

## CHAPTER IV.

### OF THE MARGINAL LABOR-FORM.

First recognize what is true; we shall then discern what is false, and properly never till then. *Thomas Carlyle.*

The individual must apportion his expenditures among his various kinds of wants in such a way that to him, as nearly as practicable, each last unsatisfied want will weigh the same in his scale of desires as every other. *Richard T. Ely.*

Let us first consider man in his attempt to satisfy, in a primitive state, the most pressing of all his desires—his desire for food. By putting forth a certain amount of effort he is able to satisfy his present needs, say, by gathering chestnuts. At the beginning of his effort his hunger is great and chestnuts have for him a correspondingly great utility. Compared with this utility the disutility of his exertion is slight; he scarcely notices it. As his hunger becomes appeased the present utility of chestnuts diminishes, and relatively, though not absolutely, the disutility of his exertion increases. Finally he reaches a state of satisfaction in which the present utility of chestnuts is no greater than their disutility and he ceases his efforts. The utility has become to him indifferent. It may be said there is a time when a chestnut has for him just enough utility to cause him to put forth the necessary effort to acquire it; after that the disutility turns the scale. How much utility the first chestnut secured by him possessed we can not tell, nor does it matter. But that the last

chestnut possesses for him but one unit of positive utility we know. For if it possessed two units, he would exert himself to procure another chestnut; and if it possessed less than one unit, he would not exert himself to obtain this one. The positive utility of the last chestnut, therefore, furnishes him with a unit of comparison for utility.

In like manner it may be shown that the last chestnut has but one unit of disutility, and that its disutility is consequently the natural unit of comparison for all disutility to him at the time and place in question. For if it had not one unit of disutility, its utility would be spontaneous, as is the utility of the air and of sunshine in ordinary circumstances, and no exertion at all would be required to secure it; and if it possessed two units of disutility, its disutility would cancel its one unit of positive utility, and its utility would become indifferent.

Intensity of desire is thus seen to be the determining element of onerous utility. Whatever intensifies desire increases the utility of anything which has fitness to satisfy such desire. We shall now examine those factors which influence intensity of desire.

We have considered the chestnuts with reference to present utility only. Man does not, like some of the lower animals, hoard food for future use in obedience to instinct. When he hoards at all it is in obedience to an attribute of the mind of man which is absent in the lower animals—the attribute of forethought. The distinction will appear when we consider that among the lower animals the hoarding instinct is present in all animals of a given species in equal degree. Age after age bees

have stored up honey to the same extent and in the same way. The same condition is substantially true of all hoarding animals except man. With him none of these things is true. Some men appear to be void of any tendency to hoard, while others possess it to an abnormal degree. From that primitive hoarding which was confined to the most pressing wants and the shortest possible anticipation of the future, men have progressed so as to anticipate and provide for manifold wants in years and decades yet to come. Anticipation of the future and provision for it furnish one of the best indexes of the state of civilization attained by a particular man, nation or race.

Let us recur to the man and the chestnuts. It may be that after his present want of food is satisfied, he will anticipate the next meal or the next day, and continue to gather chestnuts. But the utility of the chestnuts to be eaten to-morrow is less than of those to be eaten at once. Man places a lower estimate upon future than upon present satisfaction of desire, and the more remote the time of enjoyment the lower the estimate, other things being equal, until he ceases to esteem at all satisfactions to be enjoyed beyond a certain time, and will make no present effort to anticipate them. There is a "perspective of utility, diminishing with remoteness of time." A man may be so situated that for to-day's dinner of chestnuts he will put forth a certain effort. In anticipation of to-morrow's wants he will put forth some effort, but not so much as for to-day's; and for day after to-morrow's wants he will make no present effort at all.

Let us now assume that this man has advanced in civilization until he has acquired enough forethought and energy to provide chestnuts in advance for several days—say a pint for each day for a week. Probably he can not point to any particular pint and say it has cost him more effort than the others. Ordinarily the effort to secure the several pints will have been substantially the same; therefore, they have equal disutilities, or, what is the same thing, their points of positive utility coincide. He esteems them alike. It is impossible for him to say that any particular pint has the greatest, and another the least utility at any given time, unless he arbitrarily sets aside a particular pint for each particular day. But even if he does this, and by some accident loses the pint which he has set aside for the morrow, he will not on that account go hungry on that day. He will shift the loss to the seventh day whether he has so parceled the chestnuts out or not. In this way he will minimize his loss by shifting it to that pint of chestnuts which has for him the least present utility.

Suppose, now, that the accident which cost him this one pint had endangered all the others so that the man is forced to put forth an effort to save them. When he has saved the first pint his zest for saving the second is less, although he saves it, and so on for the others, until for the last he may make no effort, or not sufficient effort, and it is lost. Consciously or unconsciously the remoteness of the satisfaction was the determining factor which governed his efforts.

From these illustrations we may say that time is a

factor of that intensity of desire which affects positive utility. While we may not be able exactly to measure this factor in all cases, we know that a labor-form which is held for the satisfaction of a present want has a higher utility, other things being equal, than one which is held for future satisfactions; and so far as both present and future satisfactions are concerned, we know that the least labor-form which a man will exert himself at any given time to secure, if he has it not, or to save, if he has it, has for him but one unit of utility.

Let us now change the illustration, and consider a man situated, like Selkirk, upon an island in the springtime and possessed of three bags of corn, the remainder of his last year's crop. The bags contain equal amounts of corn of the same quality, and were secured and preserved by equal expenditures of effort. Their disutilities are the same, and their points of positive utility coincide. In considering their utilities, let us consider only the purposes to which the bags of corn are to be devoted.

We will assume that one bag is held to supply him with food while planting and tending the next crop; another, for seed corn for immediate planting; and the third, for the sustenance of a pet parrot. If, now, an accident causes the loss of one bag of corn, the man will not go hungry himself, nor will he refrain from planting his crop for his own future sustenance. He will shift the loss to the least sensitive point, and deprive the parrot of cereal food, since the parrot's pangs of hunger are of less moment to him than are his own, and its company is less to be regarded than his supply of food during the bleakness of the coming

winter. And if another accident causes him the loss of a second bag of corn, he will consider his present rather than future wants, and plant no corn.

The particular choices which are here attributed to the man in his attempts to shift the loss to the least sensitive point are not material to our argument. In his loneliness he might prefer the company of the parrot to a future supply of corn; or he might prefer a future supply of corn to present cereal food. The salient points are that in such a case the three bags of equal amounts and equal disutilities would have for the man different degrees of utility, so far as the several purposes for which he held them are concerned; and in case of loss of part of the corn he would shift the loss to that portion having for him the least utility in all the circumstances.

To the factor of time of satisfaction we may now add that of choice of satisfactions in our analysis of intensity of desire. We may also say that the laws governing these factors are the same. Analysis in either case carries us back to a labor-form having but one unit of the particular kind of utility involved.

A closer analysis of the illustration of the three bags of corn will show that the conclusions are based upon the hypothesis that the satisfaction of the several desires named is dependent upon the existence of corn. In ordinary circumstances this is not true. Corn is not the only article of food available even on an island. And if we introduce into our illustration not only the fact that the same labor-form—corn—will satisfy different desires, but that other labor-forms will satisfy each of these de-

sires, we shall notice a change in the man's estimate of the various utilities. If he has at hand, or easily obtainable, some other parrot food, he will all the more readily shift his loss to that quarter. If he has no such substitute for parrot food, but has for his own present food, he may continue to feed the parrot and go without corn himself. This change of relative utilities, however, introduces no new law. He still shifts the loss to the least utility. In the analysis of the intensity of desire which affects the positive utility of labor-forms the presence or absence of substitutional forms enters as a third factor.

Lastly, let us note that an increase in the number of bags of corn possessed by the islander at the outset would have changed the whole situation. We assumed that with three bags he could satisfy three different desires, but that the loss of one bag necessarily deprived him of one of these satisfactions. If, however, with the same desires, he had possessed six bags of corn, the result would have been the same as if he had obtained three substitutional labor-forms. The loss of one bag would not have embarrassed him seriously nor greatly increased his estimation of the other five bags. Hence the number of labor-forms in relation to particular desire is a fourth factor affecting intensity of desire.

Therefore, the point of positive utility remaining the same, the positive utility of a labor-form varies according to the intensity of desire, and this in turn varies according to the time of satisfaction, the number of desires involved capable of satisfaction by the same labor-form, the number of substitutional labor-forms, and the number of particular labor-forms in question.

So far we have confined our illustrations to articles of food, and to food of one kind, except in the case of substitutional foods of the same general class. In the cases considered we have found both a unit for the comparison of utilities—the least or marginal utility—and a starting point from which to institute comparisons—the point of disutility. If we consider the same man in connection with the various kinds of food which he may possess at one time, we shall find that the same principles apply. There will be one article of food which he will esteem less than the others, and if necessity requires him to deprive himself of some one article of food, he will prefer to sacrifice the one which, if retained, would afford him the least satisfaction. This article thus becomes the unit by which he compares the utilities of his various articles of food, and its point of disutility becomes the point from which he judges them. And if to food we add articles which furnish him clothing, shelter, amusement, etc., the result will be similar. There will be one article among them which he esteems least of all, and by which and from the point of disutility of which he will compare and judge all the utilities then and there possessed or desired by him.

The least utility which a man at a given time and place will strive to secure, if he has it not, or to save, if he has it, is to him the marginal utility; the effort necessary to secure it is the marginal disutility; and, similarly, that labor-form which he will barely strive to produce, if he has it not, or to save, if he has it, is to him the marginal labor-form.

The **Marginal Labor-Form** of any person is that labor-



form which has for him but one unit of positive utility and but one unit of disutility.

The marginal labor-form of any man is his natural standard of comparison for all utilities and disutilities. But what is the marginal labor-form to one man is not likely to be to another, so much do men differ in their desires and estimates. This fact furnishes a basis for barter and exchange.

We have already alluded to the fact that some utilities require no irksome effort on the part of man for their production and enjoyment, as air and sunshine in ordinary circumstances. They are usually free to all alike and abound everywhere. These we have called spontaneous utilities. Inasmuch as they can be appropriated by man without labor they have no bearing on economic questions. Having no unit of utility or disutility with which to institute a comparison, they are never compared with industrial utilities or with each other. Man places no estimate upon them. In short, in order to have any economic significance, an object must have disutility as well as utility—and the latter must exceed the former. If invention could reduce the point of positive utility in all cases to the point of disutility, all economic phenomena would cease. As it is, nearly all utility is onerous rather than spontaneous. Having divided all utility with reference to the means of its attainment into spontaneous and onerous utility, and having excluded the former from our consideration, let us seek to analyze onerous utility.

In their entireties and in some circumstances onerous utilities are not only immeasurable but incomparable. If

a man's life is seemingly dependent upon the retention by him of a single morsel of food, his only store, its utility to him is absolute—it is a matter of life or death. For the time being he looks upon this fitness to satisfy desire as all in all, without relation to the comparative fitness of any or all other utilities. In such circumstances the utility involved has no reference to the market. But in ordinary circumstances the utility of a morsel of food is but relative, and may freely be compared with other utilities. All relative utilities may be considered with reference to the market.

**Absolute Utility** is fitness to satisfy desire without reference to the comparative fitness of any or all other utilities.

**Relative Utility** is fitness to satisfy desire with reference to the comparative fitness of any or all other utilities.

Economics does not treat of absolute utilities, so that these also may be excluded from our consideration. Our next step is to analyze relative utility.

With reference to particular labor-forms all men are either producers or consumers. To each of these classes the primary importance of a labor-form does not lie in the fact that it has been made into a particular shape, but in the fact that it possesses utility. The form which it assumes under the hand of man in the process of its making is important only because it contributes to its usefulness. A labor-form has no economic significance except as a concrete expression of utility.

The making of a labor-form in the sense of giving to it its distinctive form and finish is not the only thing which contributes to its utility. We have already seen that

labor-power may be exerted upon external objects so as to produce changes not only of form, but of position. Each of these changes may contribute to utility, and the one as much as the other. A labor-form may be completed as to its form in a factory upon the Atlantic coast and yet have little utility until it has been transported to the Pacific coast to be employed in some enterprise peculiar to that region. The man who buys it of the manufacturer and transports it to the Western coast adds greatly to its utility by so doing. And if upon its arrival in San Francisco a final purchaser is not immediately forthcoming, the dealer in such wares who buys it of the shipper and places it for sale in some convenient and conspicuous place also adds to its utility. He brings it so much nearer to the person who wants it for final consumption, and has it ready for use as soon as it is needed by such consumer.

All the men who have added in any way to the utility of a labor-form, whether by giving it its form, by changing its location, or by holding it in readiness for the purchaser so as to save the time of the latter, are producers. They have all created or increased its utility and this, and not mere manufacture, is the gist of production.

**Production** is the artificial creation or increase of utility.

After relative utility has been created it may be used by the producer as an aid to still further production, or it may be used by a final consumer without reference to any further processes of production. The processes of production are those of industry—the making and transporting of labor-forms—and of exchange.

Utility which avails only the consumer we shall call

ultimate utility; while that which avails only the producer we shall call intermediate utility.

**Ultimate Utility** is that form of relative utility which avails a consumer subsequent to all the processes of industry and exchange.

**Intermediate Utility** is that form of relative utility which avails a producer in some of the processes of industry or exchange.

A labor-form may be used in such a manner that it avails a consumer subsequent to all the processes of industry and exchange, or in such a manner that it avails a producer in some of these processes. In the former case it is a **satisform**; in the latter, a **capital-form**.

A **Satisform** is a labor-form so circumstanced that it avails a consumer subsequent to all the processes of industry and exchange.

A **Capital-Form** is a labor-form so circumstanced that it avails a producer in some of the processes of industry or exchange.

A **satisform** is distinctively possessed of ultimate utility; a **capital-form**, of intermediate utility.

It is the marginal **satisform** of every man that furnishes him with a marginal unit of utility. If a man is possessed of but one kind of food, say corn, and no other **satisforms** whatever, then that part of the corn which is least esteemed by him furnishes the marginal unit. If he now acquires several different kinds of food, some having less and some greater utility than corn, the marginal unit for food shifts to that portion of food least esteemed. And if he shall further acquire various **satisforms** besides food, of

different relative utility, the marginal unit for all his satisfirms will shift to that satisfirm least esteemed of all.

We have so far confined our discussion to those utilities and disutilities which are of interest to man as an isolated individual. We have not yet reached the field of Economics proper. But man in society retains his individual characteristics. He does not cease to be a man; and, as we shall see, all those facts and circumstances which affect a Selkirk in his attempt to compare utilities or disutilities will affect him when he attempts to measure them as an exchanger in the markets of civilized society. Other facts will intervene, but in all circumstances he will find use for that most fundamental of all economic ideas—the idea of *the margin*.