

INTRODUCTION.

CHAPTER I.

WEALTH.

I, 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 these 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: †

<p>“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</p>	<p>“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</p>
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* 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 Schoenhof, 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

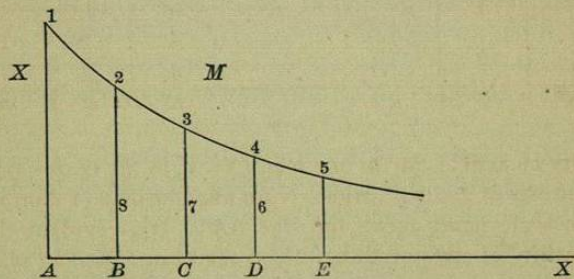


FIG. 1.

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 B2, to the consumer; and the portion BC, a less utility C3; and finally DE has E5; 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 E5, — 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 by AE51. 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

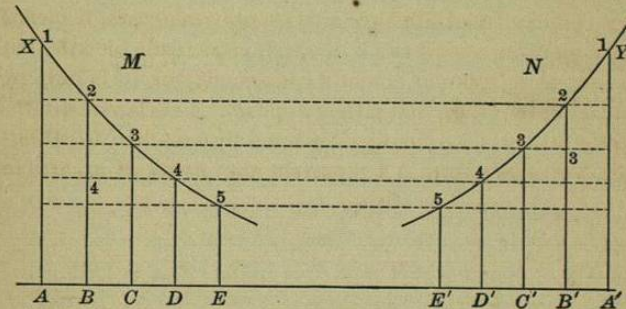


FIG. 2.

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 D4, 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 pos-

sessed 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.