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Robin Attfield

DISCOUNTING, JAMIESON'S TRILEMMA AND REPRESENTING THE FUTURE

The literature on the nature and extent of obligations to future people abounds in paradoxes. Where discounting involves multiplying the value of future benefits and costs by an annual factor which is normally less than one, conventional discounting appears a practical necessity and at the same time an outrageous infringement of impartiality. And matters do not improve if, to avert our intuitive distaste at its long-term effects, discounting is applied to the near future only, and not to the further future. Yet attempts to reject the resulting trilemma are often equally disastrous, or so I shall be arguing. I shall also be arguing that discrimination against future people is likely to continue until they are represented when significant decisions are being made.

In the first section, the trilemma is introduced, and proposed solutions to it are found wanting. In the second section, after a review of the arguments in favour of discounting, I tentatively conclude that, except where there are special reasons to the contrary, future benefits and losses should receive the same weight as if they were situated in the present. The third section tackles problems for this stance arising from the trilemma, and thereby reinforces the earlier conclusions. The fourth and final section introduces proposals for institutional reforms involving the representation of future people in present decision-making.

I

Dale Jamieson sparked off these reflections with his recent paper "Future Generations", in which the trilemma of my title is posed.[1] Besides presenting the options which constitute the trilemma, Jamieson also presents apparently conclusive objections to all three.

In the course of presenting the conventional approach, Jamieson indicates that there is room to discuss exactly what the discount rate discounts, and to this question I shall be returning. Assuming, however, that what is at issue clearly enough consists in the linear discounting of benefits and costs, Jamieson presents criticisms of such discounting, which include the way in which it seems to go too far in assigning quite small values to huge future costs, and thus making future interests virtually disappear. To this intuitive objection he adds the related moral objection that in this way discounting disregards the rights and interests of future people (which are hidden by the phrase 'future costs'), and also the psychological objection that people support discounting out of weakness of imagination, in that future people do not seem real to us in the present.[2]

The obvious alternative to consider is that the pure discount rate should be zero. This position is ascribed to Derek Parfit, but Parfit is recognised to allow discounting as 'a crude rule of thumb'.[3] (My impression is that Parfit goes further, for he declares that he has no quarrel with a Social Discount Rate (SDR) 'applied to benefits and losses measured in monetary terms, on the assumption that there will be inflation'. What he is against is the application of an SDR to benefits and losses, 'measured at the size they will have when they occur', such as

1. Dale Jamieson, 'Future Generations', paper presented to a Workshop of the Swedish Collegium for Advanced Study in Social Sciences, Friiberghs Herrgård, Sweden, 25-27 August 1995. The trilemma will also appear in Dale Jamieson, *Philosophy Down to Earth: Science, Values and Environmental Change* (in preparation).
2. Jamieson, pp. 2–6.
3. Jamieson, p. 6.

the actual utility which future people will enjoy, or (again) future deaths.)[4]

While the criticisms of conventional discounting seem to be reasons for a zero SDR, Jamieson finds insuperable problems for this stance in the vast numbers of the future people likely to succeed us. One aspect of the problem lies in the probably undiscoverable nature of their preferences. Still worse is the likelihood that present preferences would be outvoted by future preferences on many, if not most, issues affecting the environment, and that most actions involving change would thus turn out to be wrong. Indeed this consideration could inhibit action in every generation. Further, the huge gulf between the extent of obligations to future people on the zero SDR account and the unconcern expressed towards future generations in our present behaviour suggests that we are actually motivationally incapable of compliance with these obligations, and therefore cannot be expected to comply.[5]

The third horn of Jamieson's trilemma seeks to tackle the impact of discounting for the distant future of half a century or more away, and consists in the proposal of some kind of non-linear discount rate. From some juncture such as fifty years ahead of the present, the discount rate either diminishes or becomes zero; in this way, our discomfort with conventional linear discounting is partially tranquillised, without the difficulties inherent in a linear zero rate being incurred. But this stance does not even deserve the name of 'theory'; it has no ground in principle, and explains nothing. To adopt this stance is to cave in before the problems, not to solve them.[6] It may save time to convey that I fully concur with this appraisal.

Now ways out of dilemmas and trilemmas include defending one of the horns, but all such resorts are no longer available to Jamieson. The other options which he considers consist in disabling the trilemma, in dissolving it, or in reframing and assimilating the problem to one that is better understood.[7] These options are now considered in turn.

Jamieson's *disabling* strategy takes the form of distinguishing between resources and nonresources. The view now seems possible that the value of resources can be discounted, but not the value of nonresources. Under resources are included both money and anything else the value of which can be exhaustively expressed in monetary terms. A reason for discounting resources might be the reason given by Parfit, namely that they are liable to inflation. Jamieson's examples of nonresources include rights, interests and well-being, which, he suggests, should not be discounted because there is no plausible monetary equivalent to them and because they cannot be invested or produce more in the future. Nor can the value of irreversible conditions like the existence of a species be exhaustively monetised either. The dilemma is disabled by applying conventional discounting to resources and a zero rate to nonresources, thus adapting the domains of each in a complementary manner (although Jamieson explains the disabling strategy differently).[8]

Reasons for discounting resources and not discounting nonresources will make a later appearance. For his part, Jamieson rejects this strategy, partly because the distinction between resources and nonresources is contestable, and partly because right across the nondiscountable realm of nonresources the preferences of future people will continue to swamp those of present people.

There is no need to follow the detail of Jamieson's discussion of *dissolving* the problem. Here he discusses the theory that nothing is owed to future generations since their very existence depends on present policies, and so they are not harmed by the choice of one policy

4. Derek Parfit, *Reasons and Persons* (hereafter *RP*), Oxford: Clarendon Press, 1984, p. 480. At p. 486, Parfit adds that the various arguments for an SDR at most justify 'the use of such a rate as a crude rule of thumb'.
5. Jamieson, pp. 6–8.
6. Jamieson, p. 8.
7. Jamieson, p. 8.
8. Jamieson, p. 9.

rather than another. But Jamieson eventually adopts Parfit's view that, while our obligations are not owed to determinate individuals, we still have obligations with regard to whoever there will be, and so the original problem remains undissolved.[9] Since few if any determinate individuals are affected for better or for worse whichever policies we adopt, the grounds for arguing from the rights of people of the further future seem to me tenuous, though Jamieson would probably resist this conclusion. This conclusion would allow rights, as opposed to interests, to be dropped for present purposes from the class of nonresources, and from the moral argument against discounting costs and benefits of the further future.

Jamieson's discussion of *reframing* the problem consists in the suggestion that discounting is relevant to the reasoning of a single person reflecting on her own future, but inappropriate to the decisions of one group of agents which affect a quite different group.[10] Here the reply would be in place that this is not at all obviously true, particularly where resources with a monetary value are in question.

However, Jamieson's point is strengthened when he presents the strategy of assimilating the problem to one better understood. Here he points out that most future people will not be our descendants, but other people's. So discounting is largely irrelevant because duties to future generations are duties to people across political boundaries, and mostly not to the future members of our own political community. As such they are to be assimilated to duties to our contemporaries. Besides, the facts that contemporaries exist independently of present actions, and that future people do not, have no moral relevance.[11] Jamieson claims that this assimilation strategy constitutes progress, since questions about the nature and basis of our obligations to contemporaries are less intractable than the corresponding questions with respect to future generations and discounting.[12]

Now it may be granted that there is some analogy between obligations to contemporaries and to future people. Thus plausibly both contemporaries and future people either have or will have certain basic human needs, and these needs could supply the grounds of our obligations in both cases. Others might here appeal to the fact that they all either have or will have preferences, which might also supply such a basis; but the unpredictability of future as compared with present preferences makes this, in my view, a source of disanalogy.

But whatever the analogies between obligations to contemporaries and to future people, disanalogies remain, corresponding to the various arguments in favour of discounting future (as opposed to present) costs and benefits. Since Jamieson considers discounting plausible in matters of resources, and it is on resources that many issues of possible obligations to future generations focus, he is in no position to claim that assimilating the question of obligations to future generations to the question of obligations to contemporaries makes it unnecessary to form some view about discounting in answer to the question about future-related obligations, even though this involves addressing his trilemma all over again. In any case the arguments in favour of discounting need to be reviewed.

II

These arguments are discussed by Derek Parfit and (in most cases) by John Broome, and also by David Pearce and his fellow-authors of *Blueprint for a Green Economy*.[13] In reviewing

9. Jamieson, pp. 10f.
10. Jamieson, p. 12.
11. Jamieson, pp. 12f.
12. Jamieson, p. 14.
13. Derek Parfit, 'Energy Policy and the Further Future: The Social Discount Rate', in Douglas MacLean and Peter G. Brown (eds), *Energy and the Future,* Totowa, N.J.: Rowman & Littlefield, 1983, pp. 168–179; *Reasons and Persons*, pp. 480–86; John Broome, *Counting the Cost of Global Warm-*

Parfit's discussion we should bear in mind that he has no objection to an SDR applied to benefits and losses measured in monetary terms.

Parfit first considers the argument from democracy, in circumstances where the electorate cares little about the further future. He points out that, whether or not this argument is relevant to the question of what the government should do, it is not relevant to the question of whether we as a community ought to be diminishingly concerned about impacts as they recede into the future.[14]

The next argument to be considered is that from probability; we should discount more remote effects because they are less likely to occur. He replies that this argument gives no support to an across-the-board SDR; it supports nothing more than discounting predictions which are more likely to be false, and there need be no proportional correlation between this and remoteness in time. Remote bad consequences are no less important for being distantly located in the future.[15] These appraisals are effectively endorsed by David Pearce and his colleagues.[16] This argument, then, supports nothing more than selective discounting based on probability; and does not support linear or exponential discounting at all. Incidentally the same may be said for the argument that future benefits and losses should be discounted because there may be no future people; it is relevant only in proportion to the probability of human history ending by the times in question.

Next to be considered is the argument from opportunity costs. The delaying of certain benefits, which a zero SDR would encourage, involves foregoing the returns which present investments can generate, returns which could themselves be reinvested profitably through the period of the delay. Opportunity costs are the losses involved when benefits are deferred, and are often held to justify a positive SDR. However, some benefits are not reinvested but consumed, and where this is done or would be done, opportunity costs have become irrelevant, and no discounting is justified. Again, the fact that future costs could be compensated through investing a smaller sum in the present does not justify discounting all future costs, as many will not be compensated. Such arguments at most justify discounting in cases where compensatory action is taken before a predicted evil, or where investments are made to generate future benefits, and then only in periods where investments really do generate interest.[17] Pearce and his team reject this appraisal, but only, apparently, on the basis that since the possibility of compensation is held to be sufficient in cost/benefit analysis, the same should be held about discounting.[18] Yet here it would be equally tenable to conclude that cost/benefit analysis ought to be modified. Thus Parfit rightly concludes that the argument from opportunity costs, like that from probability, fails to justify across-the-board discounting, but may justify a selective positive SDR in appropriate circumstances.

When Parfit turns to the argument that our successors will be better off, he sweeps up into it an argument from inflation and the diminishing marginal utility of money. To the argument concerning the comparative wealth of our successors, he sensibly replies that many of them may not be wealthier or in other ways better off than our contemporaries, and hence that they may be ineligible to suffer from the diminishing marginal utility of money.[19] Again, Pearce's team largely agree.[20] Here, however, Parfit's readers need to remember that he does regard predictable inflation as a good ground for the

ing (hereafter *CCGW*), Cambridge: The White Horse Press, 1992, pp. 52–112; David Pearce, Anil Markandya and Edward B. Barbier, *Blueprint for a Green Economy* (hereafter *BGE*), London: Earthscan, 1989, pp. 132–52.

14. Parfit, *RP*, pp. 480f.
15. Parfit, *RP*, pp. 481f.
16. Pearce *et al*, *BGE*, pp. 139f.
17. Parfit, *RP*, pp. 482–4.
18. Pearce *et al*, *BGE*, pp. 141–43.
19. Parfit, *RP*, p. 484.
20. Pearce *et al*, *BGE*, pp. 140f.

discounting of monetary benefits and losses. But presumably he could comment that the argument from predictable inflation is no better than the argument from opportunity costs, at least with regard to applying only to periods and domains of history where inflation is predictable. A zero inflation rate would ruin this argument, and so would the unpredictable surges of inflation characteristic of the Weimar Republic, and the USA of the period just after the Wall Street crash.

The argument from excessive sacrifice claims that without a positive SDR, small but long-lasting future benefits could require large and unacceptable sacrifices in the present. Here Parfit suggests that the real objection is not to belief in the importance of future benefits but to a very unequal distribution of costs between generations. As Parfit adds, utilitarians would claim that this is not implied by the objective of maximum net benefits over time. If, however, such a distribution really would be involved, our resort in order to forestall it need not and should not be the adoption of a positive SDR. Rather we should, he suggests, adopt a second principle which precludes an unfair sharing of benefits and burdens between generations, a principle which would actually be compatible with a zero SDR.[21] Broome accepts this suggestion,[22] as do I. Here it could be added that the high acceptance-utility of this second principle makes it likely that it would in any case be derivable from the maximising principle.

The final argument to be considered by Parfit is the argument from special relations. Commonsense morality authorises us to give priority to the interests of our children, our friends and our fellow-citizens, as opposed to those of strangers; hence the people of the further future should receive a lower priority. Without rejecting the claim about priority, Parfit replies that some weight should still be given to the interests of strangers, and analogously to the further future, and that a positive SDR fails to do this. Also the priority argument cannot authorise the infliction of grave harms or deaths. Thus the argument from special relations, like the others, fails to justify across-the-board discounting, a conclusion which Broome again finds convincing.[23] Here it may be added that the kind of consequentialism which upholds optimific social practices can explain both the special obligations to relations and fellow-citizens, and the importance of not giving these obligations unqualified priority.

Broome also discusses Pearce's arguments from the possible bad environmental effects of lowering the SDR, through the encouragement of faster economic growth. While these effects could well be likely in practice, this could not possibly be because of greater weight being given to future interests. The explanation would rather be some failure in the calculations. Thus cost/benefit analysis continues to ignore environmental externalities. If the SDR were lowered and externalities were taken adequately into account, people living in the future would be likely to benefit. This argument, then, only supports a continuation of discounting in a skewed economy.[24]

For his part, Parfit adds that where the arguments which he has considered do not apply, we ought to be equally concerned about the predictable effects of our actions, however distant in time they may be.[25] Thus pure time-preference is irrational, and where distant serious harms are predictable, they count just as strongly as like harms in the present. Broome too finds in favour of a discount rate of nought for pure harms and benefits,[26] though he does not rule out the introduction of a modified in-

21. Parfit, *RP*, pp. 484f.
22. Broome, *CCGW*, p. 106.
23. Parfit, *RP*, pp. 485f; Broome, *CCGW*, p. 108.
24. Broome, *CCGW*, p. 101f.; compare Pearce et al., *BGE*, pp. 144–51.
25. Parfit, *RP*, pp. 486.
26. Broome, *CCGW*, p. 108.

terest-rate where monetary measures are applicable.[27]

But all this strongly suggests that unqualified conventional discounting is unjustifiable, that sheer time-preference, supposedly the central justification of discounting, is no justification at all, and that, other things being equal, impartiality between times and between generations is morally mandatory, at least where serious interests are at stake. In particular circumstances, special discounts may be in place for uncertainty, opportunity costs or predictable productivity and inflation, and principles concerning a fair sharing of burdens between generations and concerning special obligations may be in place, in cases where unfair burdens or neglect of recognised ties would otherwise arise. But in circumstances where such factors are either absent or insignificant, for example where serious harms or deaths are predictable in the further future and are significant enough to dwarf these factors into comparative triviality, future benefits and losses should receive the same weight as if they were situated in the present.

III

Yet Jamieson's arguments may here return to haunt us. Does this tentative conclusion simply reinstate the distinction between resources and nonresources which he finds objectionable? And does it fall foul of his objection about the weight of future people's preferences?

Here are some reasons why the distinction between resources and nonresources may seem to be reappearing. As was previously mentioned, under 'resources' Jamieson includes both money and anything else the value of which can be exhaustively expressed in monetary terms. But these are the very items amenable to opportunity costs, or predictable productivity, or inflation, some of the areas where the tentative conclusion would admit of discounting, and of exponential discounting at that. By contrast, predictable serious harms and deaths, central cases of the inappropriateness of discounting, clearly count as nonresources. Thus the tentative conclusion apparently comes dangerously close to an option rejected by Jamieson. On the other hand, the closeness may be no more than apparent, for the tentative conclusion does not endorse discounting even for items which can be monetised, in circumstances where profits or inflation are unpredictable, or where opportunity costs are illusory.

This is a salutary moment to return to Jamieson's objections to the distinction between resources and nonresources, and to the suggestion that only the former are to be discounted. One objection is that there is no clear distinction to be drawn; and this claim would be supported by adherents of cost-benefit analysis (such as Pearce's team) who believe that a monetary value can and must be assigned to all benefits and losses, death included. For this belief they have some good grounds, for they are eager to include as many interests as possible in cost/benefit analysis, externalities included, and understandably so, as in no other way can all impacts on interests be included when new initiatives are being costed.

Admittedly one way of costing (for example) large civil engineering projects includes assigning some large but finite value to the predictable deaths of construction workers arising from accidents during the process of construction; and admittedly once a monetary value is given to a death, future costings must consistently adhere to the same valuation for other comparable deaths. Sometimes, inbuilt costings will even approximate to our intuitive judgements about priorities. However, the burden of Jamieson's, Parfit's and Broome's arguments was that applying an SDR to the value of predictable serious harms and deaths of the distant

27. Broome, *CCGW*, pp. 91f. Broome has also argued for a discount rate for those commodities which have 'an interest rate of their own'; see John Broome, 'Discounting the Future', *Philosophy and Public Affairs*, 23.2, Spring 1994, pp. 128–56.

future produces ridiculous results, and shows that discounting is inappropriate in such cases. Whether this is because deaths and serious harms cannot be monetised, or because discounting is inapplicable to any costings thus generated does not need to be decided here. Serious harms and deaths must in any case count as nonresources, since they do not belong to the realm where discounting has been found appropriate.

Jamieson's objection, however, could be more troublesome in the area of interests other than the avoidance of serious harms and of death. Interests such as the retention or loss of a scenic view, or of freedom from noise or of landmarks which confer a sense of identity, are probably included among his examples of nonresources, but are given monetary values by economists at least as readily as injuries, illnesses, incapacitation or death. However, to apply an SDR to interests of the further future such as these is likely to produce results as ludicrous as those of applying an SDR to future deaths; and from this I conclude that they should be not be included in cost-benefit analyses, but given special attention among factors which cannot satisfactorily be costed. In Jamieson's terminology, this makes them nonresources, even though the suggestion that they might somehow have been resources instead verges on the incoherent. At all events, his objection about the possibility of giving monetary value to apparent nonresources turns out not to generate substantial problems.

Jamieson's other objection concerns the possibility of present plans being outvoted by future preferences, across the realm immune from discounting. This objection was also raised against the view that the SDR rate should be zero, where it appeared alongside further objections, including the objection that the preferences of future people are unpredictable. Clearly these objections need to be considered together, since their mutual consistency is questionable.

Now one of Jamieson's claims is that if future preferences are hard to discover but capable of being discovered, then apparently we ought to spend more researching the related interests of future people than in promoting the welfare of present people; but this conclusion borders on the absurd.[28] So it certainly does; but it is only reached because of two dubious assumptions. One of these is that the preferences of people of more than a few months into the future are discoverable in the present at all; but this is highly implausible. A second is that interests (or possibly needs) are a function of preferences. Against this assumption I have argued elsewhere.[29]

But if either interests are not a function of preferences, or if future preferences are mostly undiscoverable, or both, then the case for basing present decision-making on future preferences disappears. And if so, Jamieson's next objection, about the perennial likelihood of the present being outvoted by the future, collapses, at least insofar as it concerns future preferences.

Future needs and interests are a different matter, since we plausibly can form some understanding of these on the basis of the common humanity which we share with future people. Indeed a parallel objection could possibly be mounted on the basis of these needs and interests. But maybe we often pay too little heed to these needs and interests. There would be an upper limit to the diversion of resources away from the present to cater for these needs and interests, if we accept Parfit's and Broome's suggestion of a principle prohibiting any generation having to shoulder excessive burdens, or avoidably receiving a severely unequal (or a

28. Jamieson, p. 6.

29. On the independence of interests from preferences, see Robin Attfield, 'Preferences, Health, Interests and Value', *Electronic Journal of Analytic Philosophy*, 3, Spring 1995, pp. 7–15; on the nature of needs, see Robin Attfield, *Value, Obligation and Meta-Ethics*, Amsterdam and Atlanta: Rodopi, 1995, chapter 5; also Mark Sagoff, *The Economy of the Earth*, Cambridge: Cambridge University Press, 1988.

minute) share of resources; and this could prove enough to prevent decision-making in the present being reduced to paralysis, as suggested by Jamieson, particularly if an exponential SDR should often be applied to resources. But the importance of taking these needs or interests into account suggests that some better form of institutional provision should be made for doing so, and to this we shall return.

Before such provision is considered, Jamieson's remaining objection to a zero SDR needs to be considered. This is the objection that the gulf between the obligations which this would generate and the unconcern expressed in current behaviour suggests that we are motivationally incapable of compliance with these obligations. Now this might well be true if our obligations extended to responding to all the preferences of all future generations; but, as has been seen, they do not and could not. Once again, a parallel argument could be mounted by Jamieson concerning the gulf between present obligations responding to future needs and people's uncaring present behaviour, and the conclusion might again be proposed that, since 'ought' presupposes 'can', it cannot be the case that we ought to respond to these needs. Yet this conclusion would imply that we quite generally have no obligation to make life-and-death differences to future people where present decisions will predictably make impacts of this order, and is thus itself implausible. Besides, the supposed gulf is much less vast than that of Jamieson's actual vast-gulf argument, and could be tackled with the aid of imagination; tackling it would not, now that preferences are no longer in question, involve prophetic psephology. (Anecdotal evidence was adduced at the Conference, suggesting that when citizen groups are consulted, they usually agree that the interests of the distant future ought to be taken much more seriously than happens at present.)

Since Jamieson's general objections to a zero SDR turn out to be inconclusive, they must also be inconclusive with respect to a zero SDR for nonresources. Similarly they must be equally inconclusive if raised as objections to the tentative conclusions reached earlier, which favoured a zero SDR both for what Jamieson calls 'nonresources' and also, in certain circumstances, for what he calls 'resources'. Thus these tentative conclusions stand in face of the most ingenious available objections, and should be regarded as among the conclusions of this paper.

IV

In any case, the feasibility of tackling the gulf between current performance and future-needs-related obligations would be increased by the introduction of improved institutions, and to this issue we can now return. In the absence of advocates of future interests, there is a widespread current tendency to average down the demands of future needs and interests. Thus if the above arguments are sound, considerations of uncertainty, opportunity costs and the like, which apply in some cases but not in all, have been generalised sufficiently to support across-the-board discounting, frequently to the detriment of future people. This tendency could be corrected for by the introduction into governmental decision-making bodies of representatives of future needs and interests. These representatives could and should be supported, both at national and international levels, with research teams charged with discovering probable future needs in areas such as supplies of food and energy, the impacts of global warming, and the abatement of pollution.

I am not suggesting that these representatives should be given a majority vote, despite the likelihood that future people outnumber present ones. One reason for this is that the foreseen impacts of current action should be discounted for uncertainty, where this is relevant, as it very often is; and though it is certain that present decisions will have future impacts,

representatives of the future cannot speak as if certain of the interests they represent, and thus cannot safely be given a preponderance of power. Besides, if they were granted a majority of votes, the remaining decision-makers would come to see themselves as representatives of the present to the exclusion of the future, to the detriment of the quality of decisions taken. All decision-makers should take future interests seriously into account. But the prospects of this happening would be increased if a few specific representatives of the future are present and are given a voice.

Pilot schemes could of course be introduced for an experimental period. Since the representatives of future people could not exercise effective power in this period, they could usefully spend some of their energies on advising current government agencies on issues such as the SDR. For while current bodies are all too likely to perpetuate the use of positive, linear and thus exponential SDRs on the basis that they comprise a crude rule of thumb, and that no alternative is on offer, bodies on which future interests had a voice would be likely to lay down criteria prohibiting the use of SDRs where distant impacts are predictable, where future profits and inflation are so uncertain as to make any SDR ridiculous, or where future interests which cannot be assigned a monetary value are at stake. While I should welcome some Parfitean statisticians and economists setting to work on specifying such criteria, and an ensuing public debate about making the use of SDR selective rather than global, my guess is that it would take the encouragement of the kind of body which has just been suggested before a self-interested present generation would take these proposals seriously.

Bibliography

Attfield, Robin (1995), "Preferences, Health, Interests and Value", *Electronic Journal of Analytic Philosophy*, Vol. 3, No. 2, Spring, pp. 7-15.

Attfield, Robin (1995), *Value, Obligation and Meta-Ethics*, Rodopi: Amsterdam and Atlanta.

Broome, John (1992), *Counting the Cost of Global Warming*, The White Horse Press: Cambridge.

Broome, John (1994), "Discounting the Future", *Philosophy and Public Affairs*, Vol. 23, No. 2, Spring, pp. 128-156.

Jamieson, Dale (1995), "Future Generations", unpublished paper presented to a Workshop of the Swedish Collegium for Advanced Study in Social Sciences, Friiberghs Herrgård, Sweden, 25-27 August 1995.

Parfit, Derek (1983), "Energy Policy and the Further Future: The Social Discount Rate", in Douglas MacLean and Peter G. Brown (eds), *Energy and the Future*, Rowman & Littlefield: Totowa, NJ., pp. 168-179.

Parfit, Derek (1984), *Reasons and Persons*, Clarendon Press: Oxford.Pearce, David, Markandya, Anil and Barbier, Edward B. (1989), *Blueprint for a Green Economy*, Earthscan: London.

Sagoff, Mark (1988), *The Economy of the Earth*, Cambridge University Press: Cambridge.