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Mary S. Morgan

[®]M.S. Morgan Department of Economic History London School of Economics

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Mary S. Morgan, Department of Economic History, London School of Economics, Houghton Street, London.WC2A 2AE.

Telephone:	+44 (0)171 955 7081	
Fax:	+44 (0)171 955 7730	

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Mary S. Morgan University of Amsterdam and London School of Economics

Economics is sometimes portrayed as the queen of the social sciences but to many fellow social scientists, economics is a joker. The reason seems to lie in the economists' main character, rational economic man, a figure taken for granted by economists and on which many of their arguments hang, yet one that few other social scientists can take seriously. Rational economic man is essentially a caricature: there is something inherently laughable about him. But while other social scientists might regard him with derision, economists have found him to be a powerful figure and regard him with affection. How and why did modern economics come to adopt this character as its central hero, or rather antihero? If we search the history of economics for portraits of economic man, we quickly find that economists used to deal with a whole person, but, over the past two centuries, economic man became more and more narrowly defined. A short history of rational economic man will help us to understand why economists created such a model of man and his economic behaviour. This history is largely bound by the British (in the nineteenth century) and the American (in the twentieth century) traditions of economics, for it is within their cultures that he has flourished most fully.

Whole Man

In the beginning, there was *whole man*. The famous economic allegory by Bernard Mandeville (1705/14) portrays people - men and women - as being shot full of many vices. Vanity, pride, envy, lust, and so forth, not even singly but in compound forms, combine to create a picture of people as a mixture of motivations which dictate their individual economic behaviour, particularly their spending patterns. Indeed, in Mandeville's allegorical hive of bees, it is consumption which makes the economic world go around, which creates employment, innovation, trade, manufactures and ultimately national power. The moral of his poem, that simple honesty fosters economic decline while complex dishonesty creates

economic wealth, depends on a rich, albeit cynical, portrait of economic behaviour.¹

We have an even more complex portrait when we come to the Scottish moral philosopher and founder of "classical economics", Adam Smith. It is often thought that Adam Smith, in his *Wealth of Nations* (1776), was responsible for foisting self-interested economic man onto economists. Albert Hirschman's (1977) wonderful account of how the "passions" which ruled men's behaviour in ancient times came to be replaced by the "self-interest" motivation in modern times can not be gainsaid. But it is a mistake to think that self-interest is all there is to Smith's central economic character. He is indeed a male character (and thus we have the first narrowing from Mandeville), but in many respects he is a broader character than his forebear. Smith's man is a complex mixture of propensities, preferences, talents and motivations, including self-interest. Indeed, it is vital to Smith's account of the economy that he is not just self-interested.

Take *preferences*: Smith's whole man likes to avoid risk, he has a love of the country over the town, and prefers his homeland to overseas. This combination of his preferences determines the order of investment in the economy (first: country agriculture, second: home manufacturing, and third: overseas trade). This order of investment, taken at the aggregate level, is a necessary requirement in Smith's theory of natural economic development (for example, his 1776, Book III, chapter I), and it also has the unintended beneficial consequence that it maximizes home employment and so increases the wealth of the nation in aggregate (Book II, chapter V).

¹ It is no wonder that this subversive poem, written by a Dutchman but long-time resident in London, was banned by the magistrates and burnt in the market places.

Take *talents*: initial small differences in individual talents between people (for "By nature a philosopher is not in genius and disposition half so different from a street porter, as a mastiff is from a greyhound." Book I, chapter II)² leads to a division of labour amongst men which, for Smith, is the primary engine of growth and one part of the mechanism by which opulence (wealth) is spread throughout the nation. Take *propensities*: man has a natural propensity to "truck, barter and exchange" according to Smith ("Nobody ever saw a dog make a fair and deliberate exchange of one bone for another with another dog" Book I, Chapter II). This propensity provides the second part of the wealth mechanism, for the desire to exchange, and the exchange itself, accentuate initial differences in talents and lead to further division of labour and so further exchange. Even the self-interested *motivation* to economic action is shot through with sympathy, for economic exchange is civil and mutually advantageous, not exploitative and war-like.³

The classical economists of the dominant British tradition, Malthus and Ricardo for example, paint a narrower portrait, but still one in which self-interest is only one of several motivations and preferences. For Thomas Malthus (1803), man's self-interest is more than often overwhelmed by his natural proclivity to create children. The interaction of these motives creates the economic cycle between poverty (and worse) and satisfaction in the lives of the working poor. Moral restraint can act as a check on population growth, only because man is using his "reasoning faculty" to decide to have less children. For David Ricardo (1821), as for Smith, capitalists are prepared to accept different rates of profit depending on their perception of the

² Whereas Mandeville's account thrived on the use of positive analogies between the bee society and the human, Smith uses dogs to point out the differences between man and the animals. It is these solely human behavioural characteristics which generate the complex economy he describes.

 $^{^{3}}$ Smith here follows the tradition of thinking about trade by Hume and by the mercantilists - see Hirschman (1977).

"security, cleanliness, ease, or any other real or fancied advantage which one employment may possess over another" (p 49).

The psychology of classical economists' whole man tells us about his motivations and his actions, but not about the individual effect these motivations and actions create, for we cannot gauge the outcomes of any one person's behaviour. Individual volition is characterised as part of group behaviour, e.g. the behaviour of man as buyer or seller, or as capitalist or labourer. Members of the group behave in a like manner, but it is only the effects of their aggregate actions that can be traced in outcomes in the economy. The iron law of wages and the Malthusian laws of population necessarily apply only in the aggregate. These laws (and the abstract or "theoretical" entities they involve, such as "the general rate of profit" or "the natural price") emerge as the unintended consequences of individuals' actions at the level of groups or classes. It is at the various aggregate levels in classical economics where we find the abstract laws of political economy operating, not at the level of the motivations or behaviour of individuals. Thus, individual motivations and actions are essential for the economic world to go around, and determine the sort of world it is (a producing economy), yet individuals are powerless in the face of the governing economic laws.

Homo Economicus

The first explicit and conscious narrowing in the characterization of economic behaviour came with polymath John Stuart Mill's creation of *homo economicus*, a man restricted in his emotional range solely to economic motivations and propensities. In his *On the Definition of Political Economy* (1836), Mill defines the science of economics as follows:

"It does not treat of the whole of man's nature as modified by the social state, nor of the whole conduct of man in society. It is concerned with him solely as a being who desires to possess wealth and who is capable of judging of the comparative efficacy of means for obtaining that end" (p 321).

Mill's characterization of economic man is an "abstraction" from whole man, and was consciously introduced to make a science of economics possible in two respects. First, in defining the domain of political economy separate from other fields, Mill concentrates on only those aspects of man's behaviour which come under the realm of economics (though of course he recognises that man consists of a plurality of motives). Amongst those motives that have to do with political economy, Mill believed that there is only one constant positive motivation, namely, a desire for wealth, accompanied by the only two "perpetual" impediments being "aversion to labour, and desire of present enjoyment of costly indulgences" (p 321). As is entirely appropriate for a "classical" economist, Mill's definition shows the contemporary concern with production (not consumption as in twentieth century economics) and with wealth (not utility). (Note that it is Mill's second perpetual impediment that switches to become the centrepiece of positive motivation in the next version of economic man!) Mill downgrades the Malthusian motivation for population increase to an important but non-perpetual motivation. In addition, Mill suggests that the institutions important to economic behaviour also flow from this primary desire to possess wealth (e.g. laws on property are institutions designed by man to further his success in accumulating wealth).

Bagehot described this creation of political economy as dealing

"not with the entire real man as we know him in fact, but with a simpler, imaginary man - a man answering to a pure definition from which all impairing and conflicting [i.e. non-economic] elements have been fined away." (Bagehot, 1898, p 97)

This abstraction is necessary to Mill, for only by delimiting the scope of the subject domain of economics can anything specific be said of economic behaviour. But, in Mill's homo economicus, we already see signs of economists' willingness to caricature their central character, for here we have the portrait of a lazy, miserly, but entirely effective, Scrooge.

In the second place, Mill found that the practice of a scientific method in economics required such a character as homo economicus. In economics, causes come compounded. For a scientific treatment, it is essential to separate them out and look at them one at a time. This was best done by taking account first of the main economic cause and assuming that no other causes operated in order to produce a "nearer approximation . . . to the real order of human affairs in those [the economic] departments". Then, the perpetual economic impediments could be added back and finally corrections made to the original abstraction for the nonperpetual and minor causes "which interfere with the results in any particular case" (both quotes, p 323). With economic man defined in terms of a hierarchical structure consisting of one constant motivation, two constant impediments, and a number of non-constant motivations, Mill's main character actor was ready and waiting for a causal analysis according to the scientific method appropriate for economics (see Whitaker, 1975). This did not occur in classical economics, for, as we have seen, the governing laws operate at the aggregate level, the outcome of individuals' collective behaviour in which any one individual was ineffective.

Calculating Man

With the so-called "marginal revolution" in economics in the 1870s, Mill's abstract economic man received a new characterization and became individually causally effective. Whereas Mill's classical economics had rested upon laws of production and distribution and had rejected the existence of any economic laws of consumption, for Jevons,

"Economics must be founded upon a full and accurate investigation of the conditions of utility; and, to understand this element, we must necessarily examine the wants and desires of man. it is surely obvious that economics does rest upon the laws of human enjoyment" (Jevons, 1871, p 102).

As the textbooks on the history of economics recount: the marginal revolution replaced the classical focus on the production of wealth with a focus on the utility to be gained from consumption (see for example, Blaug 1985). This shift had

considerable implications for economists' theory of value, theory of the market and notion of equilibrium. Although these momentous changes in economics were begun by several economists with slightly different interpretations, I will focus on the contributions of the English scientist William Stanley Jevons (1871) and his main character, whom I shall call "calculating man". This is the direct ancestor of modern economics' rational economic man.

Jevons' calculating man is a pleasure seeker - he "maximizes utility" from consumption. An explicit follower of Benthamite thinking, Jevons' utility has two dimensions, duration and intensity of pleasure (or negative pleasure, pain).⁴ More of a good is preferred to less, but satisfaction declines with successive units of the good consumed. When faced with two goods: the consumer weighs the intensity and duration of pleasure from consumption of the different goods until they are equal, where they can be exchanged at the margin (and this in turn gives exchange ratios and so relative prices of goods). By adopting mathematical conceptions and methods from mechanics (maximization and the method of differential calculus to measure infinitesimal changes), Jevons gives an aura of exactitude to the outcomes of calculating man's behaviour (see Schabas, 1990). Indeed, Jevons appears to suggest that man makes such calculations for himself: his brain uses such mathematics to determine his decisions.

In marginal economics, and in the neoclassical economic theory which grew out of it, the theoretical laws of economics operate at the level of the individual. On the one hand, this means the aggregate outcome is the effect of the individual laws, as

⁴ Bentham's (1789) scientific claims involved a reductionist theory of mind that sensations (pleasures/pains) lead to mental associations and that pleasure is homogenous and quantifiable. Although he used mathematical metaphors: "felicific calculus", "axioms of mental pathology" etc, he did not formulate these ideas mathematically.

Jevons carefully explained when he laid out his mathematical theory of marginal utility:

"The laws which we are about to trace out are to be conceived as theoretically true of the individual; they can only be practically verified as regards the aggregate transactions, productions ,and consumptions of a large body of people. But the laws of the aggregate depend of course upon the laws applying to individual cases." (Jevons, 1871, p 108-9)

On the other hand, it is also the case that the aggregate is found not by the addition of individuals following similar courses of action (as in classical theories), but from the combination of the actions of individuals following the same individual laws but with different preferences.

Not only do the laws of neoclassical economics operate at the individual level, but each and every decision by the individual calculating man can make a difference to the aggregate outcome. We see this clearly explained by Francis Edgeworth (1881) (who incidentally appears to have been responsible for naming the calculating man an economic "agent"). Edgeworth stresses the ability of each individual, with different tastes and different initial amounts of goods, to contract freely in the market place. This enables him to explore the effect on market outcomes of adding each successive individual. Only by starting out with the individuals, can Edgeworth give an account of the various aggregate outcomes such as market price, quantity, and the related concept of "perfect" competition.

Defining economic behaviour in terms of individual goal directed maximising of utility turns out to mean that if the preferences of just one of all the calculating consumers in the economy changes in a specific direction, the demand for the product changes, and the prices of all the other products also change because of the way these calculating individuals are linked together into the aggregate. In the general equilibrium of this aggregate economy,⁵ all the consumers are at their

⁵ This general equilibrium aggregate was formally characterized by the Frenchman Leon Walras and the Italian Vilfredo Pareto.

maximum utility, subject to their budget constraints, and so the total pleasure has been maximized.

In connecting individual utility maximization with total maximized pleasure, calculating man's actions acquired "morally" good overtones inherited from one of his other ancestors: utilitarianism. The utilitarian ideas of Bentham took as a fact that men are pleasure seekers, and as a norm that the promotion of general good (pleasure=happiness) should be the criterion of moral goodness. Bentham's utilitarian philosophy pervaded classical economics through the work of James Mill and his son J.S. Mill. In the classical economics version, individual self-interest and the general interest are explicitly linked by a general "invisible hand" argument, and thus utilitarian principles and classical economic principles were easily conflated (see Welch, 1987).

While utilitarianism was linked to the classical economists' focus on self-interested production, it seemed innocuous at least to British economists, fitting as it did onto the Protestant work culture and virtues of classical economic man. This was not so in America, where throughout the 19th century, economists had embraced the classical economics of Smith or Mill, yet decried the egoistical element in their characterization of economic man. With the marginal revolution, self interest became defined in terms of pleasure seeking consumption and began to look more like selfishness, so no longer seemed so morally secure particularly to the American economists (see Horowitz, 1985). Thus, the American marginalist economist, J.B. Clark (1899), sought instead for a moral basis in terms of fairness or equity in distribution at the centre of his version of the marginal revolution (see Everett 1946, Morgan 1994). In contrast, for the Anglo-Irish economist, Edgeworth, with his utilitarian approach, morals and sympathy only came into play when the theoretical economic laws based on self-interested utility maximising had all but determined the final outcome.

Although the marginal revolution appeared to provide a psychological underpinning for "economic man", the extent and depth of this calculating man's psychology has always been open to argument. Jevons explicitly refers to early 19th century associationist psychology and physiological literature on satiation; Edgeworth drew on psychophysics experiments done by Fechner (see Chaigneau, 1995). If this was the introduction of psychology, then it was a limited and decidedly physical one: no room for free will or for other propensities, instincts, talents or preferences. Marginal economists of the calculating variety came under strong criticism, both from inside and outside economics, for treating man too much like a Pavlovian dog. This was particularly true in the American context, where psychologists and pragmatic philosophers attacked the character of economic man as not only unrealistic, but also unscientific, according to latest thinking in both psychology and philosophy (see Coats, 1976). Economists too were not all convinced. Some took exception to the assumptions of mental power with which calculating man was endowed. J.M. Clark complained, with several telling examples from the genre, that economic man was "absorbed in his irrationally rational passion for impassionate calculation" (1918, p 24). For others, a "whole man" was necessary for any progress in economic science. In a well-known attack, Thorstein Veblen described calculating man as

"a lightening calculator of pleasures and pains, who oscillates like a homogeneous globule of desire of happiness under the influence of stimuli that shift him about the area, but leave him intact." (Veblen 1919, in 1948, p 232)

Such attacks on the one-dimensional hedonist of marginal/neoclassical economics from those desiring a more "realistically", or scientifically, whole economic man, forced American economists to make a choice in the early twentieth century, a choice between different social science approaches to the study of man's behaviour (made easier by the fact that the social sciences were at that time just splitting into

separate professional groups)⁶. Some (who became known as American Institutional economists) chose a mixture of the historical/sociological and anthropological approaches to understanding man's economic behaviour as a rounded whole. The historical-sociological element defined the typical economic man in such a way as to keep all salient characteristics of the type (the kind of "ideal type" used in German historical and sociological economics).⁷ The line taken from anthropology focused on the habitual ways of behaviour and institutions which characterised economic society. In this "institutional" tradition, the commitment to detailed knowledge of human complexity makes it difficult to apply formal analytical techniques sufficient to provide concrete answers to concrete questions.

Others chose the economics route of a model of man, but, these emergent neoclassical American economists defended themselves against further attack by pushing psychology even further out of the picture. It was easier, after all, simply to assume that every individual acts as they desire to do, and that everything

⁶ There were of course other possible strategies for dealing with the complexity of human behaviour which had emerged during the development of social science in the nineteenth century. They are not discussed here.

⁷ I am hesitant to use Max Weber's name here, because Machlup suggests that Weber was quite happy to regard the classical economists' model man as an ideal type:

[&]quot;Such ideal-typical constructions are exemplified by the concepts and "laws" formulated in pure economic theory. They state what course human conduct of a particular kind <u>would</u> take <u>if</u> it were <u>strictly</u> rational (in a subjective sense built into the type), unaffected by error and emotion and, furthermore, <u>if it</u> were completely and uniquely oriented toward only one objective, namely, economizing" (Weber quoted in Machlup, 1978, p238).

This suggests that Weber would find 20th century rational economic man as good an example of the ideal type as he did the nineteenth century homo economicus character to which he referred here. Nevertheless, as Machlup's account makes clear, most German historical economists would probably not have recognised the classical economists' man as a useful ideal type.

behind this is a problem for the realm of psychology (or some other social science) as Irving Fisher did in the opening paragraphs of his 1892 thesis.

The British side of the neoclassical tradition also retreated from psychology, but this seems to have been associated with their failure to provide a measurement programme or empirical counterpart to calculating man's theorized behaviour. Marginalists like Jevons and Marshall had assumed that you could calculate the satisfaction from your utilities, if not make interpersonal comparisons between people's satisfactions. But by the 1930s economists were uncomfortable with both these claims. By then all the analytical work was done with "indifference curves", maps of an individual economic man's points of indifference between two goods, which replaced the utility functions (though these remained for teaching purposes, and even appear in theorists' equations, they do little work). In indifference curve analysis, introduced by Edgeworth and Vilfredo Pareto and developed by Hicks and Allen in the 1930s (see e.g. Blaug, 1985), there is almost nothing left from psychology, we merely notice that people prefer more to less, and that they can compare and value commodities in indifference curves (the utility measure is ordinal not cardinal). But still, this indifference curve analysis remains in the realm of theory, for points of indifference are not empirically observed.

Slot-Machine Man

Whereas Jevons had provided a vestige of economic motivation in his idealized calculating model of man, it was the main American exponent of neoclassical economics, Frank Knight (in his thesis of 1915, published in 1921) who worked out the details which allowed calculating man to play his full role in the formal neoclassical theory of the economy. Only by endowing calculating man with full information about everything in the economy (rather than limited information), and with full foresight (rather than uncertainty) about the future, could the individual person make the necessary calculations which would allow him to judge accurately what actions to take in buying and selling and consuming. And only by assuming

that there were infinitely many of him, and that each acted independently of the others, could neoclassical analysis depict the perfectly competitive economy necessary to arrive at an equilibrium outcome which maximised aggregate utility.

Knight was the first to admit that a world peopled by such individuals was no longer a simplification, but an "heroic" abstraction.

"The above list of assumptions and artificial abstractions is indeed rather a formidable array. The intention has been to make the list no longer than really necessary or useful, but in no way to minimize its degree of artificiality, the amount of divergence of the hypothetical conditions from those of actual economic life about us." (Knight, 1921, p 81).

While the classical economists had pared down to homo economicus, marginal and neoclassical economists such as Knight exaggerated certain of his characteristics (his calculating ability and his "perfect knowledge") to create a fictional idealized model of economic man. These exaggerations were "necessary" not for understanding man in "actual economic life" but in order that economic man could play the part required of him in the overall mathematical theory of the economy being constructed by the neoclassical economists.

Knight adopted this route because, like Mill, he argued that scientific economics placed severe limitations on the treatment of man. In order to arrive at definite analytical results about the workings of markets, the outcomes of perfect competition, and the economy as a whole, the scientific domain and method of economics is necessarily restricted to dealing with an idealized economic man not with actual people. Knight later portrayed this idealized economic man as a slot machine: "The Economic Man neither competes nor higgles ... he treats other human beings as if they were slot machines" (Knight, 1947, p 80), not even a one-dimensional man, but a purely impersonal agent (as economics now say) with no vices, virtues, desires, children. This ideal figure of economic science does not help to describe actual economic behaviour, and so cannot be used for socially useful economic analysis or policy interventions. Because Knight was committed

to certain liberal democratic beliefs, he also wrote moral commentaries describing man's actual economic behaviour (for example, he is perhaps the first economist to describe competition as an in-built human urge) in which he explicitly denied that the rational economic man of his analytical work had any realistic importance (see Knight, 1923, Emmett, 1994). Although these two domains of his economics were largely separate, by providing both moral and formal mathematical economics, Knight was following in the same path as the American marginalist J.B. Clark.

Rational Economic Man

Though the neoclassical idealized economic man used by Knight was well-clothed with artificial assumptions about his knowledge and foresight, yet his underlying human character had become decidedly thin. His character all but disappears in the mid-twentieth century, when he gains the label "rational". This may seem counterintuitive, so let me explain. Economists have used two notions of the word rational: one relates to reasoning behaviour, the other to choosing behaviour. In the early neoclassical economics of Knight, "rational" meant reasoned, goaldirected, activity, a notion which hardly differs from the reasoned pursuit of selfinterest which we find in the classical economics of Adam Smith. It is rational in the second "choosing" sense which is so closely linked to mid-twentieth century neoclassical economics. In this twentieth century characterization, the "rationality" of economic man has become a more important question than his motivations and desires.

A little more history will help here. The marginal revolution had put economic choice (particularly between goods) at the centre of economic behaviour. But while Jevons' analysis was concerned with how such decisions were made, the nature of the choices received little attention from him. More is better than less, but beyond that, Jevons' account was limited: he gave no way of choosing between equal utility-valued goods. Although Jevons' mathematical formulation of economic man is widely believed to be the basis for neoclassical economics in the

twentieth century, not all marginalist economists followed his utilitarian, mathematical version of the new economic man. Indeed, the Austrian marginalist, Carl Menger (1871), discussed individual and subjective valuation without any of the apparatus of utilitarian calculus, or of calculating mathematical man, or of the single-minded hedonism which seemed to characterize Jevons' account. In Menger's account, man is an economizer: he satisfies different needs with different goods by choosing them in such a way as to satisfy his needs in a particular order (with necessities first, luxuries second etc). His subjective valuation (based on introspection) is concerned with choice between satisfying different needs, rather than with calculating the standard units of pleasure from consuming different goods as Jevons' calculating man does. It is only in this Austrian marginalist tradition that we find an economic account of choosing.

Nevertheless, there is a crucial switch of focus from the marginalists' account of choosing to mid-twentieth century economists' rational economic man. In the marginalists' conception (whether of Jevons or Menger), man's desires/motivations/needs are primary and they dictate choices. For 20th century rational economic man, it is choices which are dominant, and it is assumed that desires can only be maximised or satisfied by "rational" choices. This commitment to rational economic man is clearly expressed by Lionel Robbins (an English economist, but with some roots in the Austrian tradition of Menger):

"The fundamental concept of economic analysis is the idea of relative valuations; and, as we have seen, while we assume that different goods have different values at different margins, we do not regard it as part of our problem to explain why these particular valuations exist. We take them as data. So far as we are concerned, our economic subjects can be pure egoists, pure altruists, pure ascetics, pure sensualists or - what is much more likely - mixed bundles of all these impulses." (1932, p 95)

J.M. Clark (an American anti-neoclassical economist with a perceptive line in satire) characterised the situation thus:

"Our old friend, the "economic man," is becoming very self-conscious and bafflingly non-committal. Instead of introducing himself to his readers with

his old time freedom, he says: "I may behave one way and I may behave another, but what is that to you? You must take my choices as you find them: I choose as I choose and that is all you really need to know." The poor thing has been told that his psychology is all wrong, and he is gamely trying to get on without any and still perform as many as possible of his accustomed tasks. He has become a symbol, rather than a means of description or explanation." (1936, p 9)

By making choices dominant over desires, twentieth century economics effectively allowed economic man to have any type of motivations, provided he chose "rationally".

This switch follows from pushing out psychology and from indifference curve analysis, but the key analytical move is Paul Samuelson's revealed preference formulation of utility. Samuelson's thesis (1938, published in 1947), written under the influence of operationalism, had got rid even of the indifference maps from theory, in favour of the only thing he thought could be measured and known, namely, man's "revealed preferences"⁸. Samuelson was explicit:

"The utility analysis rests on the fundamental assumption that the individual confronted with given prices and confined to a given total expenditure selects that combination of goods which is highest on his preference scale. This does not require (a) that the individual behave rationally in any other sense; (b) that he be deliberate and self-conscious in his purchasing; (c) that there exist any *intensive* magnitude which he feels or consults." (1947, p 97-8)

The critical question is: What does "behaving rationally" "in selecting that combination of goods which is highest on his preference scale" mean? Behaving rationally in this analysis means choosing more over less of a good, and that choices over a number of goods must be "consistent" and "transitive". These are the characteristics which define a "rational" choice.

⁸ At the same time von Neumann and Morgenstern (1944/47) developed a measurement formulation for <u>expected utility</u> based on preference comparisons and assuming that risk was involved. Again man's preferences are revealed through his valuations.

From Samuelson on, in the by now dominant American neoclassical economics, economists preferred to assume nothing about peoples' motivations, but to suppose that, however arrived at, their choices are rational. "Rational economic man" is named so because he "chooses rationally". Here rationality is instrumental - we know nothing, and economists claim nothing, about the people or their underlying feelings, preferences and valuations as in marginal economics, let alone about their reasoned aims and motivations as in classical economics; and, as Robbins implies, economists don't even care. Neoclassical economists are interested only in consequences or outcomes, not causes. As Fritz Machlup has observed "the ideal type of *homo economicus* is designed for interpreting observed *consequences* of men's actions", not for interpreting the actions themselves (Machlup, 1978, p 281). Rational economic man has ceased to have any explanatory power over the causes of economic behaviour.

The reputation of rational economic man was at its height in the 1970s. Hahn and Hollis epitomise the position:

"The pure economist's definition of rational choice is now this: Given the set of available actions, the agent chooses rationally if there is no other action available to him the consequence of which he prefers to that of the chosen action." (1979, p 4)

before they go onto show the implications of this in a number of well-defined theoretical situations. The results are analytically striking, though one might well argue that their definition of rational choice doesn't rule much out. Their point is clear however, neoclassical economics has built a body of theoretical results on the back of rational economic man. Significantly also, though economists' central character no longer supports claims to explain the causes of economic behaviour, neoclassical economics a guide to action. This follows from the fact that rational economic man is interested in consequences. Hahn and Hollis again:

"The rational man of pure theory is an ideal type in the sense not only of being an idealization where the theory holds without qualification but also of being a model to copy, a guide to action. In pointing out the way to satisfy a given set of ordered preferences, the theorist gives reasons for action." (p 14)

The "reasons for action" are not in the initial feelings of the subjects, but are rationalised (or reasoned backwards) by the economist from looking at the consequences.

In more recent years, it has turned out that rational economic man is not quite such a strong character as economists of the 1970s thought. To start with the analysis of consequences: it seems, following the results of laboratory experiments in economics and of game theory, that economists have found good reasons to think about the sense in which economic man's rationality might be "bounded" or his consistency relaxed. These widespread recent developments still take rational economic man as the ideal, and then analyze what might happen to outcomes (or what re-interpretation of experimental results occur) if he were not so perfectly "rational" as he is painted. Secondly, it seems that for the older economic issues of competition, markets and general equilibrium economics, rationality on its own does not get you very far. As Knight pointed out in his thesis way back in 1921, and as Arrow has argued more recently (1986), the individual rationality of economic man has to be combined with other basic tenets of modern economics (e.g. other assumptions for perfect competition or general equilibrium) to get strong formal results, this despite the fact that the justification for the characterization was its ability to provide formal analytical results. In the third place, attempts to use the individual rational man as a "representative agent" to underpin macroeconomic theory has been found to be ill-conceived (Kirman 1992). Finally, attempts have been made to alter the basic characterization of economic man's rationality (for two good examples, see Sen, 1976-7 and Simon, 1976).

Rational Economic Man: A Caricature

This short history has been following the route by which economists adopted a model of man's economic behaviour. We have traversed through a series of increasingly narrowing portraits. From Adam Smith's whole man, through Mill's *homo economicus*, to Jevons' calculating man and Edgeworth's agent, economic man gradually became thinner during the nineteenth century. Each move was made as part of a simplifying strategy, to reduce the complexity of dealing with all human feelings and emotions and actions that flow from them and, at the same time to focus the attention on the explicitly economic aspects of man's behaviour. This was the nineteenth century economists' answer to dealing with the complexity of human behaviour in a scientific way. It provided us with a model economic man. He was taken to represent real man, but had been pared down to focus on the picture of economic behaviour in its simplest, purest form, unaffected by other considerations.

From late-nineteenth century marginal economics onwards, we found these pure forms of economic behaviour exaggerated to an extreme degree as economic man became endowed with extraordinary amounts of economic knowledge and certainty in a bid to analyze the fullest effect of economizing behaviour. In neoclassical economics of the twentieth century, economic man is no longer taken to represent real man, but to be an artificial character created by the economists. The process of simplifying and focusing attention on the quintessential economic behaviour offered the possibilities of analytical results within this narrowed framework, and so seemed to economists a sensible scientific strategy compared to the alternative social science approaches of studying real economic behaviour of man with all his feelings and amongst his family and community. The nineteenth century invention, *homo economicus*, and his twentieth century descendent, rational economic man, are equally part of this simplifying and exaggerating strategy.

This strategy can be recognised not just as one of model building, but as one of creating a caricature. A caricature relies on the artist taking a subjective view: it not only simplifies, but relies on a distortion or exaggeration of certain characteristics beyond the point of objective truth. It is this exaggeration that enables us to recognise the true importance of the characteristic exaggerated. The same is true of "rational economic man". He is not only a simplification of man, as all models will be, but he is also a caricature for he epitomises to an extreme degree the essential characteristics of economic behaviour. The caricature emerged gradually, for over the generations, economists became less concerned with representing elements of real life man, and more concerned with idealizing him for his role in the theoretical economy. Once economists no longer strove for an accurate representation of economic man, they were free to take a more subjective view in their portrayal of their central character.⁹ It is this caricature model of man¹⁰ which economists have found helps them to learn about the idealized (theoretical) economy, and it does so because it enables them to explore the economic behaviour of man and its consequences in its most exaggerated form.

The caricature of economic behaviour involved in rational economic man makes economics laughable to other social scientists, but it is also the reason economists cite for their analytical success compared to the other social sciences, (where man, if he is modelled at all, is an altogether more rounded and serious character).¹¹

⁹ While recent science studies have focused on the ways in which economic scientists adopted methods which were more "objective", particularly through the second half of the nineteenth century (see Porter 1995, Furner, 1975), this account implies the opposite.

¹⁰ It is significant that one of the few accounts of modelling to have emerged from philosophical studies of economics is the portrayal of models as caricatures (see Gibbard and Varian, 1978).

¹¹ For example, see Leonard's (1994) paper on experimental game theory compares economists limited characterization of behaviour with that of psychologists undertaking the same experiment.

Economic man modelled in such a way becomes analytically tractable, whereas paradoxically, if he were a more reasonable person, he would be less tractable. Though economists have come to depend upon their caricature, we should not necessarily treat rational economic man with derision, for noone would deny the value of caricatures in giving us truthful insight.

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