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THE ECONOMIC JOURNAL

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THE SCOPE AND METHOD OF POLITICAL ECONOMY IN THE LIGHT OF THE "MARGINAL" THEORY OF VALUE AND OF DISTRIBUTION.¹

I.

I ADDRESS myself primarily to those who already accept the marginal theory of Value and Distribution, inviting their attention to the modifications it is already introducing into current conceptions of Political Economy and of its relation to other studies, and urging the necessity of accepting the change more frankly and pressing it further. But at the same time I think we shall find that the best approach to our proper subject is through a summary exposition, if not a defence, of the theory itself.

Let us begin by attempting to determine the characteristic of the economic field of investigation. Naturally there is no sharp line that marks off the economic life, and we must not expect to arrive at any rigid definition of it; but I take it that if I am doing a thing because I want it done for its own sake (not necessarily *my* own sake, in any restricted sense, for it may primarily concern some one else in whom I am interested out of pure good will), or am making a thing that I require for the supply of my own desires or the accomplishment of my own purposes; if, in fact, I am engaged in the direct pursuit of my own purposes, or expression of my own impulses, my action is not economic. But if I am making or doing anything not because I have any direct interest in it, but because someone else wants it, and that other person will either do what I want done or put me in command of it, then I am furthering his purposes

¹ Presidential Address to Section F of the British Association, Birmingham, 1913.

as a means of furthering my own. I am indirectly forwarding my purposes by directly forwarding his. This is the nature of the economic relation, and the mechanism or articulation of the whole complex of such economic relations is the proper subject of economic investigation. Thus, if a peasant adorns his ox-yoke with carving because he likes doing it and likes it when done, or if he carves a stool for his friend because he loves him and likes doing it for him and believes he will like it when done, the action is not economic; but if he gets a reputation for carving and other peasants want his work, he may become a professional carver and may carve a yoke or a stool because other people want them and he finds that supplying their wants is the easiest way for him to get food and clothes and leisure for his own art, and all things else that he desires. His artistic work now puts him into an economic relation with his fellows; but this example serves to remind us that there may be an indefinite area of coincidence between the economic and non-economic aspects of a man's occupations and relations. That man is happy indeed who finds that in expressing some part of his nature he is providing for all his natural wants; or that in rendering services to friends in which he delights he is putting himself in command of all the services he himself needs for the accomplishment of his own purposes. A perfect coincidence of this nature is the dream of modern Utopias; but my present subject is only the economic side of the shield.

The economic organism, then, of an industrial society represents the instrumentality whereby every man, by doing what he can for some of his fellows, gets what he wants from others. It is true, of course, that those for whom he makes or does something *may* be the same as those from whom he gets the particular things he wants. But this is not usual. In such a society as ours the persons whom a man serves are usually incapable of serving him in the way he desires, but they can put him in command of the services he requires, though they cannot render them. This is accomplished by the instrumentality of money, which is a generalised command of the services and commodities in the circle of exchange; "money" being at once a standard in which all market prices are expressed, and a universal commodity which everyone who wishes to exchange what he has for what he wants will accept as a medium, or middle term, by which to effect the transformation. Thus in most commercial transactions one party furthers a specific purpose of the other, and receives in exchange a command, defined in amount but not

in kind, of services and commodities in general; the scale of equivalence being a publicly recognised thing announced in current market prices. Every member of the community who stands in economic relations with others alternately generalises his special resources and then specialises his general resources, first directly furthering someone else's purposes and then picking out the persons who can directly further his. Thus each of us puts in what he has at one point of the circle of exchange and takes out what he wants at another. Being out of work is being unable to find anyone who values our special service enough to relinquish in our favour such a command of services in general as we are prepared to accept in return.

Our economic relations, therefore, are built up on a recognised scale of equivalences amongst the various commodities and services in the circle of exchange; or, in other words, upon market values. And our first step must be to formulate the "marginal" theory of exchange, or market, values. It is capable of very easy and precise formulation in mathematical language; for it simply regards value in exchange as the first derived or "differential" function of value in use; which is as much as to say, in ordinary language, that what a man will give for anything sooner than go without it is determined by a comparison of the *difference* which he conceives its possession will make to him, compared with the difference that anything he gives for it or could have had instead of it will or would make; and, further, that we are generally considering in our private budgets, and almost always in our general speculations, not the significance of a total supply of any commodity—coals, bread, or clothes, for instance—but the significance of the difference between, say, a good and a very good wheat harvest to the public, or the difference between ten and eleven loaves of bread per week to our own family, or perhaps between ten days and a fortnight spent at the sea-side. In short, when we are considering whether we will contract or enlarge our expenditure upon this or that object, we are normally engaged in considering the difference to our satisfaction which differences of adjustment in our several supplies will make. We are normally engaged, then, not in the consideration of totals, either of supplies or of satisfactions, but of differences of satisfaction dependent upon differences of supplies.

According to this theory, then, what I am *willing* to give for an increase in my supply of anything is determined by the difference it will make to my satisfaction, but what I shall *have*

to give for it is determined by the difference it would make to the satisfaction of certain other people; for if there is anyone to whom it will make more difference than it will to me, he will be ready to give more for it, and he will get it, while I go without. But again, since the more he has the less difference will a still further increase make to him, and the less I have the more difference will a still further decrease make to me, we shall ultimately arrive at an equilibrium; what I am willing to give and what I am compelled to give will coincide, and the difference that a little more or a little less of any commodity which I habitually consume makes to my estimated satisfaction will be identical with a similar estimated difference to any other habitual consumer.

Or we may attack the problem from the point of view of the individual. We have pointed out that to any individual the differential significance of a unit of supply of any commodity or service declines as the supply increases. In our own expenditure, we find that current prices (our individual reaction on the market being insensible) fix the terms on which the various alternatives offered by the whole range of commodities and services in the circle of exchange are open to us. Obviously, so long as the differential satisfaction anticipated from one purchase exceeds that which the same money would procure from another, we shall take the preferable alternative (thereby reducing its differential superiority) until we have so regulated our expanding or contracting supplies that the differential satisfactions gained or lost from a given small increase or decrease of expenditure upon any one of our different objects of interest is identical. Into the practical difficulties that prevent our ever actually reaching this ideal equilibrium of expenditure I will not here enter; but I must call attention to the identity in principle of this analysis of the internal economy of our own choice between alternatives, tending to a subjective equilibrium between the differential significances of different supplies to the same person, and the corresponding analysis, just given, of the process by which an objective equilibrium is approached between the differential significances of the same supplies to different persons.

And this observation introduces another of extreme importance. In our private administration of resources we are concerned both with things that are and with things that are not in the circle of exchange, and the principle of distribution of resources is identical in both cases. The independent student who is apportioning his time and energy between pursuing his

own line of research and keeping abreast of the literature of his subject is forming estimates of differential significances and is equating them to each other just as directly as the housewife who is hesitating between two stalls in the market. And when we are considering whether we will live in the country or the town, we may find, on examination, that we are carefully equating increments and decrements of such apparently heterogeneous indulgences as those associated with fresh eggs and friendship. Or, more generally, the inner core of our life problems and the gratification of all our ultimate desires (which are indeed inextricably interlaced with our command of exchangeable things, but are the ends to which the others are but means) obey the same all-permeating law. Virtue, wisdom, sagacity, prudence, success, imply different schemes of values, but they all submit to the law formulated by Aristotle with reference to virtue, and analysed by modern writers with reference to business, for they all consist in combining factors *κατ' ὀρθὸν λόγον*, in the right proportion, as fixed by that distribution of resources which establishes the equilibrium of their differential significances in securing the object contemplated, whether that object be tranquillity of mind, the indulgence of an overmastering passion or affection, the command of things and services in the circle of exchange, or a combination of all these, or of any other conceivable factors of life.

Now this dominating and universal principle of the distribution of resources, as we have seen, tends, by the instrumentality of the market, to secure an identity in the relative positions of increments of all exchangeable things upon the scales of all the members of the community amongst whom they are distributed. For if, amongst the things he possesses, A finds one, a given decrement in which would make less difference to him, as measured in increments of other exchangeable things, than the corresponding increment would make to B (who is assumed to have a certain command of exchangeable things in general), obviously there is a mutual gain in B giving for the increment in question what is less than worth it to him but more than worth it to A. There is equilibrium therefore only when a decrement in any man's stock of any exchangeable thing would make more difference to him, as measured in other exchangeable things, than the corresponding increment (measured in the same terms) would make to anyone else. Hence all those who possess anything must, in equilibrium, value it more, differentially or incrementally, than anyone who does not possess it, provided that this latter does

possess something, and provided that "value" is measured in exchangeable things.

But this last qualification is all-important. The market tends to establish an identity of the place of the differential value of any commodity amongst all exchangeable things on everybody's scale of preferences, and further to secure that it is higher on the scale of everyone that has it than on the scale of anyone who has it not; so that to that extent, and in that sense, things must always tend to go and to stay where they are most significant. But then exchangeable things are never really the ultimately significant things at all. They are means. The ends, which are always subjective experiences of some kind, whether of the senses or the will or the emotions, are not in any direct way exchangeable; and there is no machinery to secure that increments and decrements of exchangeable things shall in industrial equilibrium take the same place and have the same differential significance on the scales of any two men when measured not in terms of other means, but in terms of ends. If two men habitually spend a portion of their resources on food and on books, there is a presumption that to both of them the differential significance of a shilling's-worth of food and of a volume of *Everyman's* or the Home University Library is equivalent. But there is no presumption whatever that the vital significance of either one or the other is identical to the two men as measured, not each in terms of the other, but each in the degree to which it ministers to the ultimate purposes of its possessor or consumer; in the pain that its absence or the pleasure that its presence would give him; or in its ultimate significance upon his life. Granted that x makes just as much difference, both to you and to me, as y does, it does not follow that either x or y makes the same difference to you that it does to me.

The ground is now clear for a step forward along the main line of our advance. The differential theory of exchange values carries with it a corresponding theory of distribution, whether we use this term in its technical sense of the division of a product amongst the factors that combine for its production, or whether we employ it as equivalent to "administration," and are thinking of the administration of our personal resources; that is to say, their distribution amongst the various objects that appeal to us; or again, the distribution, under economic pressures, of the sum of the industrial resources of a society amongst the objects that appeal to its members.

Land, manifold apparatus, various specialised faculties of

hand, eye, and brain, are essential, let us say, to the production of some commodity valued by someone (it does not matter whom), for some purpose (it does not matter what). None of these heterogeneous factors can be dispensed with, and therefore the product in its totality is dependent upon the co-operation of each one severally. But there is room for wide variety in the proportions in which they are combined, and whatever the existing proportion may be each factor has a differential significance, and all these differential significances can be expressed in a common unit; that is to say, all can be expressed in terms of each other, by noting the increment or decrement of any one that would be the equivalent of a given decrement or increment of any other; equivalence being measured by the neutralising of the effect upon the product, or rather, not upon the material product itself, but the command of generalised resources in the circle of exchange for the sake of which it is produced. The manager of a business is constantly engaged in considering, for instance, how much labour such-and-such a machine would save; how much raw material a man of such-and-such character would save; what equivalent an expansion or reconstruction of his premises would yield in ease and smoothness in the conduct of business; how much economy in the shop would be effected by a given addition to the staff in the office, and so on. This is considering differential significances and their equivalences as they affect his business. And all the time he is also considering the prices at which he can obtain these several factors, dependent upon their differential significances to other people in other businesses. His skill consists, like that of the housewife in the market, in expanding and contracting his expenditure on the several factors of production so as to bring their differential significances to himself into coincidence with their market prices. And note that the same principle can be applied without any difficulty to such immaterial factors of efficiency as "goodwill" or notoriety; but it would delay us too long to work this out or to anticipate possible objections. A hint must suffice.

Here, then, we have a firm theoretical basis for the study of distribution, independent of the particular form of organisation of a business. Whether those in command of the several factors of production meet and discuss the principles upon which the actual proceeds of the business shall be divided, when they are realised; or whether some one person takes the risks (on his own behalf or on behalf of a group of others), and discounts the estimated significance of the several factors, buying up their several

interests in the product, by paying wages and salaries, interest, and rent, and by purchasing machinery and raw material, and so forth; or whatever other mechanism may be adopted, the underlying principle is the same. The differential equivalence of the factors of production reduces them to a common measure, and when they are all expressed in the same unit the problem of the division of the product amongst them is solved in principle.

Now I conceive that the application of this differential method to economics must tend to enlarge and to harmonise our conception of the scope of the study, and to keep it in constant touch with the wider ethical, social, and sociological problems and aspirations from which it must always draw its inspiration and derive its interest; for if we really understand and accept the principle of differential significances we shall realise, as already pointed out, that Aristotle's system of ethics and our reconstructed system of economics are twin applications of one identical principle or law, and that our conduct in business is but a phase or part of our conduct in life, both being determined by our sense, such as it is, of differential significances and their changing weights as the integrals of which they are the differences expand or contract. Cæsar, "that day he overcame the Nervii," being surprised by the enemy, contracted his exhortation to the troops, but did not omit it. In his distribution of the time at his disposal the differential significance of prompt movement was higher than usual in relation to the differential significance of stirring words from their beloved and trusted commander addressed to the soldiers as they entered upon action. An ardent lover may decline a business interview in order to keep an appointment with his lady-love, but there will be a point at which its estimated bearing upon his prospects of an early settlement will make him break his appointment with the lady in favour of the business interview. A man of leisure with a taste for literature and a taste for gardening will have to apportion time, money, and attention between them, and consciously or unconsciously will balance against each other the differential significances involved. All these, therefore, are making selections and choosing between alternatives on precisely the same principle and under precisely the same law as those which dominate the transactions of the housewife in the market, or the management of a great factory or iron-works, or the business of a bill-broker.

A full realisation of this will produce two effects. In the first place, it will put an end to all attempts to find "laws" proper

to our conduct in economic relations. There are none. Hitherto economists for the most part have been vaguely conscious that the ultimate laws of economic conduct must be psychological, and, feeling the necessity of determining some defining boundaries of their study, have sought to make a selection of the motives and aims that are to be recognised by it. Hence the simplified psychology of the "economic man," now generally abandoned—but abandoned grudgingly, by piecemeal, under pressure, and with constant attempts to patch up what ought to be cast away. There is no occasion to define the economic motive, or the psychology of the economic man, for economics study a type of relation, not a type of motive, and the psychological law that dominates economics dominates life. We may either ignore all motives or admit all to our consideration, as occasion demands, but there is no rhyme or reason in selecting certain motives that shall and certain others that shall not be recognised by the economist.

In the second place, when taken off the wrong track we shall be able to find the right one, and shall understand that the proper field of economic study is, in the first instance, the type of relationship into which men spontaneously enter, when they find that they can best further their own purposes by approaching them indirectly. There is seldom a direct line by which a man can make his faculties and his specialised possessions minister continuously to all his purposes, or even to the greater part or the most importunate part of them. He must find someone else to whose purposes he can directly devote his powers or lend his resources in order that he may generalise his specific capacity or possession, and then again specialise this generalised command in the direction his tastes or needs dictate. The industrial world is a spontaneous organisation for transmuting what every man has into what he desires, wholly irrespective of what his desires may be.

And, in the third place, this truer conception of the economic field of investigation, coupled with the sense of the unity of fundamental law and fundamental motive that sways our economic and our non-economic action, will throw a constantly increasing emphasis upon the fact that our economic life is not and cannot be isolated, but is at every point combined with the direct expression of character and indulgence of taste, while the human relations into which it brings us are constantly waking in us a direct interest (whether of attraction or repulsion) in those purposes of others which we are directly furthering as an indirect means of furthering our own, purposes which we have indeed adopted, but

beyond which we look whenever we reflect. There is no reason why means should not, to an undefined extent, be from the beginning, or become, in course of time, ends in themselves, while still continuing to be means; nor, alas, is there any guarantee that they will not be, or will not become, negative and repellent as ends, either through physical weariness or moral repulsion. Perhaps most men's "occupations" combine both characteristics.

Again, the realisation of the exact nature of the economic organisation as a machinery for combining in mutual helpfulness persons whose ends are diverse, will drive it home to our consciousness that one man's want is another man's opportunity, and that it may serve a man's turn to create a want or a passion in another in order that he may find his opportunity in it. All along the line, from a certain type of ingenious advertiser to the financier (if he really exists) who engineers a war in order that he may arrange a war loan, we may study the creation of wants and passions, destructive of general welfare, for the sake of securing wealth to individuals. And we may realise the deeply significant truth that to any individual the full discharge of his industrial function—that is to say, the complete satisfaction or disappearance, by whatever means, of the want which he is there to satisfy—must be, if he contemplates it, a nightmare; for it would mean that he would be "out of work," that because no one wants what he can give no one wants him, and neither will anyone give him what he wants.

Yet again, in our industrial relations the thing we are doing is indeed an end, but it is someone else's end, not ours; and, as far as the relation is really economic, the significance *to us* of what we are doing is measured not by its importance to the man for whom it is done, but by the degree to which it furthers our own ends. There can, therefore, be no presumption of any coincidence between the social significance of our work and the return we receive for it. We cannot say, "What men most care for they will pay most for, therefore what is most highly paid is most cared for," for (sometimes to our positive knowledge, and generally "for all we know") it is different men who express their eagerness for the different things we are comparing, by offering such-and-such prices, and those who offer little money for a thing may do so not because what they demand signifies so little, but because what they would have to give, or to forgo, for it signifies so much. They may offer little for a thing not because its possession matters so little but because their possession of anything, including this particular thing, matters so much.

These and other such considerations will not directly affect our exposition of the mechanism of the market, the central phenomenon of the industrial world, but they will profoundly affect the spirit in which we approach, and in which we conduct, our investigation of it. For we shall not only know but shall always feel that the economic machine is constructed and moved by individuals for individual ends, and that its social effect is incidental. It is a means and its whole value consists in the nature of the ends it subserves and its efficacy in subserving them. The collective wealth of a community ceases to be a matter of much direct significance to us, for if one man has a million pounds, and a hundred others have ten pounds each, the collective wealth is the same as if the hundred and one men had a thousand each. What are we to expect from a survey made from a point of view from which these two things are indistinguishable? The market does not tell us in any fruitful sense what are the "national," "social," or "collective" wants, or means of satisfaction, of a community, for it can only give us *sums*, and the significance of a sum varies indefinitely according to its distribution.

If we reflect on these things—and the study of differential significances forces us to reflect upon them—we shall never for a moment, in our economic investigations, be able to escape from the pressure of the consciousness that they derive their whole significance from their social and vital bearings, and that the categories under which we usually discuss them conceal rather than reveal their meaning. We shall understand that this ultimate significance is determined by ethical considerations; that the sanity of men's desires matters more than the abundance of their means of accomplishing them; that the chief dangers of poverty and wealth alike are to be found in degeneracy of desire, and that the final goal of education and of legislation alike must be to thwart corrupt and degrading ends, to stimulate worthy desires, to infect the mind with a wholesome scheme of values, and to direct means into the channels where they are likeliest to conduce to worthy ends.

To sum up this branch of our examination, the differential theory of economics will never allow us to forget that organised "production," which is the proper economic field, is a means only, and derives its whole significance from its relation to "consumption" or "fruition," which is the vital field, and covers all the ends to which production is a means; and, moreover, the economic laws must not be sought and cannot be found on the properly economic field. It is on the vital field, then, that the laws of

economics must be discovered and studied, and the data of economics interpreted. To recognise this will be to humanise economics.

The merit of our present organisation of industry is to be found in the extent to which it is spontaneous, and lays every man, whatever his ends, under the necessity of seeking some other man whom he can serve, in order to accomplish them. So far it is social, for it compels the individual to relate himself to others. But the more we analyse the life of society the less can we rest upon the "economic harmonies"; and the better we understand the true function of the "market," in its widest sense, the more fully shall we realise that it never has been left to itself, and the more deeply shall we feel that it never must be. Economics must be the handmaid of sociology.

II.

Let me now proceed to the consideration of a few points in which I think the traditional methods of technical exposition need reconsideration in the light of the differential theory.

At the root of all lies a profound modification of our conception of the nature and function of the "market" itself. The differential theory when applied to exchangeable things tells us that there is equilibrium only when an exchangeable commodity is so distributed that everyone who possesses it assigns the same place to its differential value, amongst those of other commodities of which he has a supply; and that this place is a higher one than it occupies on the relative scale of anyone who does not possess it. What this place is—that is to say, the differential equivalence of the commodity in terms of other commodities, when equilibrium is established—is fixed absolutely by two determinants. These are:—(1) The tastes, desires, and resources of the individuals constituting the society. When objectively measured and expressed, these individual desires for any one commodity can be represented by curves capable of being summed; and the resultant curve, objectively homogeneous but covering undefined differences of vital or subjective significance, is usually called, so far as it is understood and realised, the "curve of demand." This is one of the determinants we are examining, and it represents a series of hypothetically co-existing relations between given hypothetical supplies and corresponding differential significances. It is a curve representing a function. (2) The amount of the actual supply existing in the community. This is not a curve at all, but an actual

quantity. It is not a series of co-existing relations, but one single fact, and it determines which of the series of hypothetical or potential relations represented by the curve shall be actually realised.

But what about the "supply curve" that usually figures as a determinant of price, co-ordinate with the demand curve? I say it boldly and baldly: There is no such thing. When we are speaking of a marketable commodity, what is usually called the supply curve is in reality the demand curve of those who possess the commodity; for it shows the exact place which every successive unit of the commodity holds in their relative scale of estimates. The so-called supply curve, therefore, is simply a part of the total demand curve which we have already described as factor (1). The separating out of this portion of the demand curve and reversing it in the diagram is a process which has its meaning and its legitimate function, as we shall see in a moment, but is wholly irrelevant to the determination of the price.

The intercourse of the market enables all the parties concerned to find their places with respect to each other on the general demand curve. Each individual, whether or not he possesses a stock of the commodity, brings his own individual curve of demand into the market, and there relates it to all the other individual curves of demand, thus constituting the collective curve, which (together with the amount of the commodity available) determines the price, *i.e.*, the (objective) height of the lowest demand for a unit of the commodity which the available amount will suffice to reach.

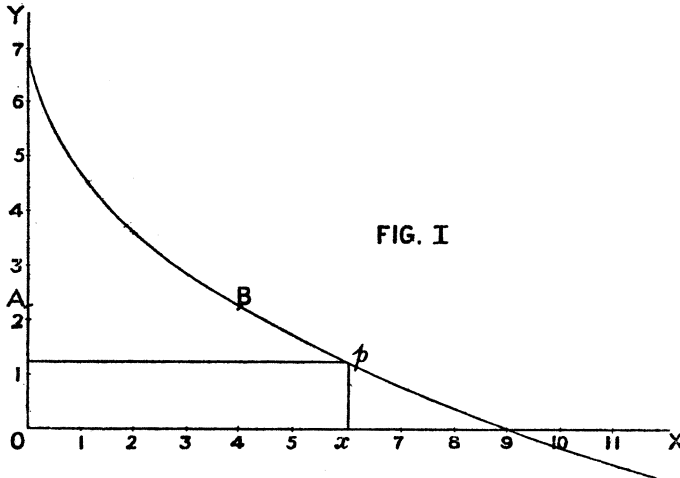
The ordinary method of presenting the demand curve in two sections tells us the extent to which the present distribution of the commodity departs from that of equilibrium, and therefore the extent of the transactions that will be required to reach equilibrium. But it is the single combined curve alone that tells us what the equilibrium price will be. The customary representation of cross curves confounds the process by which the price is discovered with the ultimate facts that determine it.

Diagrams of intersecting curves (and corresponding tables) of demand prices and supply prices are therefore profoundly misleading. They co-ordinate as two determinants what are really only two separated portions of one; and they conceal altogether the existence and operation of what is really the second determinant. For it will be found on a careful analysis that the construction of a diagram of intersecting demand and "supply" curves always involves, but never reveals, a definite assumption

as to the amount of the total supply possessed by the supposed buyers and the supposed sellers taken together as a single homogeneous body, and that if this total is changed the emerging price changes too; whereas a change in its initial distribution (if the collective curve is unaffected, while the component or intersecting curves change) will have no effect on the market, or equilibrating price itself, which will come out exactly the same. Naturally, for neither the one curve nor the one quantity which determine the price has been changed.

The accompanying diagrams may suggest to the reader a method of testing the validity of the argument in the text.

Ox in both figures represents the amount of the commodity, and the curve in Fig. 1 represents the total demand curve. The resultant price is px .



None of these data are altered in Fig. 2, but the demand curves of the possessors (collectively) and the non-possessors (collectively) are separated out from each other, as representing the conditions under which the market opens. Two different hypotheses as to this initial distribution of the stock are represented by the dotted and the continuous lines. But in each case, of course, the condition of preserving the data of Fig. 1 intact determines that at any price OA , the line AB (Fig. 1) shall be equal to the sum $Ab + ab'$ or $A\beta + a\beta'$ (Fig. 2). If this condition is observed, the intersection must be at the height xp , when AB or its equivalent sum in Fig. 2 equals Ox .

The dotted lines represent a market that opens with conditions nearer to equilibrium than those represented by the con-

tinuous lines; and in the one case only Ox' will change hands, whereas in the other Ox'' will do so. But this has nothing to do with the price.¹

The curve of supply prices, then, is a mere *alias* of a portion of the demand curve. But so far we have only dealt with the market in the narrower sense. Our investigations throw sufficient light on the distribution of the hay harvest, for instance, or on the "catch" of a fishing fleet. But where the production is continuous, as in mining or in ironworks, will the same theory still suffice to guide us? Here again we encounter the attempt to establish two co-ordinate principles, diagrammatically represented by two intersecting curves; for though the "cost of production" theory of value is generally repudiated, we are still too often taught to look for the forces that determine the stream of supply

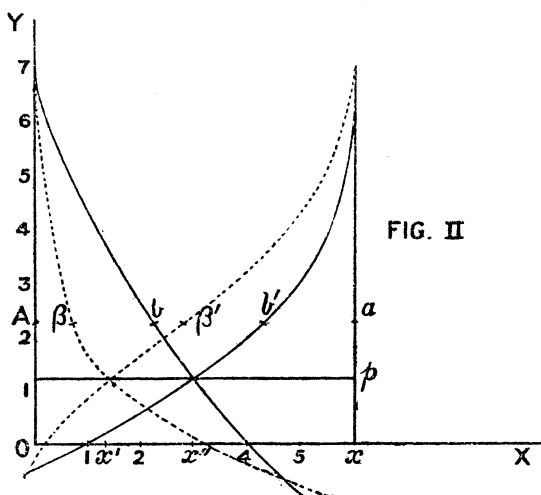


FIG. II

along two lines, the value of the product, regulated by the law of the market, and the cost of production. But what is cost of production? In the market of commodities I am ready to give as much as the article is worth to me, and I cannot get it unless I give as much as it is worth to others. In the same way, if I employ land or labour or tools to produce something, I shall be ready to give as much as they are worth to me, and I shall have to give as much as they are worth to others—always, of course, differentially. Their worth to me is determined by their differential effect upon *my* product, their worth to others by the like effect upon *their* products (or direct fruitions, if they do not apply

¹ For further details and the treatment of possible objections, see my *Common Sense of Political Economy*, Book II., ch. iv.

them industrially). Again we have an *alias* merely. Cost of production is merely the form in which the desiredness a thing possesses for someone else presents itself to me.¹ When we take the collective curve of demand for any factor of production we see again that it is entirely composed of demands, and my adjustment of my own demands to the conditions imposed by the demands of others is of exactly the same nature whether I am buying cabbages or factors for the production of steel plates. I have to adjust my desire for a thing to the desires of others for the same thing, not to find some principle other than that of desiredness, co-ordinate with it as a second determinant of market price. The second determinant, here as everywhere, is the supply. It is not until we have perfectly grasped the truth that costs of production of one thing are nothing whatever but an *alias* of efficiencies in production of other things that we shall be finally emancipated from the ancient fallacy we have so often thrust out at the door, while always leaving the window open for its return.

I now turn to some of the most obvious consequences of the differential theory of distribution. They are all included in the one statement that when fully grasped this theory must destroy the very conception of separate laws of distribution such as the law of rent, the law of interest, or the law of wages. It is by determining the differential equivalence of all the factors of production, however heterogeneous, that we reduce them to a common measure and establish the theory of distribution; just as it is by determining the differential equivalence of all our pursuits and possessions that we attempt to place a shilling or an hour or an effort of the mind where it will tell best, and so distribute our money or time or mental energy well. There can no more be a law of rent than there can be a law of the price of shoes distinct from the general law of the market. The way in which the several factors render their service to production differs, but the differential service they render is in every case

¹ I do not deny that, as we recede from the market and deal with long periods and the ultimate conditions on which nature yields her stores, cases may arise in which something like a "supply curve" seems legitimate. The terms on which nature yields increasing supplies of some raw material, for instance, can not legitimately be regarded as the reserve prices in which she expresses her own demand! But even here in the last analysis, and when we consider the enormous range of the principle of "substitution" and the pressures that determine the directions taken by inventive genius, I believe we shall be thrown back in all important cases upon modifications in the demands upon human energy and expressions of human vitality and their distribution amongst all the utilities and fruitions that appeal to them.

identical, and it is on this identity or equivalence of service that the possibility of co-ordinated distribution rests. So the economist, though he may begin by giving precision to the student's idea of *how* "waiting," for example, or tools, or mere command of "extension" in space, or manual skill, or experience, or honesty, may affect the value of the product, must end by showing him that their distributive share of the product depends not upon *the way in which* they affect the product (wherein they are all heterogeneous), but on the differential *amount* of their effect (wherein they are all alike). The law of distribution, then, is one, and is governed not by the differences of nature in the factors, but by the identity of their differential effect. With this searchlight we must scrutinise the body of current economic teaching, and must cast out the mischievous survivals that deform it.

On the present occasion severe selection and limitation is, of course, necessary, and I think we cannot do better than take up a few of the current phrases, or conceptions and diagrammatic illustrations connected with the phenomenon of rent. Antecedently we must expect that as there is no theoretical difference between the part played by land and that played by other factors of production (or more direct ministrants to enjoyment), so there can be no general assertion about rent and land which is at once true and distinctive; for, if true, it must be based on that aspect of land which expresses its function in a unit common, say, to capital, and which brings its differential significance, upon which all depends, under the same law; and therefore it cannot be distinctive of land.

Let us test the truth of these anticipations. Ricardo's celebrated law of rent really asserts nothing except that the superior article fetches the superior price, in proportion to its superiority; and it is obvious that all "superiorities" in land, whether arising from "inalienable" properties or from expenditure of capital, tell in exactly the same way upon the rent.

Again, a diagram may easily be constructed in which different qualities of land are represented along the axis of X and their supposed relative fertilities to a fixed application of labour and capital along the axis of Y. The "marginal" land will occupy the extreme place to the right. This is not a functional curve; for the height of y does not depend upon the length of x , the units being expressly so placed on OX as to produce a declining y . It is applicable to land or to anything else of which typical units can be arranged in ascending or descending order of efficiency.

But the same figure has been used as a functional curve in connection with the theory of rent. Take a given fixed area of land of a certain quality and consider what would be its yield if it were "dosed" with a certain quantity of labour and capital represented by a unit on the axis of X. Increase the doses till a further increment of labour and capital would not produce as large an increment in the yield of this land as it would if applied to some other piece of land of the same or different quality, or if turned to some non-agricultural business. The last increment actually applied is the "marginal" increment, and it measures the distributive share of a unit "dose" in the product. The figure and the details of the argument are too familiar to need elaboration; nor can I stay to show that such a curve ought really to pass through the origin, for important as the point is, it does not affect our present investigation; but it is essential to point out that the descriptive and the functional curves just described both present the same appearance, both represent "rent" by a curvilinear surface, both use the term "margin," though in entirely different senses, as determining rent, and are both just as applicable to anything else as to land, and (specifically) ignore the difference between "economic" and "commercial" rent, being just as applicable to one as to the other.

The ambiguous use of "marginal" has naturally caused some confusion (a point to which I shall soon revert), but at present the descriptive curve and "margin" have only been introduced to be dismissed. In the discussion of the functional curve, which we must now continue, I have used the term "marginal" in the sense of "differential" as applied throughout our whole investigation. It is not any peculiarity of the "marginal" increment that makes it yield less than the others. It does not. They all have exactly the same differential effect on the yield, as to which none is after or afore the other. The height of this differential or marginal yield is dependent not upon the nature of each several dose, but upon their aggregate number. What we have here, then, is not a law or theory of rent at all, but the tacit assumption that the differential theory of distribution is true of every factor of production except land, and that rent is what is left after everything that is not rent is taken away. For, observe, land-and-labour is treated as a homogeneous quantity, so that the reduction of heterogeneous factors to a common unit is assumed, and how is this to be done except by comparing their several efficiencies on the product, and so combining them as to keep those efficiencies in differential equivalence

to their market prices, *i.e.*, their efficiencies on other land or in other industries? And thus the principle of marginal or differential efficiency as determining distributive shares in the product has long been quite definitely, though naïvely and unconsciously, asserted in saying that the "marginal" efficiency of this compound factor of production will find the same level in the specified industry and out of it, and will determine its remuneration.

This so-called statement of the law of rent, then, assumes our differential laws of exchange value and distribution, with all their implications, as ruling everywhere *except* in land and rent. Rent is merely what is left when everything except rent is taken away. This can hardly be called a "law," but, such as it is, it is again common to all factors of production. Wages are all that is left when everything that is not wages is taken out. And this is actually the statement of Walker's "law of wages." And so with the rest.

But this is not all. In the treatment of rent that we are examining the differential theory of distribution is avowed with respect to every factor except land; but it is implied with respect to land also. This can be rigidly proved mathematically, as is now beginning to be acknowledged; and even the non-mathematical student can easily perceive that the forms of the figures representing the shares of "land" and "labour-and-capital" respectively are determined not by any peculiarity of land, but by the fact that land is supposed to remain constant, while labour-and-capital vary. But three pounds sterling applied to one acre is the same thing as a third of an acre coming under one pound's worth of culture, and five pounds per acre is a fifth of an acre per pound. Instead of taking an acre, therefore, and considering the difference of yield, as two, three, four, five pounds are expended upon it, let us take one pound and consider the differences of yield, as one-fifth, one-fourth, one-third, one-half of an acre come under it, or in other words, as it spreads itself over these different areas. You will then find that you have a figure in which the same identical data are presented and the same identical results obtained, but the return to land is represented as a rectangle cut off by a line parallel to OX, and the return to labour-and-capital by a curvilinear "surplus" or residuum. So that the supposed law of rent again turns out, in so far as it is true of land, to be true of all the other factors of production. But the unhappy confusion between the geometric properties of an arbitrarily selected constant factor in a diagram and the economic

properties of land has brought dire confusion into economic thought and economic terminology. The Augean stables must be cleansed. We must understand that when the differential distribution is effected there is no surplus or residuum at all; and that any diagram of distribution that represents the shares of the different factors under different geometrical forms is sure to be misleading, and is likely to be particularly mischievous in its misdirection of social imagination and aspiration.

And note, finally, that even in practical problems the supposed peculiar conditions introduced by the rigidly determined quantity of land in existence are non-existent. Any individual can have as much land as he likes if he will pay the price, and he is conscious of no difference in principle whether he is bidding for a certain quality and site of land, or a certain grade of labour or kind of ability, unless it be that in the latter case he is *more* conscious of the limits of supply that no offer of remuneration can stretch.

In conclusion, I will revert to the point, incidentally raised in connection with rent, of the difficulties and confusions connected with terminology.

I have throughout spoken of *differential*, rather than *marginal* significances; for there is a fatal ambiguity in the use of the word "marginal." And yet, after all, I have felt like the man who "did flee from a lion and a bear met him; or went into the house and leaned his hand on the wall, and a serpent bit him," for by a singular perversity of fate or fashion a closely similar ambiguity besets the word "differential" itself, and yet another and equally appropriate term "incremental." All these words have been preoccupied; and curiously enough it is speculations on the nature of rent or projects concerning land that have done the mischief in every case. "Increment," instead of suggesting a small homogeneous addition to any magnitude whatever, at once suggests to the reader of economic literature the "unearned increment of land," so that the "incremental value," "efficacy," or "significance" of anything cannot conveniently carry its proper meaning of the value attached to a small increment or decrement of anything, varying with the expansion or contraction of the supply. This is the conception I have indicated by the term "differential." But here again we are forestalled. "Differential payment," for instance, would generally be understood by readers of economic literature to mean payment made for some articles in excess of that made for others, in consideration of their superiority. Thus, if I were to say that "rent is a differential

charge," I should be supposed to mean that what you pay for a certain piece of land as rent represents the superiority of that piece of land to another that you can get for nothing. In this use of the word everything depends upon the different *quality* of the things compared. But what we want is a word which shall always carry the underlying assumption that we are considering the expansion and contraction of a *homogeneous* supply, the "differential" value of that supply being a function of its breadth or magnitude.

Again, the same theory of rent which regards it as a differential charge, in the sense of a charge due to an inherent difference of quality in the things charged for, assumes that there is some land which bears no rent at all. This is the land on the "margin" of cultivation. Hence "marginal" has come to be used in economic literature to signify the lowest grade or quality of any commodity, or service, or the least favourable set of conditions, that just hold their footing in any industry. Thus the marginal land would mean the worst land under cultivation, the marginal workman the least efficient man in actual employment, the marginal conditions of an industry the least advantageous conditions under which it is actually conducted, and, I suppose, the marginal grade of potatoes or wheat the worst quality actually in the market; or to the hungry individual the marginal mouthful of beef would be the one just not rejected and left on the plate because too largely composed of "veins" to be eaten, even if no more of any kind were to be had.

Now attempts have been made to erect a theory of distribution upon the consideration of "margins" in this sense. The "marginal" man, working on the "marginal" land, under the "marginal" conditions, and with the "marginal" appliances, is taken as the ultimate basis of the pile, and wages, rent and interest are explained as "differential" in their nature; that is to say, as due to the superiority in quality, position, or point of application, of such-and-such work, land, or apparatus, over the "marginal" specimens.

I do not stay to examine this theory on its merits; but it is necessary to insist on the almost incredible fact that there is constant confusion between it and what I have tried to expound as the "differential" theory of distribution, simply because they can both be described as "marginal," and the term "differential," though in quite divergent senses, may be introduced in the exposition of either.

Once again, then, if I speak of the differential or marginal

significance of my supply of bread and milk, and say that it depends, *ceteris paribus*, upon how many loaves of bread and how many pints of milk I take, I am supposing all the bread and milk to be of the same quality. And if I speak of the differential or marginal significance of labour in a particular industry, I am either speaking of a uniform grade of labour or of different grades reduced to some common measure and expressed in one and the same unit, and I mean the significance which such a unit has when it is one out of so many others like itself. Thus, in my use of the word, there is no ear-marked marginal unit, which is such in virtue of its special quality. Any one of 100 units has exactly the same marginal value; but as soon as one unit is withdrawn, all the remaining 99 have a higher marginal value; and when one is added, all the 101 a lower.

The only word I can think of free from misleading associations would be "quotal"; for *quotus* means (amongst other things) "one out of how many," and so *quotal* significance might mean the significance which a unit has when associated with such-and-such a number of others *homogeneous with itself*.

Here I must close these almost random indications of some of the directions in which I think that convinced apostles of the differential economics should revise the methods of economic exposition. For myself I cannot but believe that if this were accomplished, all serious opposition to the doctrine would cease, that there would once again be a body of accepted economic doctrine, and that Jevons's dream would be accomplished and economic science re-established "on a sensible basis."

It is impossible to exaggerate the importance of such a consummation. Social reformers and legislators will never be economists, and they will always work on economic theory of one kind or another. They will quote and apply such dicta as they can assimilate, and such acknowledged principles as seem to serve their turn. Let us suppose there were a recognised body of economic doctrine the truth and relevancy of which perpetually revealed itself to all who looked below the surface, which taught men what to expect and how to analyse their experience; which insisted at every turn on the illuminating relation between our conduct in life and our conduct in business; which drove the analysis of our daily administration of our individual resources deeper, and thereby dissipated the mist that hangs about our economic relations, and concentrated attention upon the uniting and all-penetrating principles of our study. Economics might even then be no more than a feeble barrier against passion, and might afford

but a feeble light to guide honest enthusiasm, but it would exert a steady and a cumulative pressure, making for the truth. While the experts worked on severer methods than ever, popularisers would be found to drive homely illustrations and analogies into the general consciousness; and the roughly understood dicta bandied about in the name of Political Economy would at any rate stand in some relation to truth and to experience, instead of being, as they too often are at present, a mere armoury of consecrated paradoxes that cannot be understood because they are not true, that everyone uses as weapons while no one grasps them as principles.

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