Human Behavior vs. Product Behavior:  
A Subsumptive Analysis  
(An Economic Approach)†

B. N. GHOSH*  
Punjab University, Chandigarh, India

The definition of a science is a matter of its evolution, and is, therefore, dynamic in nature. Much water has flown in the rivers over the last two hundred years, and the science of economics has undergone substantive development making it necessary to undertake a critical review of some of the fundamental postulates of the nature, scope and content.†

To begin with, a couple of questions may be posed: What is economics all about? What is the stock-in-trade of economics? Two entirely different views have been held on these issues: (a) Economics is a science of human behavior, or (b) Economics is a science of product behavior. Economics as a science of human behavior is, prima facie, accepted, among others, by Marshall and Robbins, and product behavior as the subject-matter of economics has been resurrected recently by Boulding, though not sufficiently or with the necessary rigour. It is the burden of the present paper to extend the idea of product behavior and also to demonstrate that human behavior and product behavior are not necessarily contradictory; they do not suggest two different compartimentalisations, but are complementary, and the former can be subsumed under the latter. However, this is not, either by implication or by explication, to suggest that the two behaviours are not theoretically distinct.

To Marshall, economics is partly the study of man.‡ More precisely, "Economics is a study of mankind in the ordinary business of life." In Marshallian conception, economics is basically and primarily a study of man, rather than a study of wealth. In the same spirit, Robbins defines economics as a human science, where a special aspect of human behavior, i.e., the allocation of scarce resources among competing ends is given predominance. "Economics is the science which studies human behavior as a relationship between ends and scarce means which have alternative uses."§ Robbins, in fact, makes economics a science of rational human choice, and the choice construct in Robbins' definition necessarily manifests human behavior. He asserts that any kind of human

*Editor's note. When this paper was first submitted it was apparent that Prof. Boadling had some knowledge of its earlier development and he was asked to review it and invited to comment upon it.

†I am grateful to Professor Kenneth E. Boulding for his very valuable comments and suggestions on an earlier draft, and to Lord Robbins for his kindly going through this paper.

‡Graduate is also due to Professor Vikas Mora, Dr. Ashok Majhu, Dr. J. D. Varma, Dr. (Mrs.) Nirmal Makenzie, and Mr. Pratap Singh who have helped in various ways in the preparation of the paper. They are, however, not responsible for views expressed or mistakes, if any.
behavior falls within the scope of economic generalisation.\(^1\)

As against this, the study of product behavior as the subject-matter of economics has been conceptualised by many economists, and more boldly and explicitly by Boulding, albeit within limited perspective and with inadequate exposure. According to Boulding, the economists' focus of interest lies in the world of commodities and not in the world of men.\(^1\)

An exchange economy is dependent on the possibility of deliberately transforming commodities into commodities. Anything which is made by the transformation of products can be regarded as a commodity. Transformation is the essential feature of a commodity so on it the transformation of products is the sine qua non of any productive economy.\(^1\)

In fact, input-output analysis is a procedure for studying the transformation of goods and services. The economic universe of discourse is the universe of products, their various characteristics, prices, transformation, production possibility, exchange, trade-offs, costs and benefits and so on. As a science, economics explains product behavior with reference to the quantitative magnitudes of products and their rate of change. Indeed, it is very easy to determine the quantities, their rate of change and exchange price in terms of the product themselves. The rate of economic growth, too, basically is the rate of growth of products. Besides, the science of economics can be made quantitative in character, if product behaviour is taken as the subject-matter of economics, unlike human behavior which is not amenable to quantitative measurement. Product behavior with its object material existence makes for far easier conceptualisation and analysis. Then, the analysis of product behavior can easily be disaggregated and extended to the different segments of the economy.

In its classical tradition, Economics followed for a considerable length of time the causal, a priori and deductive methods of analysis. But the recently growing popularity of the a posteriori and empirical method has freed it from the exclusive methodological stronghold. Human behavior, being what it is, cannot be given definite functional representation. Economic analysis in terms of product behavior has a clear advantage in that the factors that influence and are influenced by product behavior are best tackled by an explanatory system of functional relationship that can specify the quantitative dimension of the factors involved. The social sciences have been utilizing, to a considerable extent, the functional type of analysis in which the production process is measured in terms of product behavior. Even though labour is included as a variable in the production function human behavior is not necessarily included thereby. The production function approach, in terms of its implicit philosophical assumptions, is a rationalised process in the traditional mode of production where labour is considered merely as a factor of production, like land and machinery.

Since human beings are consumers as well as producers, transformation may appear to be a feature of human behavior. But, in spite of it, the study of the functioning of the economy does not necessarily mean the study of human behavior. Although human behavior is important for the study of product behavior, still, the study of economics does not become the study of human behavior. Economics deals with human behavior not directly in the same sense as it deals with product behavior. Economics also considers land and capital, but on that account it does not become a study of land behavior or capital behavior.

Consumption is not a peculiarly human preoccupation. Even animals and insects are consumers of necessities of life. In the act of production, human beings are only a factor, like so many other factors. Thus, although human beings are important as consumers and producers, we cannot on that ground argue that economics be regarded as the study of human behavior. Human behavior is, no doubt, important for making choices and allocations, and for a host of other crucial economic functions, but the point remains that human behavior is neither a necessary nor a sufficient domain for the analytical interpretation of the science of economics: human behavior has no central role to play.

Human behavior can be, and is, introduced in economics simply for the purpose of explaining adequately product behavior, and the converse is not true. Economics has direct correspondence not with human behavior, as is sometimes mistakenly conceived of, but with product behavior. The principal branches of economics concerned with pricing, trade, money and so on quite accurately corroborate the view that the basic purpose of economics is the study of product behavior. Product behavior is the first love of economists. In fact, human behavior does not have any differential specification in terms of which a formal definition of economics can be conceived.

What, then, is the central concern of economic science? Before we explore the possibility of a subservient approach—product behavior encompassing human behavior—we may interpret critically the definitions of economics in terms of human behavior.

Marshall looks upon economics as a science of wealth, and a study of the efforts to satisfy wants.\(^2\) Economics, according to him, examines that part of individual and social actions of human beings which are most closely connected with the attainment and with the use of the material requisites of well-being.\(^3\) He conceives the fact that human actions is moulded by activities and resource constraints.\(^4\) The material condition remains the decisive factor.\(^5\) Human action is dependent on the manner in which man can earn his livelihood, and also on the character of that livelihood.\(^6\) Needless to add, in the Marshallian conception human behavior is not an indepen-
behavior: it is a function of resources, income and its distribution, employment, and products. Thus, in the final analysis, it is not the behavior of human beings that economics is concerned with, but the behavior of products. Apparently, the Marshallian definition of economics connotes human behavior. Economics, no doubt, is a study of mankind, but only in relation to the normal and essential business of human life connected with wealth, or money-earning and spending activities. Human behavior, without reference to wealth, income or money, has no separate independent existence in economics. It does not operate or exist in a vacuum. The main focus of attention is not, therefore, human behavior in its subjective content, such as, the activities or business of life. Robbins's conceptualisation of economics as a science of choice in relation to the optimum allocation of scarce resources is, although an act of human behavior, basically with respect to product and its optimum use in a teleological sense. Allocation necessarily pertains to the use of inputs for the maximisation of output. Robbins speaks primarily in terms of resource-use-efficiency which denotes a particular pattern of product behavior. In any science, the basic objective of human welfare can be considered to be an end. Human beings are not neglected in any science; but every science, thereby, does not become a study of human behavior. Economics studies the behavior of products in relation to human beings. Economics considers the means, the various ways of maximising output with given resource constraints. Thus, economics does—and must—consider product behavior and the trade-off between competing ends. Both ends and means in economics can be expressed in terms of products and their interrelations involving output and input, input and output or input and output.

The question of material welfare as the subject-matter of economics attracted the attention of many economists, including Cannan, Marshall, and Pareto. Once some leeway is given to the term "material welfare," the role of product behavior obviously becomes decisive, for material gain or loss cannot be conjured without assuming products. Thus, the Marshallian conception, once again, falls in the lap of product behavior. Admittedly, Robbins rejected the notion of material welfare, which, in the earlier definition, is regarded as the end; but Robbins's concern is with scarce means primarily, not unrelated to this end. The views of earlier materialists and of Robbins are not very different. If looked at from the point of view of the allocation of scarce resources, the concept of product behavior, the materialist notion, creeps into Robbins's definition. But then, economics no longer remains a science of human behavior, as Robbins believes it to be. Robbins rejects the definition of materiality from the front door but it does manage to enter through the back door. There is, even today, much truth in the notion that the aim of political economy is the explanation of the general causes on which the material welfare of the human beings depends. Robbins explicitly accords to economics the status of a "positive" science where, obviously, human behavior, with its inevitable subjective element, does not intervene. In fact, human science is a contradiction in terms, if human elements are introduced as behavioral elements in the theoretical schema. As one introduces the behavioral aspect of human element, a science no longer remains a science; for it cannot be made amenable to the scientific method which is necessarily objective. Although we can speak of a science for human beings or by human beings, we cannot speak of a science of human behavior as such. However, from what has been alluded to earlier, it can be clearly gauged that both Robbins's and Marshall's definitions involve a dichotomy where human behavior and product behavior find themselves as strange bedfellows. It is also not far to seek that the economists who were explaining economics as a science of human behavior were subconsciously entertaining the idea of product behavior.

To chew the old cud of human behavior once again, we may ask: can we regard human beings as product? The answer is in the affirmative, provided we are ready to accept the truth-value of the present day theory of human capital, as evolved by a number of economists of our time. The pace with which the theory of human capital has developed in recent years lends one to believe that human beings can be safely considered as capital. Considered in a lighter vein, human beings are produced and are also means of production. The concept of human capital is a reflection of the transformation of human labour power into commodity. All goods have only one common property, i.e., all goods are products of labour. In the classical schema, labour power itself is a commodity. In fact, everything is a commodity. Like labour, capital is also a commodity: capital is dead labour. This is not to deny that human beings are a special type of capital with a peculiar kind of vintage, having sensory power of a level well comparable with computer system. But nothing more for the purpose of economics. Considered this way, as is rational, the crux of the whole issue manifests itself in the fact that human behavior is tantamount to product behavior; or, at least, it can be subsumed under product behavior.

Both from the point of view of observability and of conceivability, the science of economics may confront two distinct situations: (a) human behavior is wholly included in product behavior—the case of complete subsumption; (Fig. A); (b) Product behavior (P_a) partly subsumes human behavior (H_B) and human behavior partly accounts for product behavior. (Fig. B). However, there is a point at which human behavior (H_B) and product behavior (P_a) coincide.

At this stage, we skip over further discussion of these possibilities. We can conceive of two varieties of human behavior: logistic and mechanistic. The former refers to the application of mind, judgment and rationality, and the latter to the action of physical force, manual operation, and mechanical application of muscle power and reflex actions. Of course, there may be considerable overlapping between them; but broadly, the dichotomy of behavior stands valid as a convenient classificatory device. Human behavior, in its mechanical sense,
can be entirely subsumed under product behavior. Certain manual operations, e.g. stevedoring, can be looked upon as a simple mechanical operation where human behavior does not have any separable existential import in the theoretical analysis of economics, excepting as a form of physical capital. Therefore, in all such cases, where there is perfect substitutability between labour and capital, human behavior cannot be thought of, in a way, different from product behavior, and thus, can be completely subsumed, as in case (a). We can also conceive of human behavior as a part of product behavior and vice versa. That part of human behavior which is concerned with the transformation and/or creation of economic goods can be included in product behavior. To be sure, product behavior cannot admit of human behavior pertaining to romance, moon-stroke, poetry, chivalry and all that. Human behavior as well includes a part of product behavior. This is explainable by the theory of income distribution, material losses and gains, work effort and consumption and so on.

We are still in the labyrinth of unsettled issues so far as the implications of case b are concerned. Case (b) gives equal claims to both the behaviors. The settlement of the claim in the right manner has to be made in terms of the theory of human capital or the notion that labour power is a commodity. Once the implications of the theory of human capital are appreciated, the entire point at issue becomes abundantly clear. The cardinal point that emerges is that economics is not necessarily concerned with human behavior qua human behavior: it does study human behavior with reference to, or as a relationship with product behavior, and since human beings are capital, human behavior comprises a part of capital behavior. But then, capital, over and above everything, is a product. Therefore, by applying the transitivity axiom, what is deduced then is very revealing: human behavior should be examined as a part of the explanation of product behavior, and not product behavior as a part of the explanation of human behavior, for the universe of products lies outside the domain of human behavior and is overwhelmingly large and variegated. Human behavior, however, cannot be an eternal and a-historical phenomenon. It dances with the tune of mode of production, though the process of the formation of a cordial garment is an extremely complex and lengthy one. Economics considers human behavior, if at all, in the context of laws of production of a particular historical-specific mode of production.

So far as the end is concerned, economics, like other sciences, has to care for human welfare. However, in order to understand the laws of motion of modern economics, it is necessary to investigate the system of production which in turn determines the system of consumption and exchange. Human behaviorist approach hinders this process of objective inquiry.

A broad definition of economics has to be discovered in conceptualizing it as a science of product behavior, for in nine cases out of ten, the direction and the main focus of economics lies in product and the tenth is also connected with product, albeit, indirectly. If one starts from the fundamental assumption that consumption is a derivative of production, human behavior, in its economic essence, can be considered to be the function of the laws of specific modes of production i.e. product behavior.

Human behavior has no separate existence in economics. It can be explained away as the extraordinary form of product behavior having the power of decision making, and also as a policy parameter. But in spite of it, or in view of this alone, human behavior cannot claim to be the subject-matter of economics. There is no uniqueness in a human behavior function. This conceptualisation helps us to bring out the fundamental truth that once human beings are regarded as products (inputs or outputs): there is no contradiction in the essential contents of the two apparently opposing definitions of the science of economies, and the theory of human capital or commodity labour power, serving as the missing link, may bring about the desired subsumption and may at the same time, pinpoint the overwhelming essentiality and appropriateness of product behavior as the subject matter of economic science.

References
Professor B. N. Ghosh has clarified an interesting idea which has certainly been implicit in economics for a long time, but which I have never seen so clearly stated before. There are indeed two intertwined patterns in the web of the history of economic thought. One is that economics is essentially the study of the production, consumption, exchange and distribution of commodities, almost it would seem in the absence of human beings, except insofar as human beings themselves are commodities. The other pattern goes beyond this to look at economic life as arising essentially out of certain aspects of human behavior. It looks at human beings acting as producers, consumers, exchangers, and perhaps even distributors, as well as the things which are produced, consumed, exchanged, and distributed. I do not think that there is any essential contradiction between these two patterns of thought, though they do represent differing emphases and viewpoints, and each has a flavor, or perhaps we should say style, of its own.

The classical tradition, from Adam Smith, to Ricardo, to Marx, and to Sraffa, certainly stresses the product behavior pattern, although Adam Smith, as always, looks beyond any one pattern and certainly has a strong sense that commodities are significant mainly because of what they do to human beings. He is very much aware that commodities are produced, consumed, exchanged, and distributed by real people, and in his famous attack in Book V of The Wealth of Nations (Modern Library Edition, p. 734) on the division of labor as a producer of skills who fall far below the human potential, he sees clearly that the ultimate product of all economic activity is human life, and that all commodities in a sense are intermediate goods toward this ultimate end. Nevertheless, his price theory is on the whole product behavior mediated by a very simple human behavior principle, that people will move to occupations and activities in which the overall payoffs seem to be better than what they leave behind. In Adam Smith we have the germs of Marshallian or Walrasian general equilibrium theory of the relative price structure. He never resolves the puzzle of value in use and value in exchange, although one almost feels with another five minutes' thought he would have hit upon the principle of marginal utility, which eventually resolved the problem. Perhaps the product behavior orientation was too strong for that solution.

In Marx, of course, the product behavior orientation was so strong that human beings seemed to be almost irrelevant, especially in the later work. The young, more humanistic Marx indeed was gobbled up by what I think Samuelson called rather unkindly the "minor post-Ricardian." Perhaps this is why Marxist societies seem to have a somewhat inhuman quality about them. Even their success in the eradication of extreme poverty seems to require an unnecessarily high price in terms
of the corruption of the arts, the absence of humor, and a certain puritan grimmness of life.

If we look at society from an ecological and evolutionary perspective, it becomes clear that both human beings and their products and artifacts are part of a larger ecosystem in which neither can certainly be understood in the absence of the other. A genuinely evolutionary economics, therefore, would be capable of reconciling and integrating these two approaches, in which commodities and products are seen as part, a very important part, of the environment of human beings and human beings are seen as part of the environment of the world of commodities and products. Both human beings and products are populations interacting with each other. Indeed human beings themselves are partly genetic products from the pattern of DNA and the fertilized egg, but this genetic product, in the brain, contains enormous potential for structure through learning, so that the mature human being is a product not only of genetics but also of all the information and artifacts with which he or she has been surrounded from birth. By this framework we can avoid two errors. The first is the error that human artifacts can be produced in the absence of humans, and can be evaluated by something other than human valuations. The other error is that humans themselves are not products, except genetically. It was the great fallacy of product behavior economics to neglect demand, choice, and decision. It is a fallacy of human behavior economics to neglect the learning process by which the structure of human desires, even of indifference curves, is created. Each pattern takes too much for granted and what is taken for granted is often provided by the other pattern. A union of the two in a general and genuinely evolutionary economics would, therefore, seem to be the next step in economic thought.

Editorial Announcement

The Eastern Economic Association wishes to announce that starting with the July issue of Vol. V, 1979, Prof. Ingrid Rima will assume the responsibilities of editor of the Eastern Economic Journal. Accordingly, all future editorial correspondence is to be directed to

Prof. Ingrid Rima
Dept. of Economics
School of Business Administration
Temple University
Philadelphia, Penna., 19122

At the 1979 annual meetings of the Association in Boston, it was decided to set the journal submission fees at $15 for members and $25 for non-members.

At the Boston meetings, Prof. Will Lyons was elected Sec’y/Treas of the Association and Business Manager of the Journal. Accordingly journal correspondence of a business nature should be directed to

Prof. Will Lyons
Dept. of Economics
Franklin and Marshall
Lancaster, Penna.
17604