Economic Science and Ethical Neutrality: The Problem of Teleology

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ABSTRACT. Two disputes have continually frustrated attempts to provide a tenable method of enquiry for economic science:

(a) Should theory construction in economics include a commitment to moral principles? Or should economic theory remain value-free?

(b) Does the peculiar subject matter of economics demand a 'teleological', or a 'mechanistic' pattern of explanation?

It is the aim of this paper to shed light on both the preceding controversies by seeking to clarify the *relation* between them. In particular, it is argued via a case study of the theory of rational choice that over-simplified mechanistic constructions have distorted the normative content and applicability of economic theory.

> Yet still in an explosively changing world, we have a fragmented economics... One reason for this goes deep. It is the lack of a philosophical basis for economic theory. Economic life is looked upon as deliberative action, and again it is looked upon as action determined by the combination of tastes and circumstances. Which is it? Can it be both? Nobody asks, and such problems being unrecognized, the diversity of hidden assumptions creates a babel of conflicting languages![1]

The preceding quotation from G.L.S. Shackle well articulates one of the most severe sources of confusion besetting methodologists in their attempt to resolve questions concerning the logical status of economic theory. On the one hand, constituting the persistent "official view" among economic methodologists are those economists and philosophers of science who in general have endorsed principles of scientific method urged by logical positivists, a cardinal tenet of whom has been that of the "unity of method" between the natural and social sciences.[2] Hence, in conformity to what are taken to be "mechanistic models" of the natural sciences, it is argued that economic events are explained by invoking causes comprised of "antecedent conditions" or events logically "external" and temporally prior to the "explanandum-events". Or, more precisely, economic events are explained by deducing such items of behaviour from 'ordinary' causal laws representing uniformities in such mechanistic sequences. In particular, thus, a mechanistic model of explanation would aver any mention of the family of intentional entities consisting of the reasons, motives, goals, purposes, social conventions, moral principles, etc. for the sake of which, or in compliance with, the economic agent might be claimed to undertake his activity. As Jevons succintly put this viewpoint in the last century, economic theory in general is to be conceived as a "mechanics of utility and self-interest".[3]

On the other hand, economic theory has also been construed as a 'teleological' rather than 'mechanistic' model of explanation, accounting for an economic action, not merely by adducing its antecedent, external causes, but by citing the agent's goals or objectives for the sake of which he deliberately undertakes the action. Under this interpretation, it is argued that since economic behaviour belongs to the category of

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human action, it is *purposive*, and, as such, cannot be adequately explained by its subsumption under standard causal laws, of the same form as employed in the natural sciences, but only by deduction from laws of a special type. Or, even more disparately, eschewing any appeal to explanatory laws, it is contended that such purposive explanation takes place, not by specifying causes, but by ascertaining the suitable reasons or grounds for the action, as determined by the appropriate social norms or moral principles to which the "rule-following" agent subscribes in seeking to realize his ends.[4]

As the preceding characterization of the mechanism-teleology controversy suggests a host of interrelated problems in the philosophy of the social sciences, it will serve the purposes of clarity to sort out some of the primary ones in the specific context of a second major dispute which has continually frustrated attempts to provide a tenable method of enquiry for economic science. I refer here to the unflagging debate concerning the ethical neutrality or "value-freedom" of economics. Economic theory has been conceived as an essentially normative discipline, which, by applying fundamental ethical principles, prescribes the canons according to which agents ought to engage in the production and exchange of material commodities.[5] And yet, it has also been argued that economics counts as an entirely 'positive' science, comprising a set of purely descriptive hypotheses that explain *de facto* regularities in the behaviour of the subjects under study. However, again under the influence of positivist doctrines of scientific method, in particular, those advocating the disparate character of "values" in contrast to "facts", the latter interpretation has become the orthodoxy among economic methodologists. The economic scientist *qua* scientist subscribes to a standard of ethical neutrality. Categorical moral judgments are not presupposed by the statements of the theories he constructs.[6]

It is the aim of this paper to shed light on both the preceding controversies by seeking to clarify the *relation* between them. In particular, it is argued that over-simplified mechanistic constructions of economic theory have precluded its normative applicability and distorted its ethical implications.

I

In dealing with such problems in the methodology of science, it invariably promotes the plausibility of an analysis to have recourse to actual case-studies. For our purposes, the neoclassical theory of consumer choice will prove instructive, not only since it provides evident and serious problems concerning the role of moral judgments in micro-economics, but also because choice theory supplies the foundational concepts and postulates on which a good deal of orthodox economics rests.[7] The particular form of the theory to which we will make appeal is that of individual choice under conditions of certainty, as typically represented by indifference curve analysis (hereafter labelled CCT). This theory is regularly systematized by beginning with a set of primitive assumptions concerning the individual consumer, S, confronted with a comparison between, and choice of, alternative combinations (A, B, C, etc.) of various commodities (q, r, s, etc.). For example, A might represent a combination of 2 operas and 7 blue movies. The axioms of this version of consumer choice theory follow:

A (comparability) given any two alternatives to compare, say A and B, any consumer either prefers A to B, B to A, or is indifferent between A and B.

A_2 (nonsatiety) No consumer is sated with any particular commodity. That is, he prefers to possess more of any available commodity.

A_3 (transitivity) For any three commodity combinations, say A, B and C, if S prefers A to B and B to C, then he prefers A to C. Likewise if S is indifferent between A and B and indifferent between B and C, then he is indifferent between A and C. In this sense, the consumer is *consistent* in his choices.

A_4 (diminishing marginal rate of substitution) Roughly, this postulate asserts that the amount of Y the consumer is willing to give up to get an additional unit of X becomes progressively smaller as the quantity of Y diminishes. Con-

sumers are relatively stingy with relatively scarce goods.

Now, on the basis of these four axioms, economists intend, in a purely 'positive' vein, to explain and predict the behaviour of the individual "rational" consumer – the one who employs the optimal means in seeking to maximize his 'utility' or subjective satisfaction, given the constraints of his budget or income and complete knowledge or certainty as to outcomes of alternative choices.

Hence, employing our axioms as premises in conjunction with particular budget constraints, economists deduce the theorem that for any consumer, the point of equilibrium, or allocation of income that maximizes his satisfaction, will be the one at which he purchases that combination of commodities wherein the marginal utilities of the goods are proportional to their respective prices.

II

We might usefully begin our analysis of CCT by observing that perplexities concerning the normative implications of deciding whether CCT is better understood as describing and explaining mechanistic processes or purposive actions are not of recent vintage. Indeed, one can go some way in unravelling these issues by observing their historical source in the connection between the development of the neo-classical theory of rational choice and the framework of nineteenth century Utilitarian ethics. Of course, this affinity is not simply a surprising historical accident. The groundwork for the construction of the economic theory of choice was laid by theorists who, for the most part, endorsed some version of Utilitarianism as an ethical system – Jevons and Edgworth are perhaps the most notable examples among English economists.[8] In the present context, I should like to examine the implications of viewing CCT within the framework of Utilitarian moral philosophy to the extent that they illuminate the mechanism versus teleology controversy concerning the structure of economic theory in general.

First, some terminological house-cleaning. By a teleological form of explanation, I shall mean one wherein the initial or antecedent conditions of the action to be explained require a reference to the end or goal for the sake of which the action was performed. And a purposive explanation will be a teleological one which also includes the "intentional" properties that (i) the goal of the action is the end as conceived and desired *by the agent himself* and (ii) where the action is believed *by the agent* to be a necessary means to the attainment of that end. Contrariwise a mechanistic explanation of human action includes, in the antecedent conditions, either no reference to the 'goal' of the action, or no mention of intentional properties concerning the agent's desires and beliefs about his end-in-view and its requisite means.

Philosophical arguments abound concerning the relationship between purposive and mechanistic explanations of human behaviour. Our particular concern will not require that we join issue on the general controversy whether explanation by purpose can always, in principle, be 'reduced' to, or translated into mechanistic ones. Rather our interest will centre on a case-study of the *normative* adequacy of one such reduction – that provided by certain interpretations of the economic theory of rational choice – CCT.

At firth sight, then, the account of consumer behaviour provided by CCT appears to be most appropriately placed within the category of such teleological explanation. For do not the antecedent conditions of the purchasing-event to be explained include a reference to the end for the sake of which the purchasing is carried out, namely, the satisfaction derived from the use of commodity-bundles? Teleological explanation within CCT, moreover, seems to fit our definition of the sub-class of purposive ones, since the commodity-bundle preferences,the end desired, and the action believed necessary for its efficient realization describe a decision-theoretic 'situation' as perceived by the agent himself.

Furthermore, it seems that the value-basis of actions explained by CCT is ready at hand – the economic agent can be seen as following the traditional Utilitarian rules for prudential decision-making. For in his choices, manifesting a

purchasing strategy consisting of the selection of a commodity-bundle fulfilling the condition of equalization at the margin, he is *ipso facto* maximizing his utility or subjective satisfaction. May we not, then, straight-forwardly conclude that the explanation of behaviour furnished by CCT, is of the purposive, rather than mechanistic type, and that its normative basis is to be understood as the obvious application of the rules of Utilitarian decision-theory to consumer choices?

Such a conclusion would be misleading and premature. In the first place, the history of the integration of the neo-classical theory of choice within the framework of a Utilitarian model of practical reasoning attests to a persistent muddle concerning whether or not CCT is more plausibly interpreted as a purposive or mechanistic explanatory system. This state of affairs might strike one as puzzling; for, in the first instance, classical Utilitarianism appears as a paradigm moral theory stipulating a hedonistic standard for the justification of practical decisions – that actions are right in so far as they produce pleasurable consequences. And, surely the applicability of an ethical theory is not, primarily, *ex post facto*, to determine whether actions already performed have been wise or foolish, right or wrong. Rather its fundamental application is *ex ante*, in the context of moral reasoning *qua deliberation*, in deciding, on the basis of the appropriate rule, what one ought to do – in the case of the Utilitarian standard that one ought to choose that action whose end is one of maximum pleasure. Seen in this context, an ethical theory such as Utilitarianism would, evidently, be best suited to integration within purposive explanation where moral standards would govern the positing of desirable goals in pursuance of which an agent would undertake actions.

Nevertheless, for the most part, the inclusion of Utilitarian moral philosophy within the economic theory of choice has, from the beginning, taken a different direction – that of being deployed to construct a mechanistic theory. The pioneers in the construction of the neo-classical theories of entrepreneurial and consumer behaviour – Jevons, Edgworth, Walras and Pareto – all conceptualized market behaviour in Utilitarian *cum mechanistic* terms – as the mechanics of pleasure and pain.[9] As Pikler points out, Edgeworth and Pareto went so far as to model the theory of consumer behaviour on the field theory of the motion of a physical object in classical mechanics.[10]

Edgeworth's understanding of the person as a "pleasure-machine" provided a vigorous, albeit strange, general conceptual framework for such modelling...

> A system of such charioteers and chariots is what constitutes the object of Social Science. The attractions between the charioteer forces, the collisions and compacts between the chariots, present an appearance of quantitative regularity in the midst of bewildering complexity resembling in its general characters the field of electricity and magnetism... at least the *conception of Man as a pleasure machine* may justify and facilitate the employment of mechanical terms and mathematical reasoning in social science.[11]

Although the distinction between purposive and mechanistic behaviour is not clearly formulated by these early theorists, the general import and rationale behind their conception of consumer behaviour as the mechanics of pleasure and pain is clear enough. In conscious analogy to the motion of a material object whose movements are causally necessitated by the antecedent physical forces, such as gravity and magnetism, to which it is subject, the behaviour of any economic agent, like consumer *S*, is considered to be the causally necessitated effect of the antecedent psychic forces to which he is subject – in the case of *S* his sensations of pleasure and pain. The causal process might be represented, in simplified fashion, something like this:

(a) The initial use of diverse combinations of commodities induces in *S* different degrees of sensations of pleasure and pain.

(b) In the tradition of associationist empiricist psychology, on the occasion of conscious reflection, these sensations, or 'primary impressions', induce secondary impressions consisting of desires for such commodity-bundles, varying in intensity in proportion to the strength of the original impressions.

(c) The desires or standing wants, on the occasion of their realizability in a future price-

income situation, in turn induce S to purchase that set of commodities whose initial consumption had caused stronger impressions than the alternative bundles now available to him. Translated into terms of CCT, S will now be at his point of equilibrium, E, wherein his 'utility' (in traditional terms his psychic pleasure) is the maximum possible.

Now it is critical to note that the preceding explanation-sketch which we have attributed to these nineteenth century theorists is not a purposive one. For the final state (E) of the process, the occurrence of consumer equilibrium, cannot be adequately interpreted as a *goal of human action*. The fundamental reason that E cannot be so categorized is that it is a defining feature of action-goals that they constitute "ends-in-view" at which an agent *consciously aims* and hence, that the reflective deliberations or directed reasonings of agents *make an essential difference* with respect to whether or not the realization of the goal occurs. However, the manner in which our nineteenth century theorists used the concept 'equilibrium state E' indicates that they understood this concept as designating *merely* the terminating point of a natural process, that is, and 'end-state' uniformly following upon the consumer's behaviour, and which would regularly obtain *independently* of the rationality or irrationality of any practical reasoning on the part of the consumer. In other words, the correlation between an economic agent's behaviour and its consequences, in the 'field of his desires', was conceptualized as a 'blind' contingency, that is, as unconditioned by his conscious deliberation. It was empirically guaranteed by the 'laws of motion' of psychic processes that consumer behaviour, irrespective of the conscious intent of the agent, would regularly be equilibrating by effecting a terminal state of maximal subjective pleasure, in the same manner as the effects of the movement of an inorganic object in a field of physical force, was guaranteed by the laws of physical motion.

III

Nor are these aspects of the historical foundations of CCT of only antiquarian interest. The contemporary theory of rational choice is heir to its original construction, and, as we will see, has yet to escape many of the conceptual confusions which beset the initial nineteenth century formulation. One recent locus of confusions is offered by certain 'functionalist' constructions of economic theory.[11]

Functional explanation appears *prima facie* as a version of teleological explanation, that is, as outlined above, one which employs an essential reference to the goal or end for the sake of which the phenomenon to be explained occurs. Basically, functional varieties of teleological patterns of explanation can be distinguished by a special feature of the end towards which the explanadum-event is directed. Briefly, the end of a functionalist account can be classified as a 'need' or 'functional requirement' of some system. A 'system', for present purposes, can be identified with an individual human being. And a 'need' is to be interpreted as a necessary condition for some generally desired end-state, which state is typically construed biologically as "continued existence" or "survival". Strictly speaking, then, a need is best interpreted not as the final end of the system but as an 'intermediate' end or means which is required to bring about the ultimate end, say survival. Hence, schematically, a functional explanation of the existence of some institution or action, A, would mention some "function" or causal consequence of the existence of A, which consequence could be understood as the fulfillment of a need or necessary condition N of the survival or other desired condition G of some system S. An oft-cited biological illustration is that the beating of the heart (A), fulfills the "functional requirement" of circulating the blood (N) which is necessary to maintain a "healthy state" G of the human organism, S.

We find that the structure of CCT well fits the explanatory pattern of such functionalist analysis. Briefly, a functionalist formulation of the explanation of consumer behaviour within CCT would seek to account for a particular commodity-bundle choice, A, of some consumer S, in terms of A causing or maintaining a 'functional requirement' or 'need' N, understood as

his state of equilibrium, defined by the marginality conditions. And this equilibrium fulfills a necessary condition (indeed for CCT both a necessary and sufficient condition) for the realization of the ultimate goal of S – the maximization of his utility or subjective satisfaction. Is it not evident, then, that a functionalist account of consumer choice is teleological in form – explaining such behaviour in terms of the intermediate and final end to which it leads, i.e. an equilibrium state and maximum utility, respectively?

Not surprisingly, however, the general disposition of contemporary economists has been to follow the lead of nineteenth century Utilitarian economics in devising mechanistic formulations of functionalist theories of rational choice. One such construction which is currently in vogue is the effort to provide a mechanistic version of a functionalist analysis of CCT, by considering this theory a special case of a general systems theory.

Of course, system theorists are themselves divided as to whether all "systems approaches" to the explanation of social phenomena are mechanistic in form.[12] Within economics, however, the prevailing tendency has been to deliberately base their interpretation of CCT *qua* system on an analogy with *mechanical* systems, and our attention, therefore, will be centered on the tenability of such a mechanical analogy for CCT.[13]

Unfortunately, there is not a precisely uniform specification of the meaning of 'system' among system theorists. We will, however, follow Bertalanffy in defining a system as a "set of elements (sometimes labelled the 'parts') standing in interaction (i.e. in causal relations)".[14] As in our general conception of CCT as a functional theory, the "system", S, under investigation in CCT is to be understood as the individual organism or economic agent, i.e. the consumer, the elements or 'parts' of S being, in classical empiricist fashion, the set of interrelated psychic states constituting S, in particular his beliefs and desires.

The underlying *modus operandi* in the "systems approach" to the construction of a social scientific theory is for the theorist to be guided by formal identities or "structural analogies" between various "levels" of phenomena. Methodologically, the most fruitful interpretation of the meaning of "structural analogy" as employed in general systems theory would be that of an isomorphism of the laws accounting for the phenomena of different levels. Within the context of an analysis of a theory of individual choice, we may limit our attention to three levels of phenomena corresponding to three types of entity or system – an inanimate physical object, an individual human *qua* biological organism and an individual agent – the consumer. For the purposes of this paper, we will concentrate on the latter two categories.

The basic structural analogy which is claimed by system theoretic economists to hold between the behaviour of a person *qua* living entity and *qua* agent-consumer is that both exhibit the pattern of "homeostatic" processes. And, the fundamental idea of homeostatic explanation is to characterize the behaviour of a system as manifesting a regular tendency to maintain some "equilibrium" state. The stock example cited is the biological one of the preservation of an equilibrium consisting of a constant body temperature in particular kinds of organisms.

If we take the case of the human body, considered as a system S, we observe that under the causal influence of changes in the temperature of the external environment I of S, the 'parts' or physiological processes, P, within S, such as blood pressure, perspiration and the contraction of muscles, undergo alteration so as to maintain S in an equilibrium or 'steady state' E, that is, within a restricted range of temperatures. Of course, strictly speaking, E is not the final "end-state" realized by such processes but is itself a necessary causal condition for the final 'end', 'G',[15] the survival of S, since temperatures beyond the range of E will terminate S's existence.

Similarly, according to systems-oriented economists, the axioms of CCT lend themselves to a functional-cum-system theoretic analysis. For the behaviour of the system, now the consumer, call his S', is explained in terms of a uniform tendency to maintain equilibrium state E' – that of "equalization at the margin". The

environment, I', comprises the relative prices of the available commodities along with the consumer's income. Changes in I' cause the processes constituting S', that is, his beliefs, desires, preferences, and choices, P', to change so as to induce S' to buy commodity-bundles that keep him at the point of equilibrium, E'. And E', as we have seen, is intermediate to S's final 'end-state', G' – that of maximum utility or subjective 'satisfaction'.

The preceding comparative sketch of the "systems behaviour" of the human body and the individual consumer already exhibits the similarity in formal or structural relations into which the set of external and internal states affecting S and the set affecting S' enter (i.e. I, E, P and G on the one hand, and I', E', P' and G' on the other). More explicitly, if the general laws covering the two classes of phenomena were explicitly stated, and to the degree that the structural analogy is exact, there would be a isomorphism between the laws explaining the physiological phenomena and those explaining the economic – that is, there would be an identity of syntactical structure between these laws.

The consequence of such a 'systems analysis', if successful, in furnishing CCT with a mechanistic or non-teleological pattern of explanation can also be made evident. First, on the basis of the above schema, it is to be observed that we can identify the antecedent conditions, I, of the homeostatic bodily processes, P, where I = the temperature of the external environment, and confirm the regular effects that changes in I cause in P *independently* of referring to any goal of heat equilibrium, E, *for the sake of which* P occurs. In short, we are epistemically equipped to explain P – processes mechanistically (as defined above), by subsumption under laws connecting an "efficient" cause with its contingent effects. But, likewise, as system-theoretic economists argue, we can identify the antecedent "environmental conditions", I', of consumer beliefs, preferences and choices, P', where I' = the price-income situation, and note the uniform effects which alterations in I' induce in P', independently of referring to a (consciously intended) goal of marginal utility equilibrium E' (and ultimately maximum utility G'). Hence, the functionalist *cum* system theorist would conclude that we are also in a position to provide a mechanistic explanation of P' events. Or, if a teleological explanation T of a consumer choice has already been formulated in terms of the choice being required, given initial conditions I', in order to attain a goal of equilibrium E' (or thereby G'), then a mechanistic translation of T along such functional, system-theoretic lines is constructible.

Of course, in the light of our earlier mention of the 'field theoretic' constructions of choice theory introduced by nineteenth century Utilitarian economists, it is sobering to remind ourselves that such mechanistic reductions, however fashionable, merely rehearse an entrenched tradition. To my mind, however, no matter how sovereign the tradition, it has not earned the allegiance given it. I would like, therefore, to direct some critical comments towards the latest offspring of this lineage – that is, to the formulation of CCT *qua* functional *cum* system theoretic framework. My investigation will centre on the normative adequacy of the basic concept of 'equilibrium' or 'homeostatis' as it is used within such a framework.

It will be remembered that at the point of consumer equilibrium, E', in CCT, the ratios of the marginal utilities of the available commodities to their respective prices were equal. And nineteenth century Utilitarian economics, we noticed above, identified utility with a quality of a mental state (i.e. pleasure) expected to follow certain acitivities. Given this meaning for 'utility', the consumer was understood as being at equilibrium when the increments of conscious pleasure he experienced, from the final dollar he spent on each commodity, were equal.

Economists proposing mechanistic interpretations of choice, however, have attempted to make a clean break with the classical Utilitarian origins of CCT and its concept of pleasure as a quality of a conscious mental state. The general drift has been to eschew mentalistic theory-construction by attempting to translate the basic concept of utility and its implications into behaviourist language referring to publicly observable phenomena. Briefly, on this view, the concept of utility is better understood as a pure-

ly *structural* feature of the theory of choice.[16] To the extent that the term "utility" represents a unique entity at all, it should be construed as a "logical construct" or "convenient fiction", operating as a shorthand device for *indicating overt choices*. Accordingly, the phrase "more utility" simply marks off the fact that "one collection of goods is preferred to another", with the phrase "equal utility" indicating the fact that an agent is indifferent between several collections, but where "preference" and "indifference" in turn are translated, respectively, as "choosing A rather than B, when both are available", and "choosing A and B with equal frequency".

Now, it is especially significant that two of the primary motives for such behaviourist reinterpretations of the theoretically vocabulary of CCT have been elicited by the twofold controversy of this paper. For, as our system-theoretic economists see it, only by constructing a conceptual framework in terms of behaviourally defined variables is the economic theorist able to steer clear of the twin rocks of purposive explanation and value-laden theories. It is worth briefly observing the reasons such economists feel obliged to follow a behaviourist course, and why they believe it provides clear sailing.

In the first place, many of them are skeptical that the purportedly mechanistic explanatory system of their classical Utilitarian forbears ever entirely succeeded in divesting itself of purposive concepts. In particular, the explanatory role played by the "secondary impressions" of desire and preference remained suspect. Were not economic agents still being conceived as performing actions in order to attain a *desired goal* of pleasure, and, therefore, their behaviour being explained by the end to which it naturally leads?

Such purposive language, however affronts the methodological scruples of system-theoretic, and indeed, most neoclassical economists. For this orthodoxy remains wedded to a primitive "operationalist" philosophy of science, introduced over forty years ago, and to whose first formulation ever its original proponents have long ceased to adhere. Basically, such an operationalism proposed that no technical concepts should be introduced into a scientific theory that could not be explicitly defined in terms of vocabulary referring to publicly observable data. But purposive language, in employing such mentalistic concepts as ends-in-view, reasons for actions, states of desire and preference, etc., makes at least *prima facie* reference to publicly unobservable, introspective entities. Accordingly, one of the alleged virtues of bypassing such purposive concepts in a behaviourist construction of CCT was that such a procedure would permit "basing the theory on objectively observable data", thus rendering its hypotheses testable and hence scientifically respectable.

Although this extremist conception of scientific method is misguided, it has remained blood brother to the expulsion of value considerations from economic theory-construction. And the ethical neutrality thereby allegedly secured has been understood in a very strong sense. Let me elucidate this point more fully.

Suppose we were to make the critical demarcation of cases wherein the economist in constructing CCT:

(a) restricts himself to a description of the value systems held by the agents whose behaviour he is studying from,

(b) includes *his own* (moral) value-judgments as part of the content of the theory.

Of course, only (b) would remove the "value-freedom" of CCT, would entail that the theory incorporates (allegedly illicit) moral presuppositions. And yet, it does appear that the economic processes described in CCT as the realization of *equilibrium* and thereby the maximation of utility are at least intended by economists as instances of type (a), as denoting outcomes of evaluation in the weaker sense of those of the consumer, not the economist. Surely a positive answer to this question is inescapable, given the fact that what is to be explained, namely the choices of agents, suggests that their evaluations determine the desirability of available objects of choice. In short, should not the use of the term "utility" be construed as providing a concept to stand for the *evaluative basis* of any consumer choice?

Not according to our economic behaviourists. For they have defined utility in terms of a con-

cept of choice which might be called "*choice simpliciter*", referring to the overt act of selecting an object in the context of obtainable alternatives, irrespective of questions concerning what reasons or evaluations, if any, might be determining the choices. In this way their tactics fit hand-in-glove with the intention to conceive of the axioms of CCT as value-free. For they lead to the conclusion that these axioms do not report the determinate content of *valuations at all*, even of the consumers whose behaviour is to be explained. *A fortiori*, the axioms of CCT would not include the value-judgments of the neo-classical economists who have constructed the theory.

In sum, if the system-behaviourist constructions of CCT are defensible, "official view" economists can have their theoretical cake and eat it. Not only would their conception of the "unity of science" be supported by the elimination through translation of purposive concepts from a foundational theory-CCT, but their conception of such unity would also be promoted by the behaviourist guarantee of ethical neutrality for CCT.

As I see it, however, economic theory gags on the cake offered by such behaviourist analyses of consumer choice. I have argued elsewhere that behaviourist versions of mechanistic reductions of CCT truncate the theory's explanatory power. But such a collusion also mangles the normative dimension of theories of rational choice such as CCT. The remainder of this paper will attempt to sustain this charge.

IV

Now it is significant that those economists who belong to the orthodox group which espouses ethical neutrality would not wish to disavow the normative *applicability* of CCT. For, along with their opponents, they intend to put the theory of choice to normative use as a policy science prescribing rules for the optimal pattern of choices to be undertaken by the rational consumer. But system-behaviourist renditions of mechanistic formulations of CCT *bar its normative deployment*. Let me expand on this claim.

The transition from descriptive to policy science presented no barriers to the traditional Utilitarian version of CCT. Indeed, within that framework, the descriptive and normative uses were two sides of the same theoretical coin. For consumer behaviour was described and explained in terms of an agent being motivated to choose maximum anticipated happiness, and happiness constituted the agent's ultimate good. But once this Utilitarian knot between positive and normative aspects of behaviour is severed, either on grounds of its moral or empirical inadequacy, the amenability of descriptive theories of choice to normative employment becomes problematic. In this regard, in tackling the policy side of the theory of choice, the analyses of behaviourists suggest that they have not perceived that the normative-descriptive gap, once closed by Utilitarian definition, requires careful bridging when the Utilitarian link is abandoned.

Suppose, then, the system-behaviourist is asked why the consumer *ought* to allocate his income to purchasing that combination of commodities at the equilibrium point, E'. In economic parlance, why would the "welfare" of the consumer be at its maximum if he made such a purchase? May such equilibria also be reasonably construed as optima? Now, it will be recalled that system-behaviourists do continue to use their version of a "utility function" for individual consumers. However, the behaviourist concept of utility has been employed strictly within the limits of a descriptive theory intending only to explain or predict actual choices, and where "utility" has been scrupulously shorn of value connotations. Accordingly, ascending degrees of the "utility function" are taken to number successively higher levels of 'preference' for sets of commodity-bundles (between which the consumer is indifferent), but where "set A is preferred to set B" has been given the behavioural meaning "A has been chosen rather than B, even though B could have been chosen". In effect, therefore, the maximization principle affirming that a consumer will choose that combination of goods which maximizes his utility is to be interpreted as meaning that, assuming constant tastes, prices and income, he will choose that combination A rather than

any other available ones *B*, *C*, *D*, etc. given that *A* has been chosen rather than *B*, *C*, *D*, etc. in his past behaviour. Or, in epistemic terms, within CCT an agent is (implicitly) defined as maximizing his utility, if and only if he chooses that object which, on the basis of historical evidence, he has indicated he has an overriding propensity to choose.

But the question remains as to whether what Little advocates[17] as a translation of a (descriptive) utility theory into choice theory permits a defensible normative application in prescribing what choice a "rational" consumer *ought* to make in seeking to maximize what is "good" for him. Suppose, for instance, we were to construct a "welfare" function for an individual consumer, where individual points described by this "*W*-function" represented consumer choice ordered *normatively*, according to whether any choice was "better", "equally good", or "worse" than any other choice. And let us call the utility function of CCT defined by economic behaviourists the *U*-function. We might then put our question as to the normative usefulness of the system-behaviourist construction of CCT by adapting a succinct formula of Kenneth Boulding – viz., Is the *U*-function identical with any defensible *W*-function?

The answer to this question, moreover, is not as automatic and straightforward as many treatises in economic theory suggest. That is, it is not the case that we can unproblematically simply rechristen CCT, construed behaviouristically as a 'positive' model explaining actual choice, as a normative model adequately prescribing *worthwhile* choices. This rechristening would indeed be possible if there were some kind of necessary connection between economic choices conforming to the equilibrium point, *E'*, and the good of the individual. But even if we were, for the sake of argument, to permit the consumer's good to be equated with his own maximum happiness, a behaviouristic interpretation of CCT precludes the affirmation of such a necessary connection. As presented above, under a system-behaviourist analysis, the equilibrium point is taken to refer to a maximally preferred purchase only in the sense that the consumer has regularly chosen that bundle rather than the other available possibilities. But surely, the proposition "*S* purchases what he has regularly chosen rather than available alternatives" does not, in itself, logically entail "*S* secures maximum personal satisfaction". Only if background assumptions are (implicitly) included in the content of the proposition "*S* chooses *A*" specifying the reasons or motives for the choice, or the standards of evaluation used by *S* in making choices in terms of some kind of desirability of ends, would there possibly be an entailment relation between "*S* chooses *A* rather than *B*" and "*S* secures more satisfaction from *A* than *B*". But inclusion of reasons, motives and value-standards for choosing has been deliberately and systematically renounced in the system-behaviourist interpretation of CCT. Of course, the economic behaviourist is free to covertly rely on mentalistic concepts such as reasons, which he has formerly repudiated as inadmissible in the construction of scientific theories – but inconsistency is a more obvious scientific vice than the mentalism he professedly abjures.

V

Besides obstructing the normative applicability of CCT, crudely mechanistic analyses of rational choice have issued in unwarranted moral perspectives on economic theory. In this regard, however, recent system-theoretic constructions merely update the misconceptions of their Utilitarian ancestors. Hence, the following critical comments may be taken as a plague on both their houses.

What is philosophically at stake here has its origins in certain pivotal features of the purposive explanation of human action. We find, then, that such accounts make at least implicit reference to the deliberative, problem-solving, cognitive capacities of human agents. Herein an agent is conceived not merely as an unreflective object, *being moved* passively and 'automatically' by external stimuli. Rather the human subject or person is conceived as a *self-moving* agent, capable of correctly understanding his environmental 'situation', preliminary

to forming intelligent choices from amongst alternative courses of action in order to most efficiently attain the end to which he himself imputes a value.

In order to gain a critical view of the methodological implications of this deliberative dimension of purposive explanations, it will be fruitful to examine certain aspects of the 'purely mechanistic' explanations of 'merely physical' phenomena, that is, those wherein questions of the exercise of rational thought-processes are not at issue, even when such explanations bear important structural similarities to the purposive explanation of human behaviour. I refer again to system-theoretic explanations of physical phenomena that employ the notion of the movement of a physical system towards some type of equilibrium. Consider, for example, accounts of the physiological processes involved in the maintenance of the temperature of the human body, or the movement of a sphere in a semi-circular container. Both of these cases refer to equilibrating phenomena: with respect to the former, this aspect has been clarified above; with respect to the latter, we might briefly take note of the fact that if the sphere is displaced from a position of rest at the base of the container, then, within a certain range of displacement, it will return to its original 'steady-state' at the base. In this structural respect, furthermore, such physical movements do not differ from a wide range of intentional human actions that exhibit equilibrating tendencies. In particular, thus, we have noticed that they do not differ from the consumer choices described by neo-classical economic theory.

In general, then, we may observe that certain kinds of natural events and human activities, i.e. those to which 'equilibrating' or homeostatic properties can be significantly ascribed, display a similarity of logical structure. However, it is of the first importance for present purposes to realize that whether or not any sequence of events, natural or human, exhibit a tendency to establish a steady state or (stable) equilibrium is entirely an *empirical* question – there is no necessary, *a priori* reason why any kind of actual events, in the natural or human domain, would exhibit equilibrating tendencies. But once this point is appreciated, it makes all the difference with respect to the question of whether purposive explanation can be assimilated to explanations of the 'ordinary' causal variety.

Consider, then, that by an 'ordinary' causal explanation we understand a 'purely mechanistic' one as outlined above. As instances of such explanations we can take our accounts of the variations in body temperatue or the movement of the physical sphere in its semi-circular container. Now, it is clear that the explanations provided for both these phenomena *are* factually sound. It is empirically true that gravitational phenomena, in the former case, and physiological processes, in the latter, *do* regularly occur as described. More precisely, the general laws covering such events have been empirically validated. Furthermore, the cause-effect sequences referred to by these laws are, in a crucial sense, 'unintentional' or 'automatic'. Briefly, in a sense to be explicated more fully below, by an *automatic* causal process we shall understand one which is not dependent on deliberate control – that is, conscious, intentional human decision. Hence, both natural gravitational processes and the human organism's temperature mechanisms can be classified as automatic – they both occur independently of human intention.

Again, the preceding have been two cases of ordinary or 'purely mechanistic' causal explanation. Consider, however, a sub-class of the class of purposive explanations. In particular let us investigate a purposive reading of the explanatory model provided by CCT. Seen in this light, we are better able to appreciate that the proffered explanations of CCT are factually true *only* for the ideal case of the actions of the *rational* economic man and (generally) false if claimed to describe the behaviour of other agents. Moreover, to the extent that a consumer's behaviour *fails* to agree with the predictions of the axioms of CCT, although directing his behaviour towards the equilibrium end affirmed in CCT, i.e. the maximization of his utility, then such behaviour can be *criticized* as not being the product of the appropriate deliberative processes embedded in CCT as means towards utility maximization. In short, according to the explanatory model, the consumer has acted irrationally. Nevertheless,

his unsuccessful behaviour is *rectifiable*, on condition that he consciously subjects it to revised practical reasoning or intentional control by adopting the means encapsulated by the axioms. For instance, his original foundering might have been due to transgressing Axiom 3, by not ordering his preferences in a transitive manner. Such a mistake is, however, *avoidable* through a renewed deliberation that recognizes the necessity of a transitive ordering for attaining the equilibrium providing for maximum utility. In sum, the equilibrating processes described by CCT are not, in league with gravitational phenomena and the body's homeostatic temperature mechanisms, species of the 'ordinary' causal variety as adumbrated above. That is, the causal sequences referred to by CCT are not 'automatic', they can and do vary (succeed or fail) in reaching their equilibrium state in proportion to the rationality or irrationality of intentional human deliberation and decision.

Furthermore, it is in this sense of rational consumers being able to *correct for* irrational activity by means of reflective deliberation, that an understandable and genuine sense can be given to the concept of a consumer as a self-determining and responsible agent. For their behaviour, unlike moving spheres and automatic physiological processes, is not the inevitable 'blind' effect of *unavoidable* external causal conditions. For, in so far as the consumer can clarify his end-in-view, and understand and critically appraise his past purchasing behaviour in realizing that end, the *knowledge* thus acquired can itself function as a new causal condition permitting and indeed inducing different, more rational purchasing behaviour in the future. In this sense, then, the consumer-agent has 'liberated' himself from the constraint of *ignorance* implicit in the previous set of causal antecedents, which ignorance brought about irrational behaviour. Moreover, since his purchasing is corrigible by means of his own practical deliberation, he can be legitimately considered responsible for his consumption practices. In general, the processes referred to by 'rational man' explanations belong to the general class of causal sequences, but also to the sub-class of those causal processes which are *corrigible* upon submission of such processes to a rational agent's deliberative assessment. And, thus such explanation can be placed in the class of causal explanation, but *not* of the 'ordinary' or purely mechanistic kind.

Nevertheless, it should be noted that this conception of the consumer's agency or self-determination does not commit us to an acceptance of a libertarian doctrine of "contra-causal" freedom. For we are not denying that there might be antecedent conditions, say factors of his learning experience, which are necessary and jointly sufficient causal conditions for the rational consumer's acquisition of the requisite knowledge, and such learning is as subject to the governance of deterministic causal laws as other phenomena.

Further light can be shed on the distinction between automatic equilibrating systems and those involving intentional control by examining the differences in the nature of the equilibrium "end-state" of each. Of course, in an important sense, the equilibrium states of automatic and deliberative equilibrating systems are similar, since such end-states, if they *are* realized by either type of system are consequences or *effects* of prior causal processes – in the former case of non-purposive mechanisms, in the latter case, of purposive decision-making. However, the effects themselves can be instructively discriminated. It is empirically true that automatic end-states occur irrespective of the excellence of deliberative processes, whereas intentional end-states obtain only on condition that the events of the equilibrating system can be correctly described as rational deliberative processes. Put another way, *defective deliberative* events constitute *interfering conditions* for intentional equiliberating systems, but not for automatic ones. It is not unexpected, therefore, that it is less generally true that equilibrium states obtain for intentional systems than for automatic ones – for the simple reason that the 'irrational' interfering conditions to which the former are subject are not rare, but all too frequent human phenomena.

On the other hand, writers on economic methodology in the neo-classical tradition have typically underplayed or misrepresented the deliberative aspect of the equilibrating processes

of economic choices. Some, in failing to observe the role that deliberate control can play in the actual occurrence of equilibrium, seem to simply assimilate the kind of equilibrating mechanisms appropriate to a theory of rational choice such as CCT to those of automatic physical systems, in viewing the entire economy as a system of "impersonal market forces". In this light, as long as he is free from external "perturbating factors" like governmental control, the consumer is conceived, irrespective of his practical reasoning, to be moved by "natural" market mechanisms to his maximum satisfaction. Indeed, Blaug[18] goes so far as to suggest that Adam Smith's "invisible hand", which allegedly functions to ensure that the pursuit of self-interest will promote the common good, be identified with the "automatic equilibrating mechanisms" postulated by neo-classical theories of producer and consumer behaviour.

The sort of confusion exemplified by Blaug is often compounded in neo-classical discussions of economic methodology through a misconception of the meaning of the "necessity" or "unalterability" of the regularities described by deterministic scientific laws. Since consumer activity in accord with CCT was conceptualized as a mechamism not significantly different from inanimate natural processes in the *level of complexity* of its antecedent determinants, it was typically concluded that such behaviour *must* occur, in the sense that it was *unavoidable*. And this condition was underwritten by an over-simplified reduction of the laws of economics to those of physics. Because the consumer's 'situation', antecedent to his choices, was not (correctly) understood as being accessible to his conscious revision, the laws correlating such antecedent states with his subsequent choices and their outcomes were considered to be as timelessly *applicable* as the laws of physics; hence, these laws were understood to govern behaviour which could be deemed inevitable and *unalterable*.

However, even if, in general, teleological descriptions can be "reduced to" a mechanistic counterpart, this type of mechanistic interpretation of economic behaviour is a specious one. Admittedly, a universal law of nature does assert a relation of causal necessity between the antecedent and consequent conditions formulated by the law. That is, if the antecedent conditions are realized, the occurrence of such a state of affairs is always a sufficient condition for the occurrence of the event mentioned in the consequent. Even if the regularity referred to by the law is one of human behaviour, the uniform conjunction of antecedent and consequent events is not alterable by human control or decision. Nevertheless, it is to be remembered that the conditional supported by a universal law is a *counterfactual* one asserting that if certain initial conditions were satisfied, then certain events *would* regularly follow. But the central consideration with respect to laws of human behaviour is that, although the regular sequence between antecedent and consequent events is not amenable to human choice, it frequently *is* accessible to an agent's conscious decision as to whether or not the *antecedent conditions will be satisfied*. In this way, the behaviour characterized by the consequent conditions, which behaviour is necessitated *if* the antecedent conditions were to occur, is rendered *avoidable* for rational agents. (And, of course, if the antecedent conditions of an empirical law are not satisfied, the fact that the consequent event does not take place offers no refutation of the law.)

It is just this failure to appreciate the precise role which deliberative processes or practical reasoning play in the manner in which human behaviour validates social scientific laws which has led to the endorsement of an ill-founded ethical standpoint towards CCT – indeed towards 'mainstream' economic theory in general. Of course, we might immediately object that any such standpoint would be methodologically incoherent. For, in the light of their official claim to ethical neutrality in the construction of their theories, have not neo-classical economists *qua* economists restrained themselves from moral commitments in general? Apparently not. Moreover, their strategy in this regard is one of theoretical treachery. No doubt, whether the neo-classicist is fully conscious of his theoretical subterfuge, or merely its unwitting victim, is something only his psycho-analyst and Marx know for sure. In any case, let me unravel the treachery.

In simplified form, the epistemic phase of their argument (call it Q) can be presented thusly:

P_1 If economic behaviour is predicted by deterministic laws, then any such behaviour is causally necessitated.

P_2 *X*-type economic behaviour is predicted in the consequence of a deterministic law

C *X*-type behaviour is (causally) inevitable – that is, it will occur and cannot be avoided.

Now consider that it *is* true that *X*-type behaviour – say a pattern of consumer choice – gives expression to certain moral principles. And let us assume that such behaviour does, as a matter of observable fact, occur. Finally, suppose we define ethico-economic conservativism in terms of a disposition to endorse *de facto* economic behaviour as morally desirable and, therefore, not to be altered.

But if the preceding assumptions did obtain, and argument Q *were* sound, then our neo-classical conservative *would* have adequately defended his supportive attitude towards the ethics of actual economic behaviour. For he would be the bearer of a happy coincidence. Not only would *de facto* economic behaviour be in accord with his moral principles, but no *other* behaviour prescribed by *different* moral principles would be empirically possible, since only the behaviour actually occurring would be compatible with scientific law. Consequently, recommending that the actions of economic agents exhibit conformity to an alternative set of moral principles than the one with which they already do agree would be *pointless* – after all, "ought implies can" and the moral principles recommended by our economic conservative are the only ones with which economic behaviour *can* comply. Moreover, the conservative could also plausibly contend that he could have it both ways – viz. that he could adopt an attitude of moral approval towards the prevailing pattern of economic behaviour while still preserving his ethical neutrality as a scientist. For, as a responsible theorist, he might continue to disclaim any commitment to normative claims, being concerned only to conjecture and confirm descriptive hypotheses. Accordingly, he might remind us that the system-behaviourist constructions of CCT, by forgoing any reference to the 'mentalistic' valuations determining the choices of even the consumers under study, remain value-free in an exceptionally strong sense. Nevertheless, as a responsible 'citizen', he is fully justified in morally commending given behaviour which accords with the axioms of his covering theory – and in an unimpeachable, because 'scientific' sense. For, again, it just so happened that it was empirically necessary, according to scientific law, that economic subjects exhibit the behaviour predicted by his theory; *a fortiori* the only practicable moral principles for guiding consumer activity would be the ones already expressed by actual consumer practices.[19]

However, in the light of our analysis of the import of cognitive processes on equilibrating models involving the identification of rational action, we can see the fallacy in the neo-classical, "conservative" argument. Basically, the conservative errs because he equivocates with respect to the meaning of the phrase "behaviour which is compatible with scientific laws of human behaviour". As we have seen, it is true that if the antecedent conditions of an economic (or any other) law are satisfied, then the behaviour predicted in the consequent is causally necessitated – no alternative behaviour is possible, such behaviour being incompatible with the implications of the law. Nevertheless, it *is* possible, by means of the practical deliberations of economic agents, that the satisfaction of the antecedent conditions *be avoided*, and, thus, the behaviour which otherwise would have been necessitated, *had* such conditions been fulfilled, need not take place. And if alternative behaviour does occur, it might very well be in conformity to different moral principles than those espoused in the conservative's allegiance to the moral principles being followed in the economic *status quo*. (Nevertheless, it is important to realize that if such novel behaviour does occur, it does not thereby constitute a phenomenon which is incompatible with the scientific (economic) law at issue, since, *ex hypothesi*, such behaviour

is outside of the scope of the antecedent conditions formulated in the law.)

This conclusion, furthermore, is of even more general significance with respect to the ethical implications of received economic theory. For consider that contrary to the disclaimers of the "official view", neo-classical economics *does* have a particular moral system embedded within it. In that case, the naïvely mechanistic view of economic behaviour outlined above would arrest criticism of whatever moral foundations neo-classical theory did (covertly) comprise. For, again, the mechanistic mis-reading of economic processes would suggest no need, indeed would preclude the possibility, of an *alternative* moral foundation for economic theory. I believe, moreover, that the statements of neo-classical theory *do* presuppose moral values. I also believe that crudely mechanistic articulations of the economic theory of rational choice have undercut criticism of these values. Reasoned support for my claims, however, must be deferred until an examination of the integration of substantive ethical commitments in the construction of economic theory can be undertaken.

Notes

[1] G. L. S. Shackle, *A Scheme of Economic Theory*, p. ix.

[2] The *locus classicus* is M. Friedman 'The Methodology of Positive Economics', in his *Essays in Positive Economics* (University of Chicago, 1953).

[3] W. S. Jevons, *Theory of Political Economy* (4th ed., London, 1924), p. 21.

[4] Some representatives of this view are A. R. Louch, *Explanation and Human Action* (Oxford, 1966); P. Winch, *The Idea of a Social Science* (London, 1958); W. H. Dray, *Laws and Explanation in History* (London, 1957) and R. S. Peters, *The Concept of Motivation* (2nd ed., London, 1960).

[5] See, e.g., A. R. Louch, *op. cit.*, p. 74, 197.

[6] See, e.g., K. Klappholz, 'Value Judgments and Economics', *The British Journal for the Philosophy of Science* 15 (1964), 97–114.

[7] See, in this respect, L. Robbins *An Essay on the Nature and Significance of Economic Science* (London, 1952), pp. 75f.

[8] See W. S. Jevons, *op. cit.* and F. Y. Edgeworth, *Mathematical Psychics* (London, 1932).

[9] In this regard, see the historical studies of A. G. Pikler, 'Utility Theories in Field Physics and Mathematical Economics', (I) and (II) *British Journal for the Philosophy of Science*, 1954 and 1955.

[10] A. G. Pikler, *op. cit.* p. 303f.

[11] See S. R. Krupp, 'Equilibrium Theory in Economics and Functionalism as Types of Explanation' for a general discussion of 'functional analyses' of economic behaviour. Krupp's article appears in *Functionalism in the Social Sciences*, Monograph No. 5 of the American Academy of Political and Social Sicence, Philadelphia, 1965, pp. 84–110.

[12] As an example of a mechanistic approach, see James G. Miller's 'Introduction', in *Chicago Behavioural Sciences Publications No. 1: Profits and Problems of Homeostatic Modes in the Behavioural Sciences*. For an affirmaton that mechanistic structures are inappropriate to explain the behaviour of "higher level" systems such as individual agents and social groups, see E. Laszlo, *System, Structure and Experience*, (New York, 1969), Chapt. 1.

[13] For the claim that system approaches to economic theory are based primarily on an analogy with mechanistic systems see G. Pikler, *op. cit.*; K. Boulding, 'General Systems Theory – The Skeleton of a Science', in his *Beyond Economics* (Ann Arbor, U. of Michigan Press, 1968), esp. pp. 95–97; F. H. Knight, *On the History and Method of Economics* (Chicago, 1956), Chapt. VIII.

[14] L. von Bertalanffy, *General Systems Theory* (New York, 1965), p. 55, my parentheses.

[15] I put "end" in single quotation marks here as indicating that it is to be understood mechanistically, merely as the terminating point of a natural process, rather than as an "end-in-view" or goal at which an agent consciously aims.

[16] For a representative endorsement of this viewpoint see J. Rottenberg, 'Values and Value Theory in Economics', in S. R. Krupp (ed.), *The Structure of Economic Science* (Englewood Cliffs, N.J., 1966), pp. 22ff, or I. D. M. Little, *A Critique of Welfare Economics*, 2nd ed. (Oxford, 1957), Ch. 2.

[17] I. D. M. Little, *op. cit.*, p. 35.

[18] M. Blaug, *Economic Theory in Retrospect*, p. 59.

[19] Pareto, in his theory of income distribution provides an early and emphatic example of such neo-classical moral conservatism. In his *Cours d'Economie Politique* (1896), Pareto formulated what he took to be an empirical law expressing a regularity in the distribution of personal income, for any country, in any historical period, thusly: $N = A_x - B$, where N is the numer of

persons receiving income x or more, and A and B are constants. Moreover, Pareto was an ardent advocate of both (i) value-free social science and (ii) the moral worth of classical liberalism, affirming the incontrovertible right of freedom of choice for individual economic agents, along with its implied doctrine of laissez-faire governmental policy. Applied to questions of income distribution such liberalism proscribed political intervention to remove the *de facto* inequalities of income that had resulted from the operation of 'natural market mechanisms'. Most importantly, Pareto saw no inconsistency in such a moral commitment and his value neutrality as a scientist. For he believed, in virtue of the empirical necessity asserted by his positive income law, that such intervention would, in any case, be futile in the long run; *a fortiori* such an outcome was empirically inevitable independently of his personal moral views – even though, by an allegedly undesigned coincidence they did happen to be of the laissez-faire variety.

Appendix

The kind of misunderstanding of neo-classical theorists with respect to the logic of validating social scientific laws, argued above, is well illustrated in Marx's critique of methodological aspects of J. S. Mill's theory of production. Mill, in his *Principles of Political Economy* had argued that

> ...the laws and conditions of the production of wealth, partake of the character of physical truths. There is nothing optional, or arbitrary in them... these are ultimate laws, which we did not make, which we cannot alter, *and to which we can only conform.*[1]

To these constraining laws of production Mill contrasted the "rules" for the distribution of wealth which were constructed entirely on the basis of social customs that were a matter for voluntary human choice. Accordingly, such rules could vary directly with intentional variance in choice. Marx, however, attacked Mill's analysis, charging that Mill had represented production...

> ...in distinction from distribution etc. as framed in eternal natural laws independent of history: this is the occasion for passing off, in an underhand way, bourgeois relations as irrevocable natural laws of society in the abstract. This is the more or less conscious purpose of the whole proceeding. With distribution, on the other hand, men are said to be allowed, in fact, all kinds of arbitrary action.[2]

Marx's point, then, is that, in order to covertly defend and entrench what are in fact *alterable* "bourgeous" social relations in the sphere of production – that is, institutional norms within a capitalist form of society prescribing such conventions as entitlements to the ownership of private property – economists like Mill have fallaciously re-classified such transient, corrigible conventions as "irrevocable" empirical laws, to which an economic subject *must* conform. According to Marx, such methods... "confound or extinguish all historical differences in general human laws",[3] where such historical conditions refer to determinate forms of production correlated with a particular type of society's institutional arrangements – such as legal conditions on property ownership in activities of capitalist production.

It seems to me that one can describe the accuracy of Marx's critique of Mill as right in its spirit, although confusedly expressed in its letter. For it is true that Mill and the neo-classical economists following Mill have been guilty of misrepresenting the meaning of "ultimate laws... to which we can only conform". In effect, these theorists are under the mistaken impression, analysed above, that the presence of a universal law governing a type of human behaviour entails the inevitability or *unavoidability* of the occurrence and recurrence of that kind of behaviour. And, seemingly, by a fortunate but allegedly undesigned coincidence this behaviour also conformed to the neo-classical evaluative standard of "rational economic man". However, as Marx noticed, the behavioural satisfaction of such laws was not, contrary to the implicit beliefs of Mill and later neo-classicists, "independent of history". In other words, as I see it, Marx obliquely appreciated the *conditional* aspect of the validation of empirical laws. That is, only if certain initial conditions were satisfied, which sometimes requires the fulfillment of 'historical conditions', would the behaviour predicted in the consequent of such a law be causally necessitated. But historical conditions

vary with changes in the type of productive processes prevailing in a particular historical period. Accordingly, when such historical conditions as a particular kind of productive process, along with the legal conventions promoting the preservation of this process, do not exist, the antecedent clause of the social scientific law will not be true, and, therefore, the behaviour described in its consequent will not have been necessitated. In this sense, then, economic laws are not *eternal* laws which are "independent of history", since historical conditions are included in the very formulation of the antecedent conditions of these laws.

As mentioned, however, Marx, although vaguely recognizing the conditionality restriction of nomological necessitation, fails to get his analysis entirely straight. For he misidentifies the implications of his analysis with respect to the truth conditions of general laws. Thus, we find Marx suggesting in the quoted passage that economic laws themselves have only a transient, temporary validity, being true for certain forms of production and their presupposed social or institutional setting – e.g. capitalistic processes and the institution of private property – and false when such historical contingencies change. Such a conclusion is, however, confused and unnecessary. The relevance of "historical differences" to the causation of economic or other human behaviour can be preserved without impugning the permanent status of the truth of social scientific laws; we need only realize that the truth of any empirical law is *applicable* only when the causal conditions specified in its antecedent have been satisfied.

The preceding observations of Marx's critique of Mill took place within the context of theories of production. However, as our argument in the text attests, the conclusions here also apply, *mutatis mutandis*, to a correct understanding of the theory of consumer choice (CCT).

Notes (Appendix)

[1] J. S. Mill, *The Principles of Political Economy*, (London, 1848), Vol. 1, pp. 239–240.

[2] K. Marx, 'Introduction to the Grundrisse', in T. Carver (ed.), *Marx: Texts on Method*, p. 53.

[3] *Ibid.*, p. 54.