

**PART** /

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# **Introduction**



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## Contested Choices

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We offer this volume in response to a growing unease with the way in which many economists – and the policy-makers informed by economic writings on environmental policy – address environmental issues. Occasionally, this dissatisfaction erupts into widely publicized media events. We have in mind here the aggressive demonstrations at the meeting of the World Trade Organization in Seattle in late 1999. These protests were aimed at the emerging regime of global trade, regarded by most economists as welfare-enhancing and thus inherently desirable. In France, there have been demonstrations against increased globalization epitomized by “le fast food.” The concern there centers on the view that globalization threatens not only French livelihoods but also the broader cultural values of the French. Finally, demonstrations in The Hague during the latest international climate change policy negotiations directly challenged many economists’ favored means – marketable pollution permits – of curbing greenhouse gas emissions.

These and other international media events have had their national counterparts. In the United Kingdom, the disposal of the Brent Spar oil drilling rig, and the use of genetically modified organisms, have been among the most provocative issues during the past decade. In Finland, discontent with intensive forest management practices, and weak protection of old-growth forests, have often turned environmental activists into tree-dwellers. In India, farmers have protested and burned genetically engineered crops. More recently, Germany, France, Italy, and Spain have been swept by anxiety over mad cow disease, in yet another demonstration that normal methods of risk assessment – a central feature of environmental economics – are not seen as legitimate by a large share of the general population.

Behind these highly visible media events, various environmental organizations, other activist groups – and indeed ordinary citizens – regularly engage in political action at the local, national, and international levels. These groups often advocate policy choices substantially at odds with the prescriptions of economists. They also oppose projects that have been deemed desirable by economists

and/or policy-makers. The terms often used in this context, such as “NIMBY” (Not In My Back Yard) and “LULU” (Locally Unwanted Land Uses) capture but a part of the phenomenon, and certainly do not help us understand what is really going on.

So, *what is going on?* Are fundamentally sound economic prescriptions – and implied policy choices – being questioned by badly informed and misguided zealots who would otherwise readily accept the received wisdom if only they were able to understand the logic and rationale behind economic analysis and the collective choices prescribed by it? Should policy-makers simply ignore these protests? Or do standard economic approaches to collective action really have it wrong? Would public policy be less contentious if those in positions of authority simply ignored economics as a guide to policy-making on environmental (and perhaps other) issues? That is, should policy-makers ignore economists?

In this volume we hope to move beyond these simplistic questions. At the same time, we do believe that economists and policy-makers should take seriously the discontent with economic analysis and policy prescriptions – as well as with the collective choices informed by them. Ironically, when it concerns individual choice, economists are pleased to assume sound reasoning on the part of individual agents whom we vest with limitless cognitive capacities and perfect knowledge. But then economists often discredit their concerns in the face of our prescriptions when it comes to collective action. Can our inconsistency be laid solely at the feet of strategic behavior – and free riding – on the part of the citizenry when collective action is under consideration? There must be something else at work here.

We believe, in other words, that there remains much to learn about the logic of collective action that cannot be explained by traditional approaches to public policy. That is, rather than dismissing these environmental conflicts as the inevitable result of a citizenry insufficiently exposed to the impeccable logic and rigor of contemporary economics, we hope to demonstrate in these various contributions that there is something to be learned from collective expressions of concern and discontent over environmental conflicts. We will also suggest that trying to understand what goes on in the policy process provides fertile ground for future research at the intersection of economics and ethics. Indeed, we regard this volume as an important first step in the growing interest in work where philosophy and economics meet.

The reader will notice that many of the contributions here offer somewhat critical views of contemporary environmental economics. Yet, at another level, this volume presents a strong defense of environmental economics. We firmly believe that research at the intersection of environmental economics and ethics can improve the understanding of policy problems and choices. We also believe that this research can be helpful for policy-making on environmental and other issues. The kind of economics we envision may not be helpful in the conventional sense of identifying uniquely optimal solutions – a role that economics has never been able to perform (because it is impossible). We do believe, however, that the modified economic program we are striving for here can help interest groups involved in collective choices to revise their expectations, to respect

different viewpoints about policy matters, and to facilitate the design of institutional arrangements that implement and realize agreed-upon collective choices.

Next, we will identify and briefly discuss those areas of environmental economics that seem to be most frequently contested, in order to provide a context for the contributions of this volume. The contributions will then be briefly described.

## Criticisms of Environmental Economics

Three closely related but yet distinct practices are often contested when policy-makers seek to employ economics as a guide in making environmental policy choices. The first contested practice is the exclusive use of *welfare criteria* for analyzing and making choices concerning policies and projects that have environmental impacts. Second, *monetary valuation* of the environment by the use of contingent valuation methods (and other valuation methods) has encountered sharp criticism, just as it has become increasingly popular among environmental economists and policy-makers. Finally, the *discounting* of future benefits and costs when conducting benefit–cost analysis has remained a durable subject of criticism from environmentalists and others. In what follows, we will briefly address each contested area in greater detail.

### Welfarism

The broadest and perhaps the most fundamental criticism of contemporary environmental economics is a response to its philosophical foundations. Environmental economics is founded upon a worldview in which independent and all-knowing individuals act upon their exclusively welfare-centered motivations. Therefore, the policy prescriptions of environmental economists seek to implement and realize the worldview contained in their assumptions. The anthropocentric, welfarist, and egoistic dimensions of environmental economics surface in different ways in contemporary policy debates and practices.

The conventional assumptions of environmental economics sometimes result in an insistence to set welfare-maximizing goals for environmental policy (see Palmer, Oates, and Portney, 1995; Arrow et al., 1996). A standard example is the idea of a socially optimal level of environmental harm – the level of an environmentally harmful activity at which the marginal (abatement) cost of reducing the harm equals the marginal benefit from the improvement of environmental quality. Economists will insist that this is the welfare-maximizing level of pollution or other environmental harm. One example of taking this suggestion seriously was the practice in the US under the Reagan Administration (1977–85) of requiring benefit–cost analyses of all new regulatory initiatives. The requirement of positive welfare consequences is also frequently evoked in other contexts, including in the decision-making in the courts and administrative agencies. Sometimes the requirement translates into formal benefit–cost analyses, and at other times into a more general balancing of the costs and benefits of suggested policies.

It often appears less controversial to suggest policy approaches that accomplish particular policy goals at the lowest cost, but also here we encounter problems. In practice, these suggestions translate into advocacy for pollution permit trading systems and other policy instruments based on market incentives. A parallel line of reasoning in the area of risk policy draws attention to the marginal costs of reducing different risks. This line of reasoning calls for addressing first those risks that are the least expensive to mitigate. It may also suggest that we should allocate risks, including environmental risks, to the parties that can avoid them with the lowest possible costs (Calabresi, 1970). However, the choice of a policy instrument to meet a given policy goal is not free of ethical problems. The choice frequently involves difficult issues related to the way different instruments structure the relationships between different groups of people, and distribute the costs and benefits of a policy between them. For example, the popular discontent with trading systems to a large degree relates to the way they distribute benefits and costs between the public and the polluters.

There are good reasons to be wary of suggestions to use welfare criteria as a guideline in policy and project choices. First, and perhaps most fundamentally, there is no reason why some notion of individual or social welfare should be considered decisive by all agents when policy choices are made. Sometimes we do – or arguably should be able to – regard the welfare of other humans (or nonhumans) as more important than our own welfare (or even some hypothetical notion of social welfare). At other times, even these other-regarding consequentialist motivations may not be decisive: we may want to behave in a way that preserves or heightens our self-respect, and we may have firm ideas about what it means to be honorable or virtuous. The advocacy of welfarism as an exclusive guide for policy choices suggests that we should simply ignore these other concerns and their advocates as irrational when making collective choices. Yet a number of individuals may have these concerns and rightly feel insulted when they are silenced on the basis of *a priori* judgments from economics. Several scholars have also warned that the conceptualization of collective choices as exercises in welfare maximization may tend to socialize individuals to act increasingly as welfare-maximizers and to advance further commodification of the realms that are important for human life and well-being – an unwelcome prospect in their eyes (Radin, 1996; Hodgson, 1997).

One consequence of the reality of plural motivations is that policy problems are viewed differently by different groups of people, and also *vis-à-vis* other policy problems. There may indeed be policy problems that are viewed from a welfarist viewpoint by a great majority of people. Welfarism may thus not be a controversial guide to policy choices related to these problems. Yet there are many other problems that are not so viewed. Risks provide perhaps the best illustration here. Individuals may knowingly and voluntarily accept certain risks, such as those associated with driving a car or mountaineering, while rejecting involuntary exposure to smaller risks related to occupational and environmental health. They also may have different attitudes toward old and new risks (Huber, 1983), usually feeling a need for a greater degree of protection against new risks. Thus the debate about mitigating the risks of driving or flying may be quite

different from the debate about the use of genetically modified organisms. The economist's policy prescriptions may be contested precisely because they fail to acknowledge the different moral character of different policy problems.

Even when welfare concerns do dominate a policy debate, there is no reason why those adversely affected by the prospective policies should accept a welfare criterion, the potential Pareto improvement, as an unambiguous guide to policy choices. The strong focus on allocative efficiency in economic analysis translates into inattention to distributive consequences. This bias among economists is justified on the mistaken belief that efficiency is ethically neutral (Bromley, 1990). Ironically, public policy decisions are fundamentally – and often quite consciously – distributive choices, because public policies redefine the endowments and future economic agendas of different groups of people. When the winners of a new policy outcome do not actually compensate the losers, the latter have good reasons to reject both the compensation principle and the policy alternative suggested by it. Not surprisingly, it matters a great deal *whose* welfare is improved and *whose* is impaired. The nature of environmental problems as interest conflicts is obviously relevant also when motivations are plural.

### Hypothetical valuation

The second contested practice of environmental economics – monetary valuation of the environment (or components of it) – arises from a related aspect of welfarism. Economists will usually suggest monetary valuation of the environment in order to make judgments about the welfare consequences of policies or projects that have some nonmonetized aspects. This is common not only for public policies and projects related to the environment, but also for other public policies and projects as well.

The practice of monetary valuation is older than the scholarship in environmental economics. Public health professionals and campaigners frequently invoked monetized benefits of lower mortality and morbidity early in the 20th century to promote new public health initiatives such as the purification of drinking water. Such estimates were also important in downplaying older programs intent on disinfecting the dwelling and belongings of deceased persons (see, e.g., Whipple, 1908). The first systematic method for deriving monetized nonmarket benefits – the travel cost method – was developed to measure the positive welfare effects from the provision of national parks and other recreational facilities (Knetsch and Davis, 1966). The practice of monetary valuation of the environment gained considerable momentum in the late 1980s. Today, methods of monetary valuation are used for a wide variety of valuation problems, ranging from the valuation of endangered species to the value of human life. The wider use of valuation methods has engendered ethical problems, such as those related to the transferability of results from one valuation context to another, and the adjustments needed to transfer results from a high-income context to a low-income context. For example, in one study the value of a statistical life of a Russian is “conservatively estimated” to equal one thirtieth of the value of the statistical life of an American (Larson et al., 1999).

To the extent that monetary valuation serves the making of welfare judgments, the criticisms of welfarism apply here as well. That is, there is no compelling reason why the size of monetized net benefits should be decisive when considering public policies and projects. Furthermore, even when monetary consequences are important as proxies for welfare changes, the incidence of benefits and costs may be far more important than the level of benefits and their relationship to costs. For example, finding that preserving a species of great apes generates a hypothetical welfare improvement is not terribly useful in bringing about that result if the benefits accrue primarily as psychological satisfaction to affluent, concerned, and well-informed inhabitants of the developed countries, while the costs are borne as reduced or lost economic opportunities by the rural inhabitants of the pertinent developing countries where the apes are found. Indeed, others will insist that we do not need the valuation exercise at all to accept the moral obligation to preserve these particular endangered species. In response to this, an economist might well insist that “choices” must be made – and that saving the great apes might mean that it becomes impossible to save the black rhinoceros. And in response to this a philosopher might well insist that this idea of a “tradeoff” is incoherent. Indeed, several authors in this volume address this very point.

Yet monetary valuation has also other problematic implications that are related to how it understands individuals, what role it constructs for them, and how it positions them in relation to collective choices. Most valuation methods vest individuals with preexisting preferences and perfect knowledge, thereby suggesting that their willingness to pay for environmental benefits exists *a priori* and that the research challenge is to *uncover and harness* those values for making decisions about the environment. However, it stretches credulity to imagination that all of us have well-informed preconceptions about environmental values. We need to learn and develop preferences when we confront difficult, novel, and often unique environmental policy choices. Monetary valuation of the environment simply ignores this in the quest to harness the individuals’ preexisting preferences in the form of their willingness to pay for the purposes of making collective choices. Valuation surveys actually confront respondents with the task of learning and making up their minds about their willingness to pay for a hypothetical environmental benefit for the specific purpose of the valuation study. It is a good question how much the respondents learn during the valuation exercise about the choice they are confronted with, and whether the willingness to pay that they come up with is useful for making collective choice (Vatn and Bromley, 1994).

Moreover, valuation studies regard respondents as consumers who “shop around” and pay for environmental benefits as they would other goods and services. However, this role may actually insult respondents, because it denies them participation in collective choices in the usual sense – as voting citizens or as “political entrepreneurs.” The respondents’ own behavior in valuation studies seems to support this sort of reasoning. The frequency of protest bids and other behavior that is not compatible with the preconceptions of economics in valuation studies suggests that the respondents are not satisfied with the role they are

given in many valuation studies (Vatn and Bromley, 1994). Respondents may well feel that the issue at stake in the valuation study properly belongs in the political realm, where it should be addressed according to the conventional political procedures. This has been the general argument of many philosophers (Radin, 1996; O'Neill, 1997; Sagoff, 1988).

### **Discounting the future**

The third contested area of environmental economics relates to the practice in benefit–cost analysis of discounting future costs and benefits of policies and projects being considered for undertaking at the present time. The economic logic behind discounting is simple enough. Most of us would prefer to have a certain sum of money today rather than waiting, say, five years to receive the same amount. Simply put, the “value” to us of the sum that lies in the future is not equal to the same sum today; if we do not receive it for five years then its real value to us is much diminished. By extension, it seems obvious to discount future costs and benefits in order to determine their present net value when considering public policies and projects. After all, the costs and benefits of public projects and policies are usually incurred at different times.

Discounting practices vary, and quite elaborate procedures have been suggested, depending on the specifics of the assessment task at hand. For example, different discount rates have been suggested for projects and policies that have short- and long-span consequences. Furthermore, it has been suggested that discount rates should reflect the type of risks that are involved in the assessed policies or projects, and that risks should be considered apart from the discounting procedure. Finally, different discount rates have sometimes been proposed for different stretches of the assessment period (Bazelon and Smetters, 1999).

Estimates of the present values of costs and benefits are often contested by insisting that the discount rate applied in the assessment exercise was too high or too low. There are also often arguments, depending on the undertaking, that the discount rate should have been zero. An increase or a decrease in the discount rate may indeed change the conclusions from the assessment exercise. Therefore, those interested in fewer public projects and programs can realize their goal through the choice of a relatively high discount rate. Conversely, those interested in projects that yield benefits in the far future (say, addressing problems of global warming) will advocate a lower discount rate. In other words, we see that the controversy over discounting may often reduce to differences in opinions concerning the desirability of particular choices and future outcomes. Those who care about future environmental benefits will often criticize high discount rates when they are applied to policies or projects that would generate such beneficial outcomes. On the other hand, they would quite likely be unhappy with low discount rates for nuclear energy projects, where the costs of decommissioning such plants would occur far into the future.

The fundamental question concerns the ethical dimension of discounting – an area that remains contentious within economics and philosophy. The practice of discounting mobilizes welfarism that characterizes environmental economics in

the context of intertemporal choices. It also commensurates all policy consequences whether they are commensurable or not in the minds of the agents that participate in or are influenced by the policy choices in question. This ethical commitment has significant consequences in policy practice, and thus it is no wonder that discounting is contested so often. We would need to reconsider the way in which we analyze and do intertemporal collective choices if we recognized that collective choices are not informed exclusively by welfarism, and that not all policy consequences are commensurable and measurable in monetary terms. This is the conclusion of several contributions in this volume.

We will now turn to the discussion on the ethical dimensions of applying economic analysis to environmental issues in the contributions of this volume.

### **An Outline of the Book**

This chapter forms the first, introductory part of the volume. Part II, "Economics, Ethics, and Policy Choices," includes four chapters by philosophers – and philosophically oriented economists – offering different views of the nature of public policy and economic analysis. In chapter 2, "Are Choices Tradeoffs?," Alan Holland challenges the traditional economic notion that all choices involve tradeoffs. He questions the model of choice contained in standard economic analysis of environmental policy, and he suggests a way of understanding choice as a deliberated and creative action that is shaped by social context and institutions. Chapter 3, by Bryan Norton, is entitled "The Ignorance Argument: What Must We Know to be Fair to the Future?" Norton critically examines the reduction of intertemporal ethical questions to those of appropriate levels of savings and consumption in each generation, in the face of alleged ignorance about the preferences of future generations of individuals. Norton argues that intertemporal questions properly concern what values we should cultivate in future generations. This view stands in stark contrast to the standard economic approach, in which the problem is cast as one of preserving the opportunities for future persons to obtain the same (or higher) levels of consumption as we are currently enjoying. In chapter 4, titled "Benefit–Cost Considerations Should be Decisive When There is Nothing More Important at Stake," Alan Randall both challenges the standard economic understanding of environmental policy choices and confronts the many critics of this view. Randall argues that both economic and environmental concerns should matter. He suggests that economic concerns should be seen as decisive when important environmental concerns are not threatened. He also argues that important environmental concerns can be acknowledged by framing choices by constraints such as the Safe Minimum Standard. The final chapter in this section, chapter 5 by Juha Hiedanpää and Daniel W. Bromley, is entitled "Environmental Policy as a Process of Reasonable Valuing." Drawing from the economics of John R. Commons, the authors propose that choices over environmental policy are best understood as the product of a process of "reasonable valuing." That is, public policy arises because of a nascent feeling that the status quo does not lead to "reasonable" environmental outcomes. Why

else do we suppose that in democratic states there is pressure to introduce new policies? In the face of this dissatisfaction with the status quo there will arise policy alternatives that will seek to address these objections. The process of searching for a new consensus will entail a balancing of conflicting interests – reasonable valuing.

Part III concerns “Ethical Concerns and Policy Goals.” Here, the chapters challenge the standard economic approach to environmental policy that locates the individual at the center of environmental choice, and that then insists that utility-maximization is the proper goal of environmental policy. In chapter 6, entitled “Rethinking the Choice and Performance of Environmental Policies,” Jouni Paavola argues that we should respect the individuals’ well-informed preferences also when they are based on other-regarding or nonwelfarist values. Paavola also outlines the consequences of admitting nonwelfarist motivations and positive transaction costs for economic analysis of environmental policies. Chapter 7, by Olof Johansson-Stenman, is entitled “What Should We Do with Inconsistent, Nonwelfaristic, and Undeveloped Preferences?” Here, he argues that individual preferences are best ignored as a guide to policy choice when they are not well-informed. He defends enlightened paternalism that would seek to maximize the agents’ welfare as distinct from the satisfaction of their preferences or the maximization of their utility. In chapter 8, entitled “Awkward Choices: Economics and Nature Conservation,” Nick Hanley and Jason Shogren critically review the criticisms of standard economic analysis of environmental policy. They argue that while the critics’ concerns are legitimate, cost and benefit considerations are valuable in policy choices and add important information to our understanding of the tradeoffs that we face in making those choices.

Part IV moves on from the consideration of policy goals and is entitled “Ethical Dimensions of Policy Consequences.” This part contains four contributions by economists examining the interplay among ethical concerns for policy outcomes, the actual policy choices, and economic analysis of those choices. Chapter 9, by Allan Schmid, is entitled “All Environmental Policy Instruments Require a Moral Choice as to Whose Interests Count.” Schmid focuses on the distributive dimensions of policy outcomes and indicates how the policy choices that bring them about require moral judgments. He exemplifies this argument by analyzing environmental measures based on common law, statutory environmental law, and the use of public spending and revenues. In chapter 10, entitled “Efficient or Fair: Ethical Paradoxes in Environmental Policy,” Arild Vatn examines the problematic nature of trying to separate the efficiency and equity considerations in choices concerning environmental problems that are characterized by novelty, time lags, complexity, and high transaction costs. He also shows how instrument choice is imbued with the same problem. Vatn concludes that one cannot separate efficiency and equity, and that attention must be given to both. Chapter 11, by Bhaskar Vira, is entitled “Trading with the Enemy? Examining North–South Perspectives in the Climate Change Debate.” Vira argues that efficiency and equity considerations cannot be separated in the negotiations on the establishment of global trading system for greenhouse gases. Vira demonstrates that the initial allocation of rights to emissions determines the level of benefits from a

trading system at the same time as it resolves the distributive question. In chapter 12, "Social Costs and Sustainability," Martin O'Connor outlines an alternative approach to the analysis of environmental policy that combines deliberated social processes and the use of natural and social scientific information.

Part V of the volume is entitled "Ethics in Action: Empirical Analyses" and it seeks to substantiate the role of ethical concerns in the analysis and choice of policies and projects influencing the environment. In chapter 13, entitled "Empirical Signs of Ethical Concern in Economic Valuation of the Environment," Clive Spash discusses how contingent valuation surveys can be used to improve our understanding of the real motivations that agents have for environmental protection instead of only soliciting willingness-to-pay estimates. Spash also presents findings on motivations based on contingent valuation surveys conducted in the Caribbean, and in the United Kingdom. Chapter 14, by Andreas Kontoleon and Timothy Swanson, is entitled "Motivating Existence Values: The Many and Varied Sources of the Stated WTP for Endangered Species." They argue that crude willingness-to-pay estimates may not be useful for policy-making, because agents may be willing to pay for different and sometimes incompatible policy benefits. They also present findings on how conventional welfarist values and other-regarding values motivate positive willingness to pay for the existence of rhinoceros in Africa, and of the giant panda in China. Chapter 15, by Nick Johnstone and his associates, is entitled "Environmental and Ethical Dimensions of the Provision of a Basic Need: Water and Sanitation Services in East Africa." Their contribution examines the implications of direct versus amenity uses of environmental resources for policy choices. They argue that direct use of environmental resources for subsistence use complicates policy choices and introduces important ethical problems. They illustrate these ethical dilemmas by analyzing the linkages between the quality of surface and ground water, the provision of water supply and sanitation services, and public health in East Africa.

The sixth and concluding part contains the chapter "Economics, Ethics, and Environmental Policy" by Daniel W. Bromley and Jouni Paavola. The concluding chapter draws together a number of the major threads from the contributions of the volume, in order to bridge the gap between environmental economics and ethics, and to present one vision of a broader understanding of making environmental policy choices.

### **Concluding Thoughts on the Ethical Content of Environmental Choice**

Persistent concerns about the ethical underpinnings and implications of conventional environmental economics emerge from its recommendations on a range of environmental policies. We believe that these contested realms would benefit from enhanced conceptual work at the intersection of ethics and economics.

The conventional economic approach to environmental issues clearly suffers from an overly simplistic view of human behavior. The reigning reductionist program of attributing all choice to welfare-centered motivations is clearly

unsatisfactory (Sen, 1995). By focusing on the self-absorbed utility-maximizer, and by ignoring other-regarding and nonwelfarist behavior, this approach fails to explain human behavior, and it offers contrived stories with respect to actual motivations for human action. Equally problematic are the assumptions of well-formed, stable, and preexisting preferences, limitless cognitive capacity, and full knowledge about the choices faced by individuals. These assumptions effectively remove – finesse – the problems of learning and arriving at meaningful judgments about human action. Several contributions in this volume address these problems. For example, the contributors indicate that – depending on the context of choice – there may be good reasons both to respect individual preferences instead of individual welfare, and to ignore individual preferences and to consider individual or social welfare. Yet the implications of a broader and more sophisticated view of human behavior remain to be explored, as do the full policy implications of such view.

Several other weaknesses in standard environmental economics result from its simplistic view of human behavior. For example, if – as suggested here – there is a broad ethical basis for human behavior, individuals will situate different choices or acts in different ethical realms. For example, certain environmental issues, such as the preservation of a particular species, may be framed as noneconomic moral questions. Individuals are well able to address these issues with the logic of the realm of moral commitments. They may also be able to apply the logic of the economic realm to moral issues – as when requested in a contingent valuation survey, for example – although they would not find it congenial. They may also be able – and actually be forced – to recast the issue into the economic realm if their livelihood is threatened. Yet this shifting of decision realms may not be taken as evidence of the fundamental correctness of economic calculation but, rather, as an example of the discontinuities in how we perceive and approach different choice situations. That is, individuals may refuse to apply self-centered calculation to certain choices, and consider other-regarding behavior as decisive until the personal consequences reach some threshold level that triggers a change in the way they frame the choice. Regard for others does not entail disregard for one's self, nor does self-regard entail disregard for others. Human action (choice) is a balancing across realms of reason.

A more realistic stance in environmental economics entails accepting a complex view of policy problems and policy options. There will always be new phenomena presenting us with choices of unknown or ambiguous consequences both in the epistemic and moral sense. Thus, the idea that there are universal criteria of desirability applicable to all policy problems and choices must be seen as a manifestation of a singular lack of imagination on the part of those who are committed to this flawed notion of reductionism.

## References

- Arrow, K. J., Cropper, M. L., Eads, G. C., Hahn, R. W., Lave, L. B., Noll, R. G., Portney, P. R., Russell, M., Schmalensee, R., Smith, V. K., and Stavins R. N. 1996: Is there a role

- for benefit–cost analysis in environmental, health, and safety regulation? *Science*, 272 (12 April), 221–2.
- Bazelon, C. and Smetters, K. 1999: Discounting inside the Washington, DC beltway. *Journal of Economic Perspectives*, 13, 213–28.
- Bromley, D. W. 1990: The ideology of efficiency: searching for a theory of policy analysis. *Journal of Environmental Economics and Management*, 19, 86–107.
- Calabresi, G. 1970: *The Cost of Accidents: A Legal and Economic Analysis*. New Haven, CN: Yale University Press.
- Hodgson, G. M. 1997: Economics, environmental policy, and the transcendence of utilitarianism. In J. Foster (ed.), *Valuing Nature? Economics, Ethics, and Environment*, London: Routledge, 48–63.
- Huber, P. 1983: The old–new division in risk regulation. *Virginia Law Review*, 69, 1025–1107.
- Knetsch, J. L. and Davis, R. K. 1966: Comparison of methods for recreation evaluation. In A. V. Kneese and S. C. Smith (eds.), *Water Research*. Baltimore, MD: Johns Hopkins University Press, for Resources for the Future, 125–42.
- Larson, B. A., Avaliani, S., Golub, A., Rosen, S., Shaposhnikov, D., Strukova, E., Vincent, J. R., and Wolff, S. K. 1999: The economics of air pollution health risks in Russia: a case study of Volgograd. *World Development*, 27, 1803–19.
- O’Neill, J. 1997: Value pluralism, incommensurability and institutions. In J. Foster (ed.), *Valuing Nature? Economics, Ethics, and Environment*. London: Routledge, 75–88.
- Palmer, K., Oates, W. E., and Portney, P. R. 1995: Tightening environmental standards: the benefit–cost or the no-cost paradigm? *Journal of Economic Perspectives*, 9, 119–32.
- Radin, M. J. 1996: *Contested Commodities*. Cambridge, MA: Harvard University Press.
- Sagoff, M. 1988: *The Economy of the Earth: Philosophy, Law and the Environment*. Cambridge: Cambridge University Press.
- Sen, A. K. 1995: Rationality and social choice. *American Economic Review*, 85 (March), 1–24.
- Vatn, A. and Bromley, D. W. 1994: Choices without prices without apologies. *Journal of Environmental Economics and Management*, 26, 129–48.
- Whipple, G. C. 1908: *Typhoid Fever: Its Causation, Transmission and Prevention*. New York: John Wiley.