

Edited by John Foster

ROUTLEDGE

Valuing Nature?

Economics, Ethics
and Environment

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VALUING NATURE?

The state of the environment is now widely acknowledged as a serious cause for concern. *Valuing Nature?* argues that responding to this concern by economic valuation of the environment as a consumer good only makes matters worse. The book brings together philosophers, economists and sociologists to put the case for a new and more creative approach to environmental policy. The discussion covers:

- the structure of environmental policy-making
- the current orthodoxy in environmental economics and its deficiencies
- the deeper problems with contingent valuation surveys and cost-benefit analysis for environmental decisions
- alternative valuation methods

Embracing three disciplines, this book is nevertheless written in a clear, accessible style. It includes chapters by Geoff Hodgson, Clive Spash, Michael Jacobs, Brian Wynne and John O'Neill. Its ground-breaking critique and suggestions will be of great interest both to specialists in the field and to students of the disciplines concerned; it has important messages for anyone concerned with how decisions about the environment are made.

John Foster has worked in teaching, public sector management and green politics as well as academic research. He is a research fellow at the Centre for the Study of Environmental Change, Lancaster University.

VALUING NATURE?

Ethics, economics and
the environment

*Edited and
with an introduction
by John Foster*



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PREFACE

This book really arose in response to the broad conditions of intellectual, political and economic life sketched in its Introduction. These conditions manifest themselves very plainly in the gathering environmental crisis; but also, more insidiously, in much of the way in which our kind of society tries to address this crisis. As well as the state of the environment, the state of our attention to the state of the environment is now seriously alarming. The drive for our book comes from this level of concern.

Proximately, however, the book arose from a grant made by the Economic and Social Research Council under its Global Environmental Change programme to Lancaster University's Centre for the Study of Environmental Change (CSEC), for a project to explore conceptual problems with the dominant neo-classical orthodoxy of environmental economics. These were problems, as described in the research bid, with the representations of value and human personhood on which this orthodoxy depends. In the background lay the work of writers like the American philosopher Mark Sagoff, who had argued (Sagoff 1988b) that there were logical as well as practical difficulties with capturing environmental value on a model of individual preferences. Our project was designed to suggest how controversies affecting the use of neo-classical environmental valuation methods in policy-making might stem from the deliberately restrictive nature of these representations, and correspondingly how more promising ways of handling environmental value in the policy arena could be developed.

CSEC is an innovative research enterprise based in social science, but with extensive and lively connections across the spectrum of environmental thinking both in and beyond Lancaster. It was therefore natural to set this study up as a series of linked research seminars with a diverse cross-disciplinary membership. Philosophers, economists and sociologists from six universities (ranging in seniority from professors to postgraduates) and from the policy world, met in Lancaster for this purpose on half a dozen occasions between 1993 and 1995. As the vigorous, open and fruitful discussion and writing sparked by these arrangements progressed, it became clear to us that

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we had the materials and the unifying themes, as well as the incentive, for this collection.

What those themes are, and why the book aspires to be more than the random assemblage that ‘collection’ often implies, I try to show in introducing it. Here, though, let me emphasise that (perhaps despite initial appearances) it is meant not just for academics and students within its various disciplines, but also for the concerned general reader. It is meant specifically for the reader who sees that issues of environmental value are both important and very difficult, and for the reader who is worried about the way in which unquantifiable considerations are dealt with in the policy-making of a modern complex state; and especially, it is meant for the reader who recognises that these concerns are closely and non-accidentally connected. Although the following chapters are of differing academic density, and some indeed are consciously quite challenging, we have tried at all times to keep in mind, and condition for, an intelligent non-specialist audience. One great virtue of cross-disciplinarity is to keep one alert in this respect: having to be intelligible in the first place to each other, we may at least have more chance of being heard beyond the academy.

But what have we to say there? We offer a thoroughgoing and fundamental critique of the environmental economic orthodoxy—but to have offered only critique would have been to stay in the academy with a vengeance. Yet the pervasive conditions to which we respond certainly do not encourage brisk solutions or easy optimism. Nevertheless, the book as a whole—in particular, Part III—suggests a number of new directions and positive developments in social processes for environmental valuation; and these may offer practical resources for a wider cultural hope. (In this connection, the difference between optimism and hope bears pondering.)

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Without Rose Foster, it would simply never have happened at all.

John Foster
Lancaster, July 1996

INTRODUCTION

Environmental value and the scope of economics

John Foster

1. VALUING NATURE?

How do we value nature? How do we, and how should we, express our sense of the worth and practical importance of our natural environment, and the significance of our relations with other living things? How do we include such values within the processes of social decision-making? How, in particular, do we integrate them with the economic considerations which feature so prominently in those processes? Can the demands of that integration help us to understand environment and economics better? And do they have a wider relevance to policy—to the development of a democracy which might attend more intelligently to issues of value in general?

These are the questions with which this book concerns itself. They are urgently pressing questions, and they mix philosophical, sociological and economic themes in ways which refuse to respect the confines of these intellectual disciplines. In response, we have tried to combine all three perspectives—ambitiously, perhaps, but the ambition is an index of the urgency.

Why are these questions now so pressing? A sense of the value and importance of the natural environment looms increasingly large in contemporary consciousness as other, more traditional vocabularies for representing our place in the scheme of things fail. At the same time, our collective activity has been impacting more and more compellingly on that environment. We have (we now recognise) for decades been subjecting its systemic organisation both locally and globally to unprecedentedly rapid, far-reaching and often detrimental changes. Acknowledgement of this state of affairs, confined twenty-five years ago to the intellectual fringes, is now well on its way to common acceptance, and has begun to exert a real influence on the shaping of public policy. But, perhaps inevitably, that influence has been most apparent in the emergence of a recognition that environment and *the economy* are inseparable: not only do we impact

adversely on the environment through our economic activities principally, but our dependence on this environment is seen as principally a matter of our needing its resources, assimilative capacities, amenities and life-support systems in order to conduct that activity in the first place. If this is certainly an important part of the truth, focusing on it in that way just as certainly shifts the register of responsible concern towards a discourse of measurement, calculation and prediction. Moreover, the language of public policy choice in modern societies is overwhelmingly one of human welfare, conceived in terms of a sophisticated but still radically utilitarian calculus of comparative satisfactions. In combination, these factors seem to promise a decisive recasting of our sense of nature and its claims.

So, although it cannot be denied that environmental concerns are now being taken with some seriousness by society and government, many who in recent years have contended for those concerns have reason to feel anxiously ambivalent about their success. In expressing that ambivalence, the word ‘value’ is unavoidable. Does the currently favoured discourse of sustainability and natural capital, dependent as it is on explicit economic valuation of the natural environment, really represent a positive *valuing* of nature? Is this new register of nature’s value a genuine recognition of nature as valuable? Or does it constitute a further, more insidious stage in its progressive *devaluing*—a new eco-friendly jargon for licensing our aspirations to technological management and control of nature?

These anxieties are not just about words. For one thing, if they are justified, a very important implication is that we are likely to go on generating, on an ever larger and more dangerous scale, the kind of failure of managerial control represented by such emblematic modern disasters as Chernobyl and BSE. Equally, a politico-technico-administrative consensus built in this way may well lack the social robustness, the roots in what people really feel and fear, to cope adequately with such disasters when they do happen—something which the BSE case, for instance, has demonstrated very clearly. But further: lying beneath these substantively ‘environmental’ worries is a more general concern, attaching less to actual or imagined hazards than to the whole quality of our common experience (which is quite often what seems to be fundamentally at stake in the various contemporary forms of environmental controversy).¹ People alert to this order of concern find themselves asking: is this translation into an economic mode really the only way we can handle questions of value in a complex democratic polity? And can the inescapably economic context of decisions actually be reconciled in this way with collective acknowledgement of human ends which are, strictly, invaluable?

‘Value’, however, is a word with all the complexity of life itself. What we value, and the rate at which we value it, depends both on our values and on the value of things in themselves—and there are important differences of meaning distinguishing all these usages. The cynic, notoriously, knows

the price of everything and the value of nothing; but economists, who aren't generally cynics (many, indeed, seem rather refreshingly innocent), have to study the realisation of comparative value through price. The value which things have for us varies with our desires and inclinations (the basic truth from which the economist works); these, in turn, may reflect the values variously embodied in our culture (the sociologist's field of insight); but to value something which in itself lacks value is to lay those desires, and perhaps also that cultural grounding, open to criticism (the moralist's *point d'appui*). Again, there are in some people's eyes certain fundamental or ultimate values which seem to matter just because they are in themselves beyond the reach of any deliberate evaluative scrutiny; but at the same time, sincerely to call something 'invaluable' is to value it very highly, a valuation which must translate somehow into practice and comparabilities. The notion of value, in short, eludes our definitional grasp with a supple duplicity characteristic of the really important concepts in human experience; and many of its doublenesses of meaning underlie the specific ambiguity which is put to the question in our title.

We have tried to begin the process of grappling with these complexities in the open-ended, interdisciplinary way which they clearly demand. The following collection comprises contributions by economists, philosophers and social scientists, organised around certain common themes but without seeking too hard to impose any single framework or artificial synthesis. They range in preoccupation from administrative practice through economic, social and political analysis to ethical theory. They exhibit a corresponding and perhaps initially disconcerting diversity of styles. We believe, nevertheless, that a strong commonality of approach manifests itself, and some important shared conclusions emerge; these are sharply critical of the turn represented by recent environmental economic thinking, and in sum support the development of a distinctively different model.

I shall try to indicate the nature of our common themes in the next section of this Introduction, and offer a broad overview of the discussion and its critical conclusions in the third. In the final section, I go on to consider the upshot of positive suggestions emerging from our critique, and to explain why it has, at this stage, a rather exploratory and unresolved character.

2. ECONOMICS AND META-ECONOMICS

In 1974 E.F.Schumacher introduced his richly seminal treatment of environmental issues with a distinction between economics and what he called meta-economics:

Economics operates legitimately and usefully within a 'given' framework which lies altogether outside the economic calculus. We

might say that economics does not stand on its own feet, or that it is a derived body of thought—derived from meta-economics. If the economist fails to study meta-economics, or, even worse, if he remains unaware of the fact that there are boundaries to the applicability of the economic calculus, he is likely to fall into a similar kind of error to that of certain medieval theologians who tried to settle questions of physics by means of biblical quotations.

(Schumacher 1974:38)

Economics treats legitimately of how the production of goods and services, the processes of their distribution and exchange, and so forth, are organised: meta-economics as Schumacher conceived of it treats of what gives context, direction and point to all these activities. This includes both the nature of the world in which they are set and from which they draw their resources, and the significance of the fairly extensive subset of human ends to which they conduce.

The fundamental distinction here is not original at the level of theory; its picture of *economics* seems to correspond well enough, for instance, to Robbins's well-known definition of the subject as the study of choice under conditions of scarcity, among alternative means to multiple but given ends (Robbins 1932:16). Where Schumacher is interesting is in his pointing, in the context (then comparatively novel) of environmental concern, to the strong tendency of economists (and not just economists) to ignore in practice the distinction between attention to means, and attention to the ends and possibilities in relation to which they exist as means. He was disturbed, as an energy economist, about the attitude to natural resources, and as a thoughtfully spiritual man, about the quality of human purposes, in the 'developed' societies; the economic mind-set, preoccupied with means (crudely, money and power) which it is after all a very ancient failing to *take* as self-sufficient ends, seemed to him to be diverting attention from increasingly urgent questions about the material and moral bases of economic activity.

He suggests, it will be noted, two ways in which the importance of meta-economics might be ignored. We might simply think in too narrowly economic a way, concentrating on those matters of production and consumption where the 'economic calculus' (Robbins's 'economic science') at least appears to work, while treating the natural world as essentially a set of free goods, and questions of ends as beyond the purview of scientific concern. But also, and much more insidiously, we might think *economistically*. We might, in Schumacher's terms, fail to recognise the proper scope and limits of that calculus, and try to deal with considerations about the ethical context of economic behaviour, not by ignoring them, but seeking to bring them within the scope of an approach which is itself essentially economic.

Consider, by way of a non-environmental example, how we might think in these various ways about education. To address educational issues in *meta-economic* terms would be to reflect, for instance, on how the development of knowledge and powers of imagination might contribute to a ‘becoming existence’ (in Schumacher’s own phrase) for human beings, given the inevitable material limitations of that existence; and about how these cultural preconditions for proper human flourishing could be promoted in relation to the various economic activities of production and consumption which are necessary for its material support. To think about education in narrowly *economic* terms would be to leave out of account such apparently intractable issues of adjusting right livelihood to its necessary conditions, and to concentrate, instead, on the costs of the process and its actual or potential benefits at the merely economic level: its contribution to improving the literacy or technological aptitude of the workforce, to raising the expectations of consumers, and so forth. But to think about it *economistically* would be to say: ‘Of course we must take knowledge, imagination, the promotion of right livelihood and all that into account—these are important components of human welfare; the real problem—and the job with which the economist is best placed to help—is to offset gains in these areas against any concomitant sacrifices in more material production which society must make in order to achieve them, so that we can be sure of pursuing the overall optimal welfare path.’

These useful if rather rough-and-ready distinctions can help us to locate environmental economics. This is a sub-discipline which has in effect developed since Schumacher wrote (and at least partly in response to his strictures and others like them). It represents the recognition that we can no longer think in a narrowly economic way in this domain; we can no longer ignore, when shaping our economic activities, the constraints placed by the environment on practicable modes of human flourishing. But correspondingly, as this recognition has grown, it has only further exposed the dominance of economic over meta-economic thinking about vital aspects of human—environmental relations.

Now as Schumacher’s medieval comparison piquantly insists, either of his ways of failing to attend to meta-economics is actually ‘unscientific’, and indeed potentially obscurantist. But it is clear enough how, in a climate of positivism, the desire for scientific respectability could come to tell against the narrowly economic view, while still actively conducing to the economic. The case for ecological limits, applying to raw material resources, waste sinks and ecosystem services, has certainly not become irresistible through the advancement of science *alone* over the period since Schumacher wrote. But accumulating scientific evidence has undoubtedly played a crucial role in moving us from the situation in which he could criticise economics for treating the entire ecological framework as given, to that in which Professor David Pearce can premiss an advocacy of environmental-economic valuation on the position that:

environmental scarcity is...an ecological fact of life... Until the economic value of environmental quality is an everyday feature of the way we compute progress and, more importantly, of the way we make economic decisions...the environment will not be given a fair chance.
(Pearce 1993:3)

Economic thinking, that is, has embraced environmental and ecological limits—and it has done so in a variety of alternative forms, including ecological and steady-state economics, as well as in the mainstream. But it is, overwhelmingly, economistic thinking which has embraced the crucial questions of how environmental value can articulate public policy choices within those limits. That is very clear from the way the mainstream neo-classical version (with which Pearce himself is closely associated in the UK), the only version of green economics with a respectable pedigree in terms of ‘economic science’, has commanded the field.

Neo-classical economics offers a model of self-interested rational choice to represent how we bring our values to bear on individual and collective decisions. The criterion of value on this model is what people are willing to pay for something, as a measure of what they are prepared to give up to acquire or defend it. Value thus regarded is a function of people’s preferences—reflecting differentially-strong desires for goods, which we each seek to gratify optimally given our available resources and the structure of prices. The notion of the allocative efficiency of the market is a corollary of this picture, since the optimal satisfaction of preferences for a number of agents requires the kind of mutual adjustability of demand and supply through the price mechanism which the ideal market situation is supposed to embody. What I am willing, at the margin, to pay for a good and the strength of my preference for it are not, on this model, distinct from one another, nor from the value which I place on it; and the value of the good to people in general is similarly not distinct from its price in a suitably open and competitive market, which can thus be treated for the purposes of analysis as an objective index of value.

It is (at least in the UK) Pearce and his associates who have most persistently developed and advocated the extension of this model to environmental issues. The procedure is, first, to treat desired features of the environment like clean air, unpolluted water, open spaces, climatic stability etc., as if they were variously preferred goods. Correspondingly, environmental harms are treated as *externalities*—damage caused by the inadvertent clumsiness of the ‘invisible elbow’² attached to Adam Smith’s ‘Invisible Hand’. This damage can be of different kinds—reduction of the waste-absorption capacities of ecosystems, depletion of the pool of resources, adverse effects on our physical and psychological health—but all its aspects are, in principle anyway, things in regard to the avoidance of which we also have, or could form, preferences. Thus both the goods and the

goods, environmentally, are represented as susceptible of having an economic value placed on them. Actual or notional values for these various benefits and costs are to be derived on the basis of our preferences as revealed either in real markets where appropriate, or in hypothetical market situations constructed through social survey techniques (so-called contingent valuation, or CV). Consideration of what course of action might be in our overall best interests can then be informed by an assessment, through cost—benefit analysis (CBA), of how these values in the environmental sphere balance up. In particular, since we now appear to have a means of measuring the net flow of benefit to human beings from the natural environment, the way is open to treating its resources and systemic capacities as a form of capital stock ('natural capital'), and the maintenance of that stock over time as an index of the environmental *sustainability* of human activities.³

Claims for this approach have recently been much urged in both official and academic circles, and it has found serious political favour. Although CV, with its requirement for individuals explicitly to *put* a money value on natural objects, remains somewhat controversial (often for essentially methodological reasons), the overall picture of environmental value as expressible and manipulable in money terms may fairly be called the prevailing orthodoxy of the UK policy community on these issues. Robin Grove-White's opening chapter sets the stage for our whole book by tracing the intellectual and institutional history of this orthodoxy in relation to the environment. But, as he also points out, its establishment as an orthodoxy in that domain is symptomatic of much broader trends within 'the dominant "modernist" ontology'—trends towards economic views of human nature and of the appropriate way to arbitrate its different evaluative commitments right across the board, trends which have now developed an apparently irresistible momentum in our kind of society.

Let us recall Schumacher. He was at least a minor prophet, and if he was even half right, these powerful trends are carrying us into profound and systematic *delusion*. (He concluded the passage already quoted with an even sharper warning: 'Every science is beneficial within its proper limits, but becomes evil and destructive as soon as it transgresses them.') The idea that there are kinds of choice about how we should, as a society, commit our resources, which are simply not addressable in terms of value-for-money—that there are values in pursuit of which we must spend money while unable in principle to capture or prioritise them in those terms—is fast becoming as much of a heresy for modern politics as the idea that the Bible had nothing to say about physics would have been for Aquinas. In education, health care, the defence of the realm, the administration of justice, the prevention of crime, it is increasingly accepted that the economic calculus applies, that value for money is an appropriate overall expectation and audit an appropriate tool. And to call this trend even

questionable, never mind ‘evil and destructive’, would now be to meet with widespread blank incomprehension.

So when environmental economics cheerfully carries the banner of the new economic orthodoxy into the territory of environmental value, the impulse to resistance feels as though it has a more than merely local responsibility. Local resistance is certainly what this book offers: we want to help dislodge this orthodoxy from this particular arena. We are not unduly concerned with methodological or statistical niceties; we want to reveal the whole neo-classical approach to environmental concern for the dangerous misrepresentation which we think it is—and we want to do this in the service of what we take to be more appropriate kinds of regard for nature and for each other. But in the convergence of economics and ethics on environment, we are also confronting a crucial test case. If an argument against economic orthodoxy cannot be mounted *here*, in relation to something as fundamental as our evaluative experience of the natural context of our lives, then maybe no convincing argument can any longer be mounted. On the other hand, if a convincing argument *can* be mounted, perhaps it may also help us to see how the scope of economics can be more effectively delimited in other areas of our common life.

3. THE CRITIQUE OF ENVIRONMENTAL ECONOMICS

One obvious way of setting up a critique of the economic orthodoxy as it bears on environmental issues would be to attack its *utilitarianism* in the environmental context. ‘Economic thinking’, after all, could be taken as a plausible hostile characterisation of utilitarianism: the unwarranted extension of a calculus of incentives from the economic sphere, to model the processes of rational choice in the sphere of ethics. And in the other two chapters comprising Part I of the book, it is indeed the utilitarian cast of the neo-classical approach which is taken as the principal focus for criticism, from both the economic and the ethical perspectives: Geoffrey Hodgson suggesting some quite general difficulties with an economics thus based, which emerge especially sharply in its attempted application to environment; while Russell Keat argues that cost—benefit analysis fails to engage with key environmental concerns specifically because its utilitarian ethical structure is inappropriate to the kinds of value on which they depend.

This, as I say, offers a good way in; but it might make the target in view seem more limited than actually it is. In fact, it belongs to a cross-disciplinary undertaking like ours to recognise that utilitarianism, the ethical theory or doctrine, can no more be seen as the foundation for a particular habit of attention to value in the area of social policy, than it can be seen as merely a shadow cast over ethics by the economic framework of industrialism. The co-evolution and continuing mutual reinforcement of ideas and social forms is just too intimately complex a matter. Historically, for instance,

utilitarianism as a systematic account of the ethical life could hardly have arisen except in a society already in process of reorganising itself through trade, mechanised production and entrepreneurial initiative—but then, these could only have been the dynamic features they were through expressing a sense of the person as moral agent which had already begun to crystallise in the the utilitarian themes of individual satisfaction and its rational optimisation. Correspondingly, what we point to in criticising economic thinking needs to be seen as something more, or at any rate something other, than either the utilitarian ethic itself, or some large externally identifiable features of the socio-economic formation in which it arose. Perhaps it might better be thought of as the principles on which these ideas and forms configure one another within Grove-White's 'dominant "modernist" ontology', or within what we could alternatively designate, in the cultural analyst Raymond Williams's rather less cognitivist terminology, as the modernist structure of feeling (Williams 1961).

The organising principles of this mutual configuration are a radical individualism and an assumption of the essential commensurability of value. These principles unite to generate the fundamental idea of our engagement with value as a process of *optimising from the perspective of the valuer*. The question for practical choice, whether in individual or social decision-making, is taken to be: how important to me, or to us, is this as against that? How far should we pursue this end or goal as against these others, given that normally we cannot fully achieve all these goals together? And this question is taken to be answerable in terms of an optimal ratio of value among our goals, which will determine the allocation of effort and attention between them which we think will be most beneficial—where 'benefit' is taken in a suitably wide sense, to mean the realisation of the good as it presents itself to me, or to us. (The kinship of this structure with that of economic problems as defined by Robbins—the allocation of limited means as between multiple ends to maximise utility—is clear.)

The chapters in Part II of the book are concerned with exploring different aspects of this economic configuration as it applies to environmental policy issues. They do this through the further consideration of neo-classical environmental economics, and of the way in which key environmental values seem to challenge and elude its terms. Thus they all follow on thematically from Part I, enriching with more varied detail the argument that the basically utilitarian methodology of CBA cannot accommodate such values. But they also, taken together, begin to map the features which bring environmental concern into *deep* conflict with the structure of modernity. The natural environment is the focus and meeting point for a radical diversity of human practices subtending value; as such, living together as humans sharing a common world, we cannot avoid making practical choices over this diversity; but the world we share is not just there for the benefit of, or with reference to the good as perceived by, human beings. These interconnected

general characteristics are sufficient to defeat any economic modelling of the central environmental concerns.

Recognising the significance of the first of these features depends on our acknowledging, as Mark Peacock reminds us, that our values are rooted in our various practices in a way which necessarily escapes instrumental assessment; any such assessment would still have to take for granted the normatively sanctioned interpretive schemas embodied in at least some of those practices, since only in virtue of these are we able to communicate intelligibly with one another as social beings at all. But then, if we consider just some topic heads from the vast range of different practices within which we engage with the natural world—dwelling in it, sharing it with other living things, cultivating it, conserving it, studying its workings, extracting material resources from it, appreciating its beauty and grandeur, recreating ourselves in it—it is, as John O'Neill suggests, profoundly implausible to suppose that the concerns arising through all these interwoven modes of engagement with what we comprehensively and perhaps too conveniently call 'environment', should be in any substantive sense *commensurable* in themselves—that they should be reducible in principle to the terms of some common basic value.

Moreover, our engagement with environment is not just something which takes place *within* the practices of the various interest groups, associations and communities, with their often widely differing presuppositions, to which we all belong. Of its nature, it provides a principal forum for a great deal of the abrasion, collision, conflict and accommodation *between* these constituencies, which contribute so much colour to life's pageant. Simon Bilborough shows in an intriguing case-study how the very typical conflicts arising between agriculture and conservation simply cannot be arbitrated in practice through economic valuation; and it is clear that this reflects more than just a specific practical or institutional difficulty. For if the values of farmers and conservationists, for example, are indeed ultimately incommensurable, any offer to align them to a common scale will inevitably become the focus for strategic behaviour of the various kinds which Bilborough records; there is actually nothing *else* for it to be.

'The environment', in other words, is something upon which very many frames of reference converge.⁴ But there is no frame of reference which is as it were 'naturally given', and which does not have to be contended for in environmental debate; no standard or criterion of comparison for environmental value which inherently transcends the perspective of a particular cultural understanding of nature and our relation to it. The importance of Brian Wynne's chapter here lies in the clarity with which it demonstrates, from the closely analogous field of risk studies, how attempts to constitute natural science as such a culture-transcendent knowledge have been self-defeating.

What all this shows is that if we are to make environmental choices which

can claim to be rationally optimal, that can only be by annexing these radically diverse values to a structure like preference-satisfaction, which has commensurability and rational optimisation already built into it. The neo-classical model, that is, must be driven by a conception not of what valuing the environment is like, but of what rational practical choice must be like. Given that conception, indeed, irreducible pluralism at the communal or societal level might seem to strengthen the case for the whole approach. For only if this kaleidoscope of concerns could be represented as built up out of the pursuit of perceived benefit, however disparate, to individual valuers (taking benefit in a sufficiently broad sense), and the strengths of preference attaching to values at the individual foci roughly aggregated, should we have enough for an answer to the practical question as economic thinking envisages it.

But this line of thought is strongly countered by the other two chapters in Part II. Jeremy Roxbee Cox, analysing the intrinsic value attributable to environmental features or objects, shows how this absolutely vital dimension of their significance fails to be captured by the economic construct of 'existence value' precisely because, while the latter has a beneficial and aggregative structure, the former has not. A species, a forest ecosystem or a wilderness do not matter 'in themselves' for any valuer by supplying benefit to that valuer such as could plausibly be summed across different valuers. Moreover, once we start reflecting in this light on how they do matter to us in themselves, we recognise that we are concerned with them largely *as* not catering to our interests in that way. As Alan Holland develops the point, the very strong impetus behind such concern is actually to defend the natural world 'beyond the call of human interests'—a commitment which the economic model of our environmental responsibility in terms of sustaining flows of benefit from natural capital, so far from capturing for practical policy-making, renders unintelligible.

This is not of course to deny the obvious truths that things can go better or worse, environmentally speaking, from the human point of view, that humans have an ordinary and entirely natural interest in these things going better rather than worse, and that it makes good sense for them to consult their relevant preferences rationally in any kind of choice or policy-making. (What will constitute rational consultation, if the methodology of neoclassicism is abandoned, is another matter.) Nor is it to claim that such preferences, however articulated, must be in any narrow sense *self-interested*—we can perfectly well have a disinterested common interest in things going better for, say, other species. But there are ranges of environmental value where this story of *our* interest, however disinterested, just cannot be the whole of the story. Sooner or later (and often sooner than we expect) in trying to think about how we should act environmentally, we find ourselves coming up against the recognition that non-human beings and other non-human ordered structures in nature have lives and courses of

their own, which not only do not belong to us, but simply do not refer to us at all; and we find, too, that our awareness of this non-human-centredness is radically implicated in our sense of nature's worth. Our concern, that is to say, to act in the light of the value of natural existences turns out to be a concern with what matters in large part by virtue of placing our most general perspective of evaluation so firmly beside the point—a concern with it, indeed, precisely because it matters in that way.

Such a concern, it is clear, rebuffs economic reformulation in its very nature. To model the kind of engagement with value which it represents on the pattern of 'optimising from the perspective of the valuer' would be to involve oneself in deep pragmatic contradiction—for the lives and courses of other things in nature are most characteristically valuable, as it were, just insofar as the acknowledgment of their value disturbs and undercuts that approach from that perspective. To see the natural autonomous life of another species, for instance, as mattering in itself is to yield to a kind of involvement in value—or better, a kind of involvement in the world *through* value—to which the comparative and arbitrative posture that goes with optimising is profoundly alien.

The access which it gives us to that manner of encountering value is at the heart of environmentalism's more general significance, in face of the modernistic drive to annexe and denature Schumacher's meta-economic realm. For if our meta-economic dealings with ends and values are to be genuinely *meta*-, their transcendence of the economic must surely consist in a *radical* incompatibility, a radical difference between ways of asking 'how important...?'. Environmental concern at this level shows us, or reminds us, what it must be like to move in a realm where we encounter value which is not ours to arbitrate. And what the first two parts of this book demonstrate in sum is that there must indeed be a firm boundary line to be drawn around the scope of 'the economic calculus', around the domain in which the economic habit of configuring value can help us think and plan, since such significant elements of our environmental thinking, at any rate, must lie beyond that boundary.

4. PRACTICAL JUDGEMENT AND THE ENVIRONMENT

We might hope, by the same token, that the kind of consideration which environmental concerns seem to demand could show us something of how operating in the meta-economic realm might be organised—and in particular, about how that realm can be respected for itself and at the same time rationally related to the economic.

For it is clear that concerns properly to be called 'environmental' belong in *both* realms. The environmental crisis has an inherently dual aspect, and those who have wanted to see it as grist for an extended economics have been too partial in their vision, rather than wholly mistaken. On the one

hand, we are plainly facing a crisis of resources, a crisis in the relation of humankind to the Earth considered in terms of life-support functions (provision of raw materials, waste assimilation and ecological services) which traditional economic categories of land and capital might plausibly be revised to accommodate. On the other hand, however, we are facing (equally plainly, if we care to look at things straight) a crisis of *spirit*: a climacteric in our relations to the world of nature beyond us, at which ultimate questions of human identity, belonging and purpose are being raised. These crises, or aspects of the one crisis, are inextricable: the crisis of spirit is a crisis of the attitude which *takes* the Earth to be basically a set of resources, conservation of which just *as* resources (the economic model) serves only to lacerate the spirit further. And maybe this, too, is paradigmatic of the situation in other areas of our common life (education, health care...) where values demanding meta-economic recognition are just as tangled up with, and just as dangerous in being reduced to, issues requiring specifically economic resolution.

So how might we organise the approach to environmental policy decisions? Methodologically, the alternative to the economic neo-classical algorithm assumed (with varying degrees of explicitness) throughout this volume is practical judgement, the reasoned consideration of alternatives and resolution of differences within a discursive framework. Although within this framework a use for various measures and algorithmic techniques is bound to be recognised, they will have a role as (in John O'Neill's words) aids to deliberation and reasoned judgement, rather than as what Andy Stirling calls a 'justificationist' substitute for its shared exercise. The essential claim on behalf of such substitutes, as Stirling's account well illustrates, has been their apparent provision of an 'objective', scientific and programmatic way to resolve value conflicts—which in complex modern societies can certainly prove both difficult and deep-seated. But if, as we have argued in relation to environmental economics, this sort of approach is not available at least in key instances of environmental conflict, then there at any rate we are going to be thrown back on the final and inescapable responsibility of the best collective judgement we can muster: a responsibility novel only in that we have for so long supposed that we could have something more.

How, then, is practical judgement best institutionalised in relation to the economic and other explicitly quantitative dimensions of environmental policy-making? The chapters in Part III of the book may all be seen as exploring this question, given both the perceived need to transcend the economic paradigm, and also the need to exercise such judgement in matters with an inescapable economic aspect.

The difficulties presented by the combination of these two requirements must not be underestimated. They can be illustrated from Pigou's wellknown claim that the scope of the economist includes 'that part of social welfare

that can be brought directly or indirectly into relation with the measuring-rod of money' (Pigou 1920:11). On this basis Pigou himself seemed to find no difficulty in ascribing, for example, attunement to the beautiful in nature or in art to the domain of non-economic welfare (ibid.: 14). But actually the distinction as he sets it up is unable in principle to prevent economics from extending its purview to embrace all political life. For there are simply no choices which we are called on to make as sharers in a modern polity where monetary considerations do not bear at least indirectly on the goods envisaged. We may choose, say, to protect other living things because a sense of species humility and (however obscurely) of justice demands it; but unless we so choose in the recognition that this option must incur an overall cost, our choice is unlikely to have any practical effect. In choosing to pursue these goods as against others, we must weigh them up as reasons for action within a complex which will include considerations (potential opportunity costs) demanding to be expressed in monetary terms. But then, reasons which can be *weighed* against reasons expressed in terms of the measuring-rod of money are themselves necessarily brought thereby into indirect relation with that measure.

This looks at first blush like the argument that if I won't betray my friend for £1,000, then I must value him at *more* than £1,000—when of course what one wants to say is that is that I value him in a way to which money values are simply irrelevant. But the point is that while we do have a practice of friendship in which, so long as the practice is well-constituted, money values are indeed irrelevant, we do not have, and plainly could not have, such a practice of social policy choice. Such choice in a complex, highly differentiated and bureaucratically organised society is irredeemably pervaded by money values.

It can, then, seem that the meta-economic mode in social evaluation is inherently defenceless against economistic reduction. How is this problem to be addressed? The approaches considered in Part III range from trying to make room for forms of meta-economic judgement within a more sensitive practice of economic appraisal, through an attempt to give judgement itself something of the quantitative structure which weighing presupposes, to the sketching out of a set of fully deliberative policy-making institutions, in which our collective judgement itself is recognised as ultimate and economic valuation as just a possible means of its exercise.

Thus Jonathan Aldred, reapproaching the issue of 'existence value' as an economist broadly within the mainstream tradition, argues for a distinction between *welfare* and *utility* which could perhaps detach the value we accord to other existents in nature from the optimising perspective of agent-based well-being. This approach, which also allows room for the non-intersubstitutability of money and environmental goods, leads to the interesting suggestion of *in-kind* valuation of environmental damage, based on the costs of what might be judged an appropriate

restitution of it (supposing any were available). In complementary vein, Clive Spash demonstrates that quantified benefit-estimation is going to be unavoidable within any approach which sets standards and criteria for effective environmental management from outside economic valuation—since effectiveness here must at least include *cost*-effectiveness. Spash is explicitly concerned with standards (thresholds, carrying capacities and the like) derived from a natural scientific understanding of environmental issues; but his conclusion in favour of ‘a new methodology which emphasises choice of a path leading to potential scenarios rather than the selection of a specific equilibrium solution’ clearly adumbrates a relation between cost—benefit considerations and the exercise of judgement in applying non-economic standards generally.

One methodology for elaborating scenarios might be the ‘multi-criteria mapping’ described in Andy Stirling’s chapter. This is a development of multi-attribute utility analysis from the perspective of the sociology of science policy, conceived as a way of clarifying systematically the parameters of any policy decision which has to be taken under conditions of indeterminacy of description, factual ignorance, unpredictability of outcome and plurality of values. It might be said to reassemble many of the materials for optimising, but within a framework which emphasises its final impossibility—facilitating only the most fully reflexive assertion, when all the scores have been entered, of some particular perspective against others.

The real question with which multi-criteria mapping leaves one is whether its multiplication of perspectives and option spaces might not tend to neutralise, along with the optimising aspiration, judgement itself—whether it does not make the actual issues for any real judgement unsurveyable. Michael Jacobs’s chapter describes an institutional framework for environmental decision-making which certainly does not have this potential drawback. Here, the heart of judgement is not quantified criteria but dialogue: empirical clarification followed by ethical debate. Helpfully summarising the assumptions of the political theory out of which neo-classical environmental valuation comes, Jacobs contrasts those of the theory of deliberative democracy which, as he shows, can much better accommodate the nature of the environment as a ‘public good’; and he provides some compelling hints as to how the various institutions generated by this latter theory might work in practice.

Jacobs’s focus, however, is so very firmly on institutional design for ethically-mature environmental *management* that one is driven to ask: what is there about the exercise of environmental judgement within a discursive framework which is essentially different from the modernist commitment to optimise in face of policy options? Granted, the shift out of individualistic mode, the recasting of the blunt neo-classical ‘What do I prefer?’ as the deliberative ‘What should we do for the best?’, does make a significant difference of tone and style. But does it, of itself, make enough

of a difference to the manner of our *engagement in value* for us to be confident that the possibilities of economistic reduction have been decisively left behind? Might not deliberative procedures just be a more effective way of deploying economistic assumptions from a shared perspective—of optimising environmental value from the perspective of a human group? If so, it seems that this alignment of will in collective decision can be reached in just as much of a managerial optimising spirit as any aggregation of preferences; all that has changed is that the machinery of the process has been sophisticated, to the extent that the social construction of preferences through mutual enlightenment, the claims of fraternity and the authority of consensus, has been acknowledged and conditioned for. There seems nothing so far to prevent our *collectively* treating matters of the spirit as though they were matters of resources—albeit resources conceived in terms of public rather than private goods. Indeed, since questions of goods and resources are likely to be so very much easier to *talk* about in any imaginable policy-making forum than deep questions of the kind of value to which we have to yield ourselves, it might be supposed that the widespread extension of deliberative practice could well make the environmental crisis of spirit worse, not better.

My own chapter concluding the volume responds to worries like these. It tries to suggest what there might be in the nature of evaluative dialogue itself, understood as a creative process, which could meet the deep demands of our engagement in environmental value; and it points to the crucial role of education among the social policy institutions which such understanding must inhabit.

The chapters in Part III thus move off in a number of different and not always entirely compatible directions, and raise a great many more questions than they answer. It would be easy enough to claim this as a virtue in itself; in matters environmental, after all, there should surely be a strong presumption in favour of diversity and against the imposition of convergent methodologies. But that would be facile complacency. For one thing, environmental decisions with hard consequences for real people press in upon us now from all sides and at all levels; it is idle to suppose that a society like ours could hope to address such decisions in ways that were not standardised, scientifically informed and bureaucratically rational. One of the main reasons why neo-classical environmental economics demands respect (and this book intends to be, in part, a tribute of the kind of respect due to an honourable adversary) is that it takes so seriously the need for this society to make real practical choices which do give weight to environmental concerns. Valuing nature at the very least requires that we do not systematically *undervalue* nature by failing to reflect its claims in our day-to-day determination of policy. The crucial challenge, if one rejects an economistic approach to that process on our kind of grounds, is to describe how practical judgement genuinely capable of engaging with environmental