

# Aggregation and deliberation in valuing environmental public goods: A look beyond contingent pricing

M. Sagoff\*

*Institute for Philosophy and Public Policy, Room 3111, van Munching Hall, University of Maryland, College Park, MD 20742, USA*

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## Abstract

Starting from a distinction between Kantian (principle-based) and utilitarian (preference-based) approaches in political theory, this essay argues that we may understand normative judgments individuals make about policy to express principled views of the public interest or purpose not private preferences about their own consumption opportunities. These judgments, in other words, state opinions about what *we* ought to do as a society rather than report preferences about what *I* want as a utility-maximizer. This essay then argues that contingent valuation can take into account these kinds of judgments—which dominate public discourse about the environment—only if it moves toward a deliberative, discursive, jury-like research method emphasizing informed discussion leading toward a consensus based on an argument about the public interest. © 1998 Elsevier Science B.V.

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## 1. Introduction

This essay seeks to bring together and thus contribute to two programs of research. The first comprises socioeconomic experiments designed to measure the value individuals attach to environmental goods and services that markets fail to price. This effort, which often uses surveys to elicit individual willingness to pay (WTP) for public goods, is associated with the vast literature on

contingent valuation methodology (CVM) (Carson et al., 1994). The second research program is philosophical and analyses the kinds of decisions individuals reach by democratic political processes rather than by market transactions. This research is associated with a large literature concerning discursive and deliberative approaches to the formation of public values enacted in legislation (Fishkin, 1995).

These two fields of research are moving toward a common interest in processes of group learning, discourse and consensus-building. The purpose of

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\* Tel.: +1 301 4054753; e-mail: ms2@umail.umd.edu

this paper is to suggest that each research program may learn from the other and that their differences may be less important than the direction they share in common.

This essay is organized into the following sections. The first section presents the familiar distinction between ‘consumer’ and ‘citizen’ preferences in the context of the even more venerable distinction between utilitarian and deontological approaches in political theory. This section describes the problem citizen preferences pose for CVM insofar as it presupposes a connection between preference satisfaction and individual welfare or well-being. The second section describes the pervasive influence citizen preferences exert on CV surveys and on other ‘stated preference’ methods of socioeconomic research.

In the third section, the essay proposes that the two strategies economists initially adopted to deal with citizen preferences, i.e. either denying their existence or connecting them to psychic income, have failed. The fourth part of the essay explains that an emerging strategy which emphasizes the constructive as distinct from the diagnostic aspect of CVM may succeed in accounting for these values. The next two sections argue that a constructive, deliberative, and discursive turn also goes a long way toward resolving technical problems that have vexed CV research. The paper concludes by suggesting that developments in political theory lend support to the use of CVM as a constructive, deliberative and discursive instrument in estimating the value of public environmental goods. The result is a useful convergence between contemporary moral philosophy and sophisticated methods of socioeconomic research.

## 2. An introductory distinction

Possibly the most venerable—and surely the most familiar—distinction in political theory is drawn between utilitarian and deontological (or Kantian) conceptions of rational choice. March (1994) in his *A Primer on Decision-Making*, lays out a standard theoretical understanding of these two points of view. When decision makers adopt the utilitarian approach, they choose among given

alternatives “by evaluating their consequences in terms of prior preferences”. The contemporary utilitarian believes that social well-being or welfare, construed in terms of the satisfaction of the preferences ranked by WTP, constitutes the principal goal of environmental policy. “The basic premises of welfare economics are that the purpose of economic activity is to increase the well-being of the individuals that make up the society and that each individual is the best judge of how well-off he or she is in a given situation” (Freeman, 1993).

When they adopt the deontological framework, decision makers “pursue a logic of appropriateness, fulfilling identities or roles by recognizing situations and following rules that match appropriate behavior to the situations they encounter” (March, 1994). In this context, individuals typically do not ask, ‘what situation will most benefit me as an individual?’ but, ‘what do we believe is appropriate for us as a society, given our shared principles, beliefs and commitments?’ Political institutions provide the context in which citizens debate and legislate conceptions of the common good bounded by civil, political, and property rights.

These two conceptions of collective choice differ in the way they interpret disagreement among members of society. The contemporary utilitarian understands disagreement in terms of competition for the use of scarce resources. In a society without resource constraints, all preferences may be satisfied. The Kantian analyzes disagreement in terms of the logical opposition of moral or political beliefs (Kant, 1959). In answering the question ‘what do we stand for as a nation?’ individuals may state logically opposing views of social policy rather than make competing private claims on scarce resources. In this framework for collective choice, the reasoning process “is one of establishing identities and matching rules to recognized situations” (March, 1994).

These alternative approaches in political theory introduce an equally familiar distinction between consumer and citizen preferences. Consumer preferences, for example, to buy Pepsi rather than Coke, reflect what the individual thinks is good for her or him. Citizen preferences, in contrast, reflect principles the individual believes are im-

plicit in the character, commitments, or identity of the community as a whole. While the words ‘I want’ are likely to introduce a consumer preference, a statement that begins with ‘society should...’ is likely to express a citizen preference.

Environmental economists, as citizens and as scientists, argue that society should allocate resources to those willing to pay the most for them in order to maximize aggregate social well-being. This view expresses an objective policy position, not a consumer preference. Like any policy position, it is to be supported by argument and analysis. One would not assess its objectivity or validity by assessing the WTP of its advocates.

The same distinction between subjective desires and objective beliefs applies to virtually every controversy. Earlier this century, those who opposed child labor, for example, sometimes did so for self-serving reasons. For the most part, however, citizens fought against child labor on objective moral grounds. They believed that in our society, as in any society, children should go to school rather than to the mines. Similarly, when advocating any policy position, whether about campaign reform, the sale of marijuana, abortion, or assisted suicide, individuals call on others to agree with their views or, if they disagree, to explain why. Those who oppose the death penalty, for example, usually seek nothing for themselves; they protest capital punishment because they believe it is useless and barbaric, not because they themselves fear being hanged.

To summarize, consumer preferences reflect conceptions of the good life individuals seek for themselves, while citizen preferences reflect conceptions of the good society offered for the consideration and agreement of others. Consumer preferences, having the form ‘I want  $p$ ,’ are associated with gains in individual welfare WTP may measure. Citizen preferences, having the form ‘we ought to...’ or ‘society should...’, express views the individual holds as one of us about what we stand for. He or she expects other members of the political community to agree or, if they disagree, to explain why. The debate proceeds without reference to personal well-being.

Welfare and therefore environmental economists offer one among many positions citi-

zens have defended as approaches to regulation. Other views are also worth considering. For example, libertarians regard pollution as a form of coercion and thus as a violation of rights (Machan, 1984). They argue that society should minimize pollution as a form of trespass or tort rather than optimize it as an economic externality. Libertarians may approve policies, therefore, that require society to reduce or minimize pollution far more than is economically efficient. Libertarians believe it is more important to protect personal and property rights against trespass than to balance benefits and costs.

Members of the Noah movement believe that humanity has a moral obligation to respect and preserve species even at some cost to itself (Norton et al., 1995). Preservationists in the tradition of John Muir have kept magnificent landscapes from development by making aesthetic, religious and cultural rather than economic arguments. These and other groups saw to it that “the cornerstones of environmental policy in the United States”, such as the Clean Air, Clean Water and Endangered Species Acts, “explicitly prohibited the weighing of benefits against costs in the setting of environmental standards” (Cropper and Oates, 1992).

Environmental economists have developed careful and sophisticated analyses of the ways environmental policy can handle consumer preferences, i.e. those that reflect judgments individuals make about what benefits them. In discussion or debate about environmental policy, however, citizen preferences loom much larger, since people nearly always argue in terms of what society ought to do rather than in terms of what is good for them. How, then, should policy makers take citizen preferences into account?

As a kind of default strategy, theorists could simply leave it to the individual to act simultaneously within market and political institutions to pursue these different sorts of values. On the other hand, since markets often fail and since political processes, let us say, are not always poetry-in-motion, social scientists have every motivation for trying to design experimental and surrogate instruments and procedures by which these different kinds of values might be expressed, revealed and measured.

In response to this challenge, economists, sociologists, and others who seek to strengthen CVM are bringing to the conduct of experiments discursive, information-rich, and deliberative research methods to enable subjects to construct informed values or preferences in relation to public environmental goods (Keeney, 1992; Renn et al., 1995a,b; Webler et al., 1995). Political theorists and students of democratic processes, in turn, have begun to emphasize deliberation and consensus-formation, as distinct from the aggregation of individuals' willingness to pay, as the appropriate path to the evaluation of public goods in a democracy (Buell, 1996). These theorists, whether in the social or political sciences, are drawn to some of the same kinds of experiments in their attempts to understand political deliberation in democratic decision-making. By analyzing similar processes of social learning, exchange and identification, economic analysts and political theorists are developing parallel conceptions of the function of democratic institutions in resolving social conflicts (Elster, 1989; Shklar, 1991; Fishkin, 1995; Sunstein, 1996).

This essay will propose, in the context of recent work both in socioeconomic research and political theory, that individuals, rather than serving simply as locations or channels where consumer preferences are found, may participate in a social process in which they construct collective judgments as citizens about the value of a public environmental good. The opportunity for social learning, since it informs consumer and citizen choice, could strengthen CV research. Researchers are beginning to structure the CV experiment as a kind of focus group or jury that might reflect views of the larger society. The outcome of deliberation may then depend less on the addition of individual utilities than on the force of the better argument about the public interest (Habermas, 1982).

### **3. The pervasiveness of citizen preferences**

From the 1950s to the 1970s, socioeconomic approaches to the evaluation of public goods generally adopted the conception of collective

choice associated with welfare economics. Traditionally, advocates of this view have held that the 'invisible hand' of the market ideally performs both the function of eliciting preferences and of aggregating welfare. As Kneese and Bower wrote in 1972, economic theory "developed on the presumption that virtually everything of value is suitable for private ownership with little or no 'spillover' to other persons, households and firms when the private property is put to use by its owner". Kneese and Bower (1972) added: "of course, it was realized that sometimes adjustments had to be made for 'market failure', but these were implicitly, if not explicitly, regarded as minor with respect to the overall allocation".

Kneese and Bower observed that by the 1960s, economists began to recognize that market failures were pervasive and ubiquitous, especially with respect to public goods that possess aesthetic, spiritual, or cultural significance, such as endangered species and old-growth forest. As more and more of nature took on historical and cultural value, Kneese and Bower wrote, it became clear "that the pure private property concept applies satisfactorily to a progressively narrowing range of natural resources and economic activities". If environmental resources are to be allocated efficiently, they argued, non-market mechanisms are needed to allocate them. Economists urged the government to employ experts from their profession to 'correct' market prices for public environmental goods and services. "Private property and market exchange", Kneese and Bower concluded, "have little applicability to their allocation, development and conservation".

If market failure provides "the most important argument for governmental intervention" (Cowen, 1992) where issues of social equity are secondary, economists must play a central role in policy making. Their expertise is needed to quantify in monetary terms—or attach 'shadow' or 'surrogate market' prices to—environmental goods and services that are not traded under perfectly competitive conditions. This presents a comparatively easy task with respect to common property resources, such as wild fish stocks, that produce the kinds of commodities, such as fish,

markets ordinarily price. It is harder to assign shadow prices to the kinds of environmental goods most relevant to this essay, those with moral, aesthetic and cultural significance, such as visibility in the Grand Canyon or wildlife in Prince William Sound. These moral or spiritual assets enlist our political views more than our consumer interests. To allocate (or to preserve) these assets, we traditionally rely on political rather than market institutions and processes.

As economists Cropper and Oates (1992) point out, economists responded in two ways to the need to attach shadow prices to public environmental goods. First, they developed methods “to infer the value of improved environmental amenities from the prices of the market goods to which they are, in various ways, related”. Second, they “turned to an approach regarded historically with suspicion in our profession: the direct questioning of individuals about their valuation...”.

This essay is concerned not with methods by which economists ‘impute’ prices to public environmental goods, but with instruments economists have developed to elicit the stated preferences of individuals with respect to the protection of the natural environment. These surveys generally seek to elicit WTP for public goods with aesthetic or spiritual significance individuals believe society ought to protect. Individuals report that they base their WTP for these goods on their concerns as citizens more than on their wants as consumers. Respondents seem affected less by considerations of their own well-being than by “ethical concerns, altruism, or the desire to do their ‘fair share’—concerns that indicate they used decision-making processes inconsistent with the neoclassical paradigm”, insofar as it seeks to maximize individual welfare or well-being (Stevens et al., 1993).

Reviewing several CV protocols, three economists concluded that “responses to CV questions concerning environmental preservation are dominated by citizen judgments concerning social goals and responsibilities rather than by consumer preferences” (Blamey et al., 1993, unpublished). These responses often reveal “social or political judgments rather than preferences over consumer bundles” (Blamey et al., 1993,

unpublished). The results of one study “provide an assessment of the frequency and seriousness of these non-economic considerations: They are frequent and they are significant determinants of WTP responses” (Schkade and Payne, 1993).

Researchers found a large range of strategies for constructing stated WTP that had little or nothing to do with respondents’ expected utilities (Schkade and Payne, 1994). Edwards (1986) points out with respect to ‘bequest’ value that choices “motivated entirely out of an unselfish interest in the well-being of others’ fail to reflect personal welfare”. A group of economists conclude: “Whatever CV surveys may be measuring, they are not measuring consumers’ economic preferences over environmental amenities. Thus they do not represent values that should be used in cost-benefit analysis or for measuring compensatory damages” (Diamond et al., 1993).

The recently issued Global Biodiversity Assessment acknowledges that non-use or ‘existence’ value “is almost entirely driven by ethical considerations precisely because it is disinterested value” (Perrings et al., 1995). This study notes that “existence value has been argued to involve a moral ‘commitment’ which is not in any way all self-interested” (Perrings et al., 1995, citing Sen, 1977). The Assessment explains that “commitment can be defined in terms of a person choosing an act that he believes will yield a lower level of personal welfare to him than an alternative that is also available to him” (Perrings et al., 1995). If the satisfaction of ‘existence’ values lowers welfare, on which side of the cost-benefit equation should they be entered? The individual does not want less welfare per se, but “adherence to one’s moral commitments will be as important as personal welfare maximization and may conflict with it” (Perrings et al., 1995).

#### 4. Citizen preferences and individual well-being

The pervasive influence of citizen preferences has posed a theoretical problem for CV research. The problem arises in establishing the relevance of WTP, insofar as it measures individual welfare, to citizen preferences, which by definition concern

goods or goals other than individual welfare. They also reflect values individuals typically pursue through civic and political association, not through actual or hypothetical market transactions.

Economists have responded to this problem in two distinct ways. Some welfare economists have ruled citizen preferences (other than their own theory) out of consideration. Freeman (1993) states flatly that society “should make changes in environmental resource allocations only if the results are worth more in terms of individuals’ welfare than what is given up by diverting resources and inputs from other uses”. Economists Stokey and Zeckhauser (1978) similarly believe that “the purpose of public decisions is to promote the welfare of society”. They add that “the welfare levels of the individual members of society are the building blocks for the welfare of society”. Stokey and Zeckhauser (1978) solve the problem of citizen values by assuming there are none, i.e. that the individual will be motivated only by considerations of personal subjective utility. “In the United States we usually take the position that it is the individual’s own preferences that count, that he is the best judge of his own welfare”.

If individuals are to judge only their own welfare—if they are motivated only by private consumer preferences—who is to provide objective views about public policy? Who is to engage in political deliberation as distinct from actual or hypothetical market transactions? Presumably, only those in the scientific vanguard, who understand the economic foundations of environmental policy, can discuss it objectively. According to this presumption, which Leonard and Zeckhauser (1986) have made explicit, “consent and the cost-benefit criterion are equivalent and... cost-benefit analysis can be thought of as a form of ‘hypothetical’ consent by the community”. What shall we say, then, of individuals who express views of environmental policy inconsistent with the principles of welfare economics? These citizen preferences may influence their replies to CV surveys. Some welfare economists would dismiss such beliefs as irrational. They have concluded that environmental economists “have failed to get their

message across, or that their audience is perversely predisposed against their ideas” (Schelling, 1983).

The ambiguity of the term ‘satisfaction’ suggests a second way of dealing with the problem of citizen preferences. In a logical sense, to ‘satisfy’ a preference is to meet or fulfill its terms; this is also the sense in which equations and conditions are ‘satisfied’. In a psychological sense, to ‘satisfy’ a preference or a person refers to a mental state of pleasure or contentment. These two senses of the word ‘satisfy’ are easily blurred. This being so, it is easy to slide from the logical to the psychological meaning of ‘satisfaction’.

In the late 1960s, economists at Resources for the Future, for example, observed that individuals experience psychological satisfaction when they forego material well-being to support policies they believe are intrinsically right. “There are many people who obtain satisfaction from the mere knowledge that part of wilderness North America remains”, Krutilla (1967) wrote, “even though they would be appalled by the prospect of being exposed to it”. Building on Krutilla’s theoretical insight, economists developed many concepts—including ‘existence’, ‘vicarious benefit’, ‘bequest’ and ‘stewardship values’—to capture in welfare terms amounts people are willing to pay for policies of which they strongly approve but from which they do not directly benefit.

Economists seeking to measure these ‘non-use’ or ‘non-consumption’ values sometimes supposed that WTP correlated with the ‘warm glow’ individuals expected to obtain in supporting a worthy cause, for example, the protection of a wilderness area they would never visit. This strategy presupposed what had to be proved, namely, that WTP for wilderness preservation ‘really’ sought to buy psychic satisfaction, avoid feelings of guilt or angst and the like. Krutilla and others assumed that whatever the individual said he wanted to buy, the actual object must be his or her own well-being. They thought that individuals, by satisfying their preferences in a logical sense, primarily intended to satisfy themselves in a psychological sense and thus to achieve a higher level of utility.

When citizens say that they are willing to pay for the existence of visibility over the Grand Canyon, whether they will visit it or not, what do they think they are buying? Is it clean air or psychic satisfaction? Surveys that investigate ‘non-use’ values never ask how much individuals would pay for the psychic satisfaction or ‘warm glow’ they expect to experience as a result of various policies. Instead, these surveys inquire about WTP for the policy itself, e.g. wilderness protection or the preservation of a species. Wilderness protection and psychic satisfaction are different goods that may be provided separately. For each, therefore, WTP must be separately surveyed.

To understand this, it is helpful to distinguish between pleasure or satisfaction as, (1) the end, object, or goal of an action or choice and, (2) the means or mental faculty by which people perceive or appreciate the aesthetic, moral and other normative properties of objects and events. As an object or end of experience, pleasure may be understood as a response to a stimulus, for example, the relief addicts experience when they get their next ‘fix’. The entire value of the stimulus, say, morphine, consists in the pleasure or relief from pain it gives. Narcotics, prostitution, gambling and other addictive pursuits, in view of the ferocity of the appetites they feed upon, may deliver the greatest amount of pleasure as a commodity at the lowest cost, at least in the short run. Surgery may also offer a lot of pleasure for the dollar—a nice lobotomy, for instance. These kinds of pleasures, such as the ignorance that is bliss, have no worth. They rob people of their humanity and often make them slaves of their desires.

On the other hand, pleasure may function cognitively to inform us about good and evil. Pleasure (or pain) in this context is not the end but the means—the faculty—by which we perceive the moral and aesthetic qualities of the world. The quiet satisfaction a person takes when contemplating an accomplishment, for example, is a way of perceiving its value, but it is not what gives it value. If pleasure or satisfaction itself were the goal, a good biochemist or hypnotist could provide it at little cost and the Big Lie would be better than the hard truth.

The 19<sup>th</sup>-century Utilitarian John Stuart Mill understood that pleasures that are inappropriate to their objects, are reprehensible. He wrote that “it is better to be Socrates dissatisfied than a pig satisfied”. Parents know this. They socialize children to enjoy what is valuable rather than to value what is enjoyable. Among those who are socialized, pleasure follows moral judgment and does not substitute for it. If we enjoy what is evil—for example, racism or genocide—that does not make it better. It only makes us worse.

The literature of environmental economics suggests only two approaches to citizen preferences: to dismiss them as irrational or to conflate them with consumer preferences. Some economists, such as Zeckhauser and Leonard, by supposing that their theory of public policy has the hypothetical consent of all citizens, would ignore contrary views (and legislation consistent with them) as perverse or irrational. Like Marxists and others whose science teaches them the truth, they dismiss dissent as ignorance or as willful irrationality. Other economists in the tradition of Krutilla assume that whatever reasons citizens offer for their WTP, whatever object they describe, and however surveys are worded, the real object of desire must be psychic income or satisfaction. This assumption ties preference satisfaction to expected well-being and thus magically transforms views opposed to welfare economics into data for cost-benefit analysis.

### **5. A third strategy to account for citizen preferences**

Economists need not dismiss citizen preferences out of hand, however, nor invoke a special sort of psychic income to explain them. A third strategy for interpreting citizen preferences may be more promising. This approach builds on social choice theory by employing WTP simply to rank or measure preferences relative to one another. No claim is made about the relation of these preferences to welfare or well-being in a substantive or psychological sense.

This strategy begins by asserting that the relationship between WTP, well-being, and prefer-

ence-satisfaction is a logical, stipulative, or formal one. In other words, this strategy makes no psychological claims. Having no psychological dimension, WTP simply orders preferences in relation to each other rather than in relation to some external quantity, such as happiness. If ‘welfare’ or ‘utility’ is construed as a formal ordering relation among preferences, as it is in social choice theory, rather than a measure of subjective well-being, the distinction between consumer and citizen preferences loses its significance. One could rank preferences without regard to the kinds of preferences they are (Keeney and Raifa, 1980).

This strategy may overcome a familiar criticism of the thesis that links the satisfaction of preferences to welfare or well-being. Study after study has shown that after basic needs are met, happiness or contentment do not vary with income and thus with the ability to satisfy preferences (for reviews of the literature, see Kahneman and Varey, 1991; Easterlin, 1995). Studies relating wealth to perceived happiness have found that “rising prosperity in the USA since 1957 has been accompanied by a falling level of satisfaction. Studies of satisfaction and changing economic conditions have found overall no stable relationship at all” (Argyle, 1986). “And this is virtually inevitable because the faster preferences actually are met, the faster they escalate” (Rescher, 1980).

The thesis that preference satisfaction correlates with welfare is immune to this kind of empirical refutation as long as economists define ‘welfare’ in terms of WTP and abandon the attempt to correlate WTP with any conception of well-being, not simply defined in terms of it. Many commentators have observed that sophisticated welfare economists use WTP as a formal measure to order preferences without making any inferences about human happiness. As Posner (1981) points out, the “most important thing to bear in mind about the concept of value—in the welfare economist’s sense—is that it is based on what people are willing to pay for something rather than the happiness they would derive from having it”.

We should understand, then, that in contemporary welfare economics, ‘welfare’ and ‘well-being’ are not causally related to ‘preference satisfaction’ but are proxies or stand-ins for it. Since ‘welfare’

and ‘preference satisfaction’ are logically equivalent, rather than causally related, the proposition, ‘society should satisfy preferences to maximize welfare’ asserts exactly the same thesis as ‘ $a = a$ ’. It cannot be refuted because it expresses a stipulated identity. The old adage that ‘you get what you pay for’ is necessarily true in this instance. ‘Well-being’ is what you always pay for by definition, it has no independent meaning and no connection with happiness as it is ordinarily understood.

One might argue, then, that because WTP refers to or correlates with no substantive, i.e. moral or psychological, conception of well-being, it provides a formal, ordering metric to establish the relative weight individuals place on their preferences. To speak crudely, to assess WTP is to ask people to put their money where their mouths are. To express the same thought more politely, WTP serves as a metric to identify the trade-offs individuals would make between what they want for themselves and for society as a whole. As a way to rank preferences—consumer or citizen, self-regarding or other-regarding—WTP may provide a suitable economic measure.

Researchers may establish a ranking of social policies by asking individuals after discussion and deliberation for their WTP for them. For example, researchers could explain the concept of an efficient allocation to a survey group and ask them how much society ought to pay to achieve efficiency in the allocation of environmental goods. In view of the pervasiveness of market failure, efficiency is expensive to achieve. (The current deontological approach to policy, since it is based more on rules than on outcomes, may not incur the same information costs.) The costs involved in determining the ‘correct’ shadow price for every environmental good and service can be high, especially if everyone’s moral and political beliefs must be taken into account. The price of CV surveys is not small and it increases when opposing sides to a controversy each commission their own experiments.

For example, public officials must pay large amounts to fund contingent valuation studies to assess natural resource damage, such as that caused by the Exxon Valdez incident. This does

not include the large sums various interested parties invest in commissioning their own studies or in litigating the validity of the studies commissioned by their opponents. Exxon has spent vast sums hiring experts to refute damage estimates based on reported willingness to pay for an unfouled environment. When pockets are deep and the political atmosphere is charged, there is no theoretical limit on the amount society may have to pay to achieve closure about the true, scientific, or objective value of a sea otter, much less larger public goods. The Exxon corporation was willing to pay huge amounts to many of the nation's best economists to take its side in the Valdez controversy (Hausman, 1993); other litigants were able to attract non-Nobel laureates at somewhat lower prices. More generally, solving technical problems in CVM has become a growth industry, and one may wonder how much of its wealth society must invest to achieve agreement among economists.

## 6. Diagnostic and constructive elements in CV research

Traditionally, economists have used CV surveys and other instruments for diagnostic purposes. The purpose of these experiments has been to elicit preexistent preferences for public goods. This method of eliciting and aggregating individual utilities parallels a conception of democracy as “a kind of social welfare function which goes from individual preferences to a social preference that embodies the greatest level of preference satisfaction for the whole population” (Christiano, 1995). In this context, discursive group processes may be useful in part because they allow individuals to reflect in an informed and more critical way on their preexisting preferences.

Recently, social scientists, in response to some of the criticisms restated here, have revised their approach in CV research to treat informed group deliberation as serving not so much a diagnostic as a constructive purpose. The function of this kind of group process is not to plumb more reliably the pre-existing preferences of the respondents but to work through evidence and argument to reach a considered judgment, which may guide

policy makers more as a recommendation than as a kind of evidence. Just as the opinion of a jury about the guilt or innocence of a defendant is supposed to be legitimate because of the informed deliberation that produces it, so, too, the process of informed deliberation may add weight to the judgments individuals render about the value of public goods.

One could imagine the possibility that citizen groups might convene as ‘juries’ to work out through informed deliberation a value or ‘price’ for particular public goods. Several such juries given the same evidence and information might reach roughly the same judgment. If so, could we say that this consensus represents a kind of knowledge citizens can reach if provided the appropriate context for thought and reflection? The design of these panels might draw upon the strengths of jury processes (Kalven and Zeisel, 1966; Hastie and Pennington, 1983; Hans and Vidmar, 1986; Abramson, 1994). One might also learn from the history of citizen participation in deliberative groups resolving environmental conflicts (Fiorino, 1990) and from work on ‘grass roots’ deliberation on national issues (Mathews, 1994) and international development (Annis and Hakim, 1988).

Many political theorists believe that deliberation about conceptions of the public interest, as distinct from the articulation and satisfaction of individual subjective utilities, is a defining characteristic of a democratic political process. This view, associated with Rousseau and his contemporary followers (Cohen, 1986, 1989), regards “the democratic process as an attempt to formulate and reliably choose a conception of the common good with which to guide society” (Christiano, 1995). In this context, individuals might be asked to deliberate not so much about the welfare effect of an environmental policy on them individually as about its appropriateness or desirability for society as a whole, in view of a ‘price tag’ that is attached to it. Their individual WTP may represent a conception of their ‘fair share payment’, not a measure of their own welfare loss or gain.

A deliberative and constructive framework for CV research responds to the difficulty for eco-

conomic theory emphasized in this essay, the penchant of individuals to take concerns other than their own welfare into account when putting hypothetical values on public goods. One might imagine an experiment in which individuals are asked for estimates of WTP based simply on a policy's effects on their own expected welfare or utility and, secondly, based on their moral, religious, or political beliefs and commitments. It would be an interesting result if the sign (plus or minus) of the estimates were different, for example, if people thought that protecting the kangaroo rat would affect their own welfare negatively, if at all, but nevertheless were willing as a matter of religious scruple or moral principle to bear a share of the societal cost of maintaining a population of that endangered creature. In that event, a CV study could offer the policy maker two estimates, one related to social welfare, the other to views of social responsibility.

The often-heard objection that cost-benefit approaches are antidemocratic would not seem to apply to research on value formation in a constructive and deliberative setting. Deliberative and discursive processes now being studied may correspond with similar processes that characterize value formation in civil society as well as in consumer markets (Stern and Fineberg, 1996). Accordingly, methods of sociological research now being developed to measure public values by providing opportunities for deliberation may both enlighten and be understood in relation to emerging conceptions of public choice in a democracy (Stern and Dietz, 1994).

### **7. Technical problems besetting CV experiments**

This paper has proposed that CV research, by adopting a more deliberative, discursive and constructive approach to evaluating environmental public goods, may resolve the objection that CV experiments can deal only with consumer but not with citizen preferences. The move toward group deliberation may also go far toward resolving certain technical problems that vex 'stated preference' methods of valuation. Critics have worried, for example, that the survey vehicle or protocol

might influence or bias the response (Samuelson, 1947). The data collected could not then be considered exogenous to—but might be an artifact of—the methods used to collect them. Critics often describe CV surveys as unreliable, for example, because responses vary with the way a survey question is focused or framed. According to these critics, CV surveys can achieve reliable results only under the condition that individuals possess "a set of coherent preferences for goods, including non-market goods such as clean air and nice views" and that "these preferences can be recovered" by appropriate survey methods (Kahneman, 1986).

Contrary to this requirement, "people tend not to have previously well-defined values" about non-marketed goods (Cummings et al., 1986; Mitchell and Carson, 1989). Accordingly, they "must construct their responses at the time they are asked an elicitation question, rather than retrieve a previously formed value" (Schkade and Payne, 1993 citing Slovic Griffin and Tversky, 1990). Schkade and Payne (1993) point out: "if responses to CV questions are indeed constructed, we would expect them to be highly sensitive to features of the task and context that would influence the process of construction". Preference-formation does not seem to take place exogenously to the survey but is endogenous to it (Hanemann, 1994).

Experimental results confirm this expectation. The order in which questions are asked, for example, appears to influence the amounts respondents bid (Samples and Hollyer, 1990), as does the information the survey provides (Samples et al., 1986). Preference-reversals are observed across different response modes, such as WTP, ranking and rating (Slovic and Lichtenstein, 1983). Researchers have also found that willingness to accept compensation to forego an environmental improvement is paradoxically many times greater than willingness to pay for that same improvement (Bishop and Heberlein, 1979; Rowe et al., 1980). Various studies (Kahneman and Knetsch, 1992; Desvousges, 1993) demonstrate the 'embedding' effect, a tendency to state much the same WTP for a part of a resource as for the whole. Respondents "react to an amenity's symbolic

meaning instead of to the specific levels of provision described” (Mitchell and Carson, 1989; see also Kahneman and Knetsch, 1992). These anomalies suggest that individuals, lacking relevant preference maps, construct them on the spot (Fischhoff and Furby, 1988; Fischhoff, 1991; Gregory, Lichtenstein and Slovic, 1991). Two economists conclude that “a fundamental assumption underlying the use of CV, that people have well-articulated values for non-market goods, is simply wrong” (Schkade and Payne, 1993).

Another technical problem that vexes CV surveys has to do with the ambiguity of survey data with respect to preferences. This problem arises because preferences are not observable objects. One might think of them as private mental states or, more accurately, as conceptual constructs of microeconomic theory (Sagoff, 1994). Preference must be inferred from behavior. Yet behavior is not self-describing; rather, a person’s motions or actions have to be interpreted. To interpret these motions or actions as a choice, one must already ascribe a preference to the agent. Without the ascription of such a motive, the bodily motions would make no sense. An obvious circularity arises. There are as many ways one may describe behavior as there are preferences one may want to infer from it.

Respondents who are asked to state their WTP to protect a species, for example, might be thought to choose between its ‘existence’ value and other goods they might buy. In fact, they may frame the opportunity set differently and thus their response may indicate a different kind of choice. They may ‘purchase’ a clear conscience (Kahneman and Knetsch, 1992) or the approval of the questioner (Bishop et al., 1986). Alternatively, the same expressed WTP may indicate willingness to contribute to a worthy cause (Daum, 1993; Guagnano et al., 1994), to defray a ‘fair share’ of society’s cost (Stevens et al., 1991), to improve the lot of future generations, or “to avoid violating the rights of others, including non-human species” (Opulach and Grigalunas, 1992). Commentators note that CV surveys can easily misrepresent WTP “for a good cause as benefits associated with the specific commodity being described” (Opulach and Grigalunas, 1992).

Surveys are intended to function like dipsticks measuring the depth of well-defined preferences in transparent circumstances. A respondent to a survey may have a different choice in mind, however, than the one the researcher ascribes to her or him. He or she may engage in all kinds of strategic or ‘gaming’ behavior. “In reality”, Oppenheim (1966) has written, “questioning people is more like trying to catch a particularly elusive fish, by hopefully casting different kinds of bait at different depths, without knowing what is going on beneath the surface”.

This problem shows up in CV research because data from surveys, no matter how carefully collected, must be interpreted. This requires the social scientist to make assumptions about the reasons that led subjects to respond as they did. People may overstate WTP for environmental improvements, for example, since “there is no cost to being wrong and therefore no incentive to undertake the mental effort to be accurate” (Freeman, 1979). The researcher, therefore, is left to figure out what the respondent may have had in mind, in other words, to infer the nature of the behavior (‘strategic bidding’) by making an assumption about the underlying preference (‘to skew the survey results’). In other words, choice is in fact inferred from preference as much as the other way round.

## 8. The deliberative turn in CV research

The deliberative turn in CV research may meet these kinds of objections. Consider, first, the objection that individuals often do not possess well-articulated preference orderings for public goods but must construct them in response to a survey instrument. This will be a problem if the survey purports to reveal a preexisting, well-articulated preference ordering. It might be an advantage, however, if the research instrument sought a different result, for example, to help respondents construct value judgments. Even if individuals do not have well-articulated preference orderings to begin with, they may nonetheless reach legitimate and reliable value choices in circumstances appropriate to making public choices. These are circum-

stances in which individuals ideally make choices generally, i.e. as a result of deliberation, reflection and social learning (Estlund, 1990).

To put the same point differently: Socioeconomic researchers can make a virtue of necessity by acknowledging that the values that surveys elicit are to some extent artifacts of the survey method. Rather than attempt to eliminate the artifact by ever more refined and subtle controls, they may recognize that the ‘elicitation’ of preference is inevitably a constructive process. Even if elicited preferences are to some extent artifacts or products of the methods used to elicit them, however, they can be stable and coherent, if these methods enable individuals to arrive at informed and well-considered value judgments.

The objection that preferences are in some way endogenous to the research vehicle loses some of its force, in other words, if the vehicle is conducive to reliable and well-considered preference formation. Researchers may seek ways, therefore, to create fair and open processes of group deliberation, processes which have been thoroughly studied in other contexts (Gunderson, 1995). The use of these processes may produce results which, being more fully considered, are more robust and less susceptible to semantic manipulation, for example, to ‘framing’, ‘focus’, and ‘embedding’ effects.

The recognition that deliberative and discursive processes will enable individuals in groups to construct values rather than express prior preferences may relieve economists of an unnecessary burden, the attempt to elicit responses that are not an artifact of the survey process. Instead they may examine how the dynamics of group deliberation can generate well-considered and informed value choices (Stern, 1991). Plainly, normative, conceptual, and theoretical issues must be resolved if practitioners are to succeed in introducing participatory, discursive, and deliberative techniques into socioeconomic experimental protocols used to measure the value of public environmental goods. Perhaps the easiest of these problems concerns the rules that govern free and equal discussion in the context of group decision making. These rules—along with appropriate institutional contexts—have been studied in the context of

conflict-resolution and group dynamics and behavior (Whyte, 1991). The extensive literature concerning focus groups, for example, should be surveyed for its relevance to new methods and developments in CV research (Morgan, 1993).

The deliberative turn helps to resolve the problem that arises because a person’s observable behavior can be interpreted to embody any number of possible choices. A deliberative approach to CV surveys leaves it to the respondents to clarify among themselves explicitly what they are valuing and why. If it is a particular species or landscape, for example, the deliberative group can pin down for itself precisely which aspects of the ‘public good’ it values and how much; it can also set up comparative valuations with the appropriate reference classes, i.e. other species and other landscapes. This provides a richer and more meaningful record for the policymaker. The discursive approach also avoids ambiguity in survey questions. The public good and the shadow price, as it were, together become the objects of determination through deliberation.

More difficult questions, which require sustained philosophical analysis, arise concerning the structure of deliberative methods used in the evaluation of public environmental goods. Should the group as a whole strive toward a consensus valuation or vote on alternatives? Should the group seek to determine how much an environmental good is worth to them, or should they try to estimate how much society as a whole should be willing to pay, given some idea of a ‘fair share’ payment? Still more questions arise if the group is to consider ‘equity’ considerations, for example, the question of who should pay for reducing pollution or protecting wetlands. The amount people are willing to pay may vary with their beliefs about who ought to pay, for example, for protecting species or reducing pollution. These moral issues are relevant to socioeconomic research.

## 9. The relevance of democratic theory

Alexander Hamilton, writing in Federalist Paper no. 71, declared “the republican principle

demands that the deliberative sense of the community should govern". Socioeconomic experiments that bring groups of citizens together to deliberate in an informed way over the value of environmental improvements may approximate the ideal dynamics of democratic deliberation. Thus, those who design experimental protocols for eliciting environmental values may have much to learn from the literature about democratic processes of group decision making.

During the past decades political theorists and philosophers have engaged in a lively debate over what is meant by 'the deliberative sense of the community' and how it may come to control the government. In this debate, two conceptions of democracy oppose each other. One treats 'the deliberative sense of the community' simply as the totality of the preferences of its individual members. On this approach, the appropriate function of government is to aggregate these preferences, a task for which voting is a familiar if somewhat inefficient mechanism. The opposing position contends that a 'sense of the community' lies in the considered judgments of its members about the common good. What is central to this conception of democracy is not the act of voting so much as the deliberative process that leads up to it, in which citizens construct and refine their judgment about the common will in dialogue with each other.

In the 1950s and 1960s, political scientists and theorists generally adhered to the first conception of democracy, a 'pluralist' or 'strategic' model of political choice based on conceptions of the individual found in welfare economics (Dahl, 1956; Downs, 1956; Black, 1958; Buchanan and Tullock, 1962). According to this approach, "man is an egoistic, rational, utility maximizer" (Mueller, 1979) and possesses preference orderings which, if rational, conform to certain well-known formal conditions (Sen, 1970). As Dietz (1994), has written, under this rational actor model, "people try to maximize the benefits they receive relative to the costs they bear. That is, all actors are using the same rule in deciding what action to take—self-interested utility maximization".

At its simplest, the strategic conception models collective choice on the idea of a social welfare

function of the kind famously discussed by Arrow (1951). In this conception, "individuals are supposed to begin with their diverse ends, desires, goals, or projects and then to promote them as effectively as possible" (Estlund, 1993). Democracy becomes a special case of instrumental rationality (Barry and Hardin, 1982). Many theorists of this school recognized, of course, that a rational person will form his or her own choices in the light of those that others are likely to make, so that this approach to political theory can emphasize cooperation, not just competition. Harsanyi (1982), for example, has argued that social morality arises in this context as a result of rational, utility-maximizing behavior. In strategic or pluralistic conceptions of democracy, deliberation, consultation, cooperation, learning, and morality all may figure prominently. These virtues matter, however, insofar as they help individuals to determine their own best interests and society to serve those interests as fully as resources and technology allow.

Since the 1980s, many political theorists have moved away from the 'strategic' model toward an ideal of democracy as a deliberative and cooperative enterprise (Elster, 1986; Sunstein, 1988; Estlund, 1993). This emphasis on deliberative, discursive and collegial processes of collective choice draws inspiration and support from many sources, including communications theories associated with the Frankfurt School of sociology (Apel, 1980; Habermas, 1979, 1996). A second source is found in the 'civic republican' literature centering in American law schools (Michelman, 1989; Sunstein, 1993b, 1996). A third tradition emphasizes 'civic engagement' in participatory democracy (Putnam, 1993; Mathews, 1994; Fishkin, 1995) and 'civic virtue' (Will, 1992). These positions agree in rejecting the view that political processes fundamentally aggregate prior preferences.

In the models of 'civic republicanism' or 'participatory democracy' that oppose strategic or pluralistic approaches, citizens engage in deliberation not so that each can determine or refine his or her own interests, but so that together they can discover a good that is not simply a function of their individual utilities. Theorists who claim

James Madison as the American founder of this tradition cite his defense of a representational system as necessary to “refine and enlarge the public views by passing them through the medium of a chosen body of citizens, whose wisdom may discern the true interest of their country”. Invoking this tradition, Sunstein (1993a) writes that the goal of a constitutional democracy “is to ensure discussion and debate... in a process through which reflection will encourage the emergence of general truths”.

Current research in the theory of democracy suggests that in voting, citizens and their representatives may perform a cognitive task rather than an arithmetic one. Instead of simply aggregating their individual interests, they vote on a common view of their collective interest. In other words, the policy chosen is the one that a majority believes expresses the will of the community as a whole. Those who vote against a resolution are still bound by it, because they participated in the process by which it was chosen. Participation in a political community would then involve a kind of moral commitment to the public interest which participation in a market does not. This accounts for the obligation citizens feel to obey even those statutes they oppose. As long as their views are heard on the merits, rather than balanced on the basis of WTP, citizens retain the ‘voice’ option of a democracy rather than only the ‘exit’ option of a market (Hirschman, 1981).

## **10. Contingent valuation and democracy**

Economists and other social scientists initially brought group discussion and deliberation into CVM as ways to overcome problems, such as ‘framing’ and ‘embedding’ effects, that beset conventional survey methods (Webler, 1993; Stern and Dietz, 1994). These researchers soon recognized an additional benefit of deliberative methods, namely, that they are more consistent with the larger democratic institutions and processes by which society actually and legitimately makes political trade-offs.

The deliberative and discursive turn in CV research convenes individuals into groups, gives

them adequate and appropriate information and encourages them to engage in discussion and deliberation to determine their WTP for a public policy choice (Dietz, 1987, 1988, 1994). (What counts as ‘adequate and appropriate’ information is a big question and plainly requires a paper in itself.) Such a discursive or deliberative approach may have the same purpose as more conventional survey methods, i.e. to elicit WTP in order to quantify the value of public environmental goods in monetary terms. It may be more reliable, however, because individuals have the opportunity to review their preferences in collaborative discussion with others.

Viewed in the context of the contemporary theory of democracy, moreover, groups of informed citizens convened to deliberate about the value of public goods could serve to guide public policy in another way. They could function not as informants about their personal utilities but as citizen-juries reaching judgments about environmental values on the basis of argument and evidence. Deliberative bodies of citizens could render a judgment, for example, about the value of public environmental goods not simply to them but to society as a whole, along with a statement of the ‘fair share’ they would pay as members of the community to protect those goods. Individuals joined in groups to consider matters of public policy, in other words, need not stop at stating their WTP as individuals for particular environmental goods or services. They might also explain or express their WTP in terms of a collective judgment (from which some, of course, may dissent) about the value society ought to place on certain resources and the extent to which society as a whole should invest in those goods rather than other public goods and services. In addressing these questions, socioeconomic research may draw from a recent model of practical rationality, which gives social deliberation a critical role in resolving conflicts among values (Sherman, 1989). This approach takes the view that practical choice, (1) involves a diversity of competing goods and commitments that lack a (metric) commensurability, (2) depends on context-sensitive perception of what is normatively salient in the particular circumstances (Murdoch, 1970) and (3)

requires social deliberation and learning in the choice of ends and means-to-ends, as well as in the distribution of costs and benefits (Sen, 1985, 1987; Richardson, 1994; Nussbaum, 1990, 1995). This approach sees group deliberation not merely as an evidentiary tool or as a mechanism for collective decision making, but as a basic feature of practical rationality. It highlights the importance of group processes for environmental policy making, suggesting a convergence between contemporary moral philosophy and sophisticated empirical research.

Economists and others involved in CV research have responded to the concerns identified here in a variety of ways. Many have developed sophisticated survey protocols, some favoring a dichotomous-choice question format (Hanemann, 1986), others open-ended question formats (Desvousges, 1993), referenda methods (Carson et al., 1986; Cameron and Huppert, 1991), bidding games and auctions (Cummings et al., 1986), and other variants in protocol design and analysis (Mitchell and Carson, 1989; Loomis, 1990). While many of these refinements are well worth pursuing, this essay has focused on one methodological innovation that might benefit most from normative and conceptual analysis—the introduction of discursive and deliberative methods of valuation.

The possibility that the dynamics of group discussion and deliberation—as well as access to information—might improve the reliability of socioeconomic research into environmental values draws on a large body of established theory in social psychology (Delbecq et al., 1975; Habermas, 1984), social learning (Bandura, 1971), public participation (Fiorino, 1990; Laird, 1993), and group decision making processes (Burns and Überhorst, 1988; Clarke, 1989) in relation to environmental problems. The introduction of a more discursive approach to value elicitation also makes intuitive sense. If individuals do not come to CV surveys with predetermined preferences but must construct them, then the process of construction may legitimately involve social learning, since this is precisely what occurs in other contexts in which people work out their values. In markets, for example, individuals construct preferences for goods over time in response to infor-

mation and the advice, suggestions, and experience of others. If this kind of social learning conditions preference formation in markets, there seems no a priori reason to exclude it from socioeconomic research into environmental values in experimental contexts.

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