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The Anti-Samuelson

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Chapter 15: Marginal-Utility Theory (S's Chapter 22)

1. HISTORY OF THE THEORY

OBJECTIVE AND SUBJECTIVE VALUE

Since modern bourgeois economists tend to pooh-pooh the classical and/or Marxist insistence on the strict separation of objective and subjective moments, it is only appropriate to begin by devoting some attention to the differences. Of course, the historical development of the question of subjective value complicates matters. Since S manages to fill literally hundreds of pages with graphs, charts, anecdotes, and tables of little value, it seems strange that there is no "space" to discuss this "fundamental notion." But even from his paltry description of utility (which he places in quotation marks at its introduction [431], presumably to indicate his distance from it), reveals his attitude toward it.

The two lines devoted to utility are followed by the statement that the "law" of diminishing marginal utility (as always this concept remains unexplained) concerns the "Behavior of psychological utility" (we are never told whether there is another sort of utility).

Such a psychological approach would fit in well with the prior development of "orthodox" theory. Thus Friedrich von Wieser, one of the founders of marginal-utility theory, proclaimed that the "doctrine of value is . . . applied psychology." And C. Menger explicitly relates value to the perception of scarcity: value does not exist outside the human consciousness.²

It is extremely interesting to compare this position with



that of the English anti-Ricardian Samuel Bailey (1791-1870). In addition to insisting upon the purely relative nature of value, Bailey introduced subjective criteria. Thus value became definitely disconnected from a specific societal process of production:

When we consider objects in themselves, without reference to each other; the emotion or pleasure or satisfaction, with which we regard their utility or beauty, can scarcely take the appellation of value. It is only when objects are considered as subjects of preference or exchange, that the specific feeling of value can arise.3

For Bailey then an inquiry into the causes of value is, in reality, an inquiry

into those external circumstances, which operate so steadily upon the minds of men, in the interchange of the necessaries, comforts, and conveniences of life, as to be subjects of interference and calculation. . . . Whatever circumstances . . . act with assignable influence, whether mediately or immediately, on the mind in the interchange of commodities, may be considered as causes of value.4

Marx takes up this matter in the third volume of *Theories* of Surplus Value, where he devotes almost fifty pages to Bailey. Marx considers that simply to characterize the value-determining or -causing factors that influence the mind does not at all enlighten us about the nature of those factors. Marx's commentary on the Bailey passage should be quoted in full, because it contains a concise statement of Marx's understanding of the objectivity that characterizes the economic base:

This means in fact nothing but: The cause of the value of a commodity or of the equivalence between two commodities are the circumstances which determine the seller or also the buyer and the seller to consider anything to be the value or the equivalent of a commodity. The "circumstances" which determine the value of a commodity are not any further recognized by qualifying them as circumstances which affect the "mind" of



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those who exchange, which as such circumstances lies in the consciousness of those who exchange (or then again perhaps not, or perhaps only falsely perceived).

The same circumstances (independent of the mind, although affecting it) which compel the producers to sell their products as commodities—circumstances which distinguish one form of social production from the other—give their products (also for their mind) an exchange value independent of the use value. Their "mind," their consciousness, may well not know . . . through what circumstances in fact the value of their commodities or their products as values are determined. They are set in relations which determine their mind without their having to know it. Everyone can use money as money without knowing what money is. Economic categories are reflected in the consciousness in a very inverted way.

It may sound very democratic to assert that people's preferences determine production, but this stands in contradiction to the workings of the accumulation process.

With respect to causality we can say the following: both in the Austrian school (Menger, Wieser, Boehm-Bawerk) and in the mathematical school (Jevons, Walras, Pareto) we get a theory that sacrifies causal explanations. Although this is more obvious among the mathematicians, the Austrians are no better off; for with them, the various Robinson Crusoe stories play the same role of providing a protective cover for their causalityless theories. Since their theory of "objective" value needs a subjective value not previously influenced by market prices, the Robinson stories fulfill this task. In fact, it would be no exaggeration to state that the theory of supply and demand is the base and the marginal-utility apparatus only a superstructure or ornament. Marginal utility assumes a helping role vis-à-vis a theory of demand: with a given quantity of commodities it determines maximum price; with a given price, it determines maximum demand.

The sham of marginal utility can be seen very clearly in Marshall when he says: "We cannot express a person's demand for a thing by the 'amount he is willing to buy," or by the 'intensity of his eagerness to buy a certain amount," without reference to the prices at which he would buy that



amount and other amounts." Before that he introduced the "law of satiable wants or of diminishing utility": namely that total utility of a thing does not increase as quickly as the increase of the stock (Gossen's first law). Then he wishes to "translate this law of diminishing utility into terms of price." The translation is quite simple: it is our old friend the "law of downward-sloping demand," which, according to S, "is in accordance with common sense and has been known in at least a vague way since the beginning of recorded history" (61). Marshall can deduce the "law" of downward-sloping demand curve from the "law" of diminishing utility only because he has already introduced the former into the latter: namely his identification of maximum price and utility.

Thus Marshall can "deduce" one law from the other only because he has made the two into one. With S this is somewhat more difficult to prove, since some 350 pages separate his chapter on supply and demand and that on utility. But nevertheless he repeats uncritically that it was only after "hitting upon" the notion of marginal utility that economists "felt able for the first time to derive the demand curve and explain its properties" (431). And in his summary to the chapter, S expresses himself even more clearly: "The concepts of total and marginal utility were introduced to explain the law of downward-sloping demand" (438).

The identification of the two "laws" is incorrect because the main reason for the drop in the demand curve lies in the fact that with increasing purchases the purchasing power at the disposal of the buyer or demander declines. Diminishing utility, though obviously not entirely devoid of a rationality, is not quite so suprahistorical as we are led to believe.

Marginal utility assumes that goods be divisible and succesively supplied. But under such conditions utility comparisons can be made only for homogeneous goods. For the most part such goods belong to the group of subsistence items needed in a rather unchanging quantity; in any event, this quantity is determined by the "total utility" of securing one's existence, not on the basis of marginal con-



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siderations. On the whole, goods transcending the subsistence level do not fit into the above two assumptions—divisibility and supply with successive units—and thus a priori are disqualified from marginal treatment.

THE SOCIETAL BACKGROUND OF THE THESIS OF EQUAL MARGINAL UTILITY PER DOLLAR OF EVERY GOOD

Next we are treated to a discussion of "the process of rational choice" or "the fundamental equilibrium condition" necessary to make a consumer "truly best off in terms of utility or well-being," which finally becomes transmuted into "a law of logic itself" (7th ed., pp. 419, 422); this of course is the "proportionality" thesis, namely that the marginal utility per dollar of every good is equal.

This theory has undergone a number of transformations since its first appearance on the bourgeois scene in the middle of the last century. At that time it popped up as what later became known as Gossens second law.⁸ Gossen contended that given the choice among various pleasures but not enough time to enjoy all of them fully, a person wishing to attain maximum pleasure would partially enjoy all of them before fully enjoying the greatest pleasures, so that at the time he interrupted his activity the magnitude of pleasure received from each one would be equal (regardless of the absolute differences).

In Jevons we get a similar statement: if a stock of a commodity be capable of two distinct uses, "it is the inevitable tendency of human nature" to choose the combination offering the "greatest advantage."

Hence, when the person remains satisfied with the distribution he has made, it follows that no alteration would yield him more pleasure; which amounts to saying that an increment of commodity would yield exactly as much utility in one use as in another. . . . We must, in other words, have the *final degrees of utility* in the two uses equal.

The same reasoning which applies to uses of the same commodity will evidently apply to any two uses, and hence to all uses simultaneously. . . . The general result is that commodity,



if consumed by a perfectly wise person, must be consumed with a maximum production of utility.9

Now it would appear that such a "law" presupposes at least these two conditions: (1) that there are different commodities and the possibility of substitution or changing of proportions (in the absence of such possibilities the postulate of maximum utility would be undermined); and (2) that there is a limited possibility of full satisfaction (otherwise the question of choice would make no sense).

A close look at these conditions would indicate that Gossen's second law presupposes the existence of commodity production: with money one can buy any commodity, but the amount of money at anyone's disposal is limited.

The unreal nature of this "law of logic" has not been overlooked by some of the more realistic bourgeois economists. Thus Hans Mayer took a critical position. He indicated that there were two modes of "deriving" this law: one empirical and one psychological. As to the former, Mayer objects that empirical study shows that, say, a 10 percent increase in income does not lead to a uniform increment in all consumption items. Some remain unchanged, others rise, and still others drop, and all in different proportions. The same holds true for a drop in income.

As far as the psychological derivation (à la Jevons) is concerned, which allegedly explains the empirical behavior of economic subjects, Mayer points out that the proposition that maximum utility has been attained when the marginal increments bring about equal marginal utilities rests upon a petitio principii: "The last increments in all... kinds of goods must have equal degrees of marginal utility; otherwise one would have made other arrangements!" 10

Another important unrealistic assumption of the psychological derivation maintains that in all types of needs the same intensities of satisfaction appear simultaneously; only under this assumption could marginal increments lead to equal utility increments. Against this Mayer notes that not only is there a complementarity of needs (intensities of satisfaction for one good can depend on the intensities already reached for other goods), but that such interdepen-



dence is not a general mutual dependence but rather a genetic and causal relation, so that some needs become immediate only after other needs have already been satisfied in part or in full. (By this Mayer does not mean the commonplace "dynamic" development of "higher" needs, but rather the "static" course of appearance on the scene of needs that have already been formed and exist; e.g., someone who is starving will not have an immediate need for paintings.) But if the above is true—i.e., if heterogeneous needs do not become "relevant" simultaneously, do not coexist—then the "psychic foundation" of Gossen's second law is destroyed.

In the course of a "digression" on substitution effects, S lets the cat out of the bag as far as his silent assumptions about *the* consumer are concerned. Since *the* consumer will shift to other goods if the customary ones become too expensive, he is doing "only what every businessman does when rises in the price of one productive factor cause him to adjust his production methods so as to substitute cheap inputs for the dear inputs. . . . Similarly do consumers buy satisfaction at least cost" (435).

This is, as it were, a textbook case of what Crosser calls designification, or the removal of social content form political-economic categories. ¹¹ Marginal productivity made a giant step in this direction by placing the "inputs" land, labor, and capital on the same categorical level. Now S comes along and removes the distinction between the motives for production and consumption. We are told that consumer rationality is no different from, is in fact identical with, production rationality.

S does not even have the modesty to suggest that this claim be limited to capitalism; it supposedly characterizes all production and consumption. Let us first look at how this would presumably function in capitalism. On the production side we get as the basic mechanism the equalization of the rate of profit. Increased profits in any sphere of investment will lead to capital inflow there, which in turn will lead to higher production, which in turn will lead to lower prices (supply will out-run demand), and finally to a drop in the rate of profit. Equilibrium will be reached when



the rate of profit is equal in all branches and there is no longer motive for further movement.

On the consumption side this would mean that increased consumption of any good would lead to increasing total satisfaction but also to diminishing marginal utility. Equilibrium will be reached when there are equal marginal utilities per dollar, for then there will be no further stimulus to substitution.

There can be no doubt that this identification is a violent one: the principles guiding capitalist producers have been gratuitously ascribed to consumers in general. But even on an empirical level S's chatter is refuted by the existence of classes in our society. It is just not true for vast numbers of the bourgeousie that if the price of tea goes up "it pays . . . to substitute other goods for tea in order to maintain one's standard of living most cheaply" (434 f.). This insight is not any major theoretical breakthrough on our part; and if confronted with this, S and Co. would doubtless retreat to some quantitative income line, above which the rules of rational consumption lose their meaning. Still such an admission of the class nature of consumption (that in fact on the market all are not equal) is politically significant. Furthermore, the material preconditions do exist for a society in which the mass of the people would be as concerned with the "price" of tea as is Rockefeller.

One major reason that S can get away with this nonsense derives from the standard Robbins definition of economics which he accepts, and which contains within it the concept of rationality peculiar to equal marginal utilities per dollar. Since economics merely becomes a science studying human behavior as the relation between ends and scarce means having alternative uses, it becomes absorbed into a universal theory of action not allowing for socio-historical differentiation.

In the first edition S appears much more moderate and positivistic: he admits that for example diminishing utility "must stand or fall on the basis of the economic behavior of consumers" (pp. 481 f.). If this is refuted by "observable facts," then economists must "modify" their theory. Although S would like to give the impression that he is



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strictly common-sensical and firmly rooted in facts, he is really going around in circles: the fictitious preferences (fictitious in the sense that they are drawn up by the economist himself) are devised to churn out the desired answer: namely the equality of marginal utilities per dollar.

"CONSUMER SURPLUS"

Now we come to the paradox of Value and the idiocy of Consumer Surplus. It is here that the thoroughly eclectic and apologetic base of marginal utility finds its fullest expression.

When the orthodox assert that the value (= price) of the marginal good is determined by the marginal utility of that last part of the stock, they are talking about a natural economy without production (the isolated consumer). When they assert that there is "only one price in a competitive market," and that therefore every unit is sold at the same price as the marginal unit, they are clearly speaking of commodity production, and capitalist commodity production at that, in which the regulating role of the value or production price of a given commodity is assumed by a group of producers operating in an average social situation.

Now the second of these elements is not present in precommodity-producing societies. In these (we mean natural economies, but the following is also valid for Robinson Crusoe) the community will reckon the "utility" of the whole stock of products and from this deduce the "value" of the individual goods. Now in a producing natural economy the entire stock belongs to one physical or "legal" person; the community will evaluate the stock according to the labor-time expended in producing it. Of course, if all the goods of one kind are produced under the same conditions, there will be no difference between a "primary" evaluation of an individual exemplar and a derived evaluation (= total divided by number of items). But where the products are produced under unequal conditions, the whole stock is primary and the individual item is derivative.

The eclectic approach of the subjective school in general

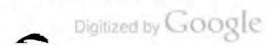


("mixing" elements of commodity production and natural economies) takes as its starting point a single private-economic unit in a commodity-producing society. Such a unit is characterized by rationality within and anarchy in its relations with other economic monads. But this dualism, or dialectic of autonomy, disappears on the total social level where life is unorganized. The subjectivistic school, however, suffers from an inability to understand this dialectic. It either (1) denies the sociality of commodity production (commodity production becomes a sum of totally autonomous individuals), or (2) denies the anarchy (commodity production is turned into an organized economy).

This confusion also permeates equal marginal utilities per dollar. It is significant that S only looks at one side of the deal; for such an approach can make no sense as far as the seller is concerned, precisely because he does not view the commodity produced by him as having any utility for himself.

Here we have a good example of S's eclecticism. The classical subjectivists like Jevons had a way out. They assumed, wrongly, that the only way the proportionality thesis could be made to "work" on both sides of the deal was to construct a seller who merely sold his surpluses, or perhaps even part of his necessities. Then the goods traded by him will also have utility for him. This is of course a ridiculous assumption, especially in light of the further assumption that consumers can fulfill all their needs on the market; that is to say, the two assumptions, production for the market and production for the needs of the producer contradict each other.

S recognizes the most glaring blunders of his predecessors and wishes to avoid them without, however, renouncing their joint apologetic goals. So he merely drops the seller from the formal analysis, and brings him back in the peripheral discussion of consumer surplus, where he interjects this gem: "In a swap, one party does not lose what the other gains. Unlike energy, which cannot be created or destroyed, the well-being of all participants is increased by trade" (437).



This hints at the real purpose consumer surplus is scheduled to play in S's book. He believes that "the important thing is to see how lucky the citizens of modern efficient communities really are. The privilege of being able to buy a vast array of goods at low prices cannot be overestimated. This is a humbling thought" (437).

There is a certain irony here; for although Marshall, who gave the notion of consumer surplus polish and shape, meant it as a partial refutation of certain harmonistic interpretations of capitalism, S on the other hand junks the "scientific" application of the notion, using it exclusively for apologetic purposes. He buries the partly critical content of Marshall's conception by subsuming it under precisely the *sort of* harmonistic nonsense Marshall was attacking.

If the marginal utilitarians wish to fool around with subjective magnitudes, that is their business; but when they attempt to compare such fictitious magnitudes with objective ones, they literally arrive at nothingness. The utility measured by the money is subjective; the money measuring the utility is objective. Thus one sum of money viewed from the value side is made equivalent to another sum of money viewed from the side of useful effect. This is nothing but the preclassical confusion of value and use-value.

II. A CRITIQUE OF THE FOUNDATIONS OF UTILITY THEORY

A. DERIVATION OF DEMAND CURVES AND THE WEBER-FECHNER LAW

S begins Chapter 22, entitled "The Theory of Demand and Utility," as follows: "In a competitive market, price is determined by the schedules of supply and demand. But what principles of economics lie behind the demand schedules? . . . In this chapter we shall investigate briefly the economic principles of total utility and marginal utility that underlie the market demand schedule" (428). There is indeed a need to derive the demand curve from some more fundamental principles. Probably the most important reason, from a methodological point of view, is to back up



the claim that the demand curve expresses a *lawlike* relation between price and quantity demanded. That is to say, the demand curve is allegedly more than a mere graph of observed price-quantity correlations; it is supposed to tell us what correlations *would* occur under certain conditions *even* if these conditions never come to pass. For example, the demand curve for wheat is supposed to tell us what quantities of wheat would be purchased at various prices, even at prices which never actually obtain in any market. And mere observation cannot give us these *counterfactual* correlations in addition to the empirically given ones. This requires more theory from which the demand curves can be derived.

Secondly, the desire of bourgeois economists to provide a justification for capitalist institutions such as the market by establishing such theses as consumer sovereignty and the optimality of free-market allocation of resources requires a correlation between demand and supply schedules and the "satisfaction" accorded the consumer who trades in the market. Thus the demand curves are treated as depending on consumer-preference rankings of commodity combinations on the market.

Thirdly, a theoretical derivation is necessary to provide justification for general assertions about the shape and slope of the demand curve. Both demand curves and supply curves must satisfy some restrictive conditions with respect to shape and slope in order to intersect at a uniquely determined price-quantity point. On the demand side, the most well-known of these conditions is the so-called "law of downward-sloping demand," which asserts that if the price of a good is raised, less of it will be demanded, all other things being equal. In this connection S says the following:

Return to the law of downward-sloping demand, which is so basic a law that we have to investigate the economic principles operating in the background to justify and explain it. A century ago economists hit upon the fundamental notion of "marginal utility," and it was from this analysis that they felt able for the first time to derive the demand curve and explain its proper-

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ties. There is space here only to sketch the basic notions underlying such theories, leaving refinements and developments to specialized treatises and advanced economic theory [431].

He then goes on to state the "law of diminishing marginal utility," which was used to provide a foundation for the downward-sloping demand curve. He then describes an alleged psychological basis for this "law," one which was asserted by the early marginal-utility theorists:

Suppose you blindfold a man and ask him to hold out his hand, palm up. Now place a weight on his palm; he certainly will notice it. As you add more units of weight, he notices their addition too. But after his palm is carrying a good deal of weight, you can add just as big a weight as you did in the beginning, and yet this time he will reply that he is not conscious of any addition. In other words, the greater the total weight he is already carrying, the less will be the effect of an extra or marginal unit of weight.

When earlier economists learned that perception of sound, light, and other sensations seemed to show a similar Weber-Fecliner law of decreasing marginal effect, this—rightly or wrongly—gave them even greater confidence in the economic law of diminishing marginal utility [433].

By using the phrase "rightly or wrongly," S withholds his endorsement of this analogy with the Weber-Fechner law. To get his view of the matter, we have to refer to one of his "specialized treatises":

It is clear that in its early formulation [utility analysis] was thought to have very definite, even revolutionary, consequences for the analysis of price and value. Moreover, even today the instinct of the textbook-writer is methodologically sound in his attempt to deduce the negatively sloping demand curve from the Weber-Fechner law and diminishing marginal utility; this does not alter the fact that the whole demonstration is hopelessly fallacious and illogical. 12

Here S both asserts that a presentation such as the one in his textbook is fallacious and claims that it is nevertheless justified. A textbook presentation of fallacious theories may



be justified from an idea-historical or a motivational point of view; however, we must here keep in mind the avowed purpose for which this presentation was made: "to investigate the economic principles operating in the background to justify and explain [the law of downward-sloping demand]" (431). And another passage from one of S's "advanced" papers reveals his view on the suitability of the Weber-Fechner analogy for this purpose: "The discrediting of *utility* as a psychological concept robbed it of its only possible virtue as an *explanation* of human behavior in other than a circular sense, revealing its emptiness as even a construction." ¹³

B. COMPLETENESS, TRANSITIVITY, AND REFLEXIVITY OF PREFERENCES: THE FOUNDATIONS OF UTILITY THEORY

The above-quoted passages from S's Collected Scientific Papers show that he would not invoke the analogy of the Weber-Fechner law with one of his colleagues in an attempt to provide a foundation for the "law of downwardsloping demand." Why then does he do so in his introductory textbook? We believe that he considers this appropriate, because the starting point of utility theory is the preference relation that is supposedly revealed by the decisions of agents, in the same way as the perceptual relation of seeming-heavier-than is revealed by perceivers ordering bodies suitably felt in some weight order. It is this analogy to psychophysical relations which led the aforementioned early utility theorists to apply the Weber-Fechner law to explain "diminishing marginal utility." And we feel that, in spite of S's claim (433 n. 3) that a psychological notion of utility is not essential to an adequate theory of consumer preferences, and in spite of his attempts in "advanced treatises" on "revealed preference" to do without a psychological utility concept, the analogy to psychophysical relations persists in modern formulations of utility theory. Furthermore, it is this analogy, however it may be covered over, which is primarily responsible for giving utility theory the appearance of scientific plausibility. Consequently, we hope in what follows to undermine the analogy in detail.

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To this end we must begin by elaborating on the analogy more fully. In formulations of utility theory the preference relation is asserted to satisfy certain requirements, each of which has a counterpart in the seeming-heavier-than relation. Thus, just as a person given two material objects—x and y-can decide whether x feels heavier than y or y heavier than x, or both feel equally heavy, in utility theory each consumer must be able to decide with respect to any two combinations of commodities whether he prefers one to the other or whether likes them equally well. This is the requirement of completeness. Secondly, just as if x feels as heavy as or heavier than y, and y as heavy as or heavier than z, x feels equally heavy as or heavier than z, then in utility theory if a consumer prefers x to y and y to z, then he prefers x to z, and similarly, if he is indifferent to x and y and to y and z, then he is indifferent to x and z. This is the requirement of transitivity. Finally, just as the same object does not feel heavier than itself, the consumer cannot prefer any commodity combination to itself. This is the requirement of reflexivity. We may summarize these requirements of utility theory as follows: If x, y, and z are any commodity combination, then

- (1) Either xRy or yRx (completeness)
- (2) If xRy and yRz, then xRz (transitivity)
- (3) xRx (reflexivity).

Here "xRy" is to be read as "x is not preferred to y." There are other ways of formulating these requirements, but for our purposes this is the simplest.

Before going on to a critique of the requirements we shall briefly describe their role in the indifference-curve analysis discussed by S in the Appendix to Chapter 22, which is probably the most popular formulation of utility theory to-day. According to this geometrical for a given consumer approach, an indifference curve is associated with each commodity combination x. This curve consists of all points representing commodity combinations y such that the consumer is indifferent to x and y. In our notation, the indifference curve of x is the set of all y such that xRy and yRx.

To derive demand curves from indifference curves, the latter must meet certain stringent requirements. We need to

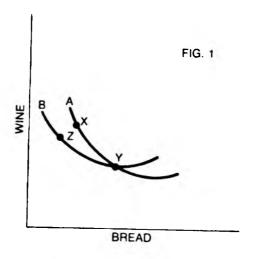


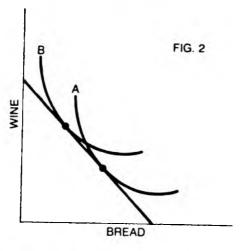
know what commodity combination would be chosen at any given set of prices. As S points out, this can be determined, given the consumer's income, by constructing a budget line corresponding to the given income and a given set of prices. It is then assumed that the consumer will choose the commodity combination on his budget line which represents maximum satisfaction for him. According to indifference-curve analysis, this optimum point is the point of tangency between the budget line and the highest indifference curve—i.e., the curve "farthest away" from the origin. This unique point of tangency presupposes that the layout of the indifference curves on the graph satisfy the stringent requirements alluded to above: first, movement away from the origin must represent an increase in satisfaction; second, the indifference curves must be shaped so as to allow a unique point of tangency with the budget line.

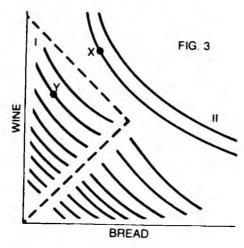
If the preference relation does not satisfy conditions (1)-(3), then the indifference curves will not satisfy these two requirements. First, if transitivity fails, then the indifference curves could cross each other as in Figure 1. Figure 1 is a graph of the situation in which the consumer is indifferent to x and y and to y and z, but not to x and z, as transitivity would require; rather he prefers x to z. If this situation could occur, then more than one point of tangency would be possible with a budget line (see Figure 2), and there would be no clear sense in which increasing satisfaction could be identified with movement away from the origin, since there is no clear sense in which we can say that curve A is farther from the origin than curve B, or vice versa.

Secondly, if reflexivity fails, and thus x could be preferred to itself, then (assuming transivity) any point y such that the consumer is indifferent to y and x would also be preferred to x ("The consumer is indifferent to y and x" and "The consumer prefers x to x" imply by transitivity "The consumer prefers y to x"). This would mean that every point on x's indifference curve would be preferred to x, and thus there would again be no sense to correlating increasing satisfaction with movement away from the origin.









Finally, suppose completeness fails. This means that some commodity combinations do not even enter into preference or indifference relations with other commodity combinations. Figure 3 depicts one such possible situation. The points in area I do not enter into preference or indifference relations with points in area II. Thus we cannot say that x is preferred to y, and once again movement away from the origin does not necessarily represent increasing satisfaction. Furthermore, it is clear from the graph that there might be two points of tangency to a budget line, one in area I and another in area II.

Thus we see the importance of requirements (1) –(3) for the indifference-curve formulation of utility theory. Furthermore, this importance is not peculiar to the indifference-curve formulation but extends to the other formulations as well. This is easily demonstrated: Requirements (1) –(3) merely say that the R relation is isomorphic to the less-than-or-equal-to relation among the real numbers. And utility theorists need such isomorphism to buttress their claim that utility is a quantity and consequently admits the possibility of maximization (when subject to certain constraints, such as budget limitation). That is to say, it is essential for utility theorists to be able to construct functions h(x), based on the preference relation, with the following property:

(*) $h(x) \le h(y)$ if and only if xRy,

where h maps commodity combinations into the real numbers. But functions with this property could not exist unless the R relation satisfies (1) - (3), because the less-than-or-equal-to relation itself satisfies (1) - (3), i.e., is complete, transitive, and reflexive.

A word of clarification on the previous paragraph is in order. We are *not* claiming that utility must have a *cardinal* measure to be viable. The construction of a function such as h above is usually called the construction of a *utility function*. Now, the requirement that the utility function satisfy (*) does not imply that the values of the function represent absolute amounts of utility, or that differences in the values of the function represent definite amounts of utility, as



would be required by a function expressing a cardinal measure of utility. The requirement that there be functions satisfying (*) only means that utility be an *ordinal* magnitude; in this case, only *relative* values of the utility function have significance, not its absolute values.

Before going on we wish to note that the "theory of revealed preference" for which S is so well known cannot dispense with the assumption that conditions (1)-(3) obtain. The goal of revealed-preference theory is to dispense with methods such as introspection by making it possible to construct a consumer's utility function from his observed market behavior. But a necessary condition for the possibility of such a construction is that the consumer's behavior conform to certain axioms. And these axioms insure that (1)-(3) hold. 14

C. CRITIQUE OF THE FOUNDATIONS OF UTILITY THEORY

In Marxist terms, it should be clear that marginal utility theory seeks to give a quantitative expression to the notion of use-value and to use this expression to explain value categories and relations—i.e., the superficial notions of supply and demand in markets, and behind them the structure of production and consumption in the society. It is our overall goal to show, via a critique of assumptions (1) - (3), that a scientific notion of use-value cannot be used to this end, and that the bourgeois economists' quantitative notion of use-value is really a disguised value notion which presupposes the money form, and thus cannot be used to give a noncircular explanation of capitalist production relations.

C.1. Empirical Failure of the Basic Assumptions The first thing that need be said in our critique is that assumptions (1)-(3) do not hold true. This is an empirical fact widely accepted by everyone involved with the theory. For instance, when confronted with a decision on preferences, people might legitimately claim that it does not make any sense to say that they prefer one object to another or that they are indifferent to both (for example, does anyone like



a Mercedes and a good night's sleep more than, less than, or equally as well as a house and a walk in the rain?). Such failures of objects to enter into preference relations with each other counter the completeness assumption. Furthermore, it is widely acknowledged that people are not transitive in their preferences; they may prefer wine to roast beef, roast beef to a concert, yet a concert to wine. 14b And finally, reflexivity is also frequently violated. One might ask how this is possible, for on the face of it it is absurd to prefer x to itself. But when we consider the temporal dimension, the seeming absurdity vanishes; for then the failure of reflexivity may simply indicate a change in judgment over time that is to say, if x_1 is the object x the first time judged and x_2 the second, then it is perfectly conceivable that not (x_2Rx_1) , i.e., x, has risen in the agent's preference ranking—he liked x better the second time around.

C.2. Responses to the Empirical Findings Such fundamental breakdowns could not be ignored, especially by a theory which touts its scientific adherence to the subjective. Consequently, several responses to the empirical findings have been made by utility theorists, some of them in the form of denials that the findings refute the theory, others in the form of suggested modifications of the theory in light of the findings. Let us examine some of the most typical moves.

C.2.a. Reflexivity The most common response to the failure of reflexivity is to impose a temporal condition. The theory is restricted to periods in an agent's life when there are no changes in his preference judgments. Such a restriction turns the theory into a kind of preferential statics. While it is a consistent move on the part of utility theorists, it considerably narrows the scope of the theory.

C.2.b. Completeness The reader will recall that people sometimes claim that it just does not make any sense to compare certain objects with respect to preference or indifference. The boldest response to such claims is to deny

their validity and say that such people are mistaken. An agent considering a hypothetical choice may claim that it makes no sense to compare two dissimilar objects, but his real-life situation shows that he does make such comparisons. He must decide on the amount of food and clothing he is to consume, since his income is limited and food and clothing are not free. Thus, so this argument goes, the fact of a limited income and the fact that every commodity has a price *force* all commodities to be comparable.

This argument sounds persuasive; yet, given the functions utility theory is supposed to fulfill in the theory of consumer behavior, it puts the cart before the horse. We would be the last to deny that the value of the most diverse commodities can be compared by means of prices; to make possible such comparisons is the very function of the development of money out of commodity production. And it is certainly true that given a set of prices and incomes, people do buy certain commodity combinations rather than others. What these facts amount to is that in our society products (use-values) are circulated via commodity-money exchange in a market, and at any given time this market has a certain definite price-quantity structure. But these phenomena of the "marketplace" are supposed to be outcomes of the theory built on the preference relation, and therefore cannot be presupposed by it if the theory is to be noncircular. In the formulation of utility theory, the consumer's preference ranking is not supposed to depend on prices or income.14c

C.2.c. Transitivity; Further Discussion on the Salvageability of All Three Conditions We now consider two typical responses to the empirical failures of transitivity. The first is to modify the basic relation of the theory from "x is not preferred to y" to "x is preferred, with lower probability than y." The theory thus weakened allows for occasional failures of transitivity, these being simply racked up to the claim that since we are really only dealing with probabilistic preferences there are bound to be exceptions. (The modified theory is usually called "stochastic" preference



theory.) The second response is to impose a rationality condition on the theory. It is claimed that transitivity is a characteristic of *rational* choice, rather than a necessary feature of every actual choice situation. Since it is a truism that people do not always act rationally, some failures in transitivity are to be expected. One might accept the rationality condition if one believed that people make rational choices most of the time, for then the predictions of the theory could be expected not to diverge too radically from empirical phenomena. This seems to be the option preferred by S.

A consumer is not expected to be a wizard at numbers or graphs, nor need he be, to approximate the demand behavior of this chapter. He can even make most of his decisions unconsciously or out of habit. As long as he is fairly *consistent* in his tastes and actions, all he has to do to make the present analysis relevant is to avoid repeating those mistakes which he found in the past failed to give him the goods and services he most wanted and to avoid making wild and unpredictable changes in his buying behavior. If enough people act in this way, our scientific theory will provide a tolerable approximation to the facts [434].

The argument for the rationality of transitivity is sometimes called the "money-pump argument." In general terms it goes as follows: If agent X has an intransitive choice structure, then given certain presuppositions connecting money with preference he would act in a manner which would force him to lose any amount of money that he starts with. Since the loss of money without any commodity to show for it is obviously irrational, if X is to be rational he must have a transitive preference structure. Let us spell the argument out in more detail. The presumed relation between preference and money is:

(*) If agent X prefers y over z then there is a sum of money S(y, z) depending on y and z such that if X possessed S(y, z) and z, he would exchange them for y.

Further let us assume the following:



- (i) X prefers a over b.
- (ii) X prefers b over c.
- (iii) X prefers c over a.

It should be noted that this is an intransitive preference structure. By (i) and (*), if X possessed b and S(a, b) he would exchange them for a; by (ii) and (*), if he possessed c and S(b, c) he would exchange them for b; and by (iii) and (*), if he possessed a and S(c, a) he would exchange them for c. Let us assume that all these exchanges can be made and that X starts out with c and a sum of money at least equal to S(a, b) + S(b, c) + S(c, a). This situation leads to the following sequence of transactions:

X exchanges c and S(b, c) for b.

Then, X exchanges b and S(a, b) for a.

Finally, X exchanges a and S(c, a) for c.

At the end of this cycle, X is still in possession of c as he was in the beginning; however, he has lost S(a, b) + S(b, c)+ S(c, a) in money. Thus a certain amount of money has been pumped out of him while he is no better off in nonmonetary terms. Since the above cycle can be repeated indefinitely if X does not change his preference structure, he will end up with no money after a certain finite number of cycles. Since only a moron or a lunatic would allow this to happen, it is certainly an irrational state of affairs. Intransitivity is irrational, and hence rational choice is transitive choice.

Although this argument seems persuasive, a number of devastating objections can be made. First of all, the absolutistic presentation of the conclusion is not warranted by the rest of the argument. The above argument has a very definite social context qualifying rational choice; the agent is presumed to live in a society which has private possession, exchange, and money. This is not a universal condition of mankind. The agent lives in a commoditypossessing and -exchanging society in which the conditions of production are sufficiently developed to allow value to be treated quantitatively in the form of money. Once we make this essential qualification from rationality per se to commodity-money rationality, then we see that one use of



the argument and its implications is invalid. The rationality of capitalism has been defended by showing how the main institutions of capitalism are based on the rules of rational choice which is taken as a transcendent notion. But upon analysis rational choice turns out to be merely commodity-money rational choice, and consequently this defense of the rationality of capitalism is reduced to a tautology: capitalism is rational since capitalism rests upon capitalistic rationality. Or put another way: the institutions of commodity production cannot be justified by the above argument without falling into circularity, since those institutions are presupposed by the argument. The ideological and mystificatory nature of the argument thus becomes clear. It stops us from asking the truly scientific question: Is the commodity-money context of human choice in capitalism at this stage in history rational? Ruling out this very question vitiates the usual arguments for consumer sovereignty and optimal allocation of resources under competitive market conditions.

Thus the above argument for the rationality of transitivity presupposes the commodity form in general and the money form in particular. These social relations must therefore be accepted as given and cannot be derived or explained by any theory of economic behavior based on the argument. This restriction vastly reduces the worth of such a theory, for it is surely legitimate to demand that an adequate theory of economic behavior explain the basic economic institutions in which people act. Yet someone might still claim that the theory is valuable and argue that granting that the notion of rational preference presupposes the market and money, we can still explain a great deal with it. For this preference relation does express quantitatively the notion of use-value in capitalist society and thus can be used to determine the particular price-quantity structure of the market at a given time. In other words, transitivity of preferences is indeed rational only given certain institutions, and thus cannot be used to explain or justify these institutions; still, these are the institutions we have, and thus we can count on people to use the appropriate concept of rationality and therefore behave approximately as the theory says they should.

Such a move would concede a great deal, for it would entail giving up much of the attempt to justify capitalist institutions via principles underlying the demand curve. Nevertheless, some bourgeois economists find this line of defense attractive: leave the justification of the institutions presupposed by the use-value notion to other arguments, but point out that once these institutions are accepted the structure of the society at any particular time can be accounted for on the basis of the wishes, hopes, and desires of the members of that society.

It is our contention that the preference relation at the base of utility theory does not adequately capture the structure of use-value even in capitalist society. If our arguments are correct, then one cannot even expect people in capitalist society to have transitive preferences most of the time, much less all of the time.

In our opinion, utility theory does not adequately deal with the fact that preference is a judgment and all that this implies. Thus when a person prefers x over y, what we have is a cognitive act, for at the very least we demand that the person have some knowledge of the objects-enough at least to distinguish them and perhaps to identify them. Picking one item blindfolded and randomly from a box containing other items would not in any event be an act of preference. Consequently, a person's beliefs are essentially involved in any adequate theory of preferential judgment. But given this fact we are forced to ask, what are the objects of the theory? The bodies and events of the world, or these objects under the description provided for them by the agent making the judgment? We have here the intentional aspect of preference, which presents very serious difficulties for utility theory; for if

x is not preferred to y by agent A and x = z, it does not necessarily follow that z is not preferred to y by agent A.

Thus under some descriptions the object x might be preferred to the object y, and under other descriptions it might



not. Given this situation serious doubt is cast on the claim that the preference relation has any fixed properties, whether they be reflexivity, completeness, or transitivity.

There are certain other obvious consequences of seeing preference as a matter of deliberation or judgment. As one's immediate ends change, so do one's preference decisions. For example, if one wanted to build a table, hammers would be preferred to money wrenches, but if one wanted to install water pipes, then a monkey wrench would probably be preferred. Such a reversal is not due to changing tastes but a matter of differing immediate ends affecting one's choices. We can now see how restrictive it is to require that there be no changes in the agent's preference judgments. Such a requirement is tantamount to assuming that the consumer is *single-purposed*.

Utility theorists might object that the restriction is not so drastic as we have made it appear, that the agent's immediate ends are ultimate in not being subordinated to some higher end. For the theory to be applicable the agent must indeed be single-purposed, but only in the sense of having an overriding end to which he subordinates all other purposes. If the agent's immediate ends are themselves subordinated to such an ultimate goal, then his preference ranking can remain stable through changes in immediate ends.

In response to this objection we must ask what this single ultimate end is. It cannot be said that this purpose is the maximization of utility, because the existence of utility as a quantity to be maximized itself depends on the existence of this purpose. That is to say, before we can speak of utility as a quantity, and thus before we can speak of the maximization of utility as an ultimate goal to which all other ends are subordinated, we must first be assured that a person's preferences are structured in accordance with conditions (1)–(3). And this is precisely what is at issue here, i.e., whether (1)-(3) can be expected to be satisfied across changes in immediate ends, because of some more ultimate end. To appeal to the maximization of utility as such an ultimate goal would once again be to fall into circularity. Of course, one might try to avoid this problem by claiming



that utility (or satisfaction, or pleasure) has a prior, introspectively verifiable existence as a quantitative entity the maximization of which can serve as an ultimate purpose. But this is precisely the sort of dubious psychological basis which utility theorists sought to avoid in appealing merely to the structure of a person's preference judgments.

Nor can it be said that the ultimate purpose is the accumulation of value. For this is the ultimate purpose only of capitalists and even of them only qua capitalists. As consumers they have other goals in contradiction to the accumulation of value, as the fund which they deduct from surplus value for their own consumption demonstrates. 15 Here it should be noted that an expressed purpose of some utility theorists is to find an analog in consumption theory to the motive of profit maximization in the theory of production, so as to strengthen the view that everyone in capitalist society, workers included, acts as a capitalist in making economic decisions. Thus we find S asserting:

... a rise in the price of movies relative to stage plays may cause the consumer to seek less of his amusement in the dearer direction. The consumer is doing here only what every businessman does when rises in the price of one productive factor cause him to adjust his production methods so as to substitute cheap inputs for the dear inputs. By this process of substitution, he is able to produce the same output at least total cost. Similarly do consumers buy satisfaction at least cost. [435]

The impossibility of finding an ultimate goal satisfying the requirements of utility theory highlights the ideological nature of this view.

But even if we confine our attention to cases where the agent is somehow single-purposed, the second aspect of deliberation mentioned above creates insuperable difficulties for utility theory. The fact that deliberation involves considering the known properties of alternatives with regard to their effectiveness in accomplishing one's purpose destroys any remaining plausibility the transitivity assumption might have had. For there is no necessity that the many different property-dimensions which are relevant to how well objects satisfy a given purpose arrange them-



selves transitively. This might most easily be seen by way of a hypothetical example. Consider John, a single-purposed individual who wants only to read good fiction. There are three properties which John looks for in a work of fiction: brevity, content or "message," and suspense. These are the good-making properties of fiction, as far as he is concerned, and he views them all as equally important. Suppose first that he is given a choice between books a and b, about which he knows only the following:

(i)

a has a better message than b.

b is shorter than a.

a is more suspenseful than b.

Which book would he choose? It seems reasonable to conclude that he would choose a over b, since a excels in two of the three good-making qualities, which he regards as equally important. There do not seem to be any grounds for calling this an irrational choice.

Now assume instead that he is presented with book b from above and another book, c, and asked which he would prefer, given the following information:

(ii)

b has a better message than c.

b is shorter than c.

c is more suspenseful than b.

It seems reasonable, on the same grounds as above, that he would prefer b to c, and that this is rational.

Finally, suppose that he is presented with the following information, which is consistent with that given in (i) and (ii) above, and asked to choose between a and c:

(iii)

a has a better message than c.

c is shorter than a.

c is more suspenseful than a.

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Again on the same grounds we conclude that he would prefer c to a, and that this choice is rational.

But according to our conclusions it is clear that John's choices would violate the transitivity condition, since he would prefer a to b and b to c, but c to a, rather than a to c as transitivity would require.

The importance of our stipulation that John attached equal importance to the three qualities should be noted. Suppose instead that he ranked the qualities according to the following decision procedure:

Message is the most important property; the book with the best message is to be chosen, regardless of how it compares to the alternatives in suspense and brevity. Suspense is next in importance; if the books have equally good messages, then the one with the greatest suspense is to be chosen, regardless of length. Only if the books rank equally in both message and suspense does brevity become a relevant factor. Then the shortest book should be chosen.

Using this valuation of the three qualities, John would choose a over b, b over c, and a over c, thus satisfying transitivity. Other valuations of the qualities are possible, some violating transitivity and some not. But it seems arbitrary, apart from a theory of fiction, to require any one of the valuations over the others. And there is no guarantee that an objectively valid theory of fiction, if one is possible, would require a valuation satisfying transitivity.

The minimum condition which any set of properties relevant to the achievement of a given purpose would have to satisfy in order for choices to arrange themselves transitively in each possible choice-situation is that it be possible to place all the various property-combinations on a single ordinal scale in accordance with degree of effectiveness in achieving the given purpose. The various factors relevant to the achievement of a purpose P must be reducible to a single quantitatively expressible factor, which we might call "P-effectiveness." There is no reason to believe, however, that such a reduction of many properties to a single property is possible for all or even most purposes P. The above example is a hypothetical case in which such a reduction is



not possible (given John's valuation of the three properties). An actual case appears to exist in the field of nutrition. There are many different factors which are relevant to the nutritional qualities of food, and these factors are not reducible to a single factor which would allow us to give an ordinal ranking of plates of food in accordance with their nutritional value. Such examples render it implausible that preferences are structured transitively most of the time.

We note in conclusion that commodity production reduces the most diverse objects (use-values) to a single quantitative value-dimension. The positions of various commodities along this dimension are expressed by their prices, and comparison of prices makes it possible to assess the effectiveness of various methods of production for the accumulation of surplus value (assuming labor-power has also become a commodity). Though this circumstance fails to render utility theory viable as a basis for the theory of consumer behavior, it does indicate the extent to which the utility concept is an ideological reflection of bourgeois production relations. Thus we reach the same conclusion in our analysis as did Marx and Engels in 1845-46 concerning very early formulations of utility theory:

The apparent stupidity of merging all the manifold relationships of people in the *one* relation of usefulness, this apparently metaphysical abstraction arises from the fact that, in modern bourgeois society, all relations are subordinated in practice to the one abstract monetary-commercial relation. . . . For (the bourgeois) only *one* relation is valid on its own account—the relation of exploitation; all other relations have validity for him only insofar as he can include them under this one relation, and even where he encounters relations which cannot be directly subordinated to the relation of exploitation, he does at least subordinate them to it in his imagination. The material expression of this use is money, the representative of the value of all things, people and social relations. ¹⁷