

Ackerman, Frank. "Overview Essay: Critiques and Alternatives in Economic Theory," Part VI, <u>Frontier Issues in Economic Thought</u>, <u>Volume 2: The Consumer Society</u>. Island Press: Washington, D.C. 1997. pp.189-200.

Social Science Library: Frontier Thinking in Sustainable Development and Human Well-being

"Critiques and Alternatives in Economic Theory" by Frank Ackerman

Faith in the market is one of the most powerful forces in the world today. It has succeeded where Napoleon and Hitler failed, in conquering the vast expanse of Russia. In America it is fast sweeping away the remaining icons of an earlier faith in government intervention and social welfare. The central doctrine of the new faith, the creed of the bourgeois jihad, emerges from neoclassical economics and its claims of the "optimality" of market outcomes. The optimality of the market rests squarely on the theory of consumer behavior. That theory in turn is built on a series of debatable assumptions, as suggested by the following catechism:

Why is the market a good thing?

Because it promotes freedom and efficiency.

Freedom and efficiency for what?

Freedom to satisfy consumer desires as efficiently as possible.

What do consumers want?

Individual, marketable goods and services for themselves and their families.

How much do they want?

More. Their desires are insatiable.

Why should these desires be satisfied?

Consumer desires exist prior to and external to the economy; there is no scientific basis for questioning their urgency or validity. Satisfaction of individual consumer desires is what happiness and human well-being consist of; the economy has no other goal.

How can we tell if consumer desires are satisfied?

Consumers are rational and well-informed. Give them the freedom to choose and they will always select the most satisfying available option.

Accept all this on faith, and the rest follows. Indeed, the discipline of economics is amply supplied with consumer researchers who do accept the traditional theory, raising only the most narrowly technical questions and modifications.¹ Yet as seen in Part V, economics also has a long, if often ignored, history of dissent from the dominant view of consumption. That history has continued up through the present. This section summarizes the work of eight authors writing

from the 1960s through the present, all seeking in different ways to reform the prevailing economic theory of consumer behavior. The later portions of this essay also address the leading mainstream innovation in consumer theory, Gary Becker's household production model.

REARRANGING THE BIG PICTURE

The first three articles included here provide critiques of the underlying behavioral assumptions of the neoclassical theory of consumption. Bodies of thought as diverse as marketing studies, feminist theory, and philosophy, as well as economics itself, lead to arguments that basic changes are needed in the standard picture of consumer choice.

Our first critique comes from an unlikely source: the field of marketing studies. Raymond Benton Jr., begins where Part V ended, with the views of John Kenneth Galbraith. Marketers often share Galbraith's premise that advertising can shape consumer preferences, but object to his conclusion that wants created by advertising are not urgent to satisfy. Logic is on Galbraith's side, says Benton, but it is no surprise that marketers resist a logical argument that undercuts the meaning of their work. Benton's discussion of consumer choice continues with a look at William Leiss (see summaries in Part I and VII), who suggests that in an ever-expanding market economy consumers do not have the time or ability to learn exactly what they want or how satisfying particular goods will be. Benton concludes with the implications of such critiques for the ethics of marketing: Some things that can be sold should not be; society should be structured to provide other satisfactions such as meaningful work, rather than simply maximizing private consumption.

Another important critique of mainstream economics comes from the small but growing number of feminists in the profession. Economics is overwhelmingly a male profession, a fact that is sometimes attributed to its highly mathematical nature and the well-known gender difference in mathematics training. However, the proportion of women in economics is even lower than in university mathematics departments.² Paula England suggests that many basic economic assumptions reflect a male bias. Feminist theory, with roots in and respect for women's traditional roles, would lead to a very different approach to the economics of consumer choice. Those who are used to an empathic, emotionally supportive role would not assume that it is impossible to make interpersonal comparisons, nor that people are unchanged by social influences, nor that perfect selfishness is the rule in public life. Yet these unempathic assumptions, which England ascribes to a traditionally male model of the "separative self," are fundamental to neoclassical theory.

The predominance of stereotypically male, "separative" behavioral assumptions has not led the neoclassical theory of consumption to scientific success. In a brief but perceptive review, Benjamin Fine and Ellen Leopold observe that there is no distinct theoretical model of the consumption process in economics; instead, there is only a clone of the more detailed and fruitful model of production. Consumers are treated as little make-believe firms, combining purchased inputs to maximize utility (profit, in the original) subject to a budget constraint. Yet changes in profit are observable, while changes in utility are not. Issues such as monopoly and oligopoly, barriers to entry, information costs, and the role of advertising therefore are taken up in the analysis of production, but not in the theory of consumption, which retains its pristine abstraction. As in their other contributions summarized in this volume (see Parts IV and VII),

Fine and Leopold call for an integrated analysis of production and consumption as a single system, paying attention to the specific social and institutional relationships that shape economic reality.

The impossibility of observing or measuring utility was an awkward feature of neoclassical theory from the start. Economists sought to escape this embarrassment by showing that the same results could be obtained without measurement of utility. For instance, it turns out that no harm is done to the theory by switching from cardinal to ordinal utility; instead of saying that good A yields, for example, 17 utils of satisfaction and good B only 11, it is enough to say that good A yields more satisfaction than good B. Measurement of utility appeared to be banished entirely in the "revealed preference" approach introduced by Paul Samuelson in the 1940s. For Samuelson, no utility function, cardinal or ordinal, was required; it was enough for consumers to reveal their preferences via their actual choices in the marketplace. So long as the choices satisfied a few innocuous-sounding consistency conditions, the standard results of consumer theory could still be derived. Revealed preference remains part of the technical presentation of neoclassical theory to this day, seemingly freeing the theory from its dependence on outmoded utilitarian ideas and unobservable quantities alike.

But, as Amartya Sen has demonstrated³, Samuelson's sleight of hand conceals, but does not remove, the restrictive and unrealistic assumptions that neoclassical theory makes about the basis for consumer behavior. Since preferences cannot be directly observed, the assertion that behavior reveals preferences cannot be tested; it is either a tautology or a controversial assertion about human motivation, depending on the meaning of "preferences." If preferences are defined as that which behavior reveals, then revealed preference is true by definition, and uninformative. If your preferences are interpreted as "that which makes you more comfortable, all else being equal," as is often suggested in discussion of consumer choice, then Sen's arguments demonstrate that behavior need not reveal preferences. Both the well-known example of the prisoners' dilemma and contemporary questions of environmental policy provide cases of behavior that cannot be understood in the neoclassical framework. Sen suggests that such cases are common enough to require revision of the theory to include the effects of loyalty and beliefs, altruism, and other forms of social interdependence.

The preoccupation with motives of self-interest is often described by economists as a point of realism, an example of positive rather than normative analysis. Sen has shown, however, that there are plenty of other important patterns of behavior available for "positive" analysis. By refusing to include other motives, economists may become creators as well as chroniclers of self-interest. Empirical research has found that studying economics makes college students more selfish and less cooperative.⁴

INSIDE THE MIND OF THE CONSUMER

Although the articles discussed thus far provide solid critiques, they only hint at alternatives to neoclassical theory. The next three explore in greater depth the implications of more realistic models of consumer desires and the goods that satisfy them.

Tibor Scitovsky, after a long and successful career in mainstream economics, became increasingly concerned about the failure of economists to incorporate the findings of modern

psychology into their theories. His book on the relationship between the two fields, *The Joyless Economy*, is indispensable reading for anyone interested in new approaches to consumption. The first half of the book is summarized here. While economics assumes that there is a single thing called consumer satisfaction, psychology, according to Scitovsky, makes a sharp distinction between two different types of satisfaction - comfort and pleasure. Pain is not, as common figures of speech suggest, the opposite of pleasure; it is more properly speaking the opposite of comfort. There may even be a physiological basis for the distinction between comfort and pleasure: Scitovsky connects comfort to an optimum level of stimulus, and pleasure to changes in the level of stimulus. The complex and sometimes surprising relationship between comfort and pleasure provides a much richer and more specific theory of human wants than is normally seen in economics.

When he turns to the implications for economic theory, Scitovsky asks two principal questions: which desires are insatiable? and which satisfactions are necessarily obtained through purchases in the marketplace? For conventional theory, these questions scarcely arise: enough wants are insatiable, and enough satisfactions are obtained in the market, to keep economists busy studying them; the nature of desire and of nonmarket activity are said, by definition, to be the subject matter of other disciplines.

For Scitovsky, in contrast, virtually all desires for comfort are satiable. Discomforts are specific things, and it is easy to tell when they have been eliminated. There is a limit to how "not-hungry" you can be. The one exception harks back to Veblen and conspicuous consumption. The comfort of belonging, of winning social acceptance, can require indefinitely rising consumer expenditure as the price of status. In addition, pleasure, which often results from novelty, can and often does absorb ever-increasing expenditures. As yesterday's novel pleasures become today's habits and tomorrow's socially defined necessities, maintaining the same level of pleasure requires new levels of consumption.

If insatiable demand only arises in status-seeking and pleasure-seeking consumption, it seems less urgent to satisfy it with incessant growth in production. This is all the more true since many of life's most important satisfactions, as Scitovsky persuasively argues, come from nonmarket activities or from the process of work rather than from consumption of purchased goods and services. Thus Scitovsky's plaintive concluding question: Whatever made us believe that income yields happiness?

For Scitovsky, examination of the nature of desires led to the conclusion that money cannot always buy happiness. Another underground classic of economic theory from the 1970s came to the same conclusion, based on an analysis of the nature of commodities. In *Social Limits to Growth*, Fred Hirsch introduced the concept of positional consumption and relentlessly spelled out its implications for consumer welfare. One part of Hirsch's book is summarized here, and another in Part II. Positional goods are ones that are desirable because they are scarce; examples include paintings by old masters, antiques, and exclusive access to scenic land. Jobs at the top of a hierarchy have a similar positional value, as do any goods that are desired because others cannot obtain them.

Unlike ordinary goods, the supply of positional goods cannot be increased when demand rises. There is no way to create more Rembrandt originals, beachfront properties, or jobs in the top 10 percent of the labor force. While positional goods quickly become status symbols that play a role in conspicuous consumption, the two categories are not identical: Some status symbols, such as fashions in cars or clothing, are manufactured goods which can be produced to satisfy rising demand.

Hirsch sees positional consumption as pervasive, affecting many decisions about schools and suburban locations, for example. When demand for positional goods rises, there are three possible responses: congestion or crowding; increased screening and positional competition (greater educational credential requirements for top jobs); or price increases. The result for society is at best a zero-sum game, with one person's loss being another person's gain; nothing of value is created in response to the increased demand.⁵ In contrast, increased demand for ordinary goods leads to increased production of things that people want. Hirsch's rather somber conclusion is that measures of aggregate output and growth are flawed or ambiguous if they confuse rising expenditures on positional goods with rising supply and demand for ordinary goods. When income gains are spent on positional goods, there is no reason to believe that there has been a net increase in social welfare.

Robert Frank draws on the work of Hirsch and Duesenberry to create a useful formal model of positional consumption and the demonstration effect. If people engage in positional competition, for example striving to ensure that their children are better educated than anyone else's, the result is more work and less leisure than people would really prefer. A cooperative outcome, which the market alone cannot achieve, would yield greater satisfaction than unfettered competition. However, positional consumption is rational for the individual; in cases of limited information, employers and others may interpret some forms of consumption as a proxy for ability.

The bias in favor of visible, positional expenditures has exactly the same effect on savings as Duesenberry's demonstration effect. Frank argues that economists abandoned Duesenberry's model too quickly, and that empirical evidence supports Duesenberry rather than rival theories of savings.⁶ Finally, Frank shows that the existence of positional consumption and the related bias against both savings and leisure imply that people can be made better off by many forms of regulation, including pensions and other forced savings requirements, limits on hours and conditions of work, and taxes on positional expenditures.

CHARACTERISTICS AND HOUSEHOLD PRODUCTION

While the work of Scitovsky, Hirsch and Frank suggests one approach to developing new economic models of consumption, another new approach has arisen and won far greater recognition within the mainstream of the economics profession. Almost simultaneously, in the mid-1960s, Kelvin Lancaster, Richard Muth, and Gary Becker each proposed similar rethinkings of the theory of consumer behavior. Conventional theory posits a direct relationship between goods and consumer satisfaction; consumers know exactly how much they will enjoy each potential purchase. In contrast, the new approach holds that consumers want something - experiences, satisfactions, characteristics of goods - that is obtained from their purchases. A third term is added to the equation; an intermediate arena of analysis opens up between the consumer and the purchased good.⁷

This approach seems to offer the potential for incorporating many insights from other fields concerning the complexity of the relationship between the consumer and the commodity. Yet the technical, mathematical presentation of the new model may have discouraged dialogue with non-economists. Both Muth and Becker use the language of a household production process: the household combines purchased inputs (groceries, cooking utensils, fuels) and household labor to produce desired outputs (meals). The image of the consumer as a firm, discussed by Fine and Leopold, is now full-blown, and the extensive mathematical apparatus used to analyze ordinary production can be applied to household production as well. Becker highlights the analogy with a uniquely obscure choice of terminology, referring to the outputs of household production as "commodities" analogous to those produced by businesses. The reader who lacks an English-to-Becker dictionary must remember that what Becker calls commodities are what others would call experiences or satisfactions, while the commodities visible to the rest of us are, for Becker, inputs purchased by households in order to produce commodities.

Although Becker has become the most famous for application of the new approach, Lancaster's version is by far the most accessible. The less technical one of Lancaster's two original articles is summarized here. Lancaster's starting point is his objection to one aspect of standard consumer theory: no one can possibly know exactly how satisfying each available good or combination of goods will be; when new goods appear, as they constantly do, there is no plausible way for consumers to revise their preference rankings to encompass the expanded set of possibilities. The alternative, says Lancaster, is to recognize that consumers want characteristics that they obtain from goods: flavors, textures, and nutrition from food; fuel-efficient transportation, comfortable seating, and visible status from cars.

To complete his model, Lancaster assumes that consumer demand for characteristics resembles the conventional picture of demand for goods - consumers know exactly which characteristics they want, and always want more. The relationship of characteristics to goods, on the other hand, is a simple technical matter. Twice as much of a good always produces twice as much of each of its characteristics. This model turns out to lead to sweeping changes in the theory of consumption.

The best-known implications of the model are shown in the figure reproduced in the summary. If multiple goods can supply the same characteristics, then different bundles of goods may be more or less efficient in yielding the desired characteristics. In terms of the analogy to production, varying combinations of inputs can be more or less efficient in yielding profits. But consumption is different, as Lancaster points out. No competitive process forces consumers to be efficient in producing the desired characteristics; it is possible to go through life as an inefficient consumer. At the very least, this is a strong argument for better consumer information services and product labelling requirements. The efficient pattern of consumption can change when prices shift; a good that was formerly inefficient and chosen by almost no one can, with enough of a price cut, move onto the "consumption efficiency frontier" and become much in demand.

Lancaster's model is in some ways a revolutionary departure from neoclassical theory, but in other ways still closely connected to it. His idea that people consume characteristics rather than

goods has been cited in a number of recent studies of consumption (including several included in this volume), but usually only as an image or metaphor; application of Lancaster's model in any detail is much less common.⁸

A handful of articles by economists have questioned Lancaster's theoretical approach, challenging two assumptions in particular.⁹ First, do all characteristics of goods produce positive satisfactions? If some goods have negative characteristics, or if satiation sets in so that some characteristics can switch from positive to negative sources of satisfaction (if one glass of wine with dinner is pleasant, how about five?), the model breaks down. However, the same is true of neoclassical theory, which must assume that all consumers obtain either positive or at worst zero satisfaction from each good. Second, is the satisfaction obtained from characteristics independent of the goods that deliver them or the combinations in which they are experienced? Does one cup of tea with lots of sugar followed by another cup with none produce the same satisfaction as two cups of tea with a little sugar in each? If the satisfactions obtained from goods are inseparable package deals, then there are limits to the usefulness of the characteristics framework. Lancaster's work is more reasonably seen as a provocative starting point for the development of a new theory than as its final form.

On the other hand, if one avoids the specificity of Lancaster's model, the danger is that the new analysis of consumption can become general enough to explain everything and nothing. This danger can be seen in the problematical development of the other variant, the household production model. Of the three founders of the new approach, Muth went on to other pursuits almost immediately, as did Lancaster after a few years. Becker, however, has continued to apply and extend the new approach; he won the Nobel Prize in Economics in 1992 in part for his farreaching applications of the household production model.¹⁰ In Becker's hands the subject matter of economics has expanded to include education, discrimination, crime, marriage and divorce, childbearing, and much more. He has shown that the theoretical apparatus of selfish, rational maximization can produce explanations of a wide variety of behavior, often through use of the household production model.

The meaning of this model can be seen in an article in which Becker and a co-author argue that it is rarely necessary to assume that consumers' tastes have changed.¹¹ In cases where preferences appear to have shifted, Becker et al. prefer to say that the technology of household production has changed, while the satisfaction obtained from homemade "commodities" (i.e., experiences) may have remained constant. Thus a growing appreciation of and desire for a particular style of music reflects a change in the technology of production of the commodity "music appreciation." Pursuit of new and changing styles means that a changing technique is needed to produce the commodity "distinction." Advertising, unfairly accused of manipulating consumer preferences by Galbraith and others, actually provides information about new technologies that have become available to produce commodities such as "prestige." Perhaps most remarkable is the discovery that even addiction to harmful drugs does not represent a change in tastes -- it is merely a change in the technology that the household uses to produce the commodity "euphoria."

In each case a story can be told about the change in the household production function that produces the apparent change in tastes. The household can then be described as acting rationally, meaning that it is engaging in utility maximization, with unchanging tastes for some

hypothetical, unobservable commodities. In effect this is mathematical deconstruction: pick a behavior, tell a story about what it might be maximizing. Recent work along these lines has focused on the problem of addiction, spelling out the argument that this, too, is a rational choice, not a change in tastes. The addict, equipped with high-powered intertemporal maximizing capabilities, recognizes that use of an addictive substance today will make it more enjoyable to continue using the same substance in the future.¹²

If this is still economic theory, as its supporters frequently assert, then economists have emulated the American soldiers in Vietnam who had to destroy a village in order to save it. Not much is left standing of the edifice of neoclassical economics, once Becker's firepower has established that virtually any possible behavior represents utility maximization. The entire structure of belief in the market rests on results derived from very strict behavioral assumptions: Consumers must act as if their preferences for purchased goods and services are exogenous and independent of social interaction. If, following Becker, a consumer's purchases are influenced by what others purchase, in the "production" of stylish distinction, or if current consumption alters one's own future purchasing patterns, in the production of music appreciation or chemical euphoria, then the proof of the optimality of market outcomes has been demolished. All that remains is the formidable mathematical weaponry, the curious commitment to modeling the combination of rationality and selfishness, and the attitude of smugness about what has been accomplished.

One might excuse all this if the household production model achieved great insights into consumer behavior. However, as Paula England points out, Becker makes trivial and stereotypical assumptions about the dynamics within the household. There is a single head of household, repeatedly referred to as male, who is efficient at earning money and completely altruistic about sharing it within the family.¹³ England objects that it is unreasonable to expect the same person to be perfectly selfish in the market and perfectly unselfish at home. Either the external greed should affect family life, or the internal altruism should affect public life; in fact, spillovers do occur in both directions. Unfortunately, a model that begins with trivially stereotypical premises is in danger of ending with conclusions such as

A person may be well-read (i.e., have read the recent books generally believed to be important), but if his time is valuable in the market place, it is much more likely that his spouse will be the well-read member of the family.¹⁴

THE ECONOMICS OF ADDICTION

Addiction provides an interesting puzzle for a modern theory of consumption. If consumption makes people happy, how do we explain addiction? Becker's answer is the simplest: Addiction also maximizes happiness. Most others find this hard to stomach. Some propose drawing a distinction between dangerously addictive substances, which should be prohibited, and normal substances which are not addictive. However, there is more of a slippery slope than a clear line in the sand. Scitovsky observes that people in love display many of the characteristics of addiction. Some people act as if they were addicted to harmless hobbies, favorite performers, television shows, or video games. Mild addictions to tea and coffee are legal, as are more dangerous addictions to gambling, alcohol, and tobacco.

Several interesting articles in the *Journal of Consumer Research* have speculated about what might be called the pathology of consumption, including impulse buying, compulsive consumption, and addiction.¹⁵ These articles suggest that there are many self-destructive motives and patterns of consumption, even among those who are not using dangerous substances. Far from being prohibited, self-destructive consumption may be encouraged by some aspects of consumer society.

The quest for alternative explanations of addiction brings up the last article summarized here, by George Akerlof. It is one of the best examples of what might be called "nearly neoclassical" analysis, in which the objective is to relax as few as possible of the constricting assumptions of conventional theory and still obtain more realistic and useful models. Akerlof models the almost universal behavior of procrastination, in which immediate costs and benefits appear just a little more salient than deferred ones. Slight overestimation of immediate impacts can lead to progressively larger deviations from optimal outcomes, as Akerlof demonstrates with several examples.

Akerlof maintains that this leads to a far more plausible story about addiction than Becker's model: Addicts frequently know they should quit, and mean to do so very soon. But the benefits of one more high, and the costs of quitting today rather than tomorrow, loom too large for them, just as the merits of procrastinating about more humdrum affairs do for everyone. In an interesting extension of his analysis (in parts of the article which are not summarized here), Akerlof proposes that it can explain pressures for social and political conformity, including a number of major political events. For the theory of consumption, Akerlof's model implies that public intervention to override private market choices can be beneficial, not only in cases of dangerous addictions, but also in many other situations where procrastination leads to harmful undervaluation of future outcomes.

Thus there are many critiques and innovations, but not yet a coherent alternative to the neoclassical theory of consumption. Many of the authors discussed here have, like the famous critics of the past, been more widely read outside of economics than inside. No suggestion is being made that the views presented here could be combined into a single alternative; for example, satiation of consumer desires is a normal state of affairs for Scitovsky, but difficult to incorporate in Lancaster's model. Much more remains to be done; the frontier of the economic theory of consumer behavior is far from closing.

Notes

^{1.} See the extensive literature cited in Richard Blundell, "Consumer Behavior: Theory and Empirical Evidence -- A Survey", *Economic Journal* **98** (1988), 16-65.

^{2.} Julie Nelson, "The Study of Choice or the Study of Provisioning? Gender and the Definition of Economics", in Marianne Ferber and Julie Nelson, editors, *Beyond Economic Man: Feminist Theory and Economics* (Chicago: University of Chicago Press, 1993), 23-36.

^{3.} Amartya Sen, "Behavior and the Concept of Preference," *Economica 40* (August 1973), 241-259.

^{4.} Robert Frank, Thomas Gilovich, and Dennis Regan, "Does Studying Economics Inhibit Cooperation?", *Journal of Economic Perspectives* **7** (1993), 159-171.

^{5.} For this reason, Scitovsky has argued that in terms of macroeconomic effects, positional consumption is more like an unproductive form of savings than like ordinary consumption. See "Growth in the affluent society", in Tibor Scitovsky, *Economic Theory and Reality: Selected Essays on their Disparity and Reconciliation* (Aldershot, UK: Edward Elgar, 1995).

6. See also George Kosicki, "A Note About Savings as a 'Nonpositional Good'", *Eastern Economic Journal* **14** (1988), 271-276.

For a relatively recent application of the Lancaster model to technical problems see Larry Jones, "The Characteristics Model, Hedonic Prices, and the Clientele Effect", *Journal of Political Economy* 96 (1988) 551-67.
See Reuven Hendler, "Lancaster's New Approach to Consumer Demand and its Limitations", *American Economic Review* 65 (1975), 194-199; Brian Ratchford, "Operationalizing Economic Models of Demand for Product Characteristics", *Journal of Consumer Research* 6 (1979), 76-85; George Ladd and Martin Zober, "Comment" following Ratchford's article; and sources cited by these authors.

10. See the review articles prompted by the Nobel Prize in *Scandinavian Journal of Economics* **95** (January 1993): Agnar Sandmo, "Gary Becker's Contributions to Economics", and Sherwin Rosen, "Risks and Rewards: Gary Becker's Contributions to Economics".

11. George Stigler and Gary Becker, "De gustibus non est disputandum", *American Economic Review* **67** (1977), 76-90.

12. See Gary Becker, Michael Grossman, and Kevin Murphy, "Rational Addiction and the Effect of Price on Consumption", *American Economic Review* **81** (1991), 237-241, and earlier papers cited there.

13. Several short articles in the May 1994 *American Economic Review* discuss alternative analyses of the economics of family life; none have yet approached the popularity of Becker's model among economists. 14. Stigler and Becker, *op.cit.*, 88.

15. Dennis Rook, "The Buying Impulse", *Journal of Consumer Research* **14** (1987), 189-199; Thomas O'Guinn and Ronald Faber, "Compulsive Buying: A Phenomenological Exploration", *Journal of Consumer Research* **16** (1989), 147-157; Elizabeth Hirschman, "The Consciousness of Addiction: Toward a General Theory of Compulsive Consumption", *Journal of Consumer Research* **19** (1992), 155-179.

^{7.} Richard Muth, "Household Production and Consumer Demand Functions", *Econometrica* **34** (1966), 281-302; Gary Becker, "A Theory of the Allocation of Time", *Economic Journal* **75** (1965), 493-517; and see discussion of Lancaster below.