron industries had got well started with little or no aid from protection, but that only when industries became strong and influential were manu-

facturers able to control legislation in their favor. Unless the industry shall be able to establish itself, it is said, it ought not to be established by the State, any more than the State should require people to employ a young lawyer or doctor who had not yet been able to secure clients or patients. It is further added that the protected lawyer or doctor will never think he has a large enough practice to be willing to give up the State aid by which he is helped. On this ground, it is claimed that protection is an interference of the State to an extent which is **dangerously socialistic**; that it is socialism for the rich manufacturer, while socialistic schemes coming from the poor workman are heartily opposed. Free-traders, moreover, deny that any case has been fully shown where foreigners have actually destroyed industries by lowering prices temporarily. Shortly after 1833, when English iron was so largely imported under lower duties, it appears that our own production was also enormously increased. But even if industries were to disappear under foreign competition, the consumers of the United States would be great gainers by the lowered prices.

298. The advocates of a protective tariff say that the tariff which keeps out foreign goods while an industry is being established does not in the end raise the price of these goods by the amount of the duty. After the home industry is established, and is able to supply a demand large enough to warrant "large production" (in which advantage is taken of division of labor), the **price will fall** to the home consumer. The undoubted fall in the prices of iron and steel, of cotton goods, etc., since the heavy duties of the war were imposed in 1864, are pointed to us as proofs of this general principle.

To this the free-traders reply that the tariff does raise the prices of goods to the American consumer. No comparison should be made of prices now and in the past *in the same country* to show that the tariff causes a fall in prices

in that country; the comparison should be made between the prices of iron, cotton goods, etc., to-day in the United States with the prices of the same goods to-day abroad.* Of course, no one will deny that in all the protected industries, if the duties were taken off, prices here would fall; else why do the protected industries oppose the reduction of the duties? Free-traders admit that prices have fallen in the United States since 1864, but declare that, in the same period of time, prices have fallen in as great a degree in other countries which have had no tariff. Inasmuch as the fall of prices has been general in all countries, whether these countries have tariffs or not, the fall can not be ascribed to the tariff in any one country. In fact, the fall has been largely due to the **progress of improvements,** which has been much the same in all commercial countries.

299. The most common argument urged by protectionists is that the **tariff protects the workingman.** By this they mean that the employment of laborers depends upon the existence of the tariff. For to the tariff is due the existence of manufactures which, if unprotected, would cease to exist, and thus laborers would be thrown out of employment. They prophesy the distress and misery which would follow the stoppage of great factories which now employ thousands of operatives, and ask where these men and women are to find a place to work. Wages,

* The following table, taken from the fifteenth annual report of the Massachusetts Bureau of Statistics of Labor, 1884, shows how our prices actually compare with those in England:

Classes of articles.	Higher in U. S. Per cent.	Lower in U. S. Per cent.
Groceries	16	..
Provisions, including meat, eggs, butter, and potatoes	..	.. 23
Dry goods (all grades)	13	..
Boots, shoes, and slippers	62	..
Clothing	45	..

they say, are higher in the United States than in England, which has no tariff, and the investment of capital in manufactures increases the demand for laborers; consequently, wages are kept at a higher level because of protection. Moreover, in the United States, at the beginning of the century, wages were very low, but they have risen since, so that the laborer is vastly better off than he ever was before in the history of the country. Now, since we have had tariffs for protection for nearly the whole of this century, it is clear that the rise in wages is due to the existence of the tariffs. They add that, if the duties were taken off, the wages of workingmen would be lowered to the level of the "pauper labor" of Europe.

300. Free-traders admit that wages in the United States are higher than in England, and that wages are now higher than they were in 1800; but they deny that the tariff keeps wages as high as they would be under free exchange. It is usual for them to call attention to the well-known fact that wages in free-trade England are higher than in protectionist Germany or France; so that, clearly, a tariff has not been the cause of high wages in Germany and France. To reason that a tariff (which is taxation) can have caused the industrial progress of the United States is to **overlook the thousand things which have affected the production of wealth in this country:** our wonderfully rich natural resources; the high civilization of our population from the start in a new country; the energy, intelligence, ingenuity, and power of invention of American laborers; the stimulating forces of our democratic institutions; and the enormous growth of capital which has outstripped even the growth of population. They add that wages have risen in Great Britain in a similar way since the establishment of free trade in that country in 1846.

301. To the claim that wages would fall if foreign

competition were to force some mills and factories to stop, free-traders reply, What is it that governs the rate of wages? Taxation by the Government can not increase wages, of course; for to take away a portion from the product does not increase the amount which can go to wages. Moreover, if, under free trade, an industry ceases to exist, what does that mean? It does not mean the destruction of the labor or of the capital (unless the change comes very suddenly, which no one proposes), and so the elementary forces exist for other production. But what production? If the goods are now imported instead of being made here, goods must be produced to pay for the new imports. If, when left to itself, capital gives up one industry and goes into another, under any system, that is evidence that the **abandoned industry is the less productive** of the two; and if the new industry is more productive, then there will be more wealth produced to be divided between labor and capital, and wages and interest will be higher. Their meaning can be shown by the accompanying diagram. Let the length of A D represent the productiveness of one set of industries as compared with another set represented by B E, which is greater by E G. Now, if A D is given up and resort is had to B E, there will be more to divide between labor and capital, and so wages and interest will be greater.

302. Protectionists, however, here claim that the diversion of so much capital and labor from A D to B E will soon cause the **exhaustion of the richest resources,** and that, by the law of diminishing returns, the industries of the country will become less and less productive, until they are no greater than is indicated by C F. They then declare that the country is just where it was before, and will again be taking up the old industries A D,

which were equal in productiveness to C F, and wages will fall to their old level.

The free-traders admit this; but they say that, during the years before the productiveness of B E was forced down to C F, the country would be the richer by the excess of B E over A D and C F, and there would be no reason for giving up this gain, because in the future they might not be able to retain it forever. It is also claimed that the vast demands of this country for laborers in **employments not affected by the tariff** is greater than is supposed. The chief protected industries are those connected with the manufacture of woolen goods, iron, and steel, and cotton; and yet in 1880 less than 450,000 laborers were employed in all these employments taken together. In 1890 the United States Census reports the number of persons engaged in gainful occupations as 22,735,661. Now, even if all the cotton, woolen, and iron and steel industries wholly disappeared (which is not believed) under free exchange, certainly 450,000 laborers could be absorbed in a country employing 22,735,661 persons. The census makes the following division of occupations (see p. 104):

1. Agriculture, fisheries, and mining	9,013,201
2. Professional and personal	5,304,829
3. Trade and transportation	3,325,962
4. Manufactures and mechanics	5,091,669
Total	22,735,661

Classes 2 and 3 are not subject to foreign competition; in class 4, makers of agricultural implements, clocks, etc., bakers, butchers, carpenters, masons, etc., to the number of 3,400,000, are estimated to be unaffected by foreign competition. Of all the laborers reported, it is estimated that only 1,000,000 are affected by foreign competition.*

303. The free-trader claims, also, that the great number of laborers employed in ways not affected by the

* Report of Secretary of Treasury, 1886, lxiv.

tariff furnish the main part of the supply of labor, and the relation of this number to capital offered for employment, together with the productiveness of our industries, fixes the general rate of wages. Moreover, these are the **industries which are most productive**; for, by the mere fact of needing protection, other industries give a proof that they are less productive. In B D, the more productive industries, of course, the product to be divided is larger than in A C, the less productive industries. And, if the majority of industries are like B D, the general level of wages and interest will be high. Therefore, when men want to take up industries like A C, they find that they can not pay the same wages as in B D, and yet get as high a return for capital as is common in B D. They say that the high rate of wages prevents them from competing with foreigners, when, in reality, it is the low productiveness of their industry which, not yielding enough to pay both wages and "profits" as high as in B D, causes them to call on the State for "protection." Then, say the free-traders, what is really done is to raise the value of the product A C to a higher level, X Y, by taking D Y from B D and giving it to A C; that is, **protection takes from the more productive and adds to the less productive industries.** This is done by allowing A C to sell its product at a price as high as that of the foreign goods, plus the duty; or the price of goods in A C is raised relatively to those in B D, which means that the goods of A C exchange for more of the goods of B D; or, *vice versa*, that more of the goods of B D are given for the goods of A C than before; so that a part of B D goes to A C because of the tariff. Then, with this addition taken from B D, A C is able to pay the same wages and interest as B D, while B D must pay less in wages and

interest than without protection. Instead of laborers being protected by the tariff, it is also claimed that by the tariff the articles of common use, such as coats, hats, blankets, woolen goods, and shoes, are increased in price by the tariff, and the workingman must pay this increased price just because the manufacturer does not want to change his business. If the duties on wool and woolen goods were abolished, every man could get his clothing at about one half the present price. Without protection, not only would wages be larger, but the articles he buys would be cheaper.

304. Free-traders point to the evident inconsistency of the protectionists when they ask for protection because wages are high in the United States, and then claim that protection raises wages. They assert, moreover, that, productiveness remaining the same, wages depend on the number of laborers competing for employment (see section 214). If with existing capital laborers increase in number, a less proportion of the product will be assigned to them. When capital is rapidly increasing, laborers will receive a larger share, if their numbers are not at the same time increased. The United States, however, has permitted the immigration of foreign workmen to this country from all parts of the world (except China), who are added to the number of those who compete for employment by the capital of the United States. The free-traders hold, therefore, that the **Government does not protect the workingmen** in any way which really gives them better wages. The capital engaged in manufacturing is protected from the competition of foreign capital, but the laborer is not protected from the free immigration of foreign laborers. If it is not justifiable to keep out foreign laborers, then it is claimed to be equally unjustifiable to protect some manufacturers from foreign competition.

305. Protectionists, however, believe that, even if the country should gain in material wealth by free trade, there are other things which are of more value than increased

wealth—that the free-traders leave out of account the **moral and political gains from protection.** A country sufficient unto itself in all things is at an advantage when war breaks out. It can produce its own vessels, cannons, rifles, clothing, and equipments in its own yards, factories, and shops. Apart from the advantages of protection for national defense, they claim that there are still greater advantages for the development of a well-rounded national life. By far the most important are the benefits arising from a **diversity of industries.** Under free trade, a nation seeks only to work those resources in which it has an advantage, and as a consequence it becomes one-sided. If the United States were to accept free trade, we should become almost wholly an agricultural people, and lose our industrial quickness and mechanical aptitudes. From this we should drop into a backward stage of civilization. Under protection, however, men can find that variety of occupations which will meet the varying capacities of mankind, and so be enabled to develop greater efficiency in production.

306. To this the free-traders answer by pointing out that the gain from free international trade is a practical fact; that this international trade will go on spontaneously, if not restricted. This is a clear practical gain of an increased amount of wealth to the country—it is nothing visionary and conjectural. This distinct and demonstrable gain the country is asked by the protectionists to give up for the sake of some indefinite and doubtful moral and political gains. The free-traders think it **better to hold on to the practical gain.** Moreover, they strongly assert that protection has corrupted legislative life in this country to such an extent that no needed legislation is now passed except by dire necessity or accident. To secure protection, interested men support lobbyists in Washington, which vitiates political morals. So the free-traders say that the political results of protection are very dangerous.

307. In regard to diversity of industries, free-traders hold that, in any civilized country, as soon as population becomes dense enough to allow any **division of labor** in the community, a diversity of industries necessarily follows, whether there is protection or not. In a very young colony even, besides the growers of food, there will inevitably be the carpenters, masons, butchers, bakers, shoemakers, hat-makers, blacksmiths, tool-makers, wagon-makers, coopers, fishermen, lumbermen, painters, plasterers, tailors, milliners, etc. Left to themselves, people will separate and choose the occupations in which they are most efficient, and for which the resources and climate of the country are best suited. In the United States we have a wide variety of climates and natural conditions, so that there must inevitably be some resort to industries of a very great variety. Even as things are now, we export, among other articles, breadstuffs, provisions, agricultural instruments, animals, books, carriages, clocks and watches, coal, copper, cotton raw and manufactured, fish, gunpowder, hides, fire-arms, locks, machinery, sewing-machines, manufactures of iron and steel, leather, naval stores, mineral and vegetable oils, seeds, spirits, sugar, tobacco, wood, and furniture.* These are the present facts of our trade, in spite of the high prices of materials caused by the tariff. If we can now export the articles just mentioned, it shows very conclusively that a variety of production exists great enough to "round out" most men. The total value of the exports in 1900 was $1,370,763,571, including over 350 **different classes of articles.** Of course, if we can export these articles now, we can under free trade. Moreover, if the duties on "raw materials" entering into the manufacture of many goods, such as coal, wool, and ores, were abolished, many more goods could be made cheaply enough to be sent abroad. Many kinds of heavy and bulky iron manufactures also,

* See the values of domestic exports in the United States statistical abstract, 1900.

such as stoves, furnaces, pipes, hollow-ware, must necessarily be produced at home, because the transportation of such commodities is very costly. The iron and coal deposits of Alabama and Georgia, moreover, promise to give us natural resources superior to many of those now worked in the North. There would, therefore, be a great diversity of industries under a system of free trade.

CHAPTER XXIX.

BIMETALLISM.

308. NEXT to questions of taxation and the tariff, probably no other subjects deserve more attention in this country than those connected with **money.** These matters are practically settled by the ballot-box, since Congress generally reflects the opinions of those who elect its members. Consequently, there ought to be a wide-spread knowledge of the principles of money, and of the actual results of experiments which have been tried. The United States have been, in this respect, a fruitful source of information on monetary questions, for almost every kind of money has been tried here. Especially valuable is the experience of the United States in regard to bimetallism, by which is meant the legal use of both gold and silver in our coins at a fixed ratio to each other.

309. In a bimetallic system, two kinds of money are each a legal tender; and by legal tender is meant a money which when offered by a debtor in payment of an existing debt must be accepted by the creditor as satisfaction.*

* Some people think that, because a silver dollar is "legal tender," if they go into a store, ask for a pair of gloves for a dollar, and offer a silver dollar in payment, the shopkeeper must hand over the gloves. They overlook the fact that the dollar is a legal tender only for debts already existing; but that the buyers have not yet made a bargain, or created a debt. The shopkeeper can not be obliged to part with his goods against his will, no matter how much is offered him.

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Both gold and silver coins, under bimetallism, are **legal tender.** When a coin is adopted, the Government must decide how many grains of gold or silver to put in it. At present 23.22 grains of pure gold, with 2.58 grains of alloy to harden the gold so that it will stand wear (making the total, or "standard weight," * 25.8 grains), is cut in a round form, stamped, and called a "dollar." So, likewise, 371¼ grains of pure silver (together with 41¼ grains of alloy, making the standard weight 412½ grains) are coined, and called a dollar. Unless the pure metal is coined and stamped by the Government, it is not a legal tender. Sometimes in our history both these coins have been legal tender, and the Government would stamp either kind of metal for any one who brought it to the mint. Thus a man who had a debt of $10 to pay could buy either gold or silver, get it coined, and extinguish his debt with it. Either 232.2 grains of pure gold or 3712.5 grains of pure silver would, when coined, pay his debt to another man, or to the State for taxes, as the case might be.

310. In such an example, it must be remembered that, to get gold, labor and capital must be expended, and so gold has value just as any other commodity has. Its value depends for all practical purposes † (section 142) on demand and supply. The same can be said of silver, but the demand and supply for gold will, of course, be different from the demand and supply for silver, and so, if left to themselves, their values must fluctuate independently of one another. If a country, then, declares that 23.22 grains of gold and 371¼ grains of silver shall each be called a "dollar," and shall have equal debt-paying

* Since 1837 all our coins contain $\frac{1}{10}$ of alloy in the full, or standard, weight. In order to find the amount of pure metal in a coin, subtract $\frac{1}{10}$ of its standard weight. Thus, from the silver dollar of 412½ grains, subtract 41.25 grains, which leaves 371¼ grains of pure silver.

† Except over long periods of time, when its value is enabled to conform to its cost of production.

power, then it goes on the supposition that 23.22 grains of gold and 371¼ grains of silver will be of equal value, and exchange for one another. In such a case, 1 grain of gold exchanges for about 16 (exactly 15.98) grains of silver, or, as is commonly said, the legal ratio between gold and silver is 1 : 16. It will not follow, however, that 1 grain of gold will at all times exchange for 16 grains of silver simply because the law has fixed this as the relative weights in coins of the same denomination. If the value of **gold is affected by causes different from those affecting silver,** then they will not remain equal to one another in value at the legal ratio any more than the top of a table will remain level, if the two legs at each end (which may represent the demand and supply of the two metals) are constantly changing in length irrespective of the others.

311. When uncoined gold and silver change in value relatively to one another and to other things, independently of their legal values in the coins, it is said that their "market ratios" have changed independently of their "mint ratios." That is, if 1 grain of gold in coin is made by law to exchange equally for 16 grains of silver coin, we say that the mint ratio is 1 : 16. But, if a great discovery of silver is made, and silver bullion falls in value (just as wheat, when its supply is increased), and if, in the markets for gold and silver bullion, 1 grain of gold buys 33 grains of silver (as it does to-day), then we say that the "market ratio" has fallen to 1 : 33. Now, if such a thing were true, and if either gold or silver were legal tender, men would **pay their debts by offering the cheaper money.** It is easy to see how this can be done, and why there is a profit in doing it. In the coins, 1 grain of gold exchanges for 16 grains of silver. Now, if a man should take his gold coins, melt them up, and exchange his gold for silver bullion, he could get in the open market 33 grains of silver for every grain of gold. But, by taking to the mint only 16 grains out of every 33 (pocketing 17 grains

as profit), the Government would coin the 16 grains, and as coin they would pay off a debt as well as 1 grain of gold. **Whenever two kinds of money are legal tender, the cheaper will be used, and the other will disappear.** This is familiarly known as Gresham's* law.

312. As has been already said, in order that Gresham's law should operate, both of the two metals must be a legal tender in all payments. But, in addition, there must also be **free coinage.** By this is not meant the coinage of gold and silver by the United States mints free of charge to the owners of bullion. The charge for the expense of coinage by the Government is called "seigniorage"; but since 1875 no such charge has been made in the United States. This is not the sense in which the expression "free coinage" is generally used. Coinage is considered free when **any private person** has a right to bring gold and silver bullion to the mint in any quantities and have it coined (whether he is charged seigniorage or not). Coinage is not free when, for example, the Government (as at present under the operation of the Bland act) alone has the right to have bullion coined, and withholds this right from private persons. Of course, if the Government alone can present bullion to be coined, private individuals, as already explained, will be cut off from the profit gained by changing their bullion into coin. Gresham's law will

* Sir Thomas Gresham was an English merchant and financier of the time of Elizabeth. He was asked to inquire into the condition of the coins in Amsterdam, in connection with which he first formulated his "law" in regard to coins of the same metal. He saw in Amsterdam, when there as factor for the English Government, that, in the great variety of foreign coins in circulation, the old and worn coins drove out of circulation the new coins of full weight, which were issued in abundance. A similar case in England is described in Macaulay's "History of England," chap. xxi, and a curious illustration of the same principle in Japan is given in Jevons's "Money and Mechanism of Exchange," p. 84.

not properly operate, therefore, where the free coinage of one of the two metals is not permitted. Just as a farmer goes with his basket of eggs to that one of two shops in which he can get the higher price for eggs, so, under Gresham's law, the owner of gold or silver bullion will either sell it in the bullion market or take it to the mint, accordingly as he can gain the more by it. If silver is by law rated above its value in the coins, he takes it to the mint; but, if free coinage does not exist, the mint is closed to him, and the operation ceases. He is thereby prevented from taking advantage of the difference between the mint and market values of gold and silver.

313. The United States began, in 1792, with a bimetallic currency of gold and silver, on the recommendation of Alexander Hamilton, the first Secretary of the Treasury. It was agreed to call 371¼ grains of pure silver a dollar, and, of the gold coins,* 24¾ grains were also made equal to a dollar. But, as 371¼ is 15 times 24¾, this was establishing the legal ratio of 1 : 15 between gold and silver coins. At that time people considered either gold or silver good enough; in fact, they were very glad to get any specie, after the extraordinary disasters of the Continental paper-money. **In 1792 this mint ratio of 1 : 15** was the same as the market ratio; that is, one ounce of gold bullion would buy 15 ounces of silver bullion in the open market. So long as that remained true, it made no difference whether owners of gold or silver sold it as bullion or had it coined, for it would be of only the same value in either case; so that both gold and silver coins would have remained in use. Hamilton did not realize that a change was going on at the very time he began his system, which was soon to throw it out of order.

314. By 1780 the yield from the silver mines of Mexico began to be enormous, and so continued until 1820.

* Although no gold dollar-pieces were struck before 1849, one tenth of an eagle was 24¾ grains.

So great was this production that it had been equaled only by the great discoveries in the 16th century. This **extraordinary increase in the supply of silver** began to lower its value relatively to gold in the bullion market, although the legal ratio of 1 : 15 remained unchanged. The change in the value of silver relatively to gold may be seen in Chart X, which gives the ratio by years since 1687. It can be seen how the value of silver fell below the legal ratio of 1 : 15 after 1793, and never again rose as high. As both gold and silver were legal tender, and there was free coinage for both, so, by Gresham's law, the cheaper silver drove out the dearer gold coins, and nothing but silver coins were to be found. In 1808 about 16 ounces of silver could be bought with 1 ounce of gold; but, as coin, the gold would only exchange for 15 times as much silver; hence, gold was more valuable as bullion than as coin. But, in the form of coin, silver would buy more gold than as bullion; hence silver was more valuable as coin than as bullion. So coins of gold disappeared, and those of silver alone remained in circulation.

315. The country regretted the disappearance of gold, and by 1817 began to suggest remedies. At last, **in 1834, a new coinage act** was passed in order to bring gold into circulation. It was not then understood what causes were at work to change the relative values of gold and silver. Hence, in 1834, since it was found that, as bullion, gold exchanged for silver in the ratio of 1 : 15.7, and as it was supposed that silver might fall still more, the ratio between the metals in the coins was fixed at 1 : 16 (or, by the act of 1837, exactly 1 : 15.988). Now, the situation was just the opposite of what it was before 1834. Gold was now worth more as coin than as bullion, and silver more as bullion than as coin. An ounce of gold coin would buy 16 ounces of silver coin, but an ounce of gold bullion would buy only 15.7 ounces of silver bullion. Consequently, gold coins began to come into circulation

and silver to disappear. This movement, moreover, was hastened later by the production of the Russian gold mines about 1840, and by the extraordinary discoveries of gold in California and Australia in 1849. The consequent increase in the supply of gold has never been equaled in the history of the precious metals, and, of course, it lowered its value somewhat. An ounce of gold bullion in 1853 brought only 15.3 ounces of silver bullion. So the difference between the mint ratio of 1834 and the market ratio became still greater owing to the vast production of gold, and this increased the tendency to coin gold and to withdraw silver from circulation.

316. So far had this tendency manifested itself that by 1849 even the small silver coins had disappeared, and people could not make "change" in retail trade. So great an inconvenience led to another **coinage act in 1853.** All hope of a bimetallic currency was practically given up. It was found that, in order to keep both gold and silver coins in circulation, the legal ratio must be kept the same as the market ratio; and, as this could not be done except by constant changes, it was accepted as impossible. In reality, we had had only a silver currency before 1834, and since then only a gold currency; although in our laws both metals were a legal tender. In 1853, consequently, the ratio was left untouched, and the existing gold circulation was accepted as satisfactory. The act of 1853, however, changed the weight of the subsidiary silver coins. Since 1792 two halves, four quarters, etc., weighed as much as a dollar-piece, or 371¼ grains of pure silver; and when it became profitable to melt up dollar-pieces, it became equally profitable to melt up the small coins. Hence **fractional silver** had disappeared with the dollar-pieces. A dollar in silver had now become worth 1.04 cents in gold; so every one used the gold dollar of 100 cents as the cheaper one. To meet the trouble about small coins in 1853, their weight was reduced so that in two halves,

four quarters, etc., there were only 345.6 grains of pure silver instead of 371¼. Of course, 345.6 grains were worth much less than 100 cents in gold, and so there was no reason for melting them up, as there had been before.

317. Until the year 1862, we employed gold for large payments and silver for small ones. In the civil war, paper money drove out both gold and silver, and we did not resume specie payments until January 1, 1879. During this time, in 1873, the coinage laws were systematized in a new act, and as the result of this the old silver dollar was dropped out of the list of our legal coins, and gold became the only legal payment for large sums (for small silver coins can be offered for debts only to the amount of $10). In other words, the United States adopted the "**single gold standard**" in 1873–1874, or, as it was wrongly called, "demonetized silver." We then continued to have in law a single gold standard until 1878.*

318. In 1876, there happened a **fall in the value of silver** which astonished every one. In the silver market of the world, London, it fell from the former usual price of about 60*d.* per ounce to 46¾*d.* per ounce. It rallied again, as may be seen in Chart X, but to-day it is lower than it was even in the silver panic of 1876. The cause of this has been ascribed to the action of Germany, which, in 1873, gave up its silver currency and adopted a gold one. Then, in 1874, the Latin Union (composed of France, Belgium, Switzerland, Italy, and Greece) stopped the free coinage of silver, and by 1878 ceased coining it altogether.

* In 1873 the mint was permitted to stamp 378 grains of pure silver in the semblance of a coin, looking like a dollar, for the convenience of men in the trade with China, who wanted to use silver to buy goods with, but who wanted a piece heavier than the Mexican dollar (of 377¼ grains). This was not a legal coin; it was only a coined ingot. It was called a "Trade Dollar," got into circulation in the United States, caused some trouble, and its coinage was finally forbidden. See the author's "History of Bimetallism in the United States," pp. 102–105, 208–210.

CHART X.

The real cause, in my opinion, however, was the great **abundance of gold.** Since 1850 one and three fourths times as much gold has been produced as in the 357 years from the discovery of America down to 1850. How great this has been may be seen in Chart II (page 92). When gold became thus abundant, those countries whose transactions were large and increasing wanted naturally the money which was least bulky and most valuable. Then people have always had a preference for gold over silver. At any rate, the abundance of gold allowed France and Germany to discard silver, and gold took its place. It is like the case of a people, living on a cheap diet, such as potatoes, who, when they find that wheat becomes cheaper and abundant, take the wheat, and give up the potatoes. Then the potatoes, no longer being in so great a demand, fall in value. So it was with silver. Gold took its place as money, and silver was discarded. A great amount of silver went to India to form bangles and ornaments for the people there, but not enough was carried off the market to keep silver from falling. Then, too, the supply of silver began to increase very largely after 1872, and matters were made still worse for the value of silver.

319. Before the fall in the value of silver nothing was ever heard in the United States about the desire for the silver "dollar of our fathers." When the silver dollar was equal to 104 cents in gold, no one wanted to pay a debt in silver; but, when silver fell in value, a great clamor arose for the coinage of silver dollar-pieces. This clearly had its origin either in a desire to pay off existing debts in a cheap money (in default of depreciated paper money), or from a desire of owners of silver mines to keep up the demand for their product. This was purely dishonest, and when it resulted in the Bland act of 1878, by which the old legal ratio of 1 : 16 (established in 1834) was adopted, it had not the slightest monetary principle to justify it. In 1878, the market ra-

tio was as low as 1 : 17.92, or nearly 1 : 18. If free coinage had been allowed in the **Bland bill** of 1878, as at first proposed, all our gold would have disappeared in the twinkling of an eye, and only silver would have remained in circulation. Finally, free coinage was not granted, but the Treasury was required to coin at least $2,000,000 of silver dollars every month. No private person can have bullion coined into silver dollars; and the only good the present coinage can do for the value of silver is the purchase of a certain amount every month. Even that has been of no use; for since 1878 silver has fallen to the lowest price ever known.

320. Some of the ablest writers, however, contend that silver has not fallen in relation to commodities in general, but that **gold has risen.** They urge that the disuse of silver by Germany and other countries since 1873 has concentrated the money demand of the world upon gold, and that gold has consequently appreciated in value. This rise in the value of gold, they say, shows itself in falling prices; for, as gold rises in value, less gold is needed to buy other goods. The disuse of silver, they believe, has led to the continued depression in business, and to great financial distress. The appreciation of gold would also cause greater difficulty in paying off national debts, because, with general low prices, more commodities would have to be produced and taken as taxes in order to make a given payment of public debt in terms of gold.

321. On the other hand, it is fallacious to argue that gold is scarce solely because prices have fallen. Whenever prices fall, the value, or purchasing power of gold, rises; but this does not prove that gold has itself risen because of a scarcity. It may mean that **other things have fallen relatively to gold.** Moreover, prices do not depend alone upon the quantity of money in use (see section 170), but upon money, taken together with credit of all kinds. When we realize that, during the civil war

and thereafter, not only the United States but other countries were the scenes of extraordinary speculation and over-trading, finally ending in the financial panic of 1873, we can understand how largely a general fall of prices since then must have been due to the destruction of credit and the cessation of an inflated demand for goods. Together with this influence of undoubted strength must be considered the effect of improvements in processes and machinery in lessening the prices relatively to gold of many goods which enter into tables of prices. New and cheaper sources of supply of iron, lead, and copper have reduced the prices of these metals in a striking way. Finally, when we remember that the gold supply in 1850 has since then been not only doubled but increased about one and three fourths times, it can hardly be said that gold is dear because it is scarce. It is quite probable, then, that prices may have fallen for other reasons than a rise in gold alone.

322. Some writers, also, admit that a single country, like the United States, can not alone maintain a double standard of gold and silver. They see clearly enough that one metal will soon disappear because of changes in the market ratios of the precious metals. But, if the chief commercial nations of the world, England, Germany, France, and the United States, should form an **international monetary league,** with an agreement to adopt free coinage of both gold and silver at the same ratio, say $15\frac{1}{2}$: 1 (the French ratio), they claim that so considerable a demand would thus be created for silver that its value could be kept at a fixed ratio to gold. For, if silver became very cheap, the demand for its use as money would raise its value; and the more silver was used, the less would be the demand for gold as money. Gold would therefore fall and silver rise until the legal ratio between them was reached.

The objections to this plan, even if it should prove a

success, arise from the political difficulties in getting different countries to act together. To this time, the monetary conferences of 1867, 1878, 1881, and 1892, seem to have resulted in a total failure to bring about a common agreement. As the object of such a league, moreover, is to furnish a steadier standard of deferred payments (see section 95), a much easier way to effect this, and one which any single country can follow by itself, is to establish a multiple standard (section 97). This would save all long contracts, like national debts, from becoming burdensome, owing to changes in prices due to natural causes, such as the progress of society and the march of improvements.

CHAPTER XXX.

UNITED STATES NOTES.

323. WHEN the Constitution of the United States was adopted in 1789, the colonists were fresh from the destructive experiences of worthless Continental paper money. Consequently there was no expectation of any issue of paper money by the United States, and from that time to 1862 no other money was made legal tender but gold and silver. The Constitution* forbade any State to issue paper money. The prevailing **distrust of all paper money** at that early time is thus well expressed by Hamilton:† "The emitting of paper money by the authority of Government is wisely prohibited to the individual States by the National Constitution; and the spirit of that prohibition ought not to be disregarded by the Government of the United States." Of paper emissions, he says: "They are of a nature so liable to abuse, and, it may be affirmed,

* The provisions of the Constitution relating directly to money are:

SEC. 8. Congress shall have power—

2. To borrow money on the credit of the United States.

5. To coin money, regulate the value thereof, and of foreign coins.

18. To make all laws which shall be necessary and proper for carrying into execution the foregoing powers, etc.

SEC. 10. No State shall . . . coin money, emit bills of credit, make anything but gold and silver coin a tender in payment of debts.

† "Financial Report," vol. i, pp. 64, 65.

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so certain of being abused, that the wisdom of the Government will be shown in never trusting itself with the use of so seducing and dangerous an expedient. In times of tranquillity, it might have no ill consequence; it might even, perhaps, be managed in a way to be productive of good, but in great and trying emergencies there is almost a moral certainty of its becoming mischievous. The stamping of paper is an operation so much easier than the laying of taxes that a Government, in the practice of paper emissions, would rarely fail, in any such emergency, to indulge itself too far in the employment of that resource."

324. The Government chartered two United States banks at different times, which issued notes, but after the second one ceased to exist, in 1837, it became the policy of the United States to have nothing whatever to do with the currency of the country. Gold and silver were the only legal-tender money, although the banks chartered by the various States issued paper money of all grades of honesty and value. In years past, however, the United States had resorted to a form of loan which was not properly paper money, though it has possibly led to the use of such currency. As early as the war of 1812, the Government issued **"Treasury notes,"** redeemable in two or three years, bearing interest, and receivable in payment of duties, taxes, and land-sales. Sometimes the interest was set at a very low rate, and the notes approached the character of non-interest-bearing notes, which might be called paper money. These Treasury notes bore interest like a bond, were of large denominations, and were taken up at the end of their short term of one, two, or three years.

325. When the Civil War broke out, in 1861, the revenues of the country fell far short of the new and extraordinary expenses required by the necessities of the time. The first loan act of the war, that of July 17, 1861, paved the way for our subsequent misfortunes with paper money; for, by a progress of evolution out of the old Treasury notes, permission was given by Congress to issue $50,000,000* of **demand notes.** These were called "Treasury notes" in the act, although they bore no interest, were payable on demand by the United States, were issued in denominations as low as five† dollars, and were of the size and general appearance of the present "greenbacks." Calling them "Treasury notes" did not cover the fact that they were distinctly a variety of paper money. In fact, they were at once recognized as such. "The first demand notes were issued in August, and paid for salaries at Washington. They were received with reluctance, and the merchants and shop-keepers endeavored to discredit them. Railroad corporations refused them in payment of fares and freights, and leading banks in the city of New York refused to receive them except on special deposit."‡ The demand notes, however, were not made a legal tender, and differed favorably in this respect from the later issues of paper money.

326. It is the first step which costs. Secretary Chase was deceiving himself in suggesting the issue of these demand notes, although called Treasury notes; for, in his first report to Congress, he balanced the **arguments for and against emissions of paper,** and came to a decision against them. He saw (1) that, as Hamilton said, the stamping of paper was "easier than the laying of taxes," but yet that the Government could thereby borrow a large sum without paying interest. (2) For this issue of paper there would be no expense beyond the amount of coin to be kept on hand to pay such notes as were presented for redemption.# (3) Instead of a motley

* By act of February 12, 1862, this sum was raised to $60,000,000.

† By act of August 5, 1861. ‡ Knox, "United States Notes," p. 89.

With banks an amount of coin from 50 to 25 per cent of the notes issued is all that is needed to meet demands for redemption of notes.

currency of the various State-bank notes (which people generally used before the war, when gold and silver was not required), the issue of Government paper would furnish a convenient and uniform currency. Over against these advantages he set: (1) The very great temptations which might arise to issue paper bills without providing enough, or even any, coin to redeem them, and keep them at par with the coin. (2) A panic in the money-market, when everybody was wanting specie, might induce the holders of the notes to present them for redemption in sums large enough to remove all the reserve which had been kept on hand. (3) Above all, the danger was always to be feared that notes would be issued in excess, and that this would bring about a host of attendant disasters to the country. Feeling that the disadvantages were far greater than the advantages, he advised against the issue of paper money. This was the general state of the public mind at the beginning of the war.

327. Through want of foresight, and from a lack of skill in offering bonds in such a way that people would take them freely, in the state of alarm then existing, the Secretary found the Treasury literally almost empty in **February, 1862.** The expenses of the war were enormous, few or no taxes had been levied (which was the vital error), and no loans had as yet been successful. To save the Government from a condition bordering on bankruptcy (into which it need never have come), it was proposed, as a temporary expedient, to resort to an emission of paper money in spite of the decisions against such a plan only a few months before. It was pleaded that the issue of paper was an absolute necessity. Probably it was in February, 1862; but it never need have become a necessity had proper foresight been displayed. In fact, at the very time of the passage of the act, it was clearly shown by the bankers * of New York that the Government

* Congress had a notion that our bonds should not be sold below par; but, having offered 6-per-cent bonds, if the credit of the United States, for example, required 12 per cent, it made no difference whether it sold the 6-per-cent bonds at $50 (for each $100 bond), or offered a $100 bond at par which paid 12 per cent interest. All other nations, as well as corporations, sell bonds below par, if the rate of interest they offer is not sufficient to attract buyers at par. In that way they pay the market estimate of their credit.

could have borrowed money enough, if it had been willing to pay the rate of interest which its credit then demanded. This first issue of "greenbacks," to the amount of $150,000,000 (they were called in the acts "United States notes"), created a paper money which was, as stated by the law of February 25, 1862, to be "**lawful money and a legal tender in payment of all debts, public and private, within the United States, except duties on imports * and interest**" (on the public debt). This kind of money is still in use to-day.

328. It should be noticed that the United States began this issue of legal-tender paper money without any attempt whatever to keep coin on hand with which to redeem the notes. On December 30, 1861, all the banks of the country had **suspended specie payments.** This meant that the banks were unable to pay out specie when called upon. It did not mean that they had failed, or had "suspended payments" of all kinds; for they paid in other kinds of money than specie, such as State-bank notes. If the country generally were at any time unable to pay in specie, it would be impossible for the Treasury to get specie sufficient for its purposes. So that at the very start, there being no fund of specie on hand to redeem the United States notes, they became inconvertible paper money, and their history well illustrates the dangers of such emissions.

329. There was great difference of opinion about the

* The duties on imports were required to be paid in coin, whereby the Government got the coin with which to pay interest on the bonds during the time when paper was depreciated.

legal-tender act. Some people regarded it as the only way out of the straits in which the Treasury found itself. Others opposed the act because it was believed that the Constitution of the United States did not permit the issue of legal-tender paper money. It was proposed to strike out the clause which conferred the legal-tender quality, and issue the notes without it; but the vote in the Senate stood 22 to 17 for retaining it. The bill was passed, because the Treasury was empty, and because no one had any desire to modify the proposals of the administration. All regarded it, however, as simply a temporary expedient, by which to tide the country over a present difficulty, or until something better could be devised. How strong this feeling was can be learned from the expression of opinion when a **second issue** of $150,000,000 of United States notes was proposed. This return to what is undoubtedly the last resort in finance attracted great attention.* Those who voted for the first issue hesitated to vote for the second; but, in the end, this bill was passed, July 11, 1862, for much the same reasons as had been offered for the former one. The first $150,000,000 of notes had been paid out, and the Treasury was as badly off as before. The revenue from taxes was scanty, and the loans were not successful. The lack of wisdom in raising funds by taxes and the want of skill in placing loans were lamentable. The resort to more paper money was practically a confession of incompetence in conducting the finances. It was clear that the Treasury had been unable to get money by the usual means of loans. This confession of failure, of course, injured the credit of the Government, and caused the new notes to depreciate† (see Chart VI). The depreciation showed itself in a premium on gold; it required, for example, 120 cents in paper to buy 100 cents in gold. So that "gold was at a premium" of 20 per cent.

330. From the time of the second issue (in July) to the end of 1862 the paper steadily depreciated until a dollar of paper was equal to only 66⅔ cents of gold coin. This had its effect on prices, for, instead of paying a dollar in gold for a pair of gloves, one was forced to give the paper equivalent of gold, or $1.50 in paper. Thus the general level of prices expressed in paper rose. Then followed the result which has regularly occurred in the history of previous issues of inconvertible paper money. Since prices had risen greatly, it required more money to perform the exchanges of goods than before; so that, very soon after an issue of paper money, people began, strangely enough, to complain of the **scarcity of money.** Like the use of intoxicants, the more one takes, the more one wants. The rise of prices led people to think that, by buying goods and holding them for the higher prices, they could make a profitable speculation; so this **speculative demand** for goods raised prices still more than they would have risen owing solely to the quantity of the paper. Consequently, at times there seemed to be an insufficient supply of money. Instead, however, of seeing that this seeming scarcity was due to the unsettling of prices by issuing the paper, the public generally clamored for more money to relieve the scarcity. This, however, would, if issued, have increased the difficulty still more. In this way the emissions of paper led to a disorganization

* Senator Chandler, of Michigan, introduced a resolution in the Senate, June 17, 1862, forbidding any increase in the amount of legal-tender notes.

† The depreciation of the paper money drove out gold from circulation, according to Gresham's law, that the cheaper money will be used instead of the dearer. More than this, when it depreciated (in July, 1862) below even the value of the short-weight silver fractional coin, the silver coins disappeared, and, to enable retail dealers to "make change," the United States was forced to issue (July 17) a fractional paper currency for denominations of 5, 10, 25, and 50 cents. At first, these were imitations of postage stamps, but they soon developed into a full-fledged paper currency.

of legitimate business, and brought about an era of speculation, stock-gambling, and extravagance which produced results wholly unforeseen when the first issue was made.

331. In the beginning of 1863, the Treasury was again unable to meet the expenses of the Army and Navy. Again it was the old story that the sale of bonds had been small, and that little money could be got by borrowing. Again, on March 3, 1863, another issue of $150,000,000 was authorized by Congress, making altogether $450,000,000 of legal-tender paper money.* Soon after this the five-twenty **bonds began to sell rapidly,** and thus the Government was enabled to borrow large sums of money. The very depreciation of the paper made the bonds salable. If the interest on a bond was $6 in gold, and if a $100 bond could be bought by $100 in paper, when the paper dollar depreciated to 60 cents in gold, the buyer of a bond was getting $6 in gold for every $60 of gold invested in a bond. This was equivalent to a higher rate of interest, and, when this rate became high enough to tempt investors to take the risk, bonds sold freely. It will be seen that the result was practically the same, if the six-per-cent bonds were sold below par for $60 in gold, or if the Government sold its bonds nominally at par but received pay in paper which was really worth but 60 cents on the dollar. After the capture of Vicksburg, and the victory at Gettysburg, in July, 1863, the increased confidence in the Government improved its credit, and that also helped the sale of bonds.

332. In the beginning of 1864, the Treasury found that its funds were again running low; new and unfortunate experiments with bonds (ten-forties) were made, and

* Of this sum $50,000,000 was to be kept out of circulation, and used as a reserve for "temporary deposits," which the Government had received in large amounts. But the fractional currency issued was about $50,000,000, and balances this sum.

few were sold. The premium on gold rose* (see Chart VI), and the outlook for the Treasury was very dark. In June, 1864, Secretary Chase resigned in despair. Meanwhile, in February, 1863, Congress had proposed to establish a system of national banks, and the act by which this was created was entitled "an act to provide a national currency." This is suggestive, for it proves that Congress still held to the idea that the **United States notes were only a temporary expedient,** while it proposed to establish the national-bank notes as the permanent currency of the country. In June, 1864, the national banking act was perfected, and in this same month (in a loan act of June 30, 1864) Congress took the opportunity to forbid all further issues of paper money by the Government. Early in 1865 the war came to a close, the premium on gold fell to 40, and every one regarded the "greenbacks" as issues to be withdrawn as soon as possible. By this time the taxes had begun to produce a large revenue, and consequently Secretary McCulloch, carrying out the plan which every one expected, began to pay off the United States notes. Realizing that they owed their origin solely to the stress of war, he proposed to reduce their amount and get ready to redeem them in specie. This wise policy received very general approval. †

333. As we now look back over the war period, it is

* At one time gold rose to a premium of 184 (a quotation of 284), which does not appear in Chart VI, because that is constructed on the average premium of each month.

† The lower House in Congress passed the following resolution, December 18, 1865:

"*Resolved*, That this House cordially concurs in the views of the Secretary of the Treasury in relation to the necessity of a contraction of the currency with a view to as early a resumption of specie payments as the business interests of the country will permit; and we hereby pledge co-operative action to that end as speedily as possible." (Congressional Globe, December, 1865, p. 75.) Only six members voted against it.

easy to applaud the wisdom which at the very first led Secretary Chase to decide against emissions of paper. But the evils which might result from these issues, after we weakly consented to them, were not all foretold by him. He expressed dimly the prevailing opinion of the time, which had been formed by a silent acquiescence in the teachings of history. The past had fully demonstrated the dangers of over-issue. Yet, when the pressing emergency came, all the lessons of the past were overlooked. As we have seen, the **unsettling of prices,** which caused speculation and extravagance, had not been considered; and these results enormously affected the business of the country down to the panic of 1873. The subsequent depression was the more severe because the previous inflation had been the greater. Then this rise of prices also obliged the Government to pay more for all its vast supplies, and so enormously **increased its debt.** Could the United States have bought supplies at gold prices, it need not have borrowed so much. The unnecessary increase in the debt, caused by high paper prices, which we are now in honor bound to pay off, produces a useless increase in the taxes which we are paying to-day. The resort to paper money, without the least pretense of redeeming it, excites natural alarm in the minds of lenders, and **injures the credit of the Government** which issues it. It is a confession that its credit is not good enough to borrow money in the ordinary way; and that, not having any funds, it resorts to irredeemable promises to pay. Lastly, and of greatest importance, is the difficulty of getting out of the situation created by the over-issue of paper. To the minds of most men the period of rising prices seems bright and flourishing, but the rise due to an unhealthy cause must be later followed by a **painful fall of prices.** To submit to this fall is not in human nature. It generally happens that a patient with a bullet inside him will shrink from the suffering caused by a surgical operation which, while causing present pain, may result in future health.

334. This last difficulty was one which Secretary McCulloch unfortunately had to meet when he proposed to contract the notes. The contraction (probably wrongly in this case) was looked upon as causing the fall of prices in 1867. This feeling, together with some personal opposition to the Secretary, who cast in his fortunes with President Johnson, led to a limitation of the process of contraction, April 12, 1866. He was forbidden to retire more than $4,000,000 in any one month, and February 4, 1868, was forbidden to make any further reduction of the United States notes, to which time their amount had been reduced to $356,000,000. Then came soon after a great political movement, based on the demand for more money. This cry for **inflation** was heard loudly soon after the crisis of 1873, and resulted in the passage of a bill by both houses of Congress, expanding the United States notes to $400,000,000, and fixing the like sum for national-bank notes. This inflationist scheme was so diametrically opposed to the ideas of every one at the close of the war, that it furnishes a new warning against the use of so dangerous a thing as inconvertible paper. It was supposed by the inflationists, who were wholly ignorant of the nature of a credit collapse, and of the truth that printing paper does not increase the quantity of wealth in a country, that the suffering of the country would be cured by the issue of more money. Although the inflationists controlled both houses of Congress, President Grant courageously vetoed the bill. Finally a compromise was reached (June 20, 1874), and the amount* of $382,-

* The reason for this odd sum is this: Secretary McCulloch had withdrawn $44,000,000 (400 − 44 = 356), and when Secretary Richardson, without authority, reissued $16,000,000 of this "$44,000,000 reserve," the amount outstanding was raised from $356,000,000 to $382,000,000. This reissue of the $16,000,000 was an extraordinary

000,000 of United States notes was to be left outstanding.

335. The country now maintained the United States notes as a permanent part of its circulating medium, without trying to redeem them, until January 4, 1875, when the (specie) Resumption Act was passed. Under this act the resumption of specie payments by the United States was not accomplished until January 1, 1879. The act provided that for every new issue of national-bank notes to the amount of $100, $80 of United States notes should be retired. Under this arrangement the United States notes were reduced from $382,000,000 to about $346,000,000. Then Congress again weakened in its purpose, yielding to the feeling of the community that contraction was injuring business, and on May 31, 1878, **forbade any further reduction of United States notes.** To-day we have this same fixed amount in circulation.

336. After the passage of the Resumption Act, it was not supposed that it would be effective; but, at the beginning of the term of President Hayes, Secretary Sherman began slowly to accumulate gold in the Treasury, with the intention of trying to resume specie payments on the day named in the **Resumption Act** (January 1, 1879). He was permitted to sell bonds for gold, and, after a conference in New York with some leading bankers, he was given gold for 4½-per-cent bonds. This amount, together with the gold coming in for customs in excess of sums he was obliged to pay out, rose by the end of 1878 to about $134,000,000. On December 17, 1878, the **premium on gold disappeared,** and on January 1, 1879, the United States notes could be exchanged for gold at the United States Treasury; so that a "greenback," since January 1, 1879, has been an example of convertible paper money, while from 1862 to 1879 it was an example of inconvertible paper money. It is not good policy, however, to leave open an opportunity for future over-issues whenever a new emergency shall present itself. It would be better to pay off the United States notes now in time of peace, and learn from the history of the past that "stamping of paper is easier than laying of taxes," and is a very dangerous expedient.*

financial blunder. The Secretary who did it committed other financial blunders.

* It was supposed that the Constitution forbade the issue of legal-tender paper money, and, in fact, the Supreme Court so decided in 1870. Before that year closed, however, the same court rendered a second decision after its membership had been changed by retirements and additions. The first declaration was reversed, and it was decided that in time of war the issue of legal-tender paper money was legal. Many still believed that an issue in time of peace was unconstitutional; but this was settled by a third decision in 1884, in which Congress was permitted, if it thought expedient, to issue United States notes in times of peace. Now the whole question of paper-money issues lies in the discretion of Congress. This is a new reason why voters should prepare themselves to judge intelligently of the measures proposed by Congressmen who represent them.

CHAPTER XXXI.

BANKING.

337. In business occupations, each person will be found to have more or less money on hand at the end of the day, which, if he puts under his pillow at night or hides in a drawer, will offer a temptation to burglars. It might be burned up in his house, or it might be lost while going to and from his place of business. To save all risks, each man would be obliged to have a great burglar-proof vault at a serious expense. All this difficulty and expense, however, are saved by a division of labor. For if one vault is provided large enough for all, in which money can be safely deposited, one person can make a business of doing for a great many men what each would have done for himself. Such a place of **deposit** is found in a bank. Such an institution holds itself ready to pay the depositor at any moment, or, as it is termed, "on demand." If people have full confidence in the honesty of a bank management, they will generally leave the most of their surplus funds "on deposit," and carry very little around with them. Instead of money, they possess the right to draw money.

338. In trying to understand clearly how banking accounts are kept, one may liken a bank to a cloak-room at a concert. For every article deposited a little ticket is given. Now, if the management of the cloak-room were suspected, and in the investigation it was found that there

was the proper article for every ticket, or evidence of deposit, then it would be said that it was rightly conducted. But, if any articles could not be found on presentation of the ticket, it would be at once said that things were going wrong. So it is with a bank. For everything put into the bank vault or safe the management is to be held liable; consequently, all the claims against a bank are known as **liabilities.** Then, whenever an investigation of the contents of the safe is made, there must be found inside, if the management is honest and efficient, either money or the equivalent of money (such as good, salable securities) to an amount equal to all that was put in. That which is found in the safe makes up the **resources** of the bank, and, if the bank is rightly conducted, the resources must always equal the liabilities. If they do not, something is wrong.

339. A bank requires capital to start with, just as a cotton-mill does. A number of people subscribe money, for example, to the amount of $100,000, and each $100 is usually called a "share" of the stock. They put their money thus subscribed into the bank, and they hold the bank liable for its use. So that the paid-in **capital** is a liability. But in the beginning the safe holds $100,000 in cash, so that the stockholders have a resource equal to the liability. When the bank is ready to do business, the account will stand thus:

LIABILITIES.		RESOURCES.	
Capital.....	$100,000	Cash.....	$100,000

A bank, however, can never make a profit by keeping all its resources in cash.* It will, therefore, begin to buy

* A savings-bank is not regarded as a bank in the technical sense. It is a charitable institution, which receives deposits in small sums, and loans them, generally on the security of mortgages on real estate. It never makes any use of its credit. It is solely a bank of deposit, which invests its deposits to the best of its ability. From this income it pays expenses, and divides the remainder among the depositors in propor-

and sell something on which it can make a profit, just as any merchant does with coal or ribbons.

340. Men often wish for legitimate reasons to borrow the use of capital for a time, until their own money comes in. A in Boston sells $20,000 worth of cotton-goods to B in Iowa, and B gives A his note, in which he promises to pay the sum in 30 days. But A has a debt to pay, and he wants the means of payment at once. He will take B's note, indorse it, and get it "discounted" at his bank — that is, he sells the note to the bank, and gets in return the means of payment he wants. The bank buys the note (accompanied by securities), and gives the so-called borrower the right to draw money, if he wants it. Some people speak of this as "getting a loan" from the bank, but in reality it is a purchase and sale. The **bank makes a profit** by giving A for the note the sum which the note promises to pay less the interest on it for 30 days, or $19,900. At the end of 30 days, when the note is paid by B, the bank gets back its $19,900 which it gave for the note, and also $100 more as profit. This deduction from the sum of a note is called **discount**; but whenever a bank deals in securities in this way, it is said to resort to the function of discount. The resort to discount, however, is closely connected with the deposit function.

341. When A sold B's note to the bank, he got something in return in the form of a means of payment. When a man "gets a loan," it is popularly supposed that he gets actual money; but, in truth, this very seldom happens when the sums dealt in are large. All A wants is the means of paying his debt with $19,900, and it matters little to him how he pays it. If he can do it more safely by not drawing out $19,900 in cash, he will care nothing for actual money. If he has been given a **right to draw**

tion to their deposits. It is expected that the deposits will be left for a long time, and not called for soon.

money at any moment, why can he not transfer to his creditor (to whom he wants to pay $19,900) this right to draw money? Then there will be no danger of losing the money in process of transferring it. In fact, this is what most business-men generally do, especially those concerned in large transactions. When they get a "loan"— that is, when they sell securities to a bank—they ask in return, not the actual money, but only the right to draw money. So the bank credits the borrower with a deposit, which means that he can draw by a check on the money at any time. What is important to keep in mind is that, when an entry is made on the books of the bank stating that A has a right to draw money, it is the same as saying that A has a deposit in the bank. Then he pays his debt to another man by giving him a check drawn on this deposit; or, in other words, in a check, he orders the bank to transfer to another person the right to draw money which he formerly had. This check, or transfer of his right, is taken as a means of payment by every one, and satisfies a debt (see sections 166–168).

342. We have described (in section 313) how a man gets money to use at once by discounting a note. The note* becomes the property of the bank; and it gives for this (1) either cash, or (2) a right to draw money, as the

* Banks generally want more than a simple promissory note before they advance on it. If a borrower does not want to ask his friends to add their names to his note as a security to the bank that the note will be paid at maturity, he can deposit "collateral securities" with his note; that is, he can deposit good bonds, or such securities as the bank will accept, to an amount at least equal in value to the sum he promises in his note. These "collateral securities" still belong to him, but, if he fails to pay his note when it falls due, the bank comes into possession of the securities, and gets the amount due them by selling the securities. During any loan, therefore, the bank will have left in its hands an amount of securities equal to the loan. So these notes (secured by "collaterals") form a part of its resources, capable of being eventually turned into cash.

person bringing the note may prefer. As we have already said, to give a person a right to draw money (by an entry on the books of the bank) is the same as crediting him with a deposit, and therefore, when a note is discounted, it is bought either with cash or by giving a deposit for it. We know from our study of the check system (sections 166–168) that, in a community where people are in the habit of depositing with banks, and not carrying money about, they will use rights to draw money rather than actual cash; so that, **when a note is "discounted"** and no money is paid out, the **bank gives for the note a deposit.** Thus the first effect of the "discount" in such circumstances is to increase the deposits. Let us now see how the operation described in section 313 would appear in the bank account, supposing that A wanted only the right to draw, and not the actual money.

Dr. LIABILITIES.		*Cr.* RESOURCES.	
Capital	$100,000	Loans (securities)*	$20,000
Profits	100		
Deposits	19,900	Cash	100,000
	$120,000		$120,000

The note or security left by A among the resources of the bank is as good as $20,000; and, although the item is made up of notes (secured by bonds, etc.), the banks in the United States give it the name* of loans." The bank buys this note by giving A the right to draw $19,900 (which is $20,000, less the interest for 30 days at 6 per cent), or, in other words, credits him with a deposit. Of course, this is a liability. The bank also holds itself liable, under the item of "profits," to pay the shareholders, some time in the future, in the form of dividends, the interest, $100, when it is paid in.

343. If everybody paid by checks drawn on deposits in a bank, and never used money, it is evident that the banks

* In England it is known as "securities."

could loan and give only rights to draw, without being obliged to keep any money whatever on hand. Of course, people do often draw actual money from their deposits; and to the extent to which the customers of the bank want (1) money rather than (2) rights to draw money, will the bank be obliged to keep on hand a **reserve** in cash to meet all possible demands. For example, suppose that A, who had been given a deposit of $19,900 (instead of having drawn a check on the whole, as in section 341), wanted $5,000 in cash with which to pay his workmen at the end of the month. The account would then be changed as follows:

Dr. LIABILITIES.		*Cr.* RESOURCES.	
Capital	$100,000	Loans	$20,000
Profits	100		
Deposits	14,900	Cash	95,000
	$115,000		$115,000

How much this cash reserve must be depends upon the good judgment and discretion of the bank-managers. Such part of the resources as is kept in cash earns nothing. In the above account, there is no need of so large a reserve;* consequently the bank will buy some safe, marketable bonds and stocks with perhaps $85,000 of the cash, leaving the statement thus:

Dr. LIABILITIES.		*Cr.* RESOURCES.	
Capital	$100,000	Loans	$20,000
Profits	100	Bonds and stocks	85,000
Deposits	14,900	Cash (reserve)	10,000
	$115,000		$115,000

344. The cash reserve of a bank must always be sufficient to pay any deposit which may be called for "on de-

* The national banks are required by law to keep 25 per cent of their deposits as a cash reserve, if city banks; and 15 per cent, if country banks.

mand." It is therefore a matter of great importance to keep a proper relation between the reserve and the deposits (or "immediate liabilities"). This ratio of reserve to deposits can be altered in two ways: (1) by an increase or diminution of deposits, or (2) by an increase or diminution of the reserve. If the reserve falls relatively to the deposits to too great an extent the bank must stop making new loans. The reason of this is clear, for, in making a loan, there is generally some addition to deposits (since actual cash is not usually or always wanted), and an increase of deposits without an increase of cash reserve will alter unfavorably the ratio of reserve to deposits; that is, there will be a greater liability with no more cash to meet it. **The ability of a bank to lend depends upon the ratio of cash reserve to deposits.** To see how this works, suppose the bank makes a new loan to another person, C, of $20,000, for 30 days, and he asks only that the sum be credited to him as a deposit on which he can draw.

Dr. LIABILITIES.		*Cr.* RESOURCES.	
Capital	$100,000	Loans	$40,000
Profits	200	Bonds and stocks	85,000
Deposits	34,800	Cash (reserve)	10,000
	$135,000		$135,000

The resources will be increased by the purchase of a note (properly secured) to the sum of $20,000, changing the item of "loans" to $40,000. The discount on this loan is $100; so that $19,900 is credited to C as a deposit, and the deposits are increased by that amount. The $100 of interest is added to profits. In the former account (in section 343) the reserve was about two thirds of the deposits, but now the reserve is about one third. If one third is considered a proper reserve, any further loans (without an increase of cash reserve) would by increasing deposits unduly alter the proportion of reserve to deposits, and the

bank will be unwilling to make further loans unless it can increase its reserve, and this is often done by changing some of its "bonds and stocks" into money.

345. A bank, we have seen, is an institution in which individuals deposit money, or the means of payment, for which they have no immediate use, and this function is termed **deposit.** When a bank advances to individuals money, or the means of payment, on proper security, as already described, it is said to exercise the function of **discount.** An institution which both receives deposits and makes discounts is always to be called a bank. We have not mentioned another function, that of **issue,** which by some is regarded as the most important of all. Such persons think that unless a bank issues its own promissory notes, or promises to pay money "on demand" to bearer, it does not deserve the name. This is, however, far from correct. Look at a national-bank note and see what is printed on it. It is a promise of the bank which issues it to pay money on demand; or, in other words, it is a right to call for cash at any moment. But a deposit also gives the right to draw money at any moment. When a bank makes a loan, it can give the borrower the means of payment in either form he prefers, either in cash, or in a right to draw on a deposit, or in its own bank-notes. The bank becomes the owner of the note given by the borrower to the bank, and, if cash is not demanded, it creates a liability by giving the borrower (1) either a deposit or (2) its promises to pay in the form of bank-notes. A bank, then, deals in securities, paying for them not only with actual money, but, in many cases, by a use of its credit in the form of deposits or bank-notes.

346. The way in which a bank account is affected by the issue of notes may be briefly illustrated. In the last account the ratio of reserve to deposits was already fairly low. With its present cash reserve, the bank may not

wish to increase its immediate liabilities, which are demands that may be presented at any moment. But a **bank-note is a liability which must be met on demand.** If borrowers want loans, the bank can sell $50,000 of its "bonds and stocks," and add the money to its cash reserve, making it $60,000. The item of "bonds and stocks," of course, is diminished by $50,000. Now suppose that D wants a loan of $45,000 for four months, and asks for bank-notes. In the first place, as before, the resources will be increased by $45,000 in the form of securities (under "loans").

Dr.	LIABILITIES.		*Cr.*	RESOURCES.	
Capital		$100,000	Loans		$85,000
Profits		1,100	Bonds and stocks		35,000
Notes issued		44,100	Cash (reserve)		60,000
Deposits		34,800			
		$180,000			$180,000

The $45,000, less $900 interest (or "discount"), will be given to D in the form of bank-notes; but, as a bank-note is the promise of the bank to pay on demand, it is an immediate liability, while the interest, $900, is again added to profits, when it is paid in. In this account one reserve is kept to meet all demands for cash arising from those who hold bank-notes, or who have deposits; so that, when both deposits and bank-notes are used, a larger reserve must be kept than if the account stood as in section 344. It may be said here that in England before 1844, and in the United States before 1838, the banks kept but one reserve for both deposits and note-issues.

347. It might seem at first glance as if it were an advantage to a borrower to get bank-notes instead of only a right to draw money in the form of a deposit. In some cases this may be so. In order that A may make a payment with a check to B, by which he transfers to B the right to draw money from the bank, it is necessary that B

should present at the bank the check* he got from A, and have the bank make a change on its books, declaring that B, not A, is now the owner of the right to draw money; that is, B is not really the possessor of the right until he gets the bank to acknowledge his ownership on its books;† so that the use of a check drawn on a deposit implies easy access to a bank. In country districts this will not be found convenient; so that **country banks are generally called upon for bank-notes** rather than for the right to draw on a deposit. In these banks, consequently, the note-issues will be largely used, while the deposits and checks will be found less convenient. The amounts borrowed at country banks will generally be smaller, and the borrowers will at once want to have a means of payment which does not require a visit to a bank in order to close a transaction.

348. In city banks just the opposite is true. The transactions are on a large scale, the buying and selling being in the wholesale as well as retail trades. Men in the cities, therefore, want a means of payment best suited to transfer great sums in safety and with rapidity. Banks are found near at hand, while access to them is easy and requires little time. If men have a large payment to make, they will prefer to make it by transferring the right to draw money rather than to run the serious risk of loss in carrying a great sum of money through the streets. So, when they borrow, they will prefer to be given a deposit rather than something which will be lost if stolen or burned up. Hence, we see the remarkable difference in the use made of bank-notes in city and country banks.

* In ordinary usage it would be said in this case that B "deposited his check" at the bank. When A and B keep accounts at different banks, the case is as described in section 168.

† For before this was done, A might, if dishonest, draw another check in favor of C, and, if C got to the bank before B, C would have become the owner of the deposit, and B's check would be worthless.

The city banks will care little for the right to issue notes (no matter how rich the bank is), while the country banks will use their notes more freely* than the deposit liability.

* In his "Chapters on Banking" (page 41), Professor Dunbar illustrates this point by contrasting the condition of (1) the national banks of New York city with (2) those of Massachusetts outside of Boston on September 30, 1884. The capital in each case is nearly the same. The figures are given only in millions:

	New York.	Massachusetts.
Capital	$46.2	$45.7
Loans and securities	239.0	128.6
Notes	13.2	35.8
Individual deposits	184.6	45.4

It will be seen how small an amount of notes was issued by the New York banks compared with their deposits, and how nearly the issue of notes approached the amount of deposits in the country banks of Massachusetts.

CHAPTER XXXII.

THE NATIONAL BANKING SYSTEM.

349. BEFORE the Civil War it was the policy of the National Government to have nothing to do with the currency (see section 324). This was carried so far that in 1846 the United States determined to keep its money in its own Treasury vaults, and not leave any on deposit with private banks.* In this way the Government withdrew from all connection with the money-market. In 1861, when Secretary Chase made his first report to Congress, he advocated a system of national banks, proposing that they should be obliged to **buy Government bonds** to secure their note-issues, and thus furnish a large demand for bonds. Being in great need of money (see section 286), he thought to sell bonds in this way. The national banking act, however, was not passed in a successful form until June, 1864 (see section 332), when it was too late to serve the purpose of Mr. Chase. When it did pass, it was urged rather as a means of stopping further issues of

* The first United States bank (1791–1811) held the Government deposits, and was well managed. The second United States bank (1817–1837) was not so well managed. At first it held the Government's moneys on deposit, but Jackson withdrew them, and deposited them in the private ("pet") banks. These failed in the great panic of 1837–1839, and the United States lost its deposits. This led to the subtreasury act of 1846, which required all public moneys to be kept in the Treasury vaults. With a slight modification, this system exists today.

United States notes ("greenbacks"), and the act was entitled "an act to provide a national currency." It may be seen from this that Congress, toward the close of the war (1864), looked forward to seeing the United States notes withdrawn, and the national-bank notes the sole currency of the nation.* This was a bold departure from the policy before the war, when the currency was left undisturbed by the General Government.

350. The main feature of the national banking system is to be found in the provisions relating to the issue of notes. A note is a liability, just like a deposit, which the bank must be ready to pay on demand; but in the national banking system a special part of the resources is set aside and pledged to secure the note-issues. This **special fund** must be invested in United States bonds, which are left with the Treasurer of the United States at Washington; and, for every $100,000 of bonds so deposited, a bank can issue $100,000 of its notes. The deposited bonds still belong to the bank, and it receives the interest on them; but, if the bank should fail, the Government could sell the bonds, and therewith redeem the notes of the bank. This plan has worked so well that, since the beginning of the system, no one has ever lost a cent by having in his possession national-bank notes; and yet the country has passed through a very serious commercial revulsion since 1873, which would have proved the ruin of a weak banking system.

351. Since, as we have seen, the note of a bank is a liability which must be met on demand, each bank must be ready to **redeem its notes** in lawful money at its own

* In order to give the national-bank notes a free field, an act was passed March 3, 1865, which levied a tax of 10 per cent on all notes of State banks paid out by any bank after July 1, 1866. The "State banks" were those organized under the laws of each State, and were, with some exceptions, generally unsafe. Their notes were often depreciated.

counter. Besides this, it must keep a sum of lawful money equal to five per cent of its circulation at the Redemption Agency in Washington, so that any one at a distance from the bank can send a note to Washington and get it redeemed there in lawful money (that is, in United States notes, gold, or silver). Then, also, any bank to whom a person is in debt is obliged to accept in payment the notes of any other national bank (whether it has failed or not). Thus a note of a bank in Maine is equally good in Texas or Oregon, and the currency is therefore uniform over all the United States. National-bank notes are not a legal tender* for private debts—that is, you can not force your creditor to accept them—but it is so easy to get the notes redeemed in lawful money (which is legal tender) that in practice no one ever refuses them.

352. If a bank wishes to **contract its issues of notes**, it sends at least $9,000 of **lawful money**, and withdraws $10,000 of bonds from Washington. Then, as fast as the national-bank notes come in for redemption (because of wear and mutilation), lawful money is paid out for them; but this takes a long time, and it may be years before the notes are thus redeemed. No one has any object in sending them in so long as they are well secured.

353. For the other functions of banking, discount and deposit, the law has many provisions. Certain cities named by Congress are called reserve cities, and all banks in these places are required to keep a **reserve** on hand equal to twenty-five per cent of their **deposits.** Banks outside of these cities (known as "country banks") need keep a reserve of only fifteen per cent of their deposits. Then the country banks may put three fifths of

* They are, however, receivable for all dues to the United States except for duties on imports, and can be paid by the United States for all its debts, except interest on the public debt and the redemption of United States notes. The reader should examine a national-bank note, and compare it with a United States legal-tender note.

their reserves on deposit in some bank in a reserve city; and banks in a reserve city may keep one half of their reserves in a bank in New York city, the place of the central reserve.* In this way all the banks in the system are closely affected by the condition of the banks in New York city. This is why the reserves of the New York city banks are so carefully watched all over the country. The reserves of a bank must consist of lawful money, or clearing-house certificates (which are certificates of deposit of specie or lawful money); and the sum kept at the Redemption Agency in Washington may be counted as part of the reserve.

354. Since the passage of the Resumption Act in 1875 there has been **free banking.** Banks can be established anywhere in the United States without limit if they conform to the provisions of the act. There is nothing to prevent any group of men from establishing a national bank any more than there is to prevent them from building a house or a steamboat. The investment in national banks is not confined to the rich; and there is no monopoly about them under the free banking system. If there is any advantage in holding shares in one, anybody who has $100, which is the par value of a single share, is generally able to obtain it.

355. The national banks, however, make but little, if any, profit by issuing notes. As already explained (section 340), the profit is made by buying securities (usually called "making loans") with their credit. When they take a man's note (with collateral security), they may pay him by a form of credit — that is, they may give him the right to draw a check on a deposit, or, if he prefers, they may give him a paper note, which is a promise of the bank to pay the bearer on demand. In either case the **profit** consists in buying the borrower's note for a sum less than

* An act was passed by Congress (1887) to establish other central-reserve cities than New York.

it will be worth at maturity; it makes no difference to the profit of the bank whether the man chooses the notes of the bank or a deposit-account. The bank would gain just as much by creating deposit-accounts and never issuing a note at all. In fact, in the cities the national banks have largely given up their circulation, because the issue of notes is no profit to them, and the same object is accomplished by giving borrowers the right to draw on a deposit-account (see sections 347, 348). There is no "double profit," as some people think there is, in the national banking system.

356. The rapid payment of the public debt is removing the basis on which national-bank notes are issued, and the high price of four-per-cent bonds makes the issue of notes on their security no longer profitable. In the future some other security than United States bonds must be devised, or the national-bank note will cease to exist. As it is, the notes outstanding are diminishing at a rapid rate. But, wholly apart from the issue of notes, the system has now been built into the business life of the community in connection with the **functions of discount and deposit,** and the country has never enjoyed a better regulated system than the present one. If it dies, we shall be plunged again into the limitless annoyances and obstacles of the old State banks, which proved so undesirable before 1864. Some banking system is certain to exist, either good or bad; and the good one, which has furnished an unassailable currency, and served the country well in performing exchanges of goods, ought to be carefully nursed in the interests of business prosperity, for business and good banking facilities are intimately connected.

CHAPTER XXXIII.

THE LABOR PROBLEM.

357. We hear every day so much about the doings of workingmen that, although the question is a complicated and large one, we may venture to touch upon a few leading ideas in connection with it. Labor organizations attract so much attention that some people think society is about to be revolutionized by new influences, in which employers and capital shall disappear.

Labor unions are, without question, capable of rendering signal services, if wisely managed. (1) So long as human nature is imperfect, there will be employers who will take advantage of their workmen. An organization, in such cases, enables the laborers to **act as a body,** and not as weak individuals to be separately treated with, and it thus enables them to fight successfully against unrighteous treatment. (2) They can also diffuse **information as to differences of wages** in different districts, thus aiding in an effective mobility of laborers, by sending them to places where they can better their condition. (3) **Mutual insurance** for loss of health, or accidents, or death can be rendered to members by the regular collection of small assessments. (4) They can combine to establish **training-schools** for industrial uses, in which children and unskilled laborers may get the means of earning higher wages. This, however, is not often the object of unions; for they will not voluntarily work to increase the

number of those who compete in their own trades. In most cases the unions aim at combinations which will raise the wages paid them, shorten their hours of labor, or give them some share in the management of the industry in which they are employed

358. In the desire to better their condition, the workingmen demand the sympathy and interest of every one; but, in their methods of obtaining the desired end, they are not always wise. The usual method of enforcing their demands is by **strikes.** These are based upon the undoubted right of any man to leave an employment if he is dissatisfied; but, if a large body of men leave all at once on a strike, they expect thereby to cripple their employer so much that he must yield. This, however, causes a loss of wages to the laborers as well as a loss of business to the employer. So we may properly question whether workmen can best accomplish their objects by strikes, and shall consider on what the success of strikes depends.

359. Before ordering a strike, a labor organization must satisfy itself as to a variety of things. First of all, account must be taken of the number of non-union men who would be willing to work at the current wages, if the union men should go out. It would be absolute folly for men to give up work, if **others stood ready to take the vacant place at the old wages.** Instead of raising their wages, they would lose their positions. To meet this difficulty workmen have often been forced to adopt violent measures with the men who want to work (the "scabs"); that is, one body of men are to be prevented from working at all in order that another body may succeed in raising their wages. This is unjust; and, if a strike can succeed only by breaking the heads of other workmen, by intimidation, and by destruction of property, it can never be sanctioned in a law-abiding community. We do not live in Turkey; and a non-union man has as much right to be protected in his life and property as any

one else. The use of dynamite, the killing of policemen engaged in maintaining the peace, the burning of property, are in violation of the law by which alone any order in the State can exist. Such things injure the cause of the laborers more than they help it.

360. Since no wages are received during a strike, the men should consider how long their **reserve fund** will keep them, and also how much they are certain to receive from other organizations. Promises are worth little. If their funds give out soon, they are obliged to go back to work at the old wages and lose a large sum.* Much depends also upon the **determination** of the strikers; for, if the reason for striking is not a very good one, many will cease to hold out. Particularly, if one set of men are ordered out to help a strike elsewhere, there is not likely to be any great sacrifice made; for these men gain nothing, and do not strike because their own employers ill-treat them. Then, too, regard must be had to the effect which the strike will have on the **price of the article** made by the men. If the employers have large stocks on hand, a cessation of work will have little effect, and if a strong combination of employers exists to regulate the price, it will then be very difficult to raise wages. If business is depressed and prices low, the employers may be quite ready to stop work, and a strike will invariably be unsuccessful.

361. There are, then, many things to be carefully considered if a strike is to succeed. If it fails, the workmen lose heavily. In fact, there have been comparatively few successful strikes. If the cause is a worthy one, for which the workmen are willing to undergo great sacrifices, and stand out a great length of time, in such a case it is far

* In the great strike on the Missouri Pacific railway system in 1886 the loss to the 9,000 strikers was $900,000, and to the railway company $2,800,000, and the strikers were defeated The employés who did not strike lost $500,000 by being deprived of work. (See "Report of Commissioners of United States House of Representatives.")

more likely that an arrangement of the difficulty could be made in **other ways than by strikes.** Strikes are too often the result of hasty action and of the submission to unwise leaders, who are willing to draw salaries for noisy harangues; and the losses to both sides might be saved by a reciprocal desire to talk the matter over calmly in a business-like fashion. There is probably scarcely a cause worth striking for which could not be amicably settled by fair-minded discussion on both sides. **Conciliation** should be more practiced than it is now. Moreover, if both sides can not agree as to the fairness of the demands, let them select between them an **arbitrator** in whose honesty and justice they have confidence, and agree to abide by his decision. This will avoid all losses and remove a great many misunderstandings.

362. Some, however, claim that the laborer does not get his due share of the product which his labor helps to create, and that by organization the workmen may entirely change the existing method of distributing the product. In looking back to our study of distribution, we see that the "conflict between labor and capital" is very much of a delusion (section 217), but a very real conflict was found to exist in the division of the product among the different classes of laborers (Chapter XXII). The **real labor problem** is to be found in the apportionment of shares to the different classes of laborers, and in the discovery of the means by which the lowest classes can be restrained in numbers, elevated in character and self-control, and trained to do a higher order of work for the community. The most skillful and efficient men will always be worth more to their employers, and will get higher wages than the unskilled. It is blind stupidity to think that all men can get equally high wages, or can change their conditions without changing themselves. The differing industrial capacities of men account for their claim to different rates of wages, other things being equal.

363. In order to apply right principles to the improvement of our fellow-men we must ultimately go back to Christian teaching. The teaching of the value of the unseen and eternal over the seen and present lies at the foundation of **saving,** which should be sedulously encouraged. Savings-banks, postal-savings plans, co-operative banks, building associations, should be everywhere understood and established by the workmen. Each man should learn to set the future above the present, and thereby learn the secret of self-control, foresight, prudence, and saving. This is, in short, the whole problem of Christian character. Men are too often lacking in ambition because they do not know what to be ambitious about; but, if it is brought home to them that, by a little sacrifice in clothing the family rather for comfort than for false pride, in spending less on tobacco and drink and amusements, they may acquire houses of their own, a little piece of ground to be tilled at odd times, or the possession of farm-stock, with all the dignity which these things will bring them in the eyes of their neighbors, it will be found that Christian and economic teaching are in complete accord.

364. Then, again, as every laborer can earn more as he is more capable and better trained, **industrial education** ought to be stimulated in practical directions.* Instead of being allowed to drift idly on, every homeless boy should be turned into a carpenter, or a plasterer, or a mason, or a plumber, or a bricklayer. The wider his training the better ; but, first of all, he should be educated practically in that direction in which he will be most efficient in existing conditions of production in this country. At present, no skilled workman ever finds it difficult to get

* In an evening school in New York boys can in six months get enough skill to enter the various trades and earn fair wages at once. Similar schools are springing up elsewhere.

employment. When bad times come, it is the poorest not the best workman who is discharged.

365. Christian character lies at the basis of industrial progress. To obtain self-mastery, to learn how to adapt one's powers to a given end, to regard the higher and unseen good of the future as above the lower and seen enjoyment of the present, to learn to do what is disagreeable and repugnant to one's inclinations, provided it is right and honorable—this will enable one to reach a place far above that from which one started out in life. As a man's character improves, he will become a more valuable laborer in his industry. The unskilled day-laborers are too often chained down by their ignorance and incapacity. They remain unconscious of things which might stimulate them to better work, or, if ready for better things, they do not know what to do. These men claim the wisdom, advice, and intelligent sympathy of those who are more successful and fortunate. It ought not to be desired that they should have higher wages only, but that they should have more prudence to govern the use of higher wages. In short, the essential point in the labor problem is the growth of the individual within himself. Character and industrial capacity can not be created by an act of Congress or by the intervention of the State. It is high time that the weak and narrow-minded recourse to the State for legislation on every conceivable subject should be abandoned for a greater growth of self-help and a more independent and self-confident manhood.

CHAPTER XXXIV.

CO-OPERATION.

366. AMONG the various attempts to increase the rewards of laborers, to reduce the friction which often exists between employer and employed, and at the same time to touch the workmen at the point which stimulates their moral and industrial growth, are the several schemes of co-operation. Some observers look to co-operation as the means of relief from the "conflict of labor and capital"; but, even if this relief be not obtained by its means, it still promises much good to the working-classes by introducing a new spirit into the world of industry. The most notable forms in which co-operation appears are **Distributive Co-operation,** as in common stores; **Productive Co-operation,** as in co-operative manufactories; **Industrial Partnership,** in which laborers receive a share of the profits; and **People's Banks,** by which credit is obtained for building houses, buying tools, etc. We shall describe these in the order given.

367. Retail prices of common household supplies have been kept higher than they need be, because an excessive number of stores have been maintained to distribute the goods. Fewer stores could do more business, and do it more cheaply. The **"profits"** from such stores **can be saved** to the workingmen by distributive co-operation. By organizing **co-operative stores,** which buy at wholesale prices, and charge the members only the actual expenses

of a plain establishment, the workingmen can get better goods at lower prices, and also build up a thriving business.

Better than the gain in cheaper goods is the resulting experience acquired in business habits and in the management of financial affairs. A simple co-operative store calls for no great executive skill and capacity, and may be made to succeed by care, honesty, patience, and forbearance. This form of co-operation has no small value in leading workmen by an easy path toward the management of complicated affairs. Having become familiar with the business of buying goods, with methods of economizing expenses, having formed prompt business habits and learned how to manage accounts and investments, they may be able, if properly gifted, to do something more ambitious than carrying on a store successfully.

368. A few energetic persons can start a co-operative store. The experience of many years has furnished the following **rules*** for this purpose: (1) Hold a meeting at which the advantages of co-operation may be explained, an organization effected, and persons appointed to secure the necessary capital. (2) As no credit can be given by a co-operative store, some capital must be paid in before one can be opened, though the amount need not be very great. (3) Each share ought to be about five dollars, and the number held by any one member should be limited. Each share of capital receives a fixed rate of interest (about five per cent), and, if members are encouraged to leave their dividends undrawn, these sums may be credited as payments on additional shares. If dividends are thus allowed to remain in the general fund, the capital of the

* The best book on this part of the subject is a little manual entitled "Working-Men Co-operators," by A. H. D. Acland and B. Jones, published by Cassell & Co., New York, 1884. See also the "Seventeenth Annual Report (1886) of the Massachusetts Bureau of Statistics of Labor."

store will be increased, and the store will also serve as a savings-bank for members. (4) If a member moves away he should be able to transfer his shares, with the consent of the committee. (5) The money subscribed as share capital need not all be paid at once. Weekly payments of ten cents are usual. Dividends on purchases also are to be credited as payments on the share until it is paid in full. (6) The selection of an executive committee is of great importance, for it controls the entire business. It appoints the storekeeper, oversees the purchases of goods and the finances, and the society will succeed only if the committee is honest and efficient. (7) At the start a room in the house of some member may be used until the business expands and success is assured. (8) "Goods well bought are half sold." Begin with staple groceries, and increase cautiously to hardware, crockery, ready-made shoes, clothing, staple dry-goods, hats, bread, coal, etc. Care should be taken where articles change with the fashion. (9) Sell at the same prices as are usual in private stores, but only for cash. (10) Give each member a check representing the amount of his purchase. At the end of a quarter he may present these and secure a dividend in proportion to his total purchases. (11) Outsiders may buy at the store, but members only receive dividends. (12) Account of stock should be taken quarterly or semi-annually, and profits then divided. (13) An auditor should be elected by the members to examine the accounts and make a report. (14) Profits should be estimated after first deducting from the gross receipts the following payments: (*a*) Interest on loans, if any; (*b*) charge for depreciation in the value of the stock and plant; (*c*) reduction of expenses incurred in forming the society, if any; (*d*) five-per-cent dividend on the share-capital; (*e*) a reserve fund; (*f*) dividend on purchases and bonus to employés.

369. By following these rules faithfully there might be

a successful store in every village. There have been a great many established in various countries, but the one at **Rochdale** in England is the best known. It began in 1844 in a modest room in Toad Lane, with 28 weavers as members, each subscribing £1. "When the day and hour for commencing business arrived, the little party assembled within . . . were abashed at the largeness of the crowd assembled. . . . Some delay took place before any one could muster up courage to take down the shutters, and when at last the 'store' and its contents were exposed to public view, all Toad Lane was in a roar. Long and loud were the shouts of derision. . . ."* But success was steadily won. In 1884 there were 11,161 members, with a share capital of £329,470, and investments of £242,432. The goods sold in 1884 amounted to £262,270, on which the net profit was £36,992, and the average dividend paid per pound was 2*s.* 9¾*d.*† In Lawrence, Mass., the employés started a store in 1884 on a similar plan, with a capital of $3,320, and the first year the capital was turned over eleven times, earning $2,273 as net profits.‡

370. When workingmen have tried to establish factories for **productive co-operation,** they have not always achieved such signal success. This has probably been due to the scarcity of *entrepreneurs*, or successful business managers. It is unnecessary to say that not

* W. T. Thornton, "On Labor," p. 376.

† The extension of retail co-operative stores led to the establishment of wholesale stores. These in England united, and now own manufactories in London, Manchester, Newcastle, Leicester, Durham, and Crumpsall; depots in Cork, Limerick, Kilmallock, Waterford, Tipperary, Tralee, and Armagh for the purchase of butter, potatoes, and eggs; and four steamships. They have buyers in New York and Copenhagen, and a banking department with a "turn-over" of more than £12,000,000 annually.

‡ "Report of Massachusetts Bureau of Statistics of Labor, 1886," p. 151.

every workman can manage a shoe-factory or cotton-mill successfully; for the competition in producing goods is now so severe that the keenest business-men are put to their wits' end to equal their rivals. A greater and greater ability is needed to succeed in productive enterprises. Even if a co-operative society had in it a man capable of directing production successfully, it could not keep him unless it were to pay him as large wages of superintendence as he could get outside; and this such societies have generally been unwilling to do. In England, however, the directors of co-operative factories and mills have sometimes paid sufficient wages to secure competent managers.

The extension of co-operative stores should make co-operative production more easy. Having a market already secured in the stores of their societies, they should be to some extent relieved from the most difficult part of the manager's duty. But this will not always do; for, unless the retail stores can get their goods as cheaply from co-operative mills, they will buy from outsiders.* On the other hand, it will be to the interest of every workman to save materials, and to do good work, in order that the establishment of which he is a member should succeed. In times of depression, a reduction of wages to the necessities of life may be submitted to when voted by the members themselves.

371. Only men of honesty, energy, and good business capacity have been able to succeed in productive enterprises, while there have been many failures. The Co-operative Barrel Association, of Minneapolis,† established in 1874 with a membership of about twenty coopers, collected $15 from each man, and levied $5 a week on the wages of each as capital. They bought a shop for $3,000,

* In 1883, it appears that the English retail stores bought from the wholesale society (whose capital is supplied by the retail associations) only 25¼ per cent of the total goods sold by them.

† See "Co-operation in a Western City," by A. Shaw, 1886.

paying $1,000 in cash. The profits were to be divided *in proportion to the work done.* In 1885, the paid-up capital amounted to $50,000, and it is stated that the company's real estate was valued at $23,000, and that it owned a stave-factory worth $25,000.

The Somerset Co-operative Foundry Company, in Massachusetts, began in 1867 with a capital of $15,000, and an annual product of $25,000. No dividends were declared in 1872, 1875, 1879, and 1880, but in other years they have averaged over 10 per cent. The capital rose to $30,000, and the value of the annual product to $75,000.

In other countries productive co-operation has had varying success. In England, a natural difficulty arises, which is suggestive. The wholesale society furnishes the capital for productive establishments and owns them. Some expect to have the profits divided according to purchases; others claim that the profits should go to the employés in the factories who produce the goods. Here is the old question as to the proportion which shall go to the laborer and to the capitalist.

372. Because of the serious difficulties in carrying on production by themselves, workmen have had offered to them in some cases **a share in the profits** of the business in which they are engaged, in addition to the current rate of wages. Workmen thus treated feel a natural interest in the success of the establishment. They save materials, stop waste, work more efficiently and steadily, and often lose the hostile feeling which sometimes exists between employer and employed. After a certain allowance for capital and for the maintenance of buildings, machinery, etc., is made out of gross profits, the remainder is in these cases divided according to some rule between the owners and the workmen, the owners still keeping the management of the business in their hands, and supplying the capital. Business-men have objected to this plan, that competition is so fierce that "there are no

profits to divide." But, if the effect of the system be to increase the efficiency of workmen, and to increase the product, the amount to be divided is a new creation. It is also objected that workmen will be dissatisfied when no share is allotted to them, and to permit them to examine the books of the firm would be to publish to the world the private management of the firm, and would often injure its business and credit. This difficulty has been met by allowing the workmen a voice in choosing an auditor to examine the accounts and certify that the profits have been fairly divided.*

373. By making it clear to employés that good work, regularity, and temperance pay, not only is their interest enlisted in the success of the firm by this plan, but it has very wide-reaching and important **effects upon the character and habits of the workmen** themselves, who are led to improve their conduct and their workmanship. Not only does it lead them into a knowledge of the difficulties of business management, and give them forbearance based on knowledge, but it leads to habits of saving and industry. The painters employed by M. Leclaire, in Paris, had been men of wasteful and irregular habits, and his relations with them were decidedly unpleasant. In 1842 he began a system of profit-sharing, making a dividend in proportion to the amount of each man's wages. The effect on the habits of the workmen was remarkable; they became known as careful, steady, and trustworthy men. The change in the relations of the owners and workmen at the Briggs collieries in Yorkshire, England, after the introduction of an industrial partnership, was even more striking. Out of a period of strikes, threats, discontent, and low dividends, they emerged into a time of quiet, regular work, contentment, and high dividends. M. Leclaire, moreover, always maintained that he

* This is the system adopted by the Granite Works at Westerly, Rhode Island.

had accumulated a larger private fortune by this system of sharing with his workmen than was possible by a wholly selfish policy. Certainly, if, after paying insurance, interest on capital, and fair wages of superintendence to owners, a balance* remains which is due to increased efficiency, a large part of it belongs of right to the workmen.

374. In trying to set up stores, and especially in starting productive enterprises, it has been found to be more or less difficult for laborers to furnish capital. In short, one of the essential forces required for aiding workmen to stand on their own feet is the incentive to save and to accumulate capital. One of the most successful methods adopted for this purpose appears under the name of **building associations,** or **co-operative banks.** In a few years, by monthly payments, little, if any, greater than they would pay for rent, members of building associations may become the owners of their own homes. Each share is generally $200, and is sold to a member to be paid for in monthly installments of $1, until these payments, together with the profits earned by the share, amount to the par value of the share. The money paid in in this way is loaned to members who want to build a house; the security is the share of the borrowing member and a mortgage on the new house. The loans are made only to members, and are given to the one who, at auction, offers the highest premium for a loan. The borrower can get a small or a large sum, and has ample time for repayment, while the debt is constantly being extinguished. The chance of having a house of one's own is a very strong inducement to save, and it is made easy by small and regular installments. How effective this plan has been is to be seen by the results in and about Philadelphia, where it is said that one hundred thousand homes are owned by the workmen. There are miles of buildings owned by workmen, built by

* For the various systems of divisions tried, see "Report of Massachusetts Bureau of Statistics of Labor, 1886," p. 158, etc.

their own savings, which stand as testimony to the value of this scheme.

In Massachusetts these associations are known as co-operative banks,* while in Germany, Schultze, of Delitsch, established several years ago what were known as People's Banks, in order to enable workmen to get the credit with which to buy tools, materials, etc. They have been wonderfully prosperous there, and now do a business of hundreds of millions of dollars.

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