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Economists' Preferences and the Preferences of Economists

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ABSTRACT: Economists, who adopt the principle of consumer sovereignty, treat preferences as unquestioned for the purposes of their analysis. They also represent preferences for future outcomes as having value in the present. It is shown that these two characteristics of neoclassical modelling rest on similar reasoning and are essential to achieve high aggregatability of preferences and values. But the meaning and broader implications of these characteristics vary according to the arguments given to support these methodological choices. The resulting ambiguities raise questions regarding economists' attitudes towards the study (by other disciplines) of preference formation and reformation. Under a strong, positivist interpretation (which is philosophically problematic), consumer sovereignty represents a rejection of any meaningful study of these subjects; under a weaker, methodological understanding, consumer sovereignty merely draws a boundary between economics and other disciplines. The weaker version is argued to be more defensible, and economists are urged to engage in interdisciplinary work that will clarify how preferences are formed, criticised and reformed.

KEYWORDS: Consumer sovereignty, economic explanation, preference formation, preferences, value neutrality

INTRODUCTION

One of the most pressing practical problems in environmental policy analysis and formation is how to describe and measure environmental values. It would be an ideal outcome if the various disciplines – economics, ecology, philosophy, environmental health, and environmental chemistry, to mention some prominent ones – could speak about social values in a common evaluational vernacular. My experience in many interdisciplinary discussions is that, at present, no such common vernacular exists (Norton, forthcoming A).

One possibility, touted by economists and some other social scientists, is to use the notion of individual preferences as a universal descriptive term to characterise and eventually to measure the social values derived from protecting environmental quality, and the losses incurred when the environment is not protected. The purpose of this paper is to examine preferences as they are understood by economists and then to consider alternatives and/or additions to this conceptualisation of environmental values.

Economists define an individual's preference set as constituted by 'all of the hypothetical exchanges the individual would be willing to make at various terms of trade' (Silberberg, 1978, p. 4). Preferences are then understood as units of measure of the willingness of the individual to pay for a given outcome or (reversing the property ownership aspect) as a measure of the compensation an individual would require to give up some existing property right or privilege (see Freeman, 1993). Preferences can therefore be associated with dollar values (or any other units of exchange), permitting aggregation with other commensurate units of exchange.¹

I. ECONOMICS AND THE STUDY OF PREFERENCES

The advantages of a unitary, preference-based system of analysis for environmental values are considerable. Five can be mentioned here. First, as just noted, this approach to values allows economists to associate economic behaviour with dollar values. The relationship is indirect, and requires a crucial assumption, but it is a relationship that is essential to the entire paradigm of neoclassical economics. Preferences are not directly observable because actual consumptive choices depend upon opportunities as well as preferences. Individuals' choices that constitute their market basket for a given budget period vary in response *either* to changes in preferences *or* to changes in income and opportunities. So, economists take preferences as givens in the analysis, and study changes in behaviour in response to changes in opportunities. On the basis of this assumption, neoclassical models claim to 'explain' changes in behaviour by reference to changes in opportunities. This set of assumptions – and the precise conception of preferences it employs – is therefore essential to all neoclassical modelling (Silberberg, 1978).

Second, if we assume that the values people really care about are ones that they are willing to act upon (if an appropriate situation arises) and if one accepts the triangulation-by-assumption implied in the last paragraph, economics establishes itself as a 'behavioural science'. The study of preferences can thus proceed in as value-neutral a manner as possible. Furthermore, aggregated accounts of the preferences actually held by all individuals in a society can stand as a general guide to 'democratic' decisions – policies that reflect the aggregated will of individuals in a free society.

Third, unlike voting behaviour or other yes-no indicators of values, preferences interpreted as choices to 'purchase' goods and services at a given price and given available endowments, can also register the intensity of feelings supporting those judgments (Page, 1992). It is often useful information to know not just *whether* individuals desire an outcome, but also *how strongly* they desire it. Thus, while a referendum on an issue reveals what a majority prefers, identification of the WTP of individuals tells us how strongly – measured in the willingness of respondents to forgo other opportunities – those individuals favour a given outcome.

Fourth, when embedded in a comprehensive theoretical framework of individual choice such as the valuation model of neo-classical economics, an accounting of preferences purports to be a theoretically completable study of individual and social values. Reasoning that, while individuals have many momentary and conflicting wishes and desires, *actual choices* represent, in some sense, the true commitment of the individual as indicated by whatever other desires they are willing to give up in pursuit of a given value. The robustness of this approach to value is illustrated by economists' treatment of the view of some environmentalists that wild species have 'intrinsic value', meaning they have value in their own right, not dependent on values any human individual derives from them (Mitchell and Carson, 1989; Freeman, 1993). While economists make no claim to capture the moral essence of this claim, they can nevertheless measure the intensity of these values by ascertaining the willingness of the person to pay to protect the object independent of any use that might be made of it. Economists thus 'solve' (dissolve?) the problem of incommensurate intrinsic goods by treating them as 'existence values', measuring the impact on behaviour of espoused values, in the absence of expected uses of the object in question. The point of this example is that the economists' system of evaluation has remarkable robustness, if one grants them the complex of assumptions outlined above.

Finally, if this theoretical completeness is accepted, a fifth, important methodological advantage is evident. If all values can be characterised in terms of tendencies to act in choice situations (interpreted as WTP or WTA), values derived in this manner can be *aggregated* into a single, monetarily quantified, system of analysis. Certainly one of the strongest considerations favouring the economists' methodology is the promise (seldom achieved in practice, but tantalisingly offered in theory) of a comprehensive scheme for counting and aggregating values actually held by individuals. Economists are usually quick to acknowledge that actual cost-benefit studies should be applied with judgment, citing the practical difficulties of achieving a complete analysis of costs and benefits given current theory and methods. They nevertheless defend comprehensive use of the methodology by noting that a computation of the benefits and costs of a policy – even if it is highly imperfect both methodologically and substantively – represents a 'hypothesis' regarding the social values involved in a decision (Randall, 1986). Thus, while many will disagree with specific value

estimates, such an analysis constitutes a falsifiable hypothesis regarding what is of social value. This modest claim for cost-benefit analysis credits it with moving the discussion of social goals past ideology and toward empirical science.

Despite these weighty considerations in favour of a comprehensive accounting of environmental values as measurable preferences, I will state and explain some important reasons to question whether the economists' model provides a comprehensive approach to understanding environmental values. In doing so, I am careful to distinguish two, quite different critical responses to economists' preferences and the models they use to measure them. I do *not* intend to argue that the economist model is not a useful one;² on the contrary, information about preferences can be one very important source of information regarding environmental values. My response, instead, is that preference models provide only one approach to the valuation problem and that the usefulness of preference explanations is actually enhanced if they are regarded as describing only one aspect of environmental valuation. When the study of preferences is supplemented with a broader, more comprehensive treatment of other aspects of environmental values, the overall picture of environmental valuation is clarified.

This argument implicitly distinguishes two somewhat different goals that might be pursued by those seeking a common, interdisciplinary vernacular for the study of environmental values. It was noted above that to some, the goal of expressing all environmental values in a single currency, a single, aggregatable measure of all value, seems the ideal outcome of the interdisciplinary search for a theory of environmental values. An alternative goal would be to seek a common decision framework for the discussion and measurement of values, but one that uses different criteria in different situations (one criterion of which might be a cost-benefit criterion). This alternative goal would be pursued without insisting that data gathered to indicate conformity to one criterion of good management must be commensurate and aggregatable with data relevant to other criteria. If we could provide a general theory that allows us to characterise fairly precisely the various situations in which people value and make choices, it may be possible to recognise different decision criteria that are appropriate in different situations. The point is that it is possible to have a common framework of analysis – one that is useful in interdisciplinary discussions – without having a single method of measuring all value.

One type of analysis that would achieve this second goal (but not the first) would be 'two-tier' analyses which feature multiple first-order criteria for good management decisions and also a second tier of 'meta-criteria' which provide guidance as to which criterion is applicable in various situations. Page (1977; 1991) has experimented with two-tier systems that apply two criteria in a time-sensitive manner – one criterion (the efficiency criterion) applies to impacts within generations, while a second (the conservation criterion) applies to impacts over multiple generations (also see Norton, 1991A; forthcoming B; Norton and Ulanowicz, 1992; Toman, 1992; 1994). Advocates of two-tier

decision processes do not insist that the measures used in connection with one criterion must be commensurate with measures used in connection with other criteria, and they also expect that the classification of risks and categorisation of environmental problems will be an important part of any decision procedure.

Single-currency systems such as the economists' model have obvious advantages, but they can serve as complete models only if they can capture the full range of environmental values. The question, then, is whether individual preferences, as defined and measured by economists, can provide a complete, or reasonably so, accounting of environmental values. I emphasise two, ultimately related, characteristics of the economists' analysis which seem to me to make preferences – the basic currency of their analysis – unlikely to provide a complete accounting of environmental values. First, the puzzling 'principle' of consumer sovereignty (CS), which takes human preferences as unquestioned and given for the purposes of the analysis, apparently disqualifies the economic decision framework from expressing an important aspect of the environmentalist viewpoint, the view that experience of wild places serves an important function in shaping a culture's self-image and sense of value (Sagoff, 1974; Norton, 1987, Chapter 10; Norton, 1991B). Second, economic analysis recognises only present values; a future value is represented as the amount of present value that would be exchanged for it. I will discuss the nature of neoclassical economists' commitment to these two principles of evaluation and then show how these features of economic analysis make it certain to obscure and under-count values that are in fact very important to environmentalists.

II. CONSUMER SOVEREIGNTY

CS represents to a non-economist one of the most puzzling aspects of neoclassical models. Historically, modern welfare economics is of course an heir to the utilitarian tradition of ethics; but it has been clearly shown by Sagoff (1986) that modern welfare economics is the heir to one specific branch of that tradition, which traces to Jeremy Bentham (1948). Bentham argued that individuals are the best judge of their own well-being and that expressed preferences should be accepted at face value. The later utilitarian, John Stuart Mill, rejected this approach to welfare, arguing that there is an important difference between 'higher' and 'lower' satisfactions – that a life of the mind, for example, results in qualitatively better satisfactions than do the pleasures of the senses. Modern economics has unequivocally cast its lot with Bentham on this point by accepting CS, apparently without serious dissent among economic practitioners. CS states that 'what the individual wants is presumed to be good for that individual' (Randall, 1988).

This seems simple and straightforward enough on its face. But a closer look at this 'principle' raises many questions, questions that – surprisingly, given the

importance of the principle in the foundations of economics – are hardly discussed by economists at all. One of the most puzzling aspects of this principle is its logical status. Is it an *empirical hypothesis*? If so, it seems curiously easy to refute, simply by noting the self-destructive choices of the drug addict or the virtually universal experience of wanting something very badly, only to find it led to personal disaster. Is CS, then, a tautology, true in some deeper sense not countered by these obvious counter-examples? Or is it more like a constitutive principle of the neo-classical paradigm in economics? – in this case a sort of methodological choice? I have also heard CS expressed as a commitment to a democratic attitude and an antidote to totalitarianism. The principle, in its multiple guises, apparently entails quite different attitudes toward preferences, and especially toward the processes of preference formation and reformation. On Randall's formulation, just quoted, advocates of CS claim only that preferences are not to be criticised – that whatever a person expresses as a preference is *taken as given*. And Randall's version only *presumes* that they are in fact in the individual's self-interest. But George Stigler and Gary Becker (1977) defend a much stronger version of CS. They argue that preferences are both *given* and *fixed*. They seem to suggest not only that there is no point in questioning individuals' judgment that something improves their welfare, but also that very little could be learned by studying how preferences are formed and re-formed (Stigler and Becker, 1977, p. 89). I will proceed by examining five distinct arguments for accepting the principle of CS, noting that different interpretations of CS seem to follow, depending on the argument that is taken as the rational, intellectual core of support for it.

1. *The Competitive Advantage Argument*

According to one argument, economists should accept CS because their methods are not appropriate for studying the development and change of preferences. The study of the formation and reformation of preferences is a worthy intellectual task, according to this line of reasoning, but a task best left to disciplines such as psychology and sociology (See, for example, Silberberg, 1978; March, 1978). Economists, it can be argued, have a comparative advantage in studying the ways individual preferences should be aggregated into a measure of social welfare. This is an intellectual task well suited for their disciplinary training and given their expertise in mathematical modelling techniques. It is difficult, especially for a non-economist, to attack this argument – CS is in this guise put forward as a methodological choice of economists to engage in a particular type of analysis. If economists choose to define the intellectual boundaries and the explanatory scope of their field in a certain way, why should practitioners of other disciplines or policy makers care?

But it seems fair to note that this line of reasoning, though unexceptionable, also exhibits a certain circularity. It is not an *accident* that economists' economic

models work best if they take consumer preferences as givens. Changes in opportunities track changes in behaviour *only on the assumption of stable preferences*. So the decision to accept preferences as givens is inseparable from a methodological commitment to accept data about how people spend their resources (or would do so under given conditions) as indicative of welfare. If one were to break this definitional link and forgo the conceptual simplification of holding preferences constant – the link that allows the empirical study of impacts on behaviour resulting from changes in opportunities – there would remain no connection, even theoretically, between preferences, welfare, and behaviour. CS is therefore a critical enabling assumption of the economists' explanatory paradigm.

The competitive advantage argument for CS, despite its apparent circularity, makes considerable practical sense. Surely it is an advantage to have a methodology capable of aggregating benefits and costs of a given policy into a 'bottom-line' analysis in which diverse considerations can be counted as commensurable and easily compared. Criticising a system of such computational power because it lacks the ability also to track the changes in preferences that provide the necessary data for the computations seems a bit like discarding a perfectly good hammer because it won't turn screws. But the circularity should also put us on notice about the limited implications of this form of the principle: CS, as defended by this line of reasoning, tells us nothing about the way the world is. This argument proves that, given assumptions essential to the system of microeconomic analysis, preferences must be treated as exogenous to that system. As is recognised by at least some who employ this argument (see for example Silberberg, p. 5), one cannot infer anything about preferences treated as characteristics of real individuals from this conclusion.³

Economists' preferences are 'theoretical' entities in the strongest sense. Not only are they inferred in the sense that they are not observable given present tools (as, for example, were atoms before the invention of today's powerful microscopes), but also in the sense that it is *in principle impossible* to observe preferences directly. Preferences, as they exist in economists' models, are figments of theory, not directly linked to observable behaviour. This is emphatically not to say they are worthless to science. Their worth to economic science will, *and logically must be*, determined by the success of economists in explaining and predicting real events. Preferences, as defined by economists in this logically unexceptionable argument, stand or fall with the paradigm of microeconomics.

2. The Direction-of-Analysis Argument

Another argument, closely related logically to the comparative advantage argument, treats CS as simply a decision to conceptualise the scientific problem as tracing causation *from* preferences, *to* changes in behaviour,⁴ which allows

aggregation across individuals based on behavioural changes. The reaction to this argument should be identical to that of the comparative advantage argument in that, again, CS represents an assumption that constitutes the economists' paradigm of study. Here, CS is taken as a verbal representation of a particular map which cuts up the intellectual landscape into various disciplinary countries. It is a matter of drawing intellectual boundaries, and from it we should infer nothing about the motivations of real human beings. Again, the 'truth' of CS, given this defence, will be determined by the success of the economic paradigm in explaining actual human behaviour.

3. *The Value Neutrality Argument*

While it is seldom expressed explicitly as an argument, a strong motivation among economists for embracing CS derives from its association with the idea that economics can be a value-neutral science which describes preferences as held by subjects of study, but which invokes no value commitments beyond seeking the truth about these individuals' preferences (see McKenzie and Tullock, 1978, p. 7; Heyne and Johnson, 1976, p. 767). This argument might be articulated as follows. Any attempt, such as that of J.S. Mill, to identify some values/preferences as 'higher' or more worthy than others must introduce value judgments into the analysis of human preferences. Scientists, *qua* scientists, do not make value judgments. Therefore, acceptance of CS by economists is a necessary methodological commitment of any economist who hopes to be truly scientific.

A full analysis and evaluation of this argument would require more space than is available here, but I must make two points about it. First, it can be argued that choices of what to count within an analysis – even if they are justified by methodological reasons – can in fact embody values; so the search for purity of scientific analysis may be futile. Second, associating CS with value neutrality calls into question the status of the principle as suggested by arguments 1 and 2. Those arguments seem to leave open the possibility that there are important questions, worthy of study – such as how preferences are formed and whether some preferences are 'higher' than others – which are not included within the scope of economic explanation given the assumption of CS. The implication of this argument, however, is clearly that some of these questions are not 'scientific', and any disciplines that engage these questions are necessarily nonscientific in their methods. This argument therefore creates an ambiguity as to whether CS simply makes all study of the formation and reformation of preferences exogenous to *economic analysis* or whether it makes this study exogenous to *all science*. It is therefore unclear whether CS is applied as a principle governing the methodology of economics – as is apparently implied by arguments 1 and 2 – or whether CS applies to all social sciences, economics included, as would follow from a general commitment to value-free science.

I have argued, elsewhere, that a science of sustainability, especially if it embodies a commitment to protect ecological integrity/health, like human and veterinary medicine, is necessarily a normative science (Norton, 1991C; Norton, forthcoming C). I think I detect an ambiguous, and in some cases hostile, attitude to the introduction of the idea of a normative science among economists. This ambiguity is at least partly due to confusion of the implications of the first two arguments with the implications of the value neutrality argument. Arguments 1 and 2 are consistent with recognising a normative science of sustainability; they simply imply that economics as presently constituted cannot fully contain such a science. If the argument applies to all science, it is an argument that normative analysis of values cannot be endogenous to any science. Under that stronger interpretation, the very project of developing a normative science of sustainability is considered misguided.⁵ The questions whether the study of sustainability can be a normative science, and in what sense it is one, has been conflated with the question of whether economics can accommodate such a science. This is not to say there are no substantive disagreements regarding this issue, but only that addressing those substantive disagreements cannot occur until this conflation is recognised and avoided.

4. *The Democracy Argument*

When asked casually why they accept Consumer Sovereignty,⁶ economists usually provide some variant of an argument considerably different from these first three, which we can call the 'democracy' argument. For example one economist friend responded to my request for reasons to support consumer sovereignty with arched eyebrows and a question: 'If individuals are not the judge of what is best for them, then who would you suggest *should* decide what is best for them?' The question was rhetorical and carried the clear implication that, merely to question CS was to embrace elitism and to ally myself with Big Brother, mind control, and totalitarianism. But surely it is possible to distinguish the question whether preferences should be *defined* within the economists' models as givens from the question of who decides what is best for individuals and what is right and wrong in a society. It is possible, for example, to say that the satisfaction of the preferences of the addict and the sexual predator are (a) not likely to result in increased welfare for them as individuals; and also (b) wrong, without deserting a democratic attitude or questioning the advantages of freedom over totalitarianism.

While the democracy argument is in one methodological sense similar to the first three arguments – its conclusion is, like theirs, registered as a methodological decision to take expressed preferences at face value – it is very different from the above arguments because the motivation for it has little to do with questions of effective explanation of behavioural phenomena. Justified in this manner, the commitment to CS apparently rests on a commitment to a democratic attitude

favouring self-determination. If I understand this line of reasoning, it asserts what might be considered a moral commitment to respect the right of persons to the maximum right of self-determination that is consistent with like rights for others. This argument therefore appears to be incompatible with the value neutrality argument as developed above. The embrace of CS and this motivation for it is inconsistent with the decision to avoid value judgments. Economics cannot *both* be value neutral *and* based on a moral crusade for any basic value, however widely held in our society, even freedom.

5. *The Positivist/Emotivist Argument*

Another explicit argument for CS rests on an important debate about values that took place within philosophy during the 1930s - 1950s. According to positivist ethicists, most of whom subscribed to some form of *emotivism*, values are arbitrary matters of individual taste, impervious to rational argument (see, for example, Stevenson, 1945; Ayer, 1936). Stigler and Becker (1978, p. 76), for example, emphatically assert (without argument) in their first paragraph that 'deplorable tastes, at least when held by an adult, are not capable of being changed by persuasion'. They proceed to argue that the domain of economics should never abandon any question to the realm of the non-rational, and conclude that the explanatory reach of economics could be expanded if economists simply assert that preferences are *fixed* and *similar across people*. The Stigler and Becker version of CS goes far beyond arguments about the most effective foundations for economic study, and therefore differs from arguments 1-4 in the scope of its conclusion. Stigler and Becker, apparently because of their positivist commitment to an extremely strong (and today mostly discredited) version of emotivism, essentially treat as trivial any study of values that does not employ the economists' model. This amounts to a sort of disciplinary imperialism by obliteration of all other competing forms of social scientific explanation, the equivalent of dropping a neutron bomb on the intellectual domains of other social scientists. They advocate seeking explanations of all choice behaviour – once they assert that preferences are fixed and unquestioned – in economic terms: 'The great advantage ... of relying only on changes in the arguments entering household production functions is that *all* changes in behaviour are explained by changes in prices and incomes, precisely the variables that organise and give power to economic analysis' (Stigler and Becker, p. 89).

So, in this particular form, CS implies a much more aggressive attitude toward disciplinary boundaries than is implied in the first three arguments. It also represents an important departure from traditional economic analysis which has endorsed the heterogeneity of preferences (Silberberg, 1978) and which has been undogmatic regarding the changeability of preferences, assuming them to be stable only for the period of analysis. The fact that economists can attribute such different characteristics to preferences (and never feel a need to submit their differences to empirical determination) is simply a symptom of the above-noted

theoretical nature of preferences. Stigler and Becker are simply not making an assertion about psychological states; they are rather attempting to expand the predictive power of their paradigm through methodological assumption.

But Stigler and Becker's argument, based as it is on the failed philosophy of logical positivism, seems an anachronism to anyone who has read much philosophy of science or theoretical ethics since 1950. The positivist philosophy collapsed from within as epistemological arguments showed the conceptual impossibility of identifying any sentences that are wholly empirical in content, not dependent on choices of theory (Quine, 1953; 1960; Kuhn, 1962). Further, while ethical theorists still differ regarding the exact logical status of moral pronouncements, virtually all such theorists have now acknowledged that emotivism misses most of what is interesting in moral and persuasive discourse. If one refuses to accept the positivist assertion that value expression is entirely beyond the pale of rational discussion – the key premise in Stigler and Becker's argument – the argument cannot even be formulated, let alone persuade. I suggest that economists treat the Stigler/Becker version of CS as an interesting museum piece, analogous to an elaborate, but failed, time travel machine.

Given the variation in CS associated with different arguments, it is necessary to note two, somewhat different departures that might be taken from CS by economists. One departure, which is apparently consistent with application of a methodological version of CS within economics, would be for economists to increase their emphasis on the importance of the scientific study of preference formation and reformation, and encourage cross-disciplinary study of these intellectual questions with other social scientists. I expect that most economists would accept this departure and consider it simply an extension of collaborative work, already under way, between cognitive psychologists, survey researchers, and economists.

But I would not expect such ready acceptance of another departure, a departure that would undertake to *evaluate* preferences in a way that would mimic Mill's distinction between 'higher' and 'lower' preferences. I believe that some attempt to evaluate and alter preferences of consumers is an essential commitment of many, if not most, environmentalists (Norton, 1987; Norton, 1991 B) Economists have generally looked with suspicion on any attempt, such as Mill's, to qualitatively sort preferences into higher and lower satisfactions. For example, in the midst of an argument that sustainability can, essentially, be reduced to a question of wise investment because resources and capital of all forms are fungible, Robert Solow (1993, p. 182) says:

[S]ustainability is about distributional equity. It is about who gets what. It is about the sharing of well-being between present people and future people. I have also emphasised the need to keep in mind, in making plans, that we don't know what they will do, what they will like, what they will want. And, to be honest, it is none of our business.

Consider the final sentence of this quotation. Is it, indeed, none of our business

what the future will do, what they will like, what they will want? Suppose, for example, I sincerely believe that violence on television is creating a generation of violent monsters. Have I no obligation to work to achieve changes in television programming to affect the values held in the future? Note that recognition of such an obligation carries no implication regarding what methods – censorship, persuasion, etc. – I would use to achieve these changes.

Suppose, to cite a case more relevant to environmental values, I sincerely believe that, if our generation converts all wilderness areas to mines and farmland or to other human uses, we will end the possibility of wilderness experiences for many centuries at least, probably forever. Suppose I also believe that people in the future would as a result of these acts be unable or unlikely to value wilderness. Instead, they would attend theme parks much like the ‘rainforest exhibits’ in today’s zoological parks and botanical gardens. Is this a matter of indifference to us? If we have it in our power to stop the process of clearing, and simply prefer lower-priced timber and foodstuffs to future people’s wilderness experiences, is it still a matter of indifference?

Since Solow is reluctant to make any judgments about what future people should be able to do or feel, he need only consider only two outcomes: (1) the situation is as above, and many future people still love wilderness, and go to the theme parks in great sadness, pining for authentic wilderness experiences. Or, (2) the people of the future do not value wilderness experiences and enjoy their theme park rainforests, feeling no loss. Solow reasons as follows: if they want wilderness experiences and can’t have them, they are unhappy, but we are not responsible for their unhappiness because we have no way to know whether they will prefer wilderness or theme parks, and we cannot be expected to do what we cannot feasibly do (Solow, 1993, p. 180). On the other hand, if they do not love and miss wilderness, then they will not blame us. Consequently, he reasons, we cannot be blamed because, if there is a harm to the future, we cannot be held responsible for it. He therefore concludes that we cannot harm the future, provided we make it possible for them to achieve the same level of welfare that we enjoy, and the wisest policy is to invest in economic development so that if they are harmed by our choices, future people will be compensated by being able to purchase alternatives. While it may seem self-serving to continue to destroy all wilderness in search of economic development, Solow reassures us that it is not really – it is the best way to maximise total welfare across time, given each generation’s ignorance and indifference regarding the practices and values of subsequent generations.⁷

But notice that this argument – which for many economists has stated the definitive view of sustainability – *assumes* rather than *proves* that we cannot and ought not take steps to shape the values and preferences that future people will have. If we believe that we have some ability, and some responsibility, to affect what people of the future do and like, then we must consider another option: (3) we could act now to protect wilderness areas with the intention of providing

future people with experiences of wilderness, experiences that we believe will ensure that they will both love wilderness and protect it for their own successors. On the assumption that our current activities *do* predictably affect the values held in the future, we must at least raise the question whether we *should* protect wilderness and encourage future wilderness values. This turns out to be a possibility that is excluded by Solow's *laissez faire* approach to future values.

Solow's argument that we have no specific responsibilities to sustain specific resources therefore turns out to be just an intergenerational version of CS. And now the ambiguities uncovered above become crucial to the argument. If Solow believes with Stigler and Becker that values are just tastes and not worthy of study, evaluation, or reformation then he has a reason to dismiss these apparently important and interesting questions as meaningless or trivial. If he accepts Randall's version of CS, on the other hand, which merely presumes individuals are the best judge of their welfare, the situation is more complex. If we interpret Randall's pronouncement as a methodological preference of economists (because it increases the power of economists' models), then it would only follow that future likes, activities, and preferences are none of the business of *economists*. They might, that is, be precisely the business of psychologists or sociologists or philosophers of environmental values or, more generally, voters who decide the fate of wilderness areas. I conclude that Solow's argument for a *laissez faire* attitude toward the options and values of the future is only convincing if we assume the highly suspect, positivist version of CS due to Stigler and Becker. The two issues raised in this paper against the comprehensiveness of preferences as measures of environmental values – CS and reduction to present values – raise the same issue viewed first intra-generationally and then intergenerationally.

Further, I believe we have now arrived at a clearly articulable difference between economists and most environmentalists and also between economists and members of other disciplines. Environmentalists are moralists, and one of the ways they show this is by taking an active concern for both the options for experiences and the values of future people. They invest (or should invest, given their values) in environmental education, for example. Economists such as Solow believe no such obligations exist. This is a point worth further debate and discussion. It should not be resolved by methodological fiat.

The case that environmentalism is essentially moralistic is eloquently made by the environmental attorney, Joseph Sax (1980), who argues that it is an essential part of the case for environmentalism that environmentalists believe we will be a better country, with stronger moral fibre, and with a more enduring moral identity if we protect natural areas and landmarks such as national parks (also see Sagoff, 1974; Norton, 1987). This may mean, for example, that environmentalists will attempt to change the preferences of owners of off-road vehicles and encourage people to prefer public transportation. These actions, and the motivations behind them, may make economists uneasy, and perhaps with good reason. There may be dangers of paternalistic excesses in the moralistic

streak of environmentalism, but these are dangers shared by all moralists and persuaders. From the Gideon Society to zoos with conservation exhibits to the Exxon Corporation, there are countless individuals and groups out there attempting to change our values and preferences. Even if we follow Solow in arguing against moral education to affect the values and preferences of our successors, it seems this should at least be a matter for interdisciplinary debate, rather than the consequence of a methodological choice to take preferences as givens.

Indeed, the very issues that should be at the heart of a search for a sustainable society are the dynamic, intergenerational questions that involve protecting and developing a connection to land. What is at stake is whether it makes sense to choose to shape the preferences, options, and opportunities available to future people. Faced with a decision, as we are today, whether to manage national parks to protect biotic integrity or to develop them with more 'industrial tourism', it seems at least important to discuss the effect of our legacy on the attitudes, values, and preferences of the future. Protecting wilderness, and thereby protecting the future's possibility of experiencing wilderness, only makes sense if one believes that, if we protect the wilderness, future generations will come, also, to love it and they, too, will protect it for their successors.

I am as interested in avoiding paternalism toward the future as Solow apparently is. But I still think that there are fascinating questions involved in the dynamic of intergenerational value formation: questions of how values – including conservation values – are passed from generation to generation, and moral questions regarding whether it would ever be reasonable to use current resources to make various experiences and preconditions of value formation available to future people. Economists may choose not to address these questions, adopting CS as a methodological choice, but I urge them to consider whether they have arguments, beyond methodological constraints imposed by their conception of explanation, for dismissing these questions. It might make more sense for economists to loosen the assumptions of the neo-classical explanatory paradigm and remain open-minded about how to integrate preferences regarding future preferences and intertemporally emerging values into their conceptual and theoretical framework.

If one accepts my implication that these questions are important and that their discussion should be an important part of environmental policy discussions, we can see that interpreting CS is really about whether preference-formation will be endogenous or exogenous to economic analysis. I have tried to leave that question to economists themselves to decide; hence my somewhat impertinent title. If one follows environmentalists in believing we do have fairly specific obligations to protect landscape integrity and wilderness, then one way of expressing those obligations would be to insist that value formation and re-formation must be endogenous to the overall analysis of environmental policy. What we need most basically, it would follow, is a normative and activist science – much like medicine, including a public health service with a persuasive/

educational function – for the study and treatment of environmental problems (Costanza, Norton, and Haskell, 1992). It may also follow that, insofar as they hope to contribute to this larger science of management, academic scientists, including economists, may have to step out of their narrower, disciplinary paradigms and consider both the description and valuation of ecological systems (and changes in them) in a broader framework of analysis (Norton, forthcoming A).

III. PRESENTISM: PREFERENCES LACK TEMPORAL DIMENSION

I turn now to a discussion of economists' reduction of all values to present preferences, which we have seen to turn on many of the same issues as does the interpretation and applications of CS. Preferences, as studied by economists, are treated as present values. All future outcomes are valued in the present. What I am willing to pay for an experience, E, at some point, t, in the future is not the value I will place on E at t, but rather the value I *now* place on experiencing E at t. Preferences, therefore, are subject to discounting. It is a well established fact of human behaviour that individuals prefer to receive benefits now rather than later, and that they attempt to delay negative outcomes as long as possible. Based on this behavioural evidence, economists build positive time preference – which is often equated to the rate of real interest in the economy – into their accounting of preferences (Lind, 1982; Freeman, 1993). The intensity of preferences for future outcomes is therefore adjusted and brought into the present. The choice of a 'market basket' of goods and services might therefore include goods to be experienced in the future, but their present value will be represented as what the consumer is willing to pay for those future goods in forgone present opportunities for consumption. In this sense, economists' preferences are without temporal dimension.

The advantages of a single accounting system were noted in Part I, above. A complete system of accounting requires some way of making future values commensurate with present values. Lacking this, there would be no way to aggregate flows of welfare across time. Economists have therefore generally assumed that future values should be incorporated into current accounts – that they should be expressed as current preferences for certain opportunities in the future, though many economists and others have questioned the morality of positive time preference computed across multiple generations (see, for example, Page, 1977; 1988). In this section I will consider whether economic preferences understood as corrected through discounting capture the full meaning of environmental values.

The advantage of the present value approach to consumer behaviour is evident. Households face the problem of budgeting in the present. If, in a given week, a household decides to set aside money to pay for a vacation next summer,

this choice will affect how much is left to purchase goods and services for immediate consumption. So, in a context of weekly budgeting, it is difficult to question the present-value approach. Since it is well established that consumers exhibit time preferences for the present, as represented in the economists' models by a discount rate, it seems reasonable in this context to represent present values as discounted future values.

But the weekly budgeting context is not the only context in which people make decisions. Consider, for example, the context that was created when the Founding Fathers of the US were brought together to draft a new constitution (Page, 1977; Toman, 1994). While they, as individuals, unquestionably must have had their personal concerns to balance their weekly budget, it would seem odd to say that the decisions they made to vote for or against various provisions in the new document should be represented in their weekly market basket decisions. Perhaps the delegates recognised that certain decisions they made in proposing rules for their future government would have important future impacts on their own economic well-being once they have returned to their homes and the constitution was ratified. For example, delegates who were merchants might have perceived quite specific economic impacts on them of ceding control of interstate commerce to the federal government. But the whole idea of a constitutional convention and the particular context it sets is to encourage delegates to abstract from their individual and particular concerns and preferences in order to design a system of laws that will govern future transactions. The constitutional convention, that is, addresses the question of what rules and constraints will be encountered in future economic decisions. It would be quite inappropriate – and reason to consider a delegate selfish and a 'bad citizen' – if that delegate relied solely on personal economics to decide what the constitutional provisions should be.

This is not to say that no delegates did, in fact, let their positions on particular provisions be affected by concerns about personal economic gain. Some no doubt did. But it seems questionable whether the constitution they completed could have lasted as long as it has, and functioned as well as it has, had personal considerations been the major factor in decisions. More importantly, the point of the example is that – whatever motivations in fact affected delegates – the convention setting created a context in which different criteria and considerations come to the forefront of discussion. What this example shows is that what counts as a good decision can be highly context-dependent and that our attitude toward intertemporal valuation changes, depending on the decision context.

While the participants in a constitutional convention must be individuals (who are sometimes consumers), the gravity, the pomp and circumstance associated with the unique event, if it is to be successful, must transform the context of the discussion. One might say, borrowing language from Sagoff (1988), that the individuals in question are transformed from 'consumers' into 'citizens' by being named delegates (Also see Common, Blamey, and Norton,

1993). The relevant feature of that transformation to my argument is that the event transforms the time scale of analysis for participants in the decision process. What counts as a good reason to a consumer ('The rhubarb is beautiful this week' or 'There's another air pollution scare today') must be expressed in a different temporal scale than does a good reason at a constitutional convention ('The rule of law protects us and our children and their children from tyrants') (Norton, forthcoming A).

The decision by economic analysts to treat all values as present preferences – and the entrained decision to apply a discount rate to all environmental benefits and costs that emerge later in time – is a *decision not to recognise these sorts of contextual differences*. It abstracts from contextual discontinuities in order to offer a single-scaled analysis. It is a decision to reduce future values (that are especially important in particular contexts) to present values in order to pursue the (admittedly useful) goal of providing a bottom-line accounting of all values presented in commensurate terminology. We can think of this decision as, among other things, adopting a particular abstraction from temporal scale and its impact on decision making.

For some environmental 'goods' this abstraction might be quite appropriate. For example, if the good in question is some measurable reduction of risk of cancer or some other illness, it does not seem a great stretch to consider the 'consumer' to be willing to 'purchase' this reduction at some cost. In this case, the trade-off is the expenditure of current endowments to reduce the likelihood in the future of a highly negative outcome. But these sorts of health effect cases represent only one type of environmental decision. Consider, alternatively, the question whether the society should adopt a policy of 'sustainable use' of a given ecological system. This case differs from the health risk case in several ways. First, any attempt to estimate the time at which benefits of protection – or the time at which losses of value will occur in the event the system is not protected – would be highly speculative. There are, in other words, overwhelming uncertainties connected with scope of changes and their impacts on individuals' welfare connected with the temporal scale on which they will unfold. Second, the connection between the good in question and welfare of specific individuals is much more difficult to establish. Suppose we know that a particular practice (clear-cutting old-growth forests or dumping toxics into a bay, for example) is seriously degrading the ecological system in question and that, if the practice is continued for decades, the system is likely to shift into another, and much less desirable functional state (Holling, 1992).

Environmentalists assert that the system produces many unpriced public services, some recognised and probably some that are unknown at present. Let us, for the sake of argument, accept that these claims by ecologists and environmentalists have merit. The problem, analytically, is that it is impossible either to (a) provide a complete list of those services, (b) identify which individuals are likely to be affected by a reduction in those services, or (c) specify

those features of the system that are essential to support continuation of those services. In this situation of uncertainty, any attempt to associate changes in individual welfare with changes in the state of the ecological system would be terribly speculative, even for experts with an excellent grasp of the scientific situation.

It seems to me that public decision making regarding environmental priorities and policies, at least in some contexts, would have much more in common with the 'constitutional' context described above than with the context in which consumers budget their weekly consumption. For example, when a government agency or a community undertakes a two-year planning period to initiate a long-range ecosystem management plan for a region, they appropriately pose questions regarding the long-term nature of their community and its identity. One important aspect of that community identity will be a discussion of the community's goals for itself and its landscape and for the relationship between natural and artificial environments. In this context, questions regarding sustainable use of resources, especially large-scale resources such as ecosystems and landscapes, come to the forefront of discussion. One crucial similarity seems to me that the social values in the constitutional case and in the sustainability-of-ecosystems case exist in a longer, intergenerational scale. They represent values that a community develops and enjoys over generations. To ask someone how much they are willing to pay to live in a sustainable society is in this sense analogous to asking delegates to a constitutional convention how much they are willing to pay to protect the rule of law as a principle of the government they propose. It seems to me useful in both of these cases to recognise relatively distinct time scales, one 'individual' and one 'communal'.

My insistence on a contextual distinction between decisions of consumers and decisions of delegates raises many questions. One of these questions, surely to be asked by sceptical economists, is: how distinct are these two contexts? A merchant that votes in a constitutional convention to give regulatory power to a federal government, might consider the economic costs he may incur once the government acts under the authority granted in the constitution, balancing them against the instability involved in strong states' rights. So I wish to be open minded about how sharply we can, or should, partition these two decision contexts.⁸ One might also wonder how many such contexts there should be. My point here is that, while everyone must live in the present and make decisions in the present, it does not follow that we should in all cases 'reduce' future values to present exchange rates. The weight we give to matters of individual preference, including time preference, is highly relative to the decision context.

A system which accepts CS and reduction to present values can be expected to filter out values that emerge as a culture struggles to define itself and its relationship to nature. I suggest that these values be referred to as 'aspirations.' Aspirations can be thought of as the values that define the kind of a culture in

which citizens wish to live. They evolve over generations and they have a strong intergenerational aspect. Most people, most of the time do not explicitly face decisions in which aspirations are articulated and viewed as at risk. But there are contexts, I have argued, where these aspects of valuation do become important and then the value formation aspect and the intergenerational aspect of valuation become important as well.

A constitutional convention has been used as a sort of paradigmatic example of such contexts; I believe that the formation of locally and regionally based 'ecosystem management plans' and community-wide exercises in sustainable living have much more in common with the constitutional paradigm than with the context of consumer choices.

IV. CONCLUSION

We can now return with greater understanding to the point, made above, that preference-based economic analysis captures one aspect of environmental valuation, but that this analysis is nevertheless an abstraction that ignores other important aspects of valuation. Endorsement of some form of CS – the acceptance of preferences as givens – constitutes the neoclassical explanatory paradigm in such a way as to allow aggregation of values across individuals, abstracting from the complex processes that form and re-form preferences. Reduction to present values helps us to consider the short-term costs of our decision and to compare them with an expected stream of benefits stretching into the future. The decisions to conceptualise preferences as sovereign and as present-bound are best thought of as methodological decisions. They are enabling mechanisms that permit the development of a powerful analytic tool, the computational paradigm of neo-classical economics. But I have argued that economists must be careful regarding the generalisations they might draw about actual human values from their elegant abstractions. If CS and reduction to present value are justified methodologically, as elements in a system that allows computation across persons and across time, these are characteristics of theoretical objects, objects which exist within the theoretical assumptions of neoclassical economics.

It may be useful to think of economists as emphasising a computational conception of rationality and choice. They believe we can learn a great deal about social values by measuring economic activity and aggregating across persons and times. They are therefore willing to make strong constitutive assumptions that will enable them to enhance their computational power, and the scope of their explanations based on changes in opportunities. I have not challenged the interest or power of this approach. But, especially in the absence of complete data, many environmental decisions turn in reality, not on *computation*, but on

a *categorisation* – a categorisation of the problem at issue. Unless one can categorise an environmental problem/ concern adequately, one does not know what is the context of the evaluation, and one does not know what criterion of good management is applicable. If, as argued here, shifting the context of a decision affects which decision criteria are appropriate, it will also affect what type of evidence is important. I believe that, given the complexity of environmental values, an adequate approach to environmental policy valuation must also be complex and multiscalar. However useful are computations in some situations, we must first decide what type of situation we face, and what we should be computing.

Can we say anything useful, in general terms, about the process of formulating an environmental problem? If there are values that unfold across multiple generations, does it not follow that somewhat different value criteria apply when they are threatened? All disciplines that hope to impact environmental policy should address these questions thoughtfully, and soon. And these are questions that cannot be answered by further computations of given and atemporal preferences. Nor can they be decided by methodological fiat. These questions will require a discussion of the very foundations of environmental valuation and also a practical discussion of how environmental policy decisions can be understood in their full complexity, so that the multi-dimensional aspect of environmental values is represented in decision making.

NOTES

¹ This system of evaluation assumes, also, the substitutability of goods for each other and of some dollar figure for a marginal unit of consumption for any good. See Freeman (1993).

² As is argued by Mark Sagoff in a number of recent publications. See Sagoff (1988; 1993; 1994).

³ See Fischhoff (1991) for a discussion of the approaches and methodologies available to study real individual values and their elicitation.

⁴ The importance of this line of reasoning was pointed out to me by Paul Wendt.

⁵ These issues, which would require a deep-delving argument regarding the sharpness of the fact-value distinction itself, cannot be addressed here, though the reader is referred to Norton (forthcoming C) for the argument that a science of sustainability must treat moral evaluations as endogenous to its analysis.

⁶ As I have concluded from a ridiculously informal and unscientific polling of some of my friends who are economists.

⁷ See Orr (1992) for a scathing criticism of this approach as applied in NAS (1992).

⁸ In other places, my colleagues and I have argued somewhat more aggressively for a relatively sharp separation of the 'scales' of decision making. See Norton and Ulanowicz (1992); Norton and Hannon (forthcoming); Norton, forthcoming B.

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