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Justice and Future Generations

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Abstract

The question of what responsibilities members of one generation have to later generations raises complex theoretical questions and is also of considerable practical importance. In this article, I introduce the practical issues at stake (Section 1), then explore the methodological issues surrounding how to think about intergenerational justice (Section 2), before evaluating competing normative frameworks (Sections 3–7). I conclude with a discussion of the practical challenges facing the realization of justice to future generations (Section 8).

1. DEFINING INTERGENERATIONAL JUSTICE

The term "future generations" can be used in at least three distinct ways. First, it could refer to those who are not yet born (*future generations*$_1$). Second, it could refer to those who are not yet citizens (*future generations*$_2$), a group which, unlike *future generations*$_1$, includes children. For example, some organizations that campaign for future generations include children within their remit (for an example, see **http://www.vofg.org**).

Some discussions conceive of a generation as equivalent to a certain age cohort (e.g., Gosseries 2001, p. 295). For example, it is common to think that society is composed of three groups—the young, those at working age, and those who have retired from work. In such circumstances, one question that arises is: What does one generation (say those at working age) owe the others (the young and those who have retired from work)? This is a natural question and a reasonable way of thinking about justice between generations. Note, however, that if this question is meaningful (as I think it is), then it gives rise to a third conception of future generations, *future generations*$_3$, according to which for any age cohort (generation$_3$), the term "future generations" refers to all the age cohorts that come after it—which might include children and adult citizens, as well as the unborn.[1]

Given that our ultimate concern here is to address the substantive normative question of what responsibilities and rights persons have, there is nothing to be gained from stipulating that one of these usages is better than the others. Rather, what we should do is examine the competing normative arguments and their implications for who should be included in the scope of justice. How we define the terms is not of fundamental importance; the reason for drawing these distinctions is simply to clarify the various (conflicting) ways in which different arguments conceive of future generations.

A second point to note is that intergenerational justice (a term I employ as shorthand for "justice for future generations") is a very heterogeneous category.[2] Issues of intergenerational justice can vary in their subject matter, their temporal scope, and their geographical scope.

1.1. Subject Matter

We can distinguish between different kinds of responsibilities to future generations. Some concern what we might term economic responsibilities and are focused on the distribution of income and wealth. A paradigm question would be whether current generations may leave public debts to be paid by future generations.[3] Some thinkers, such as Thomas Jefferson, find this unjust [Jefferson 1999 (1813), especially pp. 598–600], whereas many others think that this is permissible. A second set of responsibilities concern what we might term ecological responsibilities, where these are focused on the use of natural resources and the creation of environmental hazards. Consider, for example, the creation of nuclear waste, biodiversity loss, climate change, and the exhaustion of nonrenewable natural resources. We might also include concerns about overpopulation under this heading, since the primary worry here is about creating a world in which future people are unable

[1] For a discussion of different ways of conceiving of generations and examples of how different thinkers have conceptualized generations, see Tremmel (2009, pp. 19–25).

[2] One could quite reasonably define intergenerational justice so that it also includes the issues of justice that arise from the acts of past generations (and so, for example, includes the implications of historic injustice). My focus here, though, is solely on justice and future generations. I thus do not discuss issues of justice that arise from the acts of past generations, except insofar as they bear on what is owed to future generations.

[3] For an instructive survey of attitudes to public debt (including those of David Hume, Thomas Jefferson, Montesquieu and Adam Smith, among others), see Dyson (2014, ch. 3, especially p. 70ff). For a modern statement, see also Buchanan [1999 (1958)].

to meet their needs (Conly 2016). A third set might be termed bioethical responsibilities. A good example of this kind of responsibility arises in the context of the use of antibiotics. Overuse of antibiotics by the members of one generation can lead to the emergence of drug-resistant infections that will impact the health of future generations. This then poses a question of intergenerational justice: To what extent should members of one generation curtail their use of antibiotics because their overuse creates serious health threats to future generations?[4]

By referring to economic, ecological, and bioethical responsibilities, I am not claiming that these are wholly distinct categories. They are often causally interrelated and frequently overlap. Furthermore, they can all be seen as raising questions of intergenerational distributive justice, for all concern the distribution of burdens and benefits between people over time.

These do not, however, exhaust the questions we might ask about our responsibilities to future generations. Further questions concern what we might term political responsibilities to the future. By this, I mean the responsibilities that focus on political institutions and ask what respecting future generations requires in terms of either (*a*) creating new political institutions and reforming existing ones or (*b*) respecting future political institutions. One approach is essentially instrumental and is centered on *a*. It starts by reflecting on what economic and ecological responsibilities one generation has to future generations, and it then argues that current generations should design political institutions so that (consistent with other moral values) they best realize these principles of intergenerational justice. The political responsibilities to the future are thus defined in terms of responsibilities to create and maintain institutions that further intergenerational distributive justice (Caney 2016). A related instrumental approach argues that current generations have political responsibilities to protect the functioning of democratic institutions in the future (Thompson 2010). There are, however, other quite different ways of thinking about one generation's political responsibilities to the future. For example, one longstanding view focuses on *b*. It holds that current generations have a duty not to bind future generations, and should instead respect their right to be self-determining [Jefferson 1999 (1789); Paine 2000 (1791), especially pp. 63–66].[5] Jefferson famously argued on this basis that "no society may make a perpetual constitution, or even a perpetual law" [1999 (1789), p. 596]. My focus in this article is primarily on the distributive responsibilities to future generations, but I return to the political dimension in Section 8.

1.2. Temporal Scope

Some problems of intergenerational justice reach into the distant future. Consider, for example, the moral permissibility of creating nuclear waste, which needs to be "stored and guarded for 10,000 years" (Archer 2009, p. 11). Climate change too has a very long temporal scope. Archer (2009, p. 1) writes that if we focus on burning one ton of coal, "[t]he CO_2 coming from a quarter of that ton will still be affecting the climate one thousand years from now" and "[a]bout 10% of the CO_2 from coal will still be affecting the climate in one hundred thousand years."

Other cases, however, have a much shorter time span. For example, many countries are experiencing low birthrates and increased longevity, and such ageing societies are encountering difficulties in sustaining welfare state provision (Esping-Andersen 2009, ch. 5; Harper 2014).

[4]I am very grateful to Zeb Jamrozik for drawing this to my attention and for advice. For instructive discussion, see Littmann & Viens (2015, p. 217) and the sustained analysis by Littmann (2014, ch. 8).

[5]For an instructive discussion of the perspectives of a wide range of thinkers (including Blackstone, Hooker, Hume, Jefferson, Madison, and Paine, among others) on this issue of binding the future, see Holmes (1995, ch. 5). For an important contemporary treatment, see Otsuka (2003, ch. 7).

Governments in such societies are thus faced with a question of intergenerational justice in the sense that they must decide where cuts must be made and to what extent the burdens should be borne by pensioners, by those of working age, or by the young (Schokkaert & van Parijs 2003). This problem is, however, one that primarily applies during the demographic transition.

Some theories hold that differences in temporal scope have significant implications. Some, for example, think that generations have different responsibilities to those near in time than they do to generations in the distant future (de Shalit 1995, especially pp. 54–55).

1.3. Geographical Scope

Intergenerational problems differ in their geographical scope. Some apply primarily within a state. The question concerning how much debt one generation can pass on to another is of this character. Some others might be transnational in their scope. For example, current members of the European Union might be subject to duties of intergenerational justice that apply to EU citizens. Other examples are, however, global in their nature. Clearly, climate change is an example.

In recent years, some scientists have argued that the impact of humanity on the planet as a whole is so great—and the effects so profound and so long-lasting—that we have left the Holocene and entered a new period of geological time, which they term the Anthropocene (Crutzen 2002, p. 23). A considerable body of work has now developed to support this claim (Steffen et al. 2011, 2015). At the time of writing, the Subcommission on Quaternary Stratigraphy has a working group on the Anthropocene, which is scheduled to report on whether the evidence is sufficient to establish that we are in an era appropriately termed the Anthropocene and whether it is a useful term (**https://quaternary.stratigraphy.org/workinggroups/anthropocene**). Whether humanity has entered a categorically distinct era may not be that crucial. The relevant point is that some problems are global in geographical scope and reach into the future. For this reason, we need principles of justice that both extend globally and include current and future generations.

2. DERIVING PRINCIPLES OF INTERGENERATIONAL JUSTICE

Having noted the variety of topics that can legitimately be thought to come under the heading of intergenerational justice, we can now begin to consider what responsibilities members of one generation have to future generations. Before we consider various substantive theories, it is instructive to address the methodological question of how to reason about our responsibilities to future generations. How should we derive principles of intergenerational justice? Are they different from those that apply within one generation, and if so, why? Or should we simply apply the same principles to the intergenerational context that we do to the intragenerational one? What is at stake here are what Rawls calls the "problems of extension" (1993, pp. 20–21), where these are concerned with whether principles derived in one context might be applied to another, and if so, how.

One promising suggestion has been put forward by Barry (1999). He writes that we should start with our best understanding of what principles of justice apply among contemporaries. We should then investigate whether there are any morally relevant differences between the intragenerational and the intergenerational contexts, such that the principles that apply among contemporaries do not apply in the intergenerational context (Barry 1999, pp. 93–94, 96–100).[6] This is a sensible methodology: If various principles apply in one context, then we need to know whether another context is relevantly similar (in which case the same principles apply) or relevantly different (in

[6]Drawing on Barry (1999), I have developed a fuller treatment (Caney in press, part II).

which case new principles are required, which reflect the special nature of the intergenerational context).

To put this methodology into practice, we need to consider various ways in which one might think that the intergenerational context is different in a morally relevant way. Doing this also enables us to locate where people disagree, and thus can explain why some are skeptical of principles of intergenerational justice, and why others endorse some principles of intergenerational justice but think that they differ from those that apply among contemporaries.

We can group the possible differences between the intra- and intergenerational contexts under five headings.[7] Before I do so, three points are worth noting. First, what follows are some *proposed* disanalogies. By listing them I am not claiming either that they do in fact mark out differences between the intergenerational and intragenerational contexts or that these differences are morally relevant ones. Second, as will become apparent, not all proposed disanalogies operate with the same conception of future generations. Third, while I shall present all five ways in which one might argue that the intergenerational realm is morally distinctive in this section, I explore only some of them in depth here. Since the others raise many complex issues, I address them in later sections.

We can now consider the five different kinds of potential disanalogy: what I shall term the nonexistence argument (A1), the affecting arguments (A2–A5), the epistemic arguments (A6, A7), the relational arguments (A8, A9), and the feasibility arguments (A10–A12).

2.1. Nonexistence of the Future

The nonexistence argument points out that

- A1. Future generations (understood as *future generations*$_1$) do not exist.

Some make much of this. For example, Beckerman & Pasek (2001) argue that one cannot have anything if one does not exist and thus conclude that the only entities who can have rights are existing people. Future people, therefore, cannot have rights (Beckerman & Pasek 2001, especially pp. 15–16, 19; De George 1981, p. 159). Many others, however, remain unmoved by this argument. One common reply is that even if future people do not have rights now, they will do so in the future, and that that imposes obligations on earlier generations (Elliot 1989, p. 162; Feinberg 1980, pp. 181–82; Meyer 2016, sec. 2.1; Tremmel 2009, p. 49).

2.2. Affecting the Future

Let us turn then to consider a second way in which the intergenerational context might be thought to be distinctive. One striking feature of the intergenerational context is that many features that we take to be fixed in the intragenerational context (such as the number of people or their identities) are not fixed in the intergenerational context. Rather, earlier generations can, and often do, exert a large influence on many aspects of future societies. Three ways in which current generations affect the future are encapsulated below.

- A2. Members of one generation can affect the number and kinds of goods available in the future.
- A3. Members of one generation can affect the number and kinds of people who will live in the future.

[7]For two instructive discussions, see Gosseries & Meyer (2009a, pp. 2–5) and Meyer (2016, sec. 1), both of whom note many ways in which it might be argued that the intergenerational context differs in morally relevant respects from the intragenerational context.

- A4. Members of one generation can, after a certain period of time, affect the identities of those who are born in the future.
- A5. Members of one generation are not vulnerable to the actions of later generations to the same extent that the latter are vulnerable to the actions of preceding generations.

We now unpack the affecting arguments a little, beginning with A2. Members of one generation can affect the amount of wealth in the future (the number of goods). They can do this for good (by increasing the volume of benefits in the future through sound investment) or for ill (by, say, causing biodiversity loss or climate change, or engaging in unsustainable farming practices, or depleting scarce and irreplaceable natural resources). They can also affect the kinds of goods available in the future (for example, how many natural resources there will be and how much capital). If we turn now to A3: Individuals and governments can both, in different ways, affect future population size. Members of one generation can also affect the kinds of people born in the future by changing diets and through various kinds of human "enhancement" (Buchanan 2011) including genome editing (Nuffield Council on Bioethics 2016). So A3 applies.

Should either A2 or A3 make a difference to how we theorize about justice? Two points can be made in reply. First, it is not at all clear that either of these considerations gives us reason to think that, at the most fundamental level, the principles of distributive justice that apply in our relations to future generations are different from those that apply among contemporaries. Rather, the fact that existing generations can affect both the stock of resources available in the future and also future population size are important empirical factors that should inform any account of how a society discharges its responsibilities to future generations. For example, some accounts of intergenerational justice require that every person—current and future—be above a certain minimum standard of living (Meyer & Roser 2009; Page 2006, ch. 4, especially pp. 90–95; Page 2007). To realize any theory with this kind of sufficientarian commitment requires earlier generations to act in such a way that the number and kinds of goods available are sufficient to meet the minimum standard of living of those born in the future. They must then ensure that their actions do not result in there being too few resources for too many people in the future. It is for this reason that one strand of research into protecting the future has been so preoccupied with concerns about overconsumption and depleting scarce resources (Daly 1996) and that another, stretching back to Malthus [1993 (1798)], is concerned about overpopulation (Cafaro & Crist 2012, Conly 2016).

A second point: The fact that current generations can affect the kinds and number of people in the future (A3) does introduce some new questions. It compels us to address questions that simply do not arise within the context of a single generation. For example, in the intergenerational case, we face questions such as what procreative rights people have, whether there can ever be justified limits on these, and whether "enhancement" is permissible or even required. The intergenerational context, thus, introduces a whole new set of questions (Buchanan 2011, Heyd 1992, Karnein 2012).

If we now consider A4, a great deal of work on intergenerational ethics has been prompted by reflection on this. The fact that the policies implemented by one generation can affect the identities of future people gives rise to what Parfit (1984, ch. 16) terms the "non-identity problem." Since this has generated an enormous literature, I address the significance of A4 in Section 6.

This leaves A5. Why should asymmetry matter? One answer is given by Hubin (1976), who argues (drawing on his interpretation of Hume and Rawls) that principles of justice apply only in certain circumstances. In particular, he claims, justice applies only when the members of a group have roughly equal power (Hubin 1976, p. 79). He then argues, appealing to what I have termed A5, that later and earlier generations are not of equal power, for later generations are vulnerable to the actions of earlier generations (e.g., the legacy of nuclear waste) to a greater extent than the earlier generations are vulnerable to the actions of later ones (Hubin 1976, p. 80).

Even if we grant Hubin's empirical claim, his normative starting point is highly questionable. As Barry (1978, pp. 220–23) noted in a trenchant essay, it is simply implausible to argue that the powerful are not bound by obligations of justice to the weak and defenseless (see also Barry 1989, pp. 160–63). Indeed, Goodin (1985, especially pp. 177–78) argues that the vulnerability of future generations—and the corresponding power of earlier generations—imposes strong responsibilities on current generations. A related argument is made by Jonas in *The Imperative of Responsibility* (1984). He reasons that by virtue of our enhanced technological powers and what he terms "the critical vulnerability of nature to man's technological intervention" (Jonas 1984, p. 6), humanity is bound by a new ethical imperative, one centered on preserving the environment so that it remains fit for human life to continue (Jonas 1984, p. 11). Summarizing this line of argument, we might say that current generations have considerable power,[8] and that, by virtue of this, they have duties. In the words of *Spider-Man* (or, to be precise, Uncle Ben): "With great power comes great responsibility" (Caney 2014a, p. 141).

In short, then, on the basis of what we have seen so far, the fact that earlier generations affect later ones does not entail that different principles of distributive justice apply in the intergenerational realm. Rather, these facts (*a*) should inform how earlier generations realize their responsibilities to future generations, (*b*) raise some new questions that do not arise within a wholly intragenerational context, and (*c*) can, on some views, help ground responsibilities to the future.

2.3. Epistemic Considerations

Consider now a third set of factors that might differentiate between the intra- and intergenerational realms. As some note, whereas we can, in principle, know much about our contemporaries, our understanding of the future, perhaps especially the remote future, is characterized by much uncertainty (Meyer 2016, sec. 1). With this in mind, some might maintain that our ignorance of the future constitutes a morally relevant difference between the intra- and intergenerational contexts. There are different kinds of ignorance about the future, and we can distinguish between the following two epistemic arguments:

- A6. Members of one generation can have knowledge of the preferences or values of current generations, whereas they may not know those of future generations.
- A7. Members of one generation can have knowledge of the conditions that current generations face, whereas they may not know those that future generations will face.

Do these mark morally relevant differences between the intragenerational and intergenerational contexts? Three points should be made in reply. First, to the extent that these considerations have force, it is when we think of remote generations. It does not apply to children or to those about to be born. Second, the force of A6 depends on whether our focus is on people's very specific preferences or on more basic interests. Now while it may not be possible to know the particular preferences of people living in 100 years' time (for example, their tastes in music), we can be confident that they will prefer not to suffer from disease, malnutrition, or violent conflict (Barry 1991c, p. 248). What we need here is for a theory of intergenerational justice to focus on core interests—ones that are compatible with a wide variety of conceptions of the good—but this is also true of justice among contemporaries, where there is also a paramount case for principles of justice that accommodate diversity. The third point is that humans' assumptions about the future have often proved to be mistaken. Again, however, this does not entail either that principles of justice do not apply or that the principles that govern our relations to future generations differ

[8]However, for an important qualification, see A12 and the brief discussion of it in Section 7.

from those that apply among contemporaries. In both the intra- and intergenerational contexts, we would want a method for dealing with risk and uncertainty (whether it is centered on traditional decision theory or employs a different methodology). In short, then, A6 and A7 give us no reason to devise new principles for the intergenerational realm.

Two other potential disanalogies remain.

2.4. Relational Considerations

One of the remaining disanalogies takes as its starting point the observation that much theorizing about justice follows Rawls (1971) in thinking that justice applies to social and economic relationships. Furthermore, in recent years, others have defined equality in terms of a certain kind of social relationship (Anderson 1999; Scheffler 2010, chs. 7 and 8). It might be argued that the kinds of relationships that generate principles of justice exist between contemporaries but do not exist between one generation and (at least some) future generations. Here are two possible relational arguments:

- A8. Members of one generation can engage in relationships of reciprocity with their contemporaries but not with (nonoverlapping) future generations.
- A9. Members of one generation can participate in certain kinds of social relationships with their contemporaries but not with (nonoverlapping) future generations.

Since these statements need clarification, and a considerable amount has been written on A8 in particular, I return to these arguments in Sections 3 and 4.

2.5. Feasibility Considerations

This leaves one final set of potential differences. Thus far, I have focused on potential differences that apply to both ideal and nonideal theorizing about the future. One might, however, argue that the pursuit of intergenerational justice faces not only the standard obstacles to implementation that we face in a nonideal world but also that some additional serious problems of implementation arise with particular force in the intergenerational context. These feasibility arguments can be stated as follows:

- A10. Current generations are less likely to be motivated to protect the interests of future generations than they are to protect those of their contemporaries, especially the further into the future we look.
- A11. Current political institutions have incentives to focus on the short term, and future generations lack accountability mechanisms.
- A12. Current generations cannot be assured of the cooperation of succeeding generations (Barry 1991c, p. 250).

Again, since a considerable amount can be said about these arguments, I address them in detail in Section 7.

Having outlined five different ways in which one might argue that justice to future generations raises some distinct challenges, I now turn to consider some leading theories.

3. RAWLS, RECIPROCITY, AND THE SOCIAL CONTRACT

Given the influence of Rawls's theory of distributive justice, it is natural to start by considering how his theory treats future generations. His account of justice to future generations in *A Theory of Justice* (Rawls 1971) has four core elements. The first concerns the membership of the contract. Rawls argues that the parties to the "original position" are the members of a single generation

(Rawls 1971, pp. 140, 292), and he rejects proposals that the original position should include all who will exist or who could exist (Rawls 1971, p. 139). The second feature concerns the motivations of the parties. Rawls here departs from his general assumption that the parties are "mutually disinterested," writing that the parties (who, recall, are "heads of families") care about their immediate descendants. As he puts it, "their goodwill stretches over at least two generations" (Rawls 1971, p. 128). The third feature of his approach is his assumption that principles of distributive justice (such as the Difference Principle) hold only among schemes of reciprocity. He further holds that different generations are not engaged in a scheme of reciprocity with each other and so concludes that the Difference Principle does not apply across time (Rawls 1971, p. 291). His assumption here takes us back to A8. The Rawlsian approach maintains that we cannot simply apply the same principle to future generations that we would apply to contemporaries, for, on his account, there is a morally significant difference. Reciprocity exists among contemporaries but not between one generation and subsequent nonoverlapping ones. We know then what the parties would *not* choose. But what would they choose? Rawls's answer—the fourth feature of his approach—is that the parties would select a "just savings principle" (Rawls 1971, pp. 284–93). This, interestingly, is focused on passing on just institutions to future generations, and it is not concerned with wealth except insofar as that is needed to create and support just institutions. As Rawls puts it, the just savings principle is "an interpretation . . . of the . . . natural duty to uphold and to further just institutions" (Rawls 1971, p. 289). Furthermore, "saving," he writes, "is demanded as a condition of bringing about the full realization of just institutions and the fair value of liberty" (Rawls 1971, p. 290).

Rawls's initial treatment is vulnerable to a number of objections. First, its stipulation that the parties are motivated to care for people two generations down the line is ill-equipped to deal with problems that are remote in time (Barry 1991c, pp. 252–53; Goodin 1985, p. 171). As Barry (1989, pp. 193–94) astutely observes, the explanation for this might be that Rawls was focusing solely on the question of how much to save (where a timeframe of several generations can make sense), and he did not have environmental intergenerational problems (many of which can impact remote generations) in mind.

A second challenge to Rawls's account is that we lack independent reason to stipulate that the parties have this motivation. It seems to be inserted solely to secure some principles of intergenerational justice. But this then begs the question, assuming that there are some such principles and designing the choice situation so that they emerge (Barry 1991c, p. 253; Goodin 1985, pp. 171–72).

Rawls himself came to the view that his original motivational stipulation was a mistake (Rawls 1993, p. 274, footnote 12; 2001, p. 160, footnote 39). In its place he argues that the parties to the original position should

> agree to a savings principle subject to the further condition that they must want all *previous* generations to have followed it. Thus the correct principle is that which the members of any generation (and so all generations) would adopt as the one their generation is to follow and as the principle they would want preceding generations to have followed (and later generations to follow), no matter how far back (or forward) in time. (Rawls 1993, p. 274; see also Rawls 1971, p. 289)

This, ingeniously, gets parties to choose a principle that is not too onerous (they must comply with it, and so it takes the claims of duty-bearers seriously) and yet not too lax (they must be willing to live in a world in which preceding generations complied with it, and so it takes the claims of rights-bearers seriously). It provides a useful heuristic for thinking about responsibilities across time.

There is, however, a third issue. This concerns Rawls's claims about reciprocity. As noted above, Rawls holds that reciprocity exists among contemporaries but not between generations,

and that this marks a morally relevant difference between the two cases (thereby affirming A8). There have been two kinds of responses to this.

One response employs the distinction between direct and indirect reciprocity, arguing that even if direct reciprocity does not exist between generations, indirect reciprocity does, and thus there can be said to be reciprocity over time. To explain: Direct reciprocity exists between two persons P and Q, when P benefits Q and Q reciprocates by benefiting P. Indirect reciprocity exists when P benefits Q and Q discharges her duty by benefiting a third person, R. As many who draw this distinction argue, indirect reciprocity can apply over time (Becker 1986, ch. 7; Page 2006, pp. 103, 108, 121–24).[9] Indeed, many forms of cooperation—such as pay-as-you-go pension schemes—do embody such indirect reciprocity. The appeal to indirect reciprocity to ground the intergenerational extension of principles of distributive justice is, however, vulnerable to some objections. It cannot, for example, generate duties when one generation is treated very unjustly by previous ones. It is also not clear why beneficiaries should not reciprocate by assisting their benefactors (in line with the direct model) rather than others (in line with the indirect model). Finally, even if they should act in line with the indirect model, it is not clear why this requires assisting future generations rather than contemporaries (Caney in press, part II; Gosseries 2001, pp. 300–2).

Prompted by these objections, some might opt for a second response and query why principles of distributive justice can apply only when there is reciprocity. Indeed, reciprocity-based views need to be supplemented with an account of people's right to the resources that they use in schemes of cooperation (Barry 1991a, p. 195; 1991b, pp. 235–41). In addition to this, insisting that the only recipients are those who have contributed to a process is inherently unfair to those unable to contribute, such as future generations (Page 2006, p. 111); and it is especially implausible when we think of access to natural resources over time (Barry 1991b, p. 240).

4. SUFFICIENCY AND EQUALITY

Many, of course, dissent from a Rawlsian approach. In this Section, I consider three other approaches that one might adopt: sufficiency, relational egalitarianism, and luck egalitarianism.

4.1. Sufficiency

The sufficiency approach holds that humanity has a duty to leave conditions for future generations that allow a decent minimum standard of living (Meyer & Roser 2009; Page 2006, ch. 4, especially pp. 90–95; Page 2007). A canonical expression of this perspective is given by the Brundtland Commission's report. It affirms the now famous principle that "[s]ustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development 1987, p. 43).

Many endorse this, but some find it insufficient as an account of intergenerational justice. First, a problem arises when we consider schemes of intergenerational cooperation like pension schemes. In such schemes of cooperation, there is a very strong intuition that each generation should do its part and may in return receive its share. Suppose that the members of a generation$_3$ (where this term refers to an age-cohort, in line with the third notion of a "generation" set out in Section 1) work hard and contribute to both the younger and older generations. Suppose then that when they retire the society dramatically reduces contributions to them (although it can well afford them). This would be highly unjust, and it is unjust even if it turns out that everyone in

[9]Page (2006, pp. 108–9) notes that there might also be cases where direct reciprocity takes place between nonoverlapping generations.

that society is above a decent minimum. The point will be made that they are entitled to their fair share within the scheme to which they contributed, a share that reflects their earlier sacrifices.

Second, egalitarians will argue that adopting a sufficientarian approach to future generations sanctions injustice, for it allows some to have worse prospects than others for the sole reason that they are born later. Should not everyone have equal opportunities to flourish?

4.2. Relational Egalitarianism

In light of this, we might consider a more egalitarian approach. Consider first relational egalitarianism. This holds that we should seek to realize a society in which all are treated as equal and in which there is no domination, exploitation, or oppression. When thinking about what this approach implies for intergenerational justice, we must return to A9. The question A9 poses is whether the values and ideals celebrated by relational egalitarianism only fit the kinds of social relationships that exist between contemporaries or whether they apply across time.

I think that the answer to this is that there is a mix. Some relational concerns have force only in contexts involving contemporaries. Certain kinds of social evil require (or at least normally involve) contemporaneity. Consider, for example, arguments that object to inequality on the grounds that it produces stigma and a loss of self-respect (O'Neill 2008, pp. 121–22). Such arguments have force when people coexist and so would apply within one generation_3 and when there are overlapping generations_3, but they do not apply between an existing generation and those who do not yet exist (*future* generations_1).[10] In addition to this, some kinds of abusive and manipulative relationships require interaction between an oppressor and an oppressed. Consider cases where person A makes a threat against person B that unless B does Φ then A will inflict a penalty, and then B refuses to do Φ, so A responds by inflicting a punishment. This kind of oppressive relationship involves a sequence of actions, responses, responses to the responses, and so on; and this requires contemporaneity.

What about another core relational concept—exploitation? Liberto (2014) argues that earlier generations can exploit later ones by, for example, depleting natural resources (see also Bertram 2009 and Rendall 2011; I regret that space precludes discussion of their arguments). Her argument is that such depletion meets the criteria for exploitation to be found in leading accounts of exploitation, such as those given by Valdman (2009) and Wertheimer (1996). Stated roughly, on her view, exploitation has two features: First, an agent is vulnerable in some way, and second, another benefits from that agent's vulnerability (Liberto 2014, especially pp. 76–79). Depleting natural resources can meet these conditions, for earlier generations gain in a way that stems from the vulnerability of later generations.

It is not clear to me, however, that this argument succeeds, for the account of exploitation is too wide. After all, a case in which someone takes a car from an elderly person who is too frail to prevent the act satisfies both of the conditions as Liberto presents them (there is a gain, and it stems from another's vulnerability). However, this is not exploitation; it is theft, and that is different. For exploitation to occur, there must be some kind of transaction between the exploiter and exploited. Liberto's (2014, p. 75) example in which hiker A sells a cheap antidote for snakebite at an exorbitant price to hiker B, who has just been bitten by a venomous snake and who has no other option but to pay the exorbitant price, illustrates the point. A does exploit B, but crucially, there is a transaction between the two, in which there is an exploitative exchange. A case in which one generation depletes resources and thereby leaves future generations without them is thus not exploitation.

[10] See, further, Finneron-Burns (2015, ch. 5.II.2).

This said, it can be argued that some kinds of relational values can apply to both relationships between contemporaries and to relationships between one generation and (nonoverlapping) future ones. For example, one can argue that earlier generations can dominate later ones, in the sense that earlier generations can impose harms in an asymmetric and arbitrary way on vulnerable others in the future (Nolt 2011, especially p. 62). So some relational concepts can fit relationships between one generation and future generations as well as those between contemporaries.

4.3. Luck Egalitarianism

Certain egalitarians find relational egalitarianism wanting because it allows some to have more than others—better prospects for fulfilling lives—just so long as that does not result in a social evil like stigma or oppression. In light of this, one might then endorse the luck egalitarian view that "it is bad—unjust and unfair—for some to be worse off than others through no fault of their own" (Temkin 1993, p. 13; also Cohen 1989). Does this luck egalitarian account apply to our responsibilities to future generations?

One familiar response to this line of reasoning appeals to consideration A2, introduced in Section 2. The argument is that one generation can invest and thereby improve the condition of future generations. If humanity can increase people's standard of living over time, would not insisting on equality be objectionable (Page 2006, pp. 80–82; 2007, especially pp. 5–7; Parfit 1997, pp. 210–11, 218–20)?

Much could be said in response to this. One possibility that takes on board the challenge is to take the position espoused by Barry (1991c, p. 258, emphasis added), who writes that "those alive at any time are custodians rather than owners of the planet, and ought to pass it on in *at least no worse shape* than they found it in" (see also Barry 1991b, pp. 240–41; 1991d, especially p. 259ff). This response insists that current generations leave future generations with a standard of living that is "at least equal to" theirs, but (and this is the crucial feature here) they can leave them better off (Woodward 1986, p. 819; Caney 2018).

5. FAIR SHARES OF WHAT?

Thus far, our focus has been on various principles of intergenerational distributive justice. The analysis, however, remains incomplete for we have yet to discuss the "currency" of justice—that is, what people should have fair shares of (Cohen 1989). There are two issues here: first, what the currency of intergenerational justice is, and second, what practical implications this has (which may, of course, lead us to revise our answer to the first question).

Some think that justice requires the fair distribution of resources (Barry 1991d). An alternative is to adopt the capabilities approach, which holds that current and future generations are entitled to a fair share of "capabilities to function" (Nussbaum 2011; Sen 2009, part III). Others might think that justice is concerned with happiness.

Which currency is chosen can have practical implications.[11] Consider, for example, accounts that call for promoting human happiness. Some economists (most famously Easterlin 2010) have argued that once a certain standard of living has been attained, economic growth does not promote happiness. If this is right, it would yield different practical proposals than accounts that call for the accumulation of more and more resources. It would call into question the wisdom of seeking continuous economic growth.

[11] Page (2006, pp. 54–75) offers an illuminating discussion of various currencies' different implications for evaluating climate change.

Another issue concerns the debate between different notions of sustainability (Dobson 1998). Consider, for example, the distinction between weak and strong sustainability (Neumayer 2003). Proponents of weak sustainability think that the consumption of natural resources is permissible because, and to the extent that, human-created resources can act as substitutes (Barry 1991d; Beckerman & Pasek 2001, pp. 75–76). Proponents of strong sustainability, by contrast, think that natural resources cannot in some cases be replaced by human-created resources; the latter are not adequate substitutes. Clearly, which side one takes here will have considerable implications for natural resource use.

6. PARFIT'S NON-IDENTITY PROBLEM

Having considered several principles of justice for future generations, we can now turn to some challenges—starting with philosophical challenges and then turning to more pragmatic ones. This section introduces Parfit's non-identity problem, which challenges the application of some familiar concepts—like harm—to intergenerational relations. The next section then considers some practical challenges.

The non-identity problem (Parfit 1984, ch. 16) takes us back to claim A4, introduced in Section 2. Stated baldly, the non-identity problem starts from the observation that the actions that people undertake at one point in time—such as emitting greenhouse gases—affect who gets born in the future. As A4 emphasizes, members of one generation affect the identities of who is born in the future. This arguably has troubling implications for certain kinds of moral claims that we might want to advance. Consider, for example, policies that involve a radical (and uncompensated) depletion of natural resources (Parfit 1984, pp. 361–64) or that involve emitting high levels of greenhouse gases. These seem clearly wrong. And yet because the policies in question will affect who gets born in the further future, we cannot say that they leave people (in, say, "one or two centuries") worse off (Parfit 1984, p. 361). We cannot because without these policies, those specific people would not have been born. In light of this, some will argue, we cannot say that depleting resources and triggering dangerous climate change harm people in the further future, for to harm someone is to make them worse off than they would otherwise have been, and these policies do not do that.

This problem has generated an enormous literature.[12] Some think that this undermines claims that current generations have responsibilities to future generations (Boonin 2014). Others dispute its concept of harm, proposing accounts of harm according to which it is possible for an agent A's action to harm agent B even if A's action is a precondition of B being born (Harman 2004; Meyer 2016, sec. 2). Others argue that the Rawlsian framework outlined above can provide a good response. For example, Reiman (2007, especially pp. 83–86, 88–92) makes a distinction between persons' "properties" (which might be generic features of persons—such as their interests in clean water or unpolluted air) and their "particulars" (the particular features of a specific person). From the point of view of justice, he argues, what we owe future generations is best conceived of in terms of honoring the interests of persons as such, rather than particular human beings (what matters are their general properties), and this is exactly what the Rawlsian framework with a veil of ignorance achieves. The fact that what members of one generation do affects which particular human beings live in the future thus, on his account, does not affect the duties owed. Others advance a related argument (Heyward 2008, Kumar 2003). They distinguish between persons as "types" (for example, human beings as a class) and "tokens" (that is, specific people). Our responsibilities to future generations are not owed to specific tokens but to those who will live

[12] Boonin (2014) engages with potential responses in a comprehensive and methodical way. See also the illuminating discussion by Roberts (2015).

in the future, whoever they might be (the types) (Heyward 2008, p. 636; Kumar 2003, especially pp. 111–14). Thus, the fact that policies affect which specific people are born (which tokens exist) does not undermine the point that there are duties of justice owed to whoever does in fact live in the future (Heyward 2008, pp. 636–40; Kumar 2003).

It is worth emphasizing that Parfit's own conclusion is that the non-identity problem does not imply a lack of responsibilities to the future. Indeed, he argues that it should make "no difference" (Parfit 1984, pp. 366–71). His point, however, is that prevailing ethical theories—namely ones committed to a certain kind of "narrow person affecting" approach (Parfit 1984, pp. 393–95)—are unable to overcome this problem.

7. FEASIBILITY, MOTIVATION, AND INSTITUTIONS

Let us turn now from this philosophical challenge to more pragmatic concerns. As I noted in Section 2, some argue that the intergenerational context poses some particularly severe practical challenges to the realization of principles of justice. There are three reasons for this, expressed by A10, A11, and A12.

7.1. Motivation

Consider first the psychological thesis advanced by A10. This contends that human beings find it especially hard to be motivated by a concern for future people; furthermore, it contends, the further into the future, the weaker the motivation (Birnbacher 2009, Care 1982).

The empirical assumption underlying this argument is plausible. Nonetheless, several responses can be made to this line of reasoning. First, one might ask what significance claims about motivation have for a principle's validity. It would be implausible to claim that if people are not motivated to do Φ then they do not have an obligation to do Φ. That would have the absurd conclusion that someone who is not motivated to refrain from sexual assault does not have an obligation to refrain from such assaults. The lack of a motivation to comply with a certain principle of intergenerational justice does not thereby make that principle incorrect. This is not to say that it does not matter whether people are motivated or not. Clearly it does, but it is important to understand how and why it matters. Motivation matters because we care about whether people are treated justly, and thus care about the extent to which agents comply with the duties that apply to them. The conclusion to draw from cases where people are not motivated to comply with a specific principle is not that that principle is necessarily incorrect; it may be that some are failing to receive the treatment to which they are entitled, and thus we have reason to find ways of motivating further compliance. We cannot dilute our account of people's entitlements simply because others do not feel moved to act.

A second point: the issue of motivating people to comply with responsibilities to future generations may seem less daunting when we consider what is required to discharge those duties in practice. This holds for several reasons. First, it will, of course, depend on the content of the principle. Furthermore, even quite egalitarian principles of intergenerational justice may not make very onerous demands on current generations. To see why, suppose that some propose that Generation 1 make considerable economic sacrifices to benefit Generation 10. Since any financial sacrifices by one generation can be frittered away by Generations 2-9, even those committed to ensuring equality over time may doubt that Generation 1 should be required to make such financial sacrifices for the remote future when they cannot be assured that their sacrifice will benefit the intended beneficiaries. We might, of course, think that current generations do have duties to remote (and proximate) generations to abstain from causing environmental degradation (in the form of biodiversity loss and climatic changes), but then negative duties not to harm are, it is widely thought, capable of motivating people.

Second, the concern that current generations will necessarily lack the motivation to act in ways that respect the interests of future generations is most forceful when there is a trade-off between benefiting the present and benefiting the future. However, we should not uncritically accept this assumption. In many cases, policies that benefit future generations (near and remote) also benefit contemporaries. A good case in point is the mitigation of climate change. One central finding of social scientists who research climate change mitigation is that it generates many co-benefits to current generations. This is, for example, a theme of the most recent report of the Intergovernmental Panel on Climate Change, chapters 7 to 12 of which all chronicle how reducing fossil fuels results in cleaner air, greater energy security, and cheaper energy for current generations (IPCC 2014).

We should also not rule out using the educational system and other social institutions to promote dispositions to care about the future, and to foster an ethos of stewardship and responsibility for the future. In addition to this, people's beliefs and motivations are often deeply shaped by their prevailing institutions.

7.2. Short-Termism

This takes us, however, to a second practical challenge, articulated by A11. This, recall, states that existing political institutions have a tendency to incentivize short-term policies and thus pose an obstacle to the realization of intergenerational justice. Democracies, the argument runs, will tend not to give due protection to long-term interests because (*a*) governments have an electoral incentive to focus on the short term (Goetz 2014, p. 385) and (*b*) future citizens lack the political capacity to make their voice heard (Jonas 1984, p. 22; see also MacKenzie 2016, pp. 27–30).

It would be a mistake, however, to assume that democracies tend inexorably to favor the short term. First, Jacobs (2011, p. 28) argues that the extent to which democracies can govern in the interests of the long term can vary depending on the different circumstances they face. He draws attention to three conditions in particular, namely whether they enjoy "electoral safety," whether they can be confident that there will be "long-run social benefits," and whether they have the "institutional capacity" to implement long-term reforms (Jacobs 2011, especially p. 29; see ch. 2 more generally).

Second, several ways of protecting the future have been proposed and some put in practice. For example, one might try to design legislative procedures so that concerns about the future are built into the policy-making process. One might require the government and opposition to issue a Manifesto for the Future, setting out how they will deal with long-term trends. In addition, one might require that the parliamentary calendar be organized in such a way that every year a certain number of days are set aside in which parliamentarians are required to discuss the challenges and opportunities for the future. Furthermore, one might combine this with a series of regular public fora in which the government and opposition are required to publicly justify their policies for dealing with future opportunities and challenges. Or one might charge a Select Committee for the Future with scrutinizing legislation for its long-term effects (Caney 2016). In addition, one might follow the example set by the Welsh government and create a Commissioner for Future Generations (**https://futuregenerations.wales**). A different strategy would be to focus on judicial instruments, and to design constitutions and to use courts to protect the rights of future generations. Turning to the international level, some have advocated establishment of a United Nations Commission for Future Generations (Caney 2014b).[13]

[13] González-Ricoy & Gosseries (2016) discuss many possible reforms; for an evaluation of competing proposals, see Caney (2016; also S. Caney, unpublished manuscript *Democratic Theory and the Future*).

7.3. Intergenerational Collective Action Problems

The third feasibility problem that arises in the intergenerational context, A12, draws attention to what we might term intergenerational collective action problems—a problem noted by Barry (1991c, p. 250). Suppose that members of one generation wish to mitigate climate change. For mitigation to succeed, it is important that future generations also comply and do not simply undo the good effects of the first generation. The first generation, however, may not be able to compel later generations to comply. As such, it faces a collective action problem.

In practice, governments have some tools at their disposal to address this problem. As Jon Elster (2000) and Thomas Schelling (2006, chs. 1 and 5) have both brought out in much of their research, agents can employ commitment devices that bind either themselves or others (Elster 2000; Schelling 2006, chs. 1 and 5). To the extent that they can lock in certain commitments, they can weaken, at least to some extent, the force of the problem.

The intergenerational context, thus, does pose some considerable feasibility problems. However, as we have seen, these need not constitute insurmountable obstacles to attempts to comply, at least to some extent, with the demands of intergenerational justice.

8. CONCLUDING REMARKS

As I hope this review has indicated, the question of what responsibilities current generations have to future generations is both theoretically complex and relevant to a great many different policy areas. I conclude by noting two points. The first is that although the topics that come under the heading of "justice and future generations" are heterogeneous (ranging from public debt to climate change to the emergence of drug-resistant infections), this does not mean that they should be handled separately. Indeed, we have good reason to think that treating them separately would be a mistake. One reason for thinking this is that responses in one policy area, such as lowering population size for ecological reasons (Conly 2016), can have implications for other policy areas, such as how societies can respond equitably to the challenges raised by low reproduction rates and increased longevity.

Second, it is worth underscoring the importance of reflecting on the future. As Rawls noted, any discussion of what contemporaries owe to each other is "incomplete" until we also consider what they owe to future people (1971, p. 284). Addressing responsibilities to the future must therefore take center stage along with debates about what distributive principles apply among contemporaries; and to omit the claims of the future is to give a truncated and provisional account of the rights and duties of current generations.

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