Abstract: The question of ‘discounting the future’ is one on which philosophers and economists have divergent professional views. There is a lot of talking at cross-purposes across the disciplinary divide here; but there is a fair bit of confusion (I think) within disciplines as well. My aim here is essentially clarificatory. I draw several distinctions that I see as significant:

- Between inter-temporal and inter-generational questions;
- Between price (discount rate) and quantity (inter-T/G allocations) as the ethically relevant magnitude;
- Between price change and preference as the primary instrument of change;

I show that discounting does not violate the principle of inter-T/G neutrality; but I also cast some doubt on whether making adequate allowance for future generations has really been the problem that economists and philosophers seem to have taken it to be.

1. INTRODUCTION

There is a very considerable literature on discount rates, and more generally on the proper way to think about the optimal timing of events in those cases where that timing is under human control. The literature in question appears in a variety of disciplines of which economics and philosophy are two of the more significant. But as John Broome (1994/99) observes, there is a lot of talking at cross-purposes across disciplinary boundaries in relation to this issue. And, in my view, there is also quite a lot of confusion within disciplines -- confusion that the typical formulation of the issues does not adequately discourage.

Consider for example what a number of distinguished economists have had to say about the discounting question:

- Famously, Frank Ramsey asserted that it is “ethically indefensible… to discount later enjoyments in comparison with earlier ones” (1928).
- Koopmans (1960) thought, on the other hand, that discounting is required to avoid the preposterous possibility that successive generations would have an obligation to impoverish themselves indefinitely in order to increase the consumption of a generation that never arrives.
- Pigou (1952) argued that discounting reflects an intrinsically defective “telescopic faculty” with respect to future consumption and saw discounting as an important exception to the rationality of agents.
- Arrow & Kurz (1970) consider inter-temporal preferences to have exactly the same status as preferences among goods within a period, and hence stand or fall on the basis of general consumer sovereignty arguments.
- John Broome (1994) draws a distinction between discounting future goods and discounting future utilities: he thinks the former is unexceptionable, but the latter dubious.

I consider almost all these statements on the issue to be either wrong or misleading or both. My aim here is to try to clarify the issues, and show what the confusions are and why they arise. I accept (as a logical possibility) that the confusions in question may be essentially my own – in which case, any attempts at clarification I might offer will simply add to the confusion. But it does seem clear to me that much of the literature is dogged by a failure to draw relevant distinctions, and to ask the right questions. On this basis, and at the risk of being hopelessly simple-minded, I want here to sketch out what I think of as the proper way to think about these issues.

The exercise has a broader purpose – namely, to exemplify (and thereby advance) an approach to normative analysis that I consider (perhaps...
The characteristic features of the general approach I endorse are:

- A clear distinction between purely normative and positive elements in normative analysis – or equivalently between desirability and feasibility considerations. Proper normative analysis on my view involves a confrontation of desirability with feasibility considerations – much like the confrontation of demand and supply in market choices. Both elements are indispensable, in both applications.

- In particular, the role that the ‘positive’ element plays in any such exercise has to be recognised as crucial. What economists insist on is an approach that “takes feasibility seriously” – and by implication, there is a conviction that this requirement is one that much moral philosophy fails to meet!

- A clear distinction between ends of ultimate normative concern and ends that are essentially derivative. By formulating inter-temporal issues in terms of choosing the appropriate discount rate, normative analysis has treated the relative price between present and future magnitudes as the ultimate end, rather than the temporal distribution of those magnitudes. I do not deny the importance of the discount rate (and changes in it) as a means of securing a more appropriate inter-temporal/inter-generational allocation. But as I shall argue, I do not think that the discount rate has any independent normative significance.

In fact, I think the discounting literature often fails to make other distinctions that are important, if less general. I have in mind in particular:

- The distinction between strictly inter-temporal and inter-generational issues;

- the distinction between policies that operate via changes in relative prices (and treat prevailing preferences as given) and policies that seek to change preferences;

- the distinction between attitude-guiding and action-guiding ethics;

- the distinction between total (or average) and marginal magnitudes.

In what follows, some of these distinctions will be highlighted and their role in clear normative reasoning highlighted. Some of the distinctions will merely be noted as the discussion proceeds, without being accorded any special emphasis.

2. METHOD

As already suggested, I shall analyse ethical choices using more or less the same techniques as economists use in treating all individual rational choices. I take it that normative choice is a matter of putting desirability and feasibility considerations together in an appropriately explicit manner, and techniques of choice analysis are, I believe, a helpful way of organising this juxtaposition. In particular, I shall appeal to an ‘indifference map’ formulation of desirability considerations. [Formulating ethical issues in this way can lead to some confusion. It can, for example, make it seem as if ethically desirable outcomes are actually available for choice in the manner described. There is an important issue as to exactly what the objects of choice really are. I wish to leave this aspect open at this point. The important feature of the approach is simply that ethical issues are conceptualised in terms that foreground the relevance of opportunity costs and the necessity of trade-offs between objects of ethical desirability in a wide range of circumstances.]

In the familiar case of choice among consumer goods, the objects of choice are normally denominated as abstract X’s and Y’s. The optimal combination of X and Y is chosen subject to a budget constraint that reflects the combinations of X and Y that are feasible.

In the ethical context, the objects of conceptualised choice will in the first instance be matters of ultimate normative concern, such as “equality” and “liberty”. That is, we shall begin as if the issue is one of choosing between equality and liberty (or whatever) directly. Practical questions as to exactly how objects of actual choice are denumerated – whether individual actions or policies or rules for policy determination – will be postponed. Questions of “desirability” in the abstract will revolve around the construction of “ethical indifference curves” – that is, the isolation of combinations of the objects of ethical concern which are “equally good” overall. On this basis, everything we need to know about the desirability aspects of normative analysis is contained in two elements:

- the devising of an appropriate metric for each object of normative concern. This metric allow us to indicate, for any particular way the world lies, what its level of desirability (or goodness) in respect of that object is; and

- an “ethical indifference map” indicating combinations of the underlying ethical desiderata so measured (say equality and liberty) between which we should properly be indifferent.

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1 At least in principle, if not in practice. Economists are by no means exempt from the sin of failing to conduct normative analysis in the way their method implies.
This kind of formulation pre-supposes certain facts about the world (eg that trade-offs between the different elements that make up overall desirability will in general be necessary). It also has implications about how those different elements – notions like justice or liberty or equality or well-offness – have to be conceptualised and formulated. These pre-suppositions and implications are not, I think, problematic in the particular context of the discounting debate. It is possible, however, that they may be problematic in other settings. And that possibility needs to be noted, in drawing any more general lessons about the approach to ethical analysis that the treatment here suggests.

The construction of ethical indifference curves requires us to specify states of the world that would be equally desirable under the entire variety of conceptually possible situations in which trade-offs might be required. So feasibility aspects are first introduced counter-factually. Only subsequently will it be necessary to specify how the actual world lies and which particular point in the desirability space is the best.

In fact, use of the term “feasibility” here is slightly unfortunate in one important respect. That term carries with it the implication that feasibility considerations are trumps. If “ought” implies “can” then “cannot” implies “ought not”: if a situation is infeasible then it should not be pursued. But feasibility, like justice and equality and liberty, comes in degrees. Or better put, we rarely have enough knowledge about how the world works to be able to divide states of the world into two mutually exclusive sets – the feasible and the infeasible. What we can do however is to rank states according to how likely or how plausible they are. When the economist deals with spending a given budget in the supermarket, the divide between feasible and infeasible is pretty clear. When we deal with general social states, or ethically relevant features of those states, the divide between feasible and infeasible is a matter of judgement and of degree. Of course, the notion that some states of the world (or some consequences of particular policy changes) are more likely than others seems unexceptionable – and that notion is all we will require in relation to “feasibility” considerations.

Throughout the discussion, I shall simplify by abstracting from matters that I take to be second-order. My aim is to clarify the basic conceptual issues, not to provide a complete treatment of all possible issues. One aspect of this simplification involves restricting the inter-temporal to two “periods”, present and future – or the inter-generational to two generations, current and future. This simplification enables me, in particular, to develop the argument in terms of two-dimensional diagrams – something that I see as an advantage.²

3. TEMPORAL VS GENERATIONAL

In his interesting discussion of discounting, Broome (1994/99) draws a distinction between “plans made by an individual on her own behalf” and “plans made on behalf of the public as a whole”. In fact, there seem to be two distinctions at stake here and both of them merit underlining. One is the distinction between individual and collective action. The other is the distinction between the inter-temporal allocation of net benefits within a life (call this the \( T \) issue) on the one hand, and the allocation of net benefits between different \( \text{individuals separated by time} \) (call this the inter-generational or \( G \) issue) on the other hand.

These two distinctions allow us to draw a simple two by two matrix of possibilities. This matrix will be helpful in keeping track of the issues we are focusing on at various points in the discussion. So in Matrix 1, we depict the relevant set of possibilities, with rows showing the object of choice, and columns the choice context – whether individual or collective. I have inserted within the cells, the kinds of questions relevant for each combination of object and context.

The individual/collective distinction is familiar enough. It crops up almost everywhere. But in any given application, the distinction can be quite complicated. For my purposes here, it will be useful to think of the individual/collective distinction in terms of the difference between the following two possible \( G \)-questions:

How should I allocate my own resources between myself and my heirs?

How should the present generation allocate resources between the current and future generations? Perhaps the latter question collapses to a question of how I ought to vote on inter-generational allocation questions (though perhaps this is too quick).

### Matrix 1

<table>
<thead>
<tr>
<th>object of choice</th>
<th>individual</th>
<th>collective</th>
</tr>
</thead>
<tbody>
<tr>
<td>( G ) questions</td>
<td>How should I manage my bequests?</td>
<td>How should the current generation treat future generations?</td>
</tr>
<tr>
<td>( T ) questions</td>
<td>How should I allocate consumption over a lifetime?</td>
<td>How should people in general allocate consumption over their lifetimes?</td>
</tr>
</tbody>
</table>

² It might be responded that, at least for the kinds of anxieties that Koopmans expresses – the fact in particular that undiscounted infinite sums are infinite -- an important argument in favour of discounting is just swept away. But I think that Koopmans anxieties can be quite neatly depicted in the two-period case without appeal to infinite streams. Besides, I am inclined to the view that infinity is a dangerous concept that often leads to confusion and is better avoided wherever possible. I think there is an important distinction to be drawn between appealing to infinitesimals in the interests of having functions that are continuously differentiable, on the one hand and ‘infinite period’ assumptions on the other. I do not see how it is helpful to assume that the world will go on for ever, when all the relevant evidence suggests the contrary.
It is of course the case that both G and T issues are likely to bear on savings behaviour. Often it will be unclear when an agent is saving during her working life, whether she is doing so in order to increase consumption by herself in her retirement or consumption by her heirs. Equally, many public policies that influence saving will bear on both G and T issues simultaneously. So it will not always be clear whether a set of such policies are concerned with G or T issues (or both).\(^3\)

It is of course possible to design policies that discriminate. A tax on estates (or more or less equivalently, on bequests received), for example, is not the same as a tax on (future) consumption.

Some scholars think that G and T issues amount to the same thing in a more basic conceptual sense. They think that the right way to think of one’s future self is as if that future self were another person. [Parfit(1984), for example.] I am unpersuaded by this view. T-issues are, as I see it, essentially questions of prudence: G-issues essentially questions of justice. If I fail to save adequately for my old age, I hurt myself. If I fail adequately to protect the interests of future generations, I hurt others. It is part of an important strand of liberal thought (associated most notably with J. S. Mill) that harms done to others are different in kind from harms done to oneself, and I do not see how introducing time renders the Millian distinction irrelevant.

To take a specific example, suppose I decide, in relation to the T-question, that it would be good to have a major splurge at some point in my life – take a world-cruise perhaps or have a holiday in Australia! Perhaps it would be best to have that splurge late in my life. That would give me something to look forward to. Or perhaps it would be better to have the splurge early: then I would have pleasant memories to dwell on for a longer period. Perhaps I am indifferent as to when the splurge should best occur – provided that there is one. But on its face, the decision to splurge in itself doesn’t seem especially objectionable. However, we might have serious ethical misgivings about the idea that one generation should be selected to have a more luxurious life than all the rest, even if the selection of the lucky generation is random. The fact that we would have such misgivings in the G-case does not, it seems to me, suggest that we really should have had such misgivings in the T-case after all. The proper conclusion is rather that the cases are not identical.\(^4\)

In what follows I shall develop the reasoning primarily in terms of the G-case. Where it seems appropriate I shall make comments on where I see the T-case as being distinctive. But except where otherwise stated, I leave open the issue of exactly how G-issues and T-issues relate.

4. INTER-GENERATIONAL JUSTICE

1. Analytical preliminaries:

I take it that, in the inter-generational case, we are concerned about the distribution of some magnitude between present and future generations. What the magnitude in question is, is a matter that needs to be resolved – here as in other justice cases. Perhaps capacities; perhaps opportunities; perhaps just well-being. But it is doubtful whether there is anything distinctive about the “distribution of what” question in the inter-generational context. And I shall simply finesse this issue here by representing the magnitude as U, and allowing proponents of various of the contenders to fill in the blank as they will. I should, however, note at this point that I see no reason at all why U cannot be conceived as “utility”, however exactly that concept is fleshed out. So, in so far as discounting is legitimate, we will indeed be discounting utilities, and notwithstanding Broome’s claim, there does not seem to be anything especially objectionable about doing so.

There are two complications that I want to abstract from throughout. First, I assume that the generations hold identical numbers of persons. Second, I assume that the distribution of the U among the individuals who compose the generation is the same in both generations. That latter assumption can be defended by observing that transfers within a generation, whether according to the dictates of justice as then perceived or not, can always be effected in the future when that generation is alive. Perhaps some processes of transfer between present and future generations will have implications for the distribution within the future generation, and perhaps those distributional effects will prove costly to modify should the future generation seek such modification. But I take it that the “main game” is the allocation of U between generations, and in that sense a focus on total, or average per capita\(^5\), U is acceptable.

The identical numbers assumption is less easily defended. But issues relating to numbers as such arise in a whole range of cases, of which inter-generational cases are just one. It therefore seems to me that numbers questions are best handled independently. Issues of inter-generational justice will arise even if numbers in each generation are the same; and it is on those issues that I want to focus.

One further aspect of inter-generational impact that I shall ignore is the question of the precise identity of the generation. Actions taken now may well affect

\(^3\) Interestingly, enthusiasts for the interests of future generations are often opponents of policies that increase bequests. They must have in mind some policies that secure a shift of resources to future generations that operate in some way other than via private bequests – perhaps via the accumulation of public capital. But short of the state becoming the monopoly owner of capital, it is difficult to see how the latter strategy can have anything more than limited application.

\(^4\) Part of the reason why they are not identical connects to memory. Remembering something that happened to me is not the same as knowing that that thing happened to someone else in the past. It may be that the same thing goes for expectations, though here the argument is less clear. Is looking forward to a future treat for myself the same in kind as knowing that someone (necessarily someone else) will get an equivalent treat in the future?

\(^5\) Aggregate and per capita magnitudes are of course equivalent under the identical-numbers assumption.
whether the particular people alive in 100 years’ time will be \{A,B,C,…\} or \{X,Y,Z,…\}. But the justice claims of the unborn are a matter on which I have no developed views. The analysis proceeds as if only persons actually alive at some time or another can make legitimate justice claims. So whether the individual who will exist in the future is A or X is taken to be irrelevant for the justice claims (if any) that whoever it actually is will make on the present generation. In that sense the entire discussion will proceed “anonymously”.6

One final simplification is that I shall assume that there will actually be a future generation to enjoy whatever the present generation bequeaths to them – and that this fact is known with certainty in the present. If there is some uncertainty about future existence, then I take it that it is unexceptionable that discounting for that uncertainty would be permissible – and indeed required. It may be that such uncertainty is itself related to time, so that discounting for uncertainty will look like discounting for time. But of course there is no discounting in such a case for time as such.

More generally there may be uncertainty about the level of \(U\) available in the future. There may be a range of reasonable predictions about future \(U\) and in that case it is appropriate to think of the future \(U\) as the probability-weighted mean of those predictions, perhaps with some allowance for risk-aversion.7 Perhaps this uncertainty about levels will also increase with time and, if there is risk-aversion, this too might justify discounting for time. But these are all complications that serve to obscure the basic issues, so I am going to assume them away. Let us treat \(U\) for the future generation as the relevant \(U\) when all uncertainty effects have been taken into account. Alternatively, just suppose that future \(U\) (under various current actions) is known with certainty.

2. A picture is worth a thousand words:

The analytic convenience of dealing with just two generations – current and future -- permits me to appeal to simple two-dimensional diagrams in illustrating and developing what I regard as the central points. Specifically, consider Figure 1. We show on the vertical axis, the per capita \(U\) of the current generation, \(U_P\), and on the horizontal axis the (expected) per capita \(U\) of the future generation, \(U_F\).

What we construct is a family of ‘ethical indifference’ (or iso-desirability) curves, each of which shows combinations of \(U_P\) and \(U_F\) that are equally “good” or equally ethically desirable. I take it that the magnitudes \(U_P\) and \(U_F\) are the basic objects of ethical desirability. In other words, more of either one (with no less of the other) cannot reduce ethical desirability. And a social state that has more of both is more desirable on that account.

6 For a treatment of these inter-temporal issues where the different identities problem is explicitly dealt with, see John Broome (2006) Weighing Lives Oxford University Press, Oxford.

7 Again, though there may be objections to risk-aversion in relation to utility levels when dealing with choices by the same person there seems no reason why parents may not be risk-averse with respect to their children’s utilities – or towards the utility levels of future generation members more generally.

Question: what additional specifications would we have to impose on the map to satisfy the requirements of justice – in this case inter-generational justice? One principle that it seems natural to invoke (analogically with other justice settings) is the principle of inter-generational neutrality (IGN). This principle states that, if there are circumstances that might induce us to favour one generation over another, the same degree of favouritism would be required in the other direction if the generations’ roles were reversed. This principle might also be described as a kind of ‘anonymity’ principle, in that the circumstances that might justify favourable treatment have to be designated independently of whether the \(P\) or \(F\) subscripts apply. Diagrammatically, the principle requires that the indifference map be symmetric about the \(45^\circ\) line, through the origin. For the time being, I shall take this principle to be a necessary feature of IG justice.

This requirement is of course consistent with a wide range of possible e-indifference maps. There are two extremes that it is useful to isolate. One is the pure utilitarian scheme, in which in which the e-indifference curves are straight lines at right angles to the \(45^\circ\) line from the origin. These certainly satisfy the IGN principle. But such a map can I think plausibly be rejected as reflecting ethical desirability on Koopmans-like grounds. That is, suppose the world is such that there is a positive rate of return on savings throughout the entire range. By this I mean that the consumption possibilities frontier is a line like AB in Fig 1. Investigating such a possibility does not need to depend on claims that that world is a particularly plausible one: testing out desirability issues can involve making appeal to counterfactuals that are just conceptual possibilities. The test operates in the following way: if under a given set of counter-factual possibilities the ethical implications are objectionable, we can reject that conception of desirability.

So, in the case at hand, with simple utilitarian e-indifference curves and AB as the consumption possibilities frontier, it will be the case that the current generation should totally impoverish itself for the benefit of the future generation. Obversely, if the world were such that the best the future generation could do was worse than the best the present generation could do (AB is steeper than the utilitarian e-indifference curves) then the current generation would be licensed to appropriate maximum resources to itself. In other words, the utilitarian scheme renders the fate of generations excessively sensitive to the actual terms of trade between present and future. But this problem, pace Koopmans, is not resolved by “discounting the future” (or for that matter “discounting the present” in the case where the inter-temporal terms of trade favour the present). Suppose one did discount the future so that future \(U\) was worth just enough present \(U\) to rule out corner solutions. Then AB would become coincident with an e-indifference curve, and the inter-temporal allocation of \(U\) would be a matter of ethical indifference. Everything to the future or everything to the present or anything in between would all be equally good.
As I see it, what Koopmans’ argument, properly interpreted, amounts to is not a case for discounting as such, but a case against simple utilitarianism. The e-indifference curves can’t have the shape that utilitarianism implies, because that leads to absurdly unjust outcomes!

At the opposite extreme to the simple utilitarian is the Rawlsian leximin scheme. In this case, e-indifference curves effectively collapse to points along the 45° ray. Strict equality is required, except where the consumption possibilities frontier is upward sloping along that ray. Such a case can’t be ruled out as a conceptual possibility, but it doesn’t seem especially plausible as a real-world possibility. In general, the Rawlsian scheme, inter-generationally interpreted, will require U to be distributed equally between generations – and it will do so whatever the terms of trade between present and future. So suppose that a one dollar reduction in current U would lead to a 100 million increase in future U. The leximin rule would take those terms of trade to be normatively irrelevant in the sense that no retreat from equality of UP and UF would be acceptable, however large the gain to the one generation and however minute the loss to the other. Put another way, suppose we think that the future is going to have very much more U than the present. The leximin rule is going to require the present to claw back U from the future, even if the additional amount of U the present generation can obtain is tiny and the loss to the future is enormous. And this, irrespective of just how tiny the gain and just how huge the loss!

I do not want at this point to rule out this Rawlsian extreme as a conception of G-justice. (I shall say something further about it later.) But its extremeness does seem to me to be a count against it. Perhaps the distribution of U between generations shouldn’t be too sensitive to the intergenerational terms of trade, but complete insensitivity seems to me to go too far. Accepting leximin would have the implication that the current generation would have total licence to appropriate its equal share of all the improvements we expect to take place in the future. I find that implication dubious. Leximin has an implication too in relation to the past (the last 300 years at least) – namely, that past generations have behaved unjustly by failing to appropriate more resources than they did. If, as seems clear to me, each generation over the last few centuries has had access to possibilities for well-offness distinctly in excess of those of its predecessor, previous generations have behaved unjustly towards themselves: they should have consumed more and bequeathed less! Or so a leximin conception of intergenerational justice says. Again, this conclusion seems decidedly implausible to me.

I shall want to return to the fact of progress and its implications again later. At this point, see it as further grounds to reject leximin as a plausible interpretation of justice.

If simple utilitarianism and leximin are to be rejected, we are left with a conception of justice that is ‘prioritarian’ in the sense that there is ‘diminishing marginal desirability’ of increases in any generation’s U – but some responsiveness to the differential capacity of generations to enjoy U. The e-indifference curves in the prioritarian case will be convex to the origin, in the manner indicated in Fig 3. Perhaps the attractiveness of this conception of desirability (to me, given my professional prejudices) lies in the fact that the ‘prioritarian shape’ resembles that which economists assume for rational economic choices more generally. At the very least, I consider the prioritarian form to represent a plausible case, and it is certainly one that most of the economists quoted at the outset would not want to rule out. On this basis, the argument that ensues is developed for the prioritarian formulation.

Given the general overarching IGN constraint, it should be clear that under the prioritarian scheme there will be discounting in any case where the slope of the feasibility frontier along the 45° ray from the origin is other than 45°. This may entail discounting either the present or the future, depending exclusively on whether the inter-temporal terms of trade favour the present or the future. Specifically, under IGN the future generation’s wellbeing will properly be discounted if and only if circumstances are such that the future generation does better than the current. Suppose the terms of trade favour the future, as depicted in Fig 2 by the possibilities set OAB. Then the future generation ought to do better, on general prioritarian grounds, than the current generation. Given IGN, the optimal point will lie below and to the right of the 45° ray from the origin (as at I* in Fig 2). Suppose by contrast that utility possibilities are in decline, so that it will cost the present more U forgone to increase U for the future generation by a given amount. In this event,

- the present generation should ideally do somewhat better than the future;
- and present U should be discounted vis-à-vis future U;
- and the foregoing two requirements, given the prioritarian interpretation and the IGN constraint, are mutually determined. You should discount future U if and only if in the ideal state of affairs the future generation should do better than the present. You should discount present U if and only if in the ideal state of affairs the present should do better than the future.

All this is simple and largely self-evident. But it is sufficient, I think, to dispose of Ramsey’s “indefensibility” claim. Discounting the U of future generations is perfectly legitimate – and indeed a necessary feature of the ideal inter-

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8 The term “prioritarianism” is originally Derek Parfit’s, I believe. The notion is of course totally familiar to economists from the ‘social welfare function’ literature of the 1950’s and 60’s – and in any event reflects a shape analogous to that used in other, more familiar, market applications.
generational distribution of U – in any case where there is a positive rate of return in U-space. The condition:

the social discount rate = the rate of return

is to be interpreted as an optimisation condition for an ideal world (provided only that both are expressed in terms of the same U-values). The social discount rate is merely the slope of the relevant e-indifference curve at any point minus one. The IGN principle requires that there will be “no discounting” (ie the social discount rate is zero) if and only if the ideal point lies along the 45° line. But there is nothing that will ensure that this will be so. One can only achieve this as a necessary truth by making implausible restrictions on one’s notions of desirability! Given IGN and prioritarianism, discounting cannot be ruled out on a priori grounds – and in general it seems extremely likely to be required. 9

One line of response here would be to insist that there is nothing distinctively “generational” about the analysis conducted here. The treatment would be the same whether C and F are interpreted as representative members of different generations or of different locations – or indeed just as contemporaneous individuals. I accept this. Perhaps this is how to interpret Parfit’s claim in relation to future commodities: he claims that discounting in that setting is driven by the fact that one set of people are better off than another, and it is just deceptive to relate such discounting to time in any way. [Parfit (1984)p480-6] Put another way, the discounting in this G-case just reflects the diminishing marginal desirability of each generation’s flourishing – it has nothing to do with time as such. Broome(1999) (p59-60) has a brief discussion of Parfit’s argument to this effect and tends to the view that it is entirely proper to refer to the terms of trade between better off and worse off in any case that involves time as an “interest rate” or equivalently, a “discount rate”.

My own view is that both Broome and Parfit are right here. In devising the “optimal arrangement” and insisting that discounting will be an intrinsic part of that optimal arrangement in general, economists have merely wanted to record the fact that the appropriate trade-off between future and present generations at the margin ought to reflect the relative positions of the two generations. The temporal aspect may in that sense be incidental [Parfit’s claim]. But if it is an analytic fact that different generations are born at different times, and if it is the passage of time that is responsible for the real growth (or real decay) on which the difference in the positions of the different generations depends, then it seems entirely reasonable to refer to the terms of trade between present and future generations’ well-being as involving a “discount rate” in the familiar sense.

5. FEASIBILITY CONSIDERATIONS

In the preceding section, the conception of desirability was formulated in terms of an ethical indifference map. That construction involves imagining various possible feasibility constraints, as we might put it. Now it is time to consult the actual as distinct from the imagined “real world”.

Feasibility obtrudes here at two levels – a ‘resource constraint’ level; and a motivational level. It is doubtful whether within the social order any such distinction can be drawn in a totally satisfactory way, but I do not wish to explore such complications here. 10 The idea of ‘resource constraint’ considerations is that they describe the actual U-possibilities frontier, based on resource and technological availability. Economists usually assume that the terms of trade between present and future involve a ‘positive rate of return to savings’. For the time being, let us assume that this is so [I shall want to re-examine the assumption later]. Perhaps the rate of return will be a declining function of the proportion of current U transferred to the future. That seems likely, in that different investments will earn different rates of return and it will always be best to choose the portfolio that yields the highest rate of return. Suppose the U-possibilities frontier is convex from above in the manner illustrated by NT in Fig 2. Then the ideal outcome, I*, will occur where the e-indifference curve is tangent to NT, with an ‘ideal’ discount rate equal to the slope of NT at that point. This is both diagrammatically and conceptually obvious, and I shall say no more about it at this point. I shall want to return to the ‘resource-constraint’ aspect later.

The motivational aspect of feasibility arises because the actual preferences that individuals have are not the same as the e-preferences. The indifference curves that individuals use in their actual choices (call them a-preferences) exhibit, less us suppose, an excessive priority towards the present generation, compared with the e-preferences. In particular a-preferences do not obey the IGN constraint. The actual (a-)indifference curves have a slope greater than –1 along the 45° ray: and cannot therefore be symmetric about that ray.

Given that this is so, the current generation will respond to the NT frontier by choosing a point above and to the left of I*. Perhaps that point will lie above the 45° ray – that is, will favour the current generation absolutely. Perhaps it will still involve the future generation having more U than the current, but the future won’t have as much U as the state of the world (represented by NT) would justify. Take the former case: in equilibrium, the outcome is at E, where \( U_f^E > U_f^E \).

1. a terminological ambiguity?

I want at this point to expose what I think is a terminological confusion that tends to arise at this point in the argument. Note that at E, there is here no ambiguity about what should be done: we should devise means to move from E

9 The fact that the rate of return (and hence the optimal social discount rate) will in general be a function of the present-future U distribution is made much of by Cowen and Parfit( ) but seems to me to be a total red-herring.

10 We should just note though that individuals’ preferences between work and effort and between present and future consumption largely determine the shape of any “resource” constraints.
towards the ideal allocation $I^*$ with the aim of getting as close to $I^*$ as possible. Or more accurately, if $I^*$ itself proves to be infeasible given the current generation’s actual preferences, the set of points that are feasible should be specified and the highest e-indifference curve available in that set should be chosen.

The normatively required object is clear enough: but how is movement from E possible? If E is indeed the ‘equilibrium’ that emerges from the actual choices of the actual members of the current generation concerning their allocations to the future generation, what can be done? Response can be located in two rather different places. The first is in ‘policy’: the second in ‘persuasion’.

What I will call the ‘policy’ response involves taking a-preferences as given and focusing on policy-induced changes in relative prices to induce agents to locate at (or as close as possible to) $I^*$. Clearly, there exists an a-indifference curve through $I^*$. Let the slope of that a-indifference curve be SS as shown in Fig 3. Given our assumptions about a-preferences, SS involves a higher effective rate of return – and so a higher rate of discount – than the slope of NT at $I^*$. So, on this approach, the “problem” at E is that the discount rate is too low. We need to organise policy in such a way that the discount rate becomes higher. Whether we focus on a-indifference curves or e-ones, saying that the discount rate should be higher is just another way of saying that the share of available U going to the future should increase!

But this way of putting things can be confusing, because if one adopts a ‘persuasion’-oriented approach, one wants to say precisely the opposite. The persuasion-oriented approach involves a focus on the faulty a-indifference curves. On this approach, the object is to persuade the relevant agents to replace their faulty a-preferences with the ‘proper’ e-indifference curves. The ‘persuasion’ approach involves an appeal to the claims of intergenerational justice (the e-indifference curves) not just for the purposes of isolating what outcome would be best, but also as a means of inducing people to act in such a way as to achieve that outcome. If one takes this approach, then the natural way to speak is that the a-indifference curves involve too high a rate of discount. The rate of discount should be lower!

Part of the confusion between philosophers and economists over discount rate issues revolves around the fact that economists naturally think of ‘policy’ solutions and philosophers of ‘persuasion-oriented’ solutions. At one level, the confusion is purely verbal. It arises largely because of talk about discount rates. For there is no disagreement about the direction in which the current/future share should move: the future should get more. The confusion could be avoided if ends were specified in terms of intergenerational allocations rather than in terms of discount rates.

But there remains a disagreement – or at least a difference in emphasis – about where response is properly located. Should one operate on relative prices, taking a-preferences as given? Or should one target the a-preferences themselves? Both approaches confront some difficulties. One might observe, for example, that for the persuasion strategy to cut any ice at all, it must be the case that the relevant individuals are not utterly bereft of a sense of justice. But if that is so, that sense of justice will have already played a role in forming people’s a-preferences. People do make bequests to their children – and probably more significantly, make transfers of some magnitude inter vivos. People may well respond to the moral philosophers that they have already taken the claims of justice into account!

2. political feasibility?

There is a related problem. The allocation of U between generations emerges from the decisions of a large number of individual agents, all making individual decisions about their own inter-generational giving – both inter vivos and via bequest. The claims of inter-generational justice we have been examining here are cut at a more aggregative level. It is not even obvious that if individuals were persuaded to make larger bequests, for example, that this would not imperil the pursuit of justice on another margin. The heirs of rich people in the current generation would do yet better vis-à-vis the heirs of the currently poor. Securing a greater transfer to future generations encourages ‘dynasty’ effects – with attendant implications for distribution of U within each generation. Members of the current generation may have to be persuaded not just to bequeath more to the future, but also to alter the inter-personal allocation of their bequests. And even were they to do this, they would still have to co-ordinate their actions in such a way as to secure the most just result. The natural mechanism for such large-scale co-ordination is of course politics; and it certainly seems as if some political action will be necessary.

But, as public choice commentators have observed, it cannot simply be assumed that political action can be relied on to solve the problem. One tradition in economic policy analysis (perhaps still the predominant tradition) is to assume that policy-makers operate as “benevolent despots”, or “government-house utilitarians”\(^\text{11}\). The conceived task is just to design the “best” policies – policies that would achieve $I^*$, if implemented, without concern as to whether such policies have any chance of being implemented or not. But within an approach that prides itself on “taking feasibility seriously”, this kind of formulation is hardy adequate. It is necessary to provide some account of how it might be that political processes might give rise to different preferences towards the future than individuals are using in their private decisions.

Orthodox public choice theory is sceptical as to whether any such account can be given. Short of doing the impossible and enfranchising future generations, the forces of self-interest that are seen to drive a wedge between a-preferences and e-preferences will just re-emerge at the political level. I think there is an answer to this challenge – set out in Brennan and Lomasky (1993) and Brennan and

\(^{11}\) I use the term “government-house utilitarians” because it is part of stock vocabulary among philosophers. The “utilitarian” element is gratuitous. What is characteristic of the approach is the joint assumptions that policy-makers act in accordance with moral dictates and that they lie outside the set of ‘policy-takers’. They could be “g-h libertarians” or “g-h egalitarians” no less aptly.
Hamlin (2000) – but I do not want to engage those questions here. My point is the weak one that it is not totally obvious that politics qua politics will plausibly lead to intergenerational justice improvements. It is worth noting in this connection a distinctive feature of inter-generational as distinct from intra-generational justice. Whereas in the latter case, the beneficiaries of greater justice are politically present and can use their political power to promote their interests, in the inter-generational case it is of the essence that the future generation is not fully present politically and indeed may have no voice in current political decisions at all.

6. IS THERE A PROBLEM?

1. the fact of progress?

I have argued in the foregoing that the issue of discounting ought to be refocused to confront the object of ultimate concern – namely, the relative share of U going to future as against present generations – and that attention to the relative price between present and future magnitudes serves to obscure that more basic object. Suppose we do refocus the issue in this way. Then one can’t avoid the question as to whether all the talk about discounting might not be dealing with a non-problem. For it is certainly arguable that over the last three centuries or so, it has been pretty much routine that each generation has done better than its predecessor. Of course, some generations have done rather poorly – that which endured the second world war for example. But the second world war, although it does not occur in a historical vacuum, is not obviously to be considered as mainly a result of inadequate action on the part of previous generations. The main responsibility for major wars seems to lie with those who, in their own generation, fought them. If this is accepted, then on average, and allowing each generation the scope to act for good or ill in its own time, each generation has, I assert, had better opportunities for a better life on average than its predecessor. Average material well-being has increased. Life expectancy has increased. It seems to me to be unexceptionable to claim that, at least in terms relevant for anything that is potentially transferable between generations, there has been general progress.

As noted earlier, if one were a simple inter-generational Rawlsian, the moral would seem to be that previous generations made a mistake: they should have kept more for themselves! The problem, on the leximin interpretation of inter-generational justice, is not that generations exhibit too little concern for the future but too much! Or at least, that has been the problem over the last three hundred years or so.

2. responses:

There are four possible responses to this observation:

The first is that all the alleged “progress” is illusory. Once one takes environmental (or perhaps other non-material) effects into account, so the argument might go, we actually worse off than our forebears. I am sceptical about this claim. As far as the environment is concerned, the purely medical evidence seems to refute it. Perhaps previous generations damaged the environment in ways that have left us on balance worse off, but actually one can point to lots of cases of improvement over the last few decades as environmental consciousness has increased. Probably, if we are worse off than our forebears because of environmental effects that is because of their ignorance about environmental effects, rather than because of inadequate concern for the future.

The second possible response is that, while it is true that things have improved in the past, the good news is running out. We did better than our forefathers but we do not really expect our children to do better than we have done. Progress of the kind that has been enjoyed over the last three hundred years has simply come to an end. As the comic lead in Rodgers’ and Hammerstein’s musical Oklahoma! puts it, “they’ve gone about as far as they can go!” {from the song: ‘Everything’s up to date in Kansas City’!}. But the people (probably many in each generation) who have thought that progress has come to an end have just been shown again and again to be lacking in imagination. At the very least, it seems to me, the onus of proof lies with those who contend that the trend will alter. Incidentally, no-one in the discounting debate seems to engage that challenge: they just extrapolate from a presumed self-interest, generationally aggregated!

The third response accepts that there has been progress, but reckons that progress has not been extensive enough. Prioritarian principles in their utilitarian aspect, so one might say, indicate that the fact that the future can do better than the present is itself reason that each generation there could have been – and that reduced progress has been unfair to the future. They should have done yet better! Perhaps this is so. But the force of the discounting literature lies in an anxiety that the future may be impoverished because of the current generation’s profligacy. The character of the argument changes if the future is going to be significantly better than the present anyway!

The final response involves a straight out rejection of the IGN principle in favour of a different principle – the “perpetual progress” principle [PP]. As already noted, the IGN principle -- together with a Rawlsian presumption favouring equality over the generations very highly -- would just licence us to appropriate to ourselves a major share in all the
future benefits that will accrue to mankind. What, we might ask, of the idea that we want our kids to have it better than we did? What about the “pass it on” principle whereby we pay back our debt to our parents by working as hard for our children’s future as they worked for ours? These folk principles seem to me to be widespread; and admit a certain evolutionary rationale. In that sense, the PP principle may well be more consistent with ordinary folk morality than the IGN principle is.

But the acceptance of this fourth response rather changes the character of the literature on the ethics of ‘discounting’. For on this view, it is not so much that the human telescopic faculty is defective, as that the degree of magnification in the (perfectly adequate) telescope just isn’t large enough! It’s not that we see persons afar off in the distant future as smaller than we are: it is that we don’t see them sufficiently larger than they are. If this is the argument – that is, if it is the PP principle that is driving discussions of discounting -- then much of the standard literature emerges as somewhat disingenuous, to say the least. It is worth noting in this connection that the PP principle introduces an intrinsically temporal aspect into the analysis of inter-generational ‘justice’ – namely a specific bias towards the future. This is relevant because IG justice would then turn out to invoke different principles from those applying to justice within a period. IG-justice would involve a bias towards the future. And then the question would have to be posed as to what justification for the difference in principles one could devise. After all, if it is the case that people attend disproportionately to the interests of their children, whether for evolutionary reasons or otherwise, it is by no means obvious that this fact represents a normative defence of the practice.

3. the ‘invisible’ character of progress?

The fact of progress (assuming that it is or has been a fact) raises a rather different sort of question – namely, whether the attitudes of individuals towards the future are really so significant. Suppose that Pigou and his supporters are broadly right as a matter of psychology – that the current generation is insufficiently attentive to the future. That claim sits nicely with the general presumption of predominant self-interest with which economics is often associated. But if that psychological presumption is right, then the fact of human progress seems to imply that the relative position of successive generations actually has rather little to do with individual intentions. Perhaps the processes that generate progress are “invisible” ones. Perhaps progress just emerges from the interactions among rational agents but is not itself directly chosen by them. Put another way, “how the world works” in determining the relative flourishing of successive generations needs to be specified in somewhat more detail before the status of ‘psychological failures’ of various kinds can be assessed. What are the mechanisms of effective transfer? And to what extent are those mechanisms susceptible to deliberate action – whether collective or individual?

I will not attempt here to answer those questions. This paper is long enough. But it is perhaps not too implausible to think that the major part of what each generation has “inherited” from the previous generation has lain primarily in the form of settled, socially robust institutions and an ever-accumulating stock of knowledge. On this view, the important thing about the relation between generations is not so much matters of bequest or gifts inter vivos – which biological forces take care of pretty well in most cases anyway – but rather the accumulation of capital and the division of labour, the benefits of which each individual appropriates throughout her life whenever that happens to occur.

If this is so -- if, that is, agent intention is a second-order issue in the operation of intergenerational transfer processes, the status of preference-modifying solutions to perceived problems. Here, as elsewhere perhaps, the important issue is to understand why the world is as it is, and why it changes in the way it does. What I can, and should, do to make it better may be less important than our natural megalomaniac tendencies lead us to think.

7. Conclusion

The first and most important conclusion I wish to draw from the reflections here relates to the ‘discount rate’ focus of much of the literature. I think this focus is misleading. It is perhaps the last residue of “just price” thinking in normative economics and it ought to go the way of other just-price discussions. This is not to say that prices are irrelevant to normative reasoning. But they are relevant derivatively not intrinsically – they are a means, not an end. The ultimate normative end is the inter-temporal/generational allocation/distribution of the magnitude under consideration, not the marginal terms of trade between present and future.

Against the background of that general conclusion, the paper has advanced various distinctions that seem to me to be important:

- that between pure desirability and pure feasibility aspects of normative analysis;
- that between inter-temporal issues within a life (matters of prudence) and inter-generational issues between different lives;
- that between the principle of inter-generational neutrality and the principle of perpetual progress, as rival meta-level principles of inter-generational justice;
- that between utilitarian, leximin and prioritarian interpretations of substantive IG justice;
- that between policies/actions that attempt to change relative prices and those that attempt to change preferences.
By way of summary, it may finally be useful to return to the list of positions that various notable economists have taken on this issue and investigate what response we might make to each in the light of this attempt at clarification.

To Koopmans, we observe that the solution to the problems he identifies lie not in discounting for time, but rather in adopting a prioritarian principle of justice.

To Ramsey, we observe that it is perfectly defensible to discount future consumptions in comparison with earlier ones if aggregate consumption in the future will be greater than earlier. The “indefensibility” attaches rather to the simple utilitarian principle.

To Arrow and Kurz, we remark that whatever authority the principle of consumer sovereignty may exert in the inter-temporal case, it is not applicable to the inter-generational case.

And to John Broome, we respond that there seems to be no particular reason to refrain from discounting utilities. We should discount whatever magnitude is relevant to inter-generational justice in any circumstance where the inter-temporal distribution is such as to require discounting. [Under the IGN principle, this will be where the optimal outcome involves inter-generational inequality.]

In lots of specific applications (in cost-benefit analysis, say) there are often second-best issues of some complexity. I have said nothing specifically about those cases, though I do think that great care has to be taken in specifying the constraints that are applicable in these settings, in order to work out what is the best thing to do, within the actual opportunity set facing the actor. This rubric follows from the general admonition to “take feasibility seriously” – an admonition that is usually treated in a rather perfunctory fashion in my view.

Taking feasibility seriously, however, raises questions not just about what it is best to do but also whether the identified problem is as pressing as it is taken to be. If as a matter of fact, generations tend to do better than their predecessors, notwithstanding alleged “defective telescopic faculties” and the like, this fact is one that needs to be centre-stage in any appraisal of relevant policy. We may well be looking for policy solutions to problems that exist almost entirely in the mind of the policy-maker. And this represents my response to Pigou -- at least, in relation to the inter-generational version of the issue. Perhaps the prudential case is different. Perhaps it is true that individuals make hopelessly inadequate provision for their own futures in general. But the IG case makes me just a little sceptical on this aspect. The fact that policy-makers seem anxious about a perceived ‘problem’ is not for me adequate grounds for believing that a problem exists.