

there is a set of Q_k^1 (of those capital goods still in production), appropriate to the prices associated with a uniform rate of net income on the goods produced. But this event is similar to the attainment of a uniform rate of net income when all capital goods are produced, that is, a configuration of the endowment which happens to result in a Q_k^1 which falls in the subset Q_k . Since the initial endowment is arbitrary it cannot be claimed that in such a case the existence of an equilibrium to the equations has been proven – since in general, for all circumstances, it has not. A configuration of the endowment can always be found which would result in the elimination being taken a stage further. Each stage of the elimination merely recreates this situation, and thus there is no reason to believe that the process will cease.

The process of elimination may thus continue until only two capital goods remain in production, and $l - 2$ capital goods are consigned to the category of non-produced means of production. There is still no necessity that Q_k^1 should equal a feasible Q (k not including the $l - 2$ eliminated goods). That good which is in excess supply should be eliminated. The system now only contains one produced means of production, and the savings function (ii) is, in effect, the demand function for that good alone. No constraints are now imposed on the configuration of prices by the condition that the rate of net income on the produced means should be uniform – for since only one capital good is produced there can only be one value of the rate of net income.

The only case in which there must necessarily be a solution to the system is that in which only one capital good is produced. Condition (viii) will hold with just one equality.

Thus, apart from the chance case in which the elimination process is halted with more than one capital-good in production, a maximum uniform rate of net income is attained only when just one capital-good is produced. The rate of net income defined in the production of the single good produced is used to capitalize the value of non-produced capital goods and hence these 'earn' the rate of net income by definition. Morishima's model is thus yet another example of the use in neoclassical models of the 'one-produced input world' assumption, input is to be the one produced is endogenous to the model.

Walras' analysis of capital formation and credit, far from being the triumphant confirmation of his theory of pure economics, is a failure which brings his whole system into question. He is unable to overcome the contradiction between saving in general as a homogeneous fluid magnitude and the heterogeneity of capital goods. This contradiction could be overcome by expressing the endowment of capital goods as a single magnitude – their value. But the value of the endowment cannot be part of the data of the problem without engendering circular reasoning. Walras, in avoiding this circularity, constructed a system in which whilst the method of specifying the data is logically sound, the equations are inconsistent.

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See also ARROW-DEBREU MODEL; GENERAL EQUILIBRIUM.

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wants. To be in want is not to have. The obverse of want is satisfaction or having the wherewithal for happiness. Much Eastern philosophy recommends happiness based on few wants, just as much of Western philosophical comment condemns excessive wants. The economists' view is different. They tend to worry when an economy comes to rest at a low level of wants and to feel more sanguine when the demand for new possessions goes up, even if they become worried again if demand is inflationary. They are clearly interested in wants. Yet the way that demand for goods is treated within economic theory blocks their curiosity about how wants are generated. This is not to say that distinguished economists have not seriously pondered the subject. Many have produced catalogues of wants, sometimes contrasting material with spiritual satisfactions, sometimes comparing long-term with short-term wants, or psychic joys (such as music or affection) with physical requirements (such as food and warmth). Such lists tend to dangle free of theoretical constraints. They remain mere lists whose parts do not mesh into any theory.

Anthropology is in no state to supplement this missing element in economics. Both disciplines have an explicit theory about the circulation of goods but only an implicit theory of wants. In economics the implicit assumption is that the origin of wants is to be found inside the individual's physical and psychic constitution. In anthropology, the implicit assumption is that wants are defined and standardized in social interaction. This latter view makes a better start for thinking about wants because it integrates the choices of the individual agent within a model of the whole economy, whereas economics leaves the choices unexplained except in regard to price. To get into such a starting position economics would need to modify the concept of the consumer as an independent rational agent choosing to satisfy personal needs. It would also need to take an interest in what happens to goods after purchase. The word consumption implies that the goods are destined to be used up in the purchaser's home. Once in the shopping basket they hold little interest for economic theory, but that is the point at which the anthropologist's interest begins. Most goods are likely to be widely shared or passed from hand to hand over a certain span of time. Instead of someone who buys for private purposes the consumer would have to be seen as someone engaged in long-term interactions with other social beings and using goods to promote the particular social patterns that he values.

For the anthropologist, wants are primarily generated in social life; if this is so, when the pace of social interaction slackens, demand for possessions will go down. This approach began with Malinowski's account (1922) of Trobriand Islanders going in canoes to exchange shell ornaments and other products through vast reaches of the Pacific. These people made a clear distinction between trade and gift, and used both to build up partnerships which were not only profitable but supported their intentions within their local political systems. Marcel Mauss (1925) extended these insights to a general theory of solidarity based on reciprocal obligation. From these beginnings, succeeding generations of anthropologists came to study all kinds of transfers of rights and property as flows marking the important channels of social obligation. The focus on types of reciprocity as the basis of solidarity was formalized by Claude Lévi-Strauss in a general theory of kinship. One kind of repeated marriage patterns can produce long lines of exchange embracing everyone in the community and all generations in a generalized system of transfers; another has more restricted effects, linking only two or three descent lines; endogamy is the limit case of marrying-in at the expense of a wider solidarity. Such

variations have direct implication for the political system and for the economy. Marrying or procreating appear as part of the total system of reproduction. It has generally been assumed that this kind of analysis applies only to societies in which market organization is weakly developed. However, it can be argued that the sharp disjunction between market and non-market is an artifact of economic theory and one which makes theorizing about demand peculiarly difficult.

The implicit assumption in anthropology is that individual wants are standardized by the same processes that establish social solidarity. Put crudely, the reason anyone wants anything (physical needs apart) is for sharing with or showing or giving to someone else in recognition of similar gestures, gifts or services received in the past. On this assumption, being severely in want means being unable to take part in the major reciprocal exchanges by which future entitlements are conferred. This is no trivial matter. Lacking entitlement is equivalent to becoming a third-class citizen or even to losing civic status. Anyone who exerts no claims on the rest of society finds that his sons and daughters are not sought in marriage; he wants for protection and can expect an indigent old age. Such a theory of wants is capable of being made explicit and generalized beyond the range of societies the anthropologists usually study. It would enable economic theory to integrate social life, family structure, demography and the labour market into the rest of the economy. The obstacle lies in the way that the theory of demand has been formulated.

The original utilitarian philosophy presupposed that wants are in some sense commensurable. Mathematical treatments of wants based on this assumption were already being applied to economic analysis when the theory of diminishing marginal utility was worked out independently in 1871 by Carl Meñger and W.S. Jevons; Walras also arrived at it in the same year and independently, though he published a little later. Such a simultaneous convergence upon an intricate idea would be quite impossible if the common infrastructure of theory was not already in place. The relevant point for an article on wants is that the problem to which they all found the same answer was not how to formulate a theory of wants, not at all. The problem was how to formulate the concept of demand so as to harmonize this part of economic theory with the rest of the theory of supply and demand. Diminishing marginal utility means that an individual purchaser gets marginally less satisfaction from each additional increment of a commodity. The underlying metaphor is physical: more and more bread or beer or beef give less benefit to the eater and bigger and bigger doses of a medicine may actually harm instead of curing the patient. By incorporating diminishing marginal satisfaction for the consumer, demand theory matches the theory of supply according to which marginal costs increase with increase in the volume of production. Beyond a certain point, rising costs mean that the price must rise to encourage extra output. As the marginal utility to the consumer falls, he becomes less willing to spend his income on it. The rising supply curve cuts the falling demand curve and the see-saw comes to rest.

Whereas the theories of production, exchange and capital formation drawn up on this model only had to face technical criticism, when the model was applied to wants, philosophical and political objections appeared. How can human wants be given numerical expression? How can one person's wants be compared with another's? How can such comparisons not carry a load of political prejudice?

In the history of science it often happens that a theory does not apply well to the behaviour it is supposed to explain, because its coherence within a larger theory prevents the bad fit with data being taken seriously. In this case the theory of

demand cannot give an account of wants simply because this is not what it was designed for. The very completeness of its embedding in the larger, unified theory makes it incapable of focusing on its nominal subject matter. It gives a gravely misleading account of wants for the following reasons.

First, violence is done to the concept of the individual consumer by making it parallel to the concept of the individual firm. The consumer's wants do not correspond to the profit maximizing objectives of the firm. This is essentially because the consumer is not an individual among other consumers as the firm is an individual in the market. In order to live in a society the individual consumer has to develop categories of thought and tastes conformable with those of his fellows. The processes of standardization which should be at the centre of a theory of wants are ignored by economic theory. In default of a theory of how wants are collectively generated, it falls back on hidden assumptions about the priority of physical needs. As a result of this heavy disadvantage in thinking about wants, the threat of famine tends to be perceived as a physical failure of the supply of physical necessities, not as a failure of demand. It is true that in a famine the would-be buyers have nothing to offer in exchange for the food they need. But to know how they got into that situation is to see how demand is generated by a variety of reciprocal exchanges which guarantee future entitlements. A.K. Sen (1981) has argued that the misdiagnosis of the causes of major famines is due to inability to see how individuals enter the economic system and stay in it. Without what he calls exchange entitlements, individuals and their dependents are vulnerable to shocks in the economic system. Such a systemic view of the way that wants enter the economy and are shaped by social and legal processes is necessary if the anthropological approach is to be joined with economics in a general theory of wants. In this perspective the pattern of wants is the surface appearance of a pattern of social relations and social opportunities. Goods are needed as aids to interaction and as clues for constructing intelligible worlds. The consumer is engaged in a continual task of grading goods and occasions and matching them appropriately, as every market researcher knows. It should be useful for a theory of demand to take the social pressures into account. The more isolation and segregation, the more is demand dampened, the more the interaction, the more the need for a symbolic system articulated by finely graded patterns of consumption.

Third, the theory makes one connection (price) between consumption and production but misses another. It treats tastes as personal and subjective and so uninfluenced by the organization of work. But tastes depend upon shared consumption, so the timing of work, the location of homes, the life cycle expectations which are engendered by different occupations, all these and other aspects of the labour market influence the standardization of wants.

To correct these weaknesses in the only theory that claims to be a theory of wants would involve taking much more interest in shared cultural categories that characterize a community. Economists expect to apply their theories to public policy. But whenever they are tempted to speak of what is good for a community, their theory leads to contradiction. As Arrow's theorem proves, the ranked preferences of several individuals cannot necessarily be aggregated into a single ordered set for them all unless, of course, they happen to have the same preferences. In respect of material things they very frequently do. But there is no theory about how this comes to pass. So the theory is at a loss when it comes to thinking about community welfare. Starting from incommensurable, subjective, individual preferences it cannot proceed to theorize about

what a community wants. Yet, there seems to be no inherent reason why a theory of wants, which gives credit to their social origins and their social definition and to their community-imposed character, should not serve the needs of economic theory as well as, better than, the one which has historically developed from the concept of the individual as a surrogate for the firm.

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See also ECONOMIC ANTHROPOLOGY; SOCIAL CHOICE.

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Warburton, Clark (1896-1979). American economist; pioneer, before Milton Friedman, in research later labelled 'monetarist', and a critic of Keynesianism during the years when that doctrine was crowding out attention to money.

Warburton was born on 27 January 1896 near Buffalo, New York, and died on 18 September 1979 in Fairfax, Virginia. After overseas military service during World War I, he earned bachelor's and master's degrees from Cornell University. He published his 1932 Columbia PhD dissertation as *The Economic Results of Prohibition*. He held teaching positions in India and the United States in the 1920s and early 1930s and worked at the Brookings Institution from 1932 to 1934, coauthoring *America's Capacity to Consume*. He then joined the newly organized Federal Deposit Insurance Corporation. Although routine FDIC work consumed much of his time (as his files reveal), he still managed to publish over 30 papers on monetary economics, most of them empirically oriented, from 1943 to 1953. Altered FDIC policy then impeded his research and publication until about 1962, when he took a brief leave to serve with the Banking and Currency Committee of the US House of Representatives. He was elected President of the Southern Economic Association for 1963-4. After retiring from the FDIC in 1965, he taught briefly at the University of California, Davis.

Warburton originally accepted a 'real' theory of the business cycle, but scrutiny of statistical and qualitative history changed his views. Using quarterly as well as annual data, he found that deviations from trend of the quantity of money generally preceded turning points in business conditions (and velocity deviations followed). While accepting a quantity-of-money theory of the price level in the long run, he recognized how elements of wage and price stickiness cause monetary disturbances to impinge on output first; he espoused a 'monetary disequilibrium theory' (which, despite its venerability, has ironically been mislabelled 'Keynesian' in recent years). He understood that disequilibrium does not necessarily imply irrational behaviour by individuals.

Warburton emphasized the role of money and inadequate monetary policy in the Great Depression of the 1930s. He continued to criticize the Federal Reserve for deficiencies in its economic theory and research and, in particular, for relying on interest rates in deciding and implementing policy. He believed that pure fiscal policy, unsupported by changes in the quantity of money, is ineffective as a tool of demand management. Skeptical of the authorities' ability to fine-tune the economy, he recommended a policy of steady growth in the quantity of money at a moderate rate appropriate to trends in the labour force, productivity, and velocity.

For Warburton, monetarism was an interpretation reached inductively, not a comprehensive ideology. (So far as any ideology came across in conversations, it was a rather conventional New Deal reformism or liberalism with humanitarian underpinnings.)

Nineteen of Warburton's papers dating from 1945 to 1953 are reprinted, along with a new introduction, in *Depression, Inflation, and Monetary Policy* (1966). Up to his death, Warburton pursued research not only in substantive economics but also in the history of monetary doctrines. These continuing interests are manifest in his last article (published posthumously in *History of Political Economy*, 1981) and in voluminous manuscripts now deposited in the library of George Mason University, Fairfax, Virginia. Plans exist for editing and publishing much of this material.

L. YEAGER

See also QUANTITY THEORY OF MONEY.

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1981. Monetary disequilibrium theory in the first half of the twentieth century. *History of Political Economy* 13(2), Summer, 285-99.

Ward, Barbara (1914-81). Barbara Ward was born on 23 May 1914 and died in Sussex on 31 May 1981. After graduating from Somerville College, Oxford, she moved rapidly from teaching and research to journalism, becoming assistant editor of *The Economist* in 1940 and later foreign editor. Although she later held appointments at Harvard and Columbia (from 1957 to 1973) and received numerous honorary degrees, the considerable influence she exercised over four decades on international development thinking and policy was primarily due to her masterful skills in popular communication as journalist, broadcaster, outstanding public speaker and author of a score of best-selling books.

Her contributions to development literature were built around three successive and evolving themes. In *The Rich Nations and the Poor Nations* (1961), she dramatized the wide economic and social gap between the industrial and 'under-developed' countries, and underlined the urgent need for international action to bridge it, action for which she argued the Western interest was no less than the interests of the poorer countries themselves. *The Widening Gap* (1971) was a critique of the Pearson Commission report *Partners in Development* (1969), arguing that not only aid but more fundamental changes in international trade, financial arrangements and other economic relationships were also needed. In this respect, *The Widening Gap* laid some of the intellectual foundations for the North-South dialogue of the 1970s and of

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