Health and Disease as 'Thick' Concepts in Ecosystemic Contexts

JAMES LINDEMANN NELSON

Department of Philosophy
The University of Tennessee
Knoxville, TN 37996 USA

ABSTRACT: In this paper, I consider what kind of normative work might be done by speaking of ecosystems utilising a 'medical' vocabulary – drawing, that is, on such notions as 'health', 'disease', and 'illness'. Some writers attracted to this mode of expression have been rather modest about what they think it might purchase. I wish to be bolder. Drawing on the idea of 'thick' evaluative concepts as discussed by McDowell, Williams and Taylor, and resorting to a phenomenological argument for a kind of moral realism, I argue that the project of developing a robust understanding of the moral significance of recognising the health or illness of ecosystems is definitely a starter.

KEYWORDS: Ecosystem health, intrinsic value, 'thick' evaluative concepts

In his contribution to the pioneering Costanza, Norton, and Haskell collection, *Ecosystem Health*, Baird Callicott makes a characteristically bold claim: the concept of health, he writes, is a notion that 'in both its literal and figurative senses is at once descriptive and prescriptive, objective and normative'.[1] He continues that 'health, literally, is an objective condition of an organism capable of a more or less precise empirical description. But it is also an intrinsically valuable state of being.'[2]

While Callicott has recently backed off this position, preferring to return to the true Humean faith and line up facts and values on distinct sides of a logical Grand Canyon,[3] I think this retreat is premature, to say no more. In this essay, I continue to press the idea that health has both normative and descriptive force built right in, so to speak, and see what this view of the matter might hold out for environmental ethics.

The promise is not inconsiderable. In ordinary discourse, to say of someone that she is ill does more than convey information; it expresses certain attitudes and evaluations, and evokes in turn coherent attitudes, dispositions, and actions such as concern and care, responses whose increased prevalence in environmen-

Environmental Values **4** (1995): 311-22

tal contexts would be all to the good. This 'evaluative force' is obviously a morally interesting feature of such language, and surely a large part of why applying medicalised vocabulary to ecosystems is attractive.

That diagnosis of disease typically triggers concern is common ground, but the role of normative assessment in the actual semantics of health and illness language is trickier. One plausible account of the matter is that we have (or can develop) objective criteria for identifying things as well or ill, and then, having done so, we can decide to project a value on the matter; most often, we project negative value on diseases, so the story goes, but this is altogether a contingent matter, one quite removed from the diagnostic process. This is just the sort of account I want to show up. I will argue, on the contrary, that our ability to use terms drawn from the 'health-disease-illness-trauma' family is ineluctably mixed up with certain values they express – to borrow terminology from Bernard Williams, I will say that they are evaluatively 'thick' terms.

I then want to explore the idea that this feature of health language is, as it were, transferable from the context of individual animals to the context of ecosystems. My conclusion is that an important strand of the evaluative force of health and illness language could survive the shift, and so the determination that an ecosystem is healthy or ill could itself embody a reason for regarding that system with relief or concern.

The upshot is that determining the health status of ecosystems could itself be a morally significant enterprise; it needn't be simply a way of directing and guiding the concern already felt by those well disposed toward the environment, as Callicott and others sympathetic to the use of these ideas now seem to think. Still less is determining health status simply a matter of descrying what properties of an ecosystem would make it most tractable to whatever set of preferences humans may bring to their environment.[4]

The sticking point here is that the use of health language in all its wonted moral robustness in environmental contexts crucially depends on showing that ecosystems have a value that is not reducible to human preferences. As this is the case, spending time analysing health, illness and related concepts might seem somewhat beside the point; at least, any such enterprise seems subsidiary to the main business. However, some of the resistance to seeing nature as having a value of its own can be undermined by attending to the semantics of health language – or so I hope to show.

ILLNESS AND EVALUATION

What all these 'could be's', 'needn't be's', and 'mights' hinge on is the development of a concept of ecosystem health which is both objective and action-guiding. *Pace* Hume, such concepts not only exist, they are very important moral resources constantly invoked in ordinary discourse. In his *Ethics and*

the Limits of Philosophy, Williams discusses such 'thick' concepts; his catalogue includes 'treachery', 'promise', 'brutality' and 'courage'.[5]

Williams traces his use of this notion to work by John McDowell, and ultimately, to Wittgenstein, but Charles Taylor has expressed the essential idea particularly clearly. Taylor points out that many of our value terms cannot be analysed, in the manner of R. M. Hare, into a 'descriptive level' – which has the resources to pick out a range of actions, situations, or qualities in a wholly neutral way – and a 'prescriptive level', within which we express our attitudes toward such things.[6] In a gloss on Williams, Taylor writes:

> With terms like 'courage' or 'brutality' or 'gratitude', we cannot grasp what would hold all their instances together as a class if we prescind from their evaluative point. Someone who had no sense of this would not know how to 'go on' from a range of sample cases to the new ones.[7]

The question, then, is not whether the analysis of health language I am suggesting violates some logical rule: since what is actual is possible, there is no rule forbidding the kind of concept I am suggesting health might be. Rather, the question is whether in fact health and related notions are 'thick' evaluative concepts. To start to get a handle on this question, let's consider the following vignette: Suppose you learn that an acquaintance of yours, a colleague called Paula, has developed an ulcer. You respond by expressions of regret, concern, and hope that her trial will soon be over. Your behaviour is perfectly intelligible. Another co-worker, Jack, reacts rather differently. He giggles maniacally when he hears about Paula's illness, and you recall that this has been a rather typical response for him on learning of other's sicknesses. On previous occasions, he has applauded, murmured 'aw*right*', or has meet the informant with a stare devoid of concern and the remark, 'What's that to me?' Jack's behaviour is puzzling, to say the least, and he has opened himself up to speculations, some of a distinctly uncomplimentary kind, about his relationship with Paula and other people, and about his character.

Our concern about Paula, mild though it may be, and our conviction that Jack is a jerk, indicate that a diagnosis of illness is at least a prima facie reason for us to respond in a caring way, minimally with expressions of regret and concern. Indifference to a diagnosis of illness, to say nothing of taking pleasure in one, requires some kind of excuse. My inclination is to say that if someone meets the news that another person is ill with perfect emotional indifference, and there is not some reason that explains this response – burnout, or bad character, or something of the sort – I would not be confident that the person I addressed really understood what I was saying. The moral I draw from this intuition is that illness is indeed a 'thick' concept, one that does not merely describe a state of affairs, but also prescribes a certain range of responses; there is an evaluative load built into it that is strong enough to require an excuse or justification if we remain altogether unmoved by hearing that someone is ill.

There are, of course, other ways of trying to make sense of Jack's behaviour: philosophers sympathetic to the views of Hare, J. L. Mackie,[8] or Simon Blackburn[9] would say that the normative load with which we typically encumber a diagnosis of illness or health is distinct from the fundamental semantic properties of the terms: however bizarre we may find someone who is indifferent to the illnesses of others, that does not mean that she or he is failing to use the relevant concept appropriately.

How can we adjudicate this disagreement? One of the fundamental issues in the philosophy of medicine concerns whether health and illness can be analysed 'naturalistically' or 'normatively'. The naturalistic account would be most friendly to the Hare-Mackie-Blackburn sort of view: if health, to take a prominent example of the naturalistic line, is simply function in accordance with one's species-design, where 'species- design' is understood in terms of evolution, then surely healthy and ill entities could be picked out quite independently of how one thought about them; there wouldn't be any question of 'not knowing how to go on'. If, on the other hand, the normativists have it, and illnesses are just those states of the body (or human behaviour) that we don't happen to like, then things also look bleak for the 'thick concept' view, since the 'world-guided' character of the predication seems unmoored.

I want to suggest, accordingly, that both of these main options in the philosophy of medicine are incorrect, and that the dichotomy is in fact a false one. I say 'suggest' rather than 'show' since the field of possible candidates is too large to knock down one at a time, but I can provide good reason to be suspicious of both approaches by pointing out difficulties with strong versions of each view.

William Bechtel has provided a lengthy and sophisticated discussion of health analysed 'naturalistically', i.e., without a semantically essential normative component. On his view, health is functioning according to the norm for one's species. Such accounts often go astray when the moment comes to find a suitable source for the norms in a post-Aristotelian world, but Bechtel unearths one in evolution: our bodies are healthy when they are functioning in the ways that optimalise our chances of reproductive success. This view provokes any number of critical questions, many of which are anticipated and deftly answered by Bechtel.[10] But what seems to me the most telling of them is not adequately answered in his account; let me pose it in the form of a counter-example. A rather nasty bout of apparently painful degeneration and death follows spawning in some strains of salmon. This, apparently, is built right in to their species design. But it is marvellously counter-intuitive to hold that degenerating salmon are in the pink, even if it turned out that such degeneration were essential to maximising the reproductive chances of both the species and the individual. On the view that regards our values as projected onto a world all of whose objective properties can be independently specified, we might say 'no, that's blooming health for a salmon, but health can be a horrible thing', but such a response would underscore the problem: is that really what we mean by health?

The problems with the opposing, thoroughly normativist views are equally telling. Consider the interesting work of Tristram Englehardt, who illustrates his belief that diseases are socially constructed by noting that there was a time when the behaviour of seeking freedom from slavery was considered an illness (it was called 'drapetomania').[11] The difficulty is that on Englehardt's view, there seems no difference between being widely thought to have a disease and actually having one: hence runaway slaves actually were sick, in just the sense that cancer sufferers are sick. And, just as 'persuading' slaves not to seek freedom would cure their drapetomania, a promising strategy for curing cancer would be to hypnotise everyone into no longer caring about what was happening in their bodies. On this view, a therapeutic outcome expressed by the patient's saying 'Yes, I'm shot through with metastasised neoplasms, but I'm not sick, ill or unhealthy, because I simply don't care about it', would be indistinguishable from an outcome in which the disease went into permanent remission.

These approaches seem unhopeful. What we need is precisely what we've been told we can't have, a conception that unites both normative and descriptive elements. But the pattern of counter-examples open to any analysis that privileges one view over another suggests that in ordinary usage we insist on both aspects of the concept. We're quite right to wonder whether Jack doesn't understand what we mean when we say Paula is seriously ill, or whether he's just bad. Both a descriptive, world-tracking sense and a normative sense are involved when we say Paula is ill, just as both are involved when we say Jack is insensitive.

What this comes down to is something like the following. To be ill is not merely to have something going on in one's body that is out of step with our species design as laid down by evolution: it is to have something going on that is wrong, one that reduces our chances of being free of pain and unhindered in our ability to pursue what we judge to be good. If our species design were to get leprosy and die at fifty, leprosy would be an illness nonetheless. In this respect, health and illness language follow the pattern of thick moral concepts such as 'brutality'. To be brutal isn't simply to cause various kinds of impediments in the working out of the evolutionary design of other organisms; it crucially involves harming or attempting to harm others under certain kinds of understanding, with certain kinds of motivation, that cannot be grasped without using moral language.

HEALTH, ILLNESS AND ECOSYSTEMS

Yet, somewhat awkwardly, even should what I have just argued constitute a reasonable case for the 'thick' view of health concepts, nothing follows very directly for ecosystems. Let's suppose that it is not Paula but the Chesapeake Bay about whose illness we are told. Suppose further that we respond by saying, 'Yeah, we'll have to be careful not to drink any of it', or, 'So what? It's only a

liquid highway and a big sewer anyway.' Have we classed ourselves with the Jacks of this world, lacking in elementary sensitivity to misfortune, or, at best, simply not understanding what 'illness' means? Or have we behaved in a way that is perfectly intelligible and not open to negative moral assessment, at least in the absence of some independent moral argument that ecosystems have a good of their own that we ought to respect?

This question carries with it the suggestion that thick concepts pick up some of their added girth from our assessment of the objects of which they are predicated: part of what goes into our understanding of 'brutality' is our moral assessment of the agent and the victim of her or his agency. To say that a father spanked his child brutally is to say something that condemns him, both because of the value we see in children and the value we see in fathers. To say of a wind that it brutally whipped a tree is highly metaphoric: we impute a feigned agency to the wind to convey a vivid sense of the force of its effects.

The evil of being ill is not a matter of agency, of course. But it may well be a matter of the value we place on the sort of things that may become ill. Speaking of Paula's illness is not simply an evaluative act, but an act of moral evaluation; that is because we value Paula in a certain way. One might convey useful information by saying something like, 'that's one sick carburettor you've got there', but this metaphoric use of 'sick', while perhaps still evaluatively thick, surely doesn't carry a moral assessment with it. So it isn't enough to make a case that health concepts in their environmental employ are thick; one would have to show that what they are employed of has the right kind of value for the assessments to count as moral assessments.

Mark Sagoff has often maintained that as a matter of fact, Americans for the most part won't act like Jack about the Chesapeake and other imperilled ecosystems, that they value these features of their world aesthetically, symbolically, and morally, as well as instrumentally. But, although he has alluded to the role that argument can play in aesthetic, cultural, and moral contexts, this doesn't represent a developed feature of his thinking. In a representative passage from 'Has Nature a Good of Its Own?' he states that 'objects of our love and affection have a moral good, and, if they are living, a good of their own',[12] and in footnote 435 of his magisterial *Tennessee Law Review* article he writes, 'Nature may meaningfully be said to have a good of its own insofar as it is the object of our love, respect, study, and moral attention and affection.'[13] But this is significantly different from saying, 'Objects that have a moral good of their own should be objects of our love and affection, respect, study and attention.'

Sagoff's view seems an instance of the popular cinematographic approach to ethics, in which seeing nature as having a good of its own is a matter of our projecting values onto the ecosystem, values that presumably we either individually or corporately could withhold as tastes in symbols and beauty and what's loveable shift – or as we shift from individuals or cultures who (putatively) love nature, to those who do not. This approach yields the following interesting

combination of views: health language may well be thick, thus involving assessment in the very process of trying to apply it. But the value of the thing to which it is being applied gets its prior value from an act of projection, à la Hume, Hare, Mackie and Blackburn. If you're taken by this way of construing the matter, the adoption of medical metaphors in ecology is a pragmatic strategy for understanding and directing our response to what is happening with ecosystems: its success in motivating an interest in those systems, or in evoking a caring response, is a matter of pointing out defects in something we antecedently care about. On Sagoff's view, that we care tends to rest more on particularities of our situation, our historical connection with the land – in short, on things that could be otherwise.

Now, this may not seem fatal, as 'projectionist' views would tend to say the same thing about our human situation. But of course we really ought to have some idea of what motivates the projection of values. Note what happens if we try to understand the situation with Paula along Sagoffian lines. From that perspective, the reason we're concerned about her illness is that she's an acquaintance of ours, that she stands in a particular, concrete relationship to us. What we find disturbing about Jack is that he too is Paula's co-worker, is in a relationship with her, and should have some kind of concern for her that comes out of that shared experience. But the problem with Sagoff's take on this matter is that while such closeness might well be expected to intensify the response a person has to illness, the lack of closeness wouldn't ordinarily be taken to excuse a complete indifference, nor is closeness required to understand what is standardly meant when we call someone ill.

Things are still worse if we adopt David Rapport's view of how ecosystems get their value. Less sanguine than Sagoff concerning the ubiquity of love for nature, he suggests that diagnoses of ecosystemic health or illness are so sensitive to social and cultural values that they could be used in service of exploiting ecosystems:

> Native peoples, for example, value the integrity of the forest as a 'cultural home', one that permits the survival of traditional ways of gathering food, spiritual life, and the like. Foresters value forests quite naturally in terms of its productivity of merchantable timber. Consequently, the health status of forested ecosystems transformed through harvesting and other means will be assessed in very different ways depending on social and cultural values.[14]

If this is the right way to look at it, then the notion of ecosystemic health or illness, or seeing ecology as a clinical discipline, would have very little ethical bite at all. Not only would it not serve as a source of reasons for taking the environment seriously, but it also could not give us any reliable guidance if we did want to take it seriously. Finally and fundamentally, society could decide what it wanted to make of the environment, and the environment's health would be a function of the extent to which it contributed to those goals.

To make this a bit more vivid, imagine that we accepted such a malleable notion of health for people. If Paula's company was interested in downsizing, and her ulcer led her to quit without demanding a large severance package, then from the company's perspective, she's perfectly healthy. We don't accept this, in part because of the semantics of 'health', but also because of the kind of value we attribute to Paula: she is not simply of instrumental value, and that is what makes her a suitable candidate for being called either healthy or ill in the ordinary senses of such terms.

Is the illness of an ecosystem enough like Paula's ulcer so that we should be concerned about it even if we don't have any instrumental, aesthetic, symbolic, or affective stake in the matter? The quick answer, I think, is liable to be no. If the home concept of disease implies some disjunction of pain, suffering, risk or hindrance in the careers of intrinsically valuable beings, then, unless ecosystems have that sort of value, the only job that the 'clinical turn' in ecology could accomplish would be to direct – rather than evoke – whatever concern we might antecedently have about environments. Clinical ecology would be much more like auto mechanics than like human or veterinary medicine.

This is hardly good enough; Sagoff's work suggests a pragmatic reason why we should not be content with this, and Callicott's a theoretical one. Sagoff points out that the Chesapeake, morbid though it may be, does very well for us, that its major uses are completely unaffected by water quality. This circumstance certainly reduces the chance that an appeal to instrumental value – even long-term, future- generations-including instrumental value – is going to motivate concern with the Bay's health.[15] And Callicott's work insists that change is part of nature, and that we human agents of change are a part of nature, too. Hence, there is no 'in principle' difference between anthropogenic and nonanthropogenic change, and preserving or restoring ecosystems to a state of health, particularly if not useful or pleasant to most of us, seems to have no very compelling motivation, even if we could make sense of the idea independently of our goals.[16]

Indeed, if human preferences are relevant not only to how we respond to a diagnosis of ecosystemic illness, but to the diagnosis itself, as Rapport suggests, then one might come to the judgment that the Chesapeake is bursting with health, since it lends itself so nicely to what we want to use it for. Further, Sagoff has pointed out that the more eutrophic the Chesapeake becomes, the more carbon it will store, thereby the more it will contribute to the solution of the greenhouse problem.[17] Could eutrophication therefore be regarded as a index of ecosystem health if society's chief goal was to stop global warming?

To use health and illness language nonmetaphorically – as we do of persons, rather than as we do of carburettors – requires that the system of which such terms are predicated have a value which cannot be reduced without remainder to our instrumental desires or even our cultural predilections. What reason is there for thinking that ecosystems might have such value?

THE VALUE OF ECOSYSTEMS

In his essay, 'Truth, Invention and the Meaning of Life', David Wiggins tells the following story:

> A man comes at dead of night to a hotel in a place he has never been to before. In the morning he stumbles out from his darkened room and, following the scent of coffee out of doors, he finds a sunlit terrace looking out across a valley on to a range of blue mountains in the half-distance. The sight of them – a veritable vale of Tempe – entrances him. In marvelling at the valley and mountains he thinks only how overwhelmingly beautiful they are.[18]

Wiggins's point in telling this story is to illustrate his thesis that we value things because we find them beautiful, or wondrous, or fascinating, or what have you; at least from the point of view of ordinary consciousness, we don't see what we are doing as projecting beauty or wonder or fascination onto a blank canvas. We would naturally expect the man in Wiggins's story to care about the range of blue mountains, and to regard the news that they were undergoing processes that would remove the properties evoking his wonder – in other words, that the mountains were ill – with great concern. But suppose that a fellow visitor to the hotel were to come up behind the entranced man, and say, 'I know you're burning to preserve the beauty, integrity and stability of that range, but you know, it's hopelessly realist to regard yourself as responding to its goodness; surely, its goodness is a function of your desire.' On Wiggins's account, being convinced of this sort of thing would knock the motivational stuffing out of the man – that is, he could not both see the range as heartbreakingly beautiful, as capable of taking him out of himself, of morally transforming him, and also see all these responses as a result of what he subjectively projected upon the evaluatively blank slate of a range of mountains. As Sabina Lovibond has put it, 'If value is constituted by our desires, simply as such, there can be no objectively valid reason why we should want one thing rather than another; what difference does it make, then, what we choose? And what is to prevent us from lapsing into an inert condition in which no choice seems worth making?'[19]

Now, these remarks are clearly phenomenological: they have to do with the structure of our moral consciousness, what we must believe about the things we treasure morally. Someone who was inclined to a very strong version of realism would say that what we believe about this doesn't matter; what counts is what's true. But what counts as criteria for truth may differ as we move from sphere to sphere – from, to take an example inspired by Crispin Wright, mathematics to comedy.[20] If we think of the enterprise of ethics as the quest to understand how we should live, then whatever turns out to be necessary to make sense of life and make sense of the project of guiding it seems to satisfy a reasonable criterion for objective existence. As Taylor writes,

> What is real is what you have to deal with, what won't go away just because it doesn't fit your prejudices. By this token, what you can't help having recourse to in life is real, or as near to reality as you can get a grasp of at present.[21]

Does this show that we can apply health and illness language to nature in a way that is morally nonmetaphorical? No. While projectionist accounts of morality *tout court* are ruled out, our responses to the value of ecosystems in particular might conceivably be idiosyncratic illusions, something not necessary to understanding how to guide a life. But what it does show is that the required conceptual space for using morally robust health and illness language of the environment does exist, and at the same time points out the consequences of our refusing to fill that space. We do have concepts that are both objective and action-guiding, and we do have reason to believe that nature is morally salient quite independently of its uses for us or for our posterity, and hence, that it is an appropriate object of such concepts. The response to nature of the person in Wiggins's story – which, of course, is not idiosyncratic – is not intelligible except as a response to that which has a value of its own. When we reject this conviction, we typically do so on the basis of the same kind of philosophical ideas which insist on fact-value gaps and deny the existence of thick concepts – ideas that look much less attractive when an actual examination of the character of our moral language shows how indispensable such concepts are. Further, we now understand the cost of rejecting the intuition that the world has a value of its own: our response to our world, if we are clear headed, is limited to the instrumental and the sentimental.

The upshot of all this, then, is to show us both what is required in the project of putting together a discipline of clinical ecology, and to show us grounds we have to think that the project is in fact a possible one. What is needed is not simply a more refined system of indicators of health status for ecosystems. Instead, we crucially need an account of nature's good that is not merely a projection of individual, societal, or even intergenerational preferences. As Sagoff has pointed out, we need values, not simply preferences. But what that means, in my view, is clinical ecology must stand on a conception of the goodness of insentient, abiotic systems that explains why we ought to take them with moral seriousness (not merely, as in Sagoff, one that assumes we will). Attending to the thickness of the concepts we use in clinical disciplines smooths the path to achieving this goal.[22]

NOTES

[1] Callicott 1992a, p.42.
[2] Ibid.
[3] Personal communication.
[4] This view of the matter would seem to be implied not only in Callicott's second thoughts,

but in the work of David Rapport. See the discussion of Rapport 1992, later in the text.
[5] Williams 1985, p.129.
[6] For his view, see Hare 1963.
[7] Taylor 1989, p.54.
[8] Mackie 1977.
[9] Blackburn 1985.
[10] Bechtel 1986.
[11] Engelhardt 1984.
[12] Sagoff 1992, p.58.
[13] Sagoff 1988, p.166.
[14] Rapport 1992.
[15] Sagoff 1991.
[16] Callicott 1992b.
[17] Sagoff 1992, p.67.
[18] Wiggins 1987, p.105.
[19] Lovibond 1983.
[20] Wright 1992, p.7.
[21] Taylor 1989, p.59.
[22] An early version of this paper was presented at The Hastings Center and subjected to a very lively and insightful commentary from Bryan Norton, whose influence on my subsequent thinking on these matters goes considerably beyond what is revealed in my text. I am also grateful to Hilde Lindemann Nelson for her close and careful reading.

REFERENCES

Bechtel, William 1986. 'A naturalistic concept of health'. In J. Humber and R. Almeder, (eds) *Biomedical Ethics Reviews 1985*, pp. 131-70. Clifton N.J.: Humana Press.

Blackburn, Simon 1985. 'Error and the phenomenology of value'. In T. Honderich (ed.) *Morality and Objectivity*. London: Routledge.

Callicott, J. Baird 1992a. 'Aldo Leopold's metaphor'. In R. Costanza, B. Norton and B. Haskell (eds) *Ecosystem Health: New Goals for Environmental Management*. Washington, D.C.: Island Press.

Callicott, J. Baird 1992b. 'La Nature est morte: vive la nature!' *Hastings Center Report* **22**(5): 17-18.

Engelhardt, H.T. 1984. 'Clinical problems and the concept of disease'. In L. Nordenfelt and B. Lindahl (eds) *Health, Disease, and Causal Explanations in Medicine.* Dordrecht: Reidel.

Hare, R.M. 1963. *Freedom and Reason*. Oxford: Oxford University Press.

Lovibond, Sabina 1983. *Realism and Imagination in Ethics.* Minneapolis: Univ. of Minnesota Press.

Mackie, J.L. 1977. *Ethics.* Harmondsworth: Penguin Books.

Rapport, David 1992. 'What is clinical ecology?' In R. Costanza, B. Norton and B. Haskell (eds) *Ecosystem Health: New Goals for Environmental Management*. Washington, D.C.: Island Press.

Sagoff, Mark 1988. 'Ethics, ecology and the environment: integrating science and the law', *Tennessee Law Review* **56**(1): 166.

Sagoff, Mark 1991. 'Zuckerman's Dilemma: a plea for environmental ethics', *Hastings Center Report* **21**(5): 35-6.

Sagoff, Mark 1992. 'Has nature a good of its own?' In R. Costanza, B. Norton and B. Haskell (eds) *Ecosystem Health: New Goals for Environmental Management*. Washington, D.C.: Island Press.

Taylor, Charles 1989. *Sources of the Self*. Cambridge, Mass.: Harvard University Press.

Wiggins, David 1987. 'Truth, invention, and the meaning of life'. In *Needs, Values, Truth.* Oxford: Basil Blackwell.

Williams, Bernard 1985. *Ethics and the Limits of Philosophy*. Cambridge, Mass.: Harvard University Press.

Wright, Crispin 1992. *Truth and Objectivity*. Cambridge, Mass.: Harvard University Press.