

# Justice and the Assignment of the Intergenerational Costs of Climate Change

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## I

Matters of intergenerational justice are fundamental to discussions of justice and climate change. This is the case for several reasons. We are confident that our emissions of carbon dioxide (CO<sub>2</sub>) are having an effect on the global climate system. The Intergovernmental Panel on Climate Change's (IPCC) six different climate models in their Fourth Assessment Report (AR4) predict global mean temperature increases ranging from 1.8°C to 4.0°C during this century.<sup>1</sup> This is projected to increase global mean sea levels by 0.18 to 0.59 meters.<sup>2</sup> The attendant weather changes are less certain, as is how they will vary from region to region. But some of the effects that AR4 predicts as very likely include hotter high temperatures, more frequent heat waves, and greater precipitation in high latitudes. Effects that it estimates as likely include decreased precipitation in the subtropics and increased intensity of tropical cyclones.<sup>3</sup> The Third Assessment Report (TAR) warns of a weakening of the thermohaline circulation and its possible abrupt shutdown after 2100.<sup>4</sup> Unlike TAR, however, AR4 does not discuss the probabilities of severe or catastrophic adverse effects. But this absence is the subject of controversy among climate scientists, some of whom charge that politically motivated redactions to AR4 occurred.<sup>5</sup>

The effects of anthropogenic climate change will produce costs for persons in the future who will have to adapt to the changes. Crops will need to be changed or farmers will have to move. For many people food security will be threatened; some will go hungry as a result; other will starve. Homes and communities will need to be moved as sea levels rise. Some houses will be wiped out by sudden extreme storms. TAR stresses the disproportionate costs of adaptation for lower-income populations and the risks to populations in low-lying coastal regions and small islands. In general it predicts that, "[t]he impacts of climate change will fall disproportionately upon developing countries and the poor persons within all countries, and thereby exacerbate inequities in health status and access to adequate food, clean water, and other resources."<sup>6</sup> A recent study indicates that more than six hundred million people (ten percent of the world's population) live in low lying areas at higher risk to sea-level rises, and this amount is expected to increase as the urbanization of the global population continues.<sup>7</sup>

The effects of climate change and the costs of adapting to it can be mitigated by our policy choices. Such choices will produce mitigation costs for us as they will require significantly different energy production and use policies. Cleaner sources of energy are more expensive. The relative costs of the alternative sources of energy can be brought down by increasing the costs of using fossil fuels. But an increase in the absolute costs of energy is then guaranteed. It is highly unlikely that there will be significant mitigation without incurring such increased costs. The costs of adaptation and mitigation apply to a number of activities satisfying very important human interests, such as transportation, heating and cooling, shelter, food cultivation and production, security, income, government, and recreation. The assignment of the costs of mitigation and adaptation then is an important matter of justice.

The matter of justice is between generations. It takes time to reduce global CO<sub>2</sub> emissions. We have no experience of doing so yet. But even if we begin reducing, the IPCC projects that CO<sub>2</sub> concentrations in the atmosphere will continue to increase in the absence of very large emissions reductions.<sup>8</sup> TAR holds that “[s]tabilization of CO<sub>2</sub> concentrations at any level requires the eventual reduction of global CO<sub>2</sub> net emissions to a small fraction of the current level.”<sup>9</sup> The level at which CO<sub>2</sub> concentrations are stabilized will establish the assignment of costs, a higher level will involve fewer mitigation costs but higher adaption costs. In any case, even after stabilizing atmospheric concentrations of CO<sub>2</sub>, surface air temperature will continue to rise by a few tenths of a degree per century for a century or more, and sea levels will continue to rise for many centuries.<sup>10</sup>

The matters of intergenerational justice canvassed above are fundamental to an account of justice and climate change because in the absence of an account of duties to future generations any global regulatory scheme for sharing the mitigation costs of climate change intra-generationally, a scheme such as that which the international community must devise as a successor to the Kyoto Protocol, will be morally blind. It would be like agreeing on the relative proportions that members of a criminal ring must pay back their victims without setting an overall amount. There would be no assurance that the regulatory scheme was just unless it was directed toward fulfilling duties to future generations. Taking a position on this question of intergenerational justice, by, say, setting an atmospheric CO<sub>2</sub> concentration target, is, however, unavoidable in the establishment of a post-Kyoto institutional framework.

In this paper, I shall examine proposals for the distribution of the intergenerational costs of climate change. Settling on the appropriate principle is a complicated task for several reasons. The difficulties include, among others, how to deliberate impartially with respect to intergenerational principles and how to take account of the interaction between the distributions of inter- and intra-generation costs. By means of arguments that I hope are appropriately sensitive to these complexities, I shall offer a qualified defense of a principle that assigns proportionally equal intergenerational costs.

## II

In discussing proposals for the intergenerational assignment of the costs of climate change, it is important to keep in mind that CO<sub>2</sub> emissions are associated not only with costs—the cost of adapting to or mitigating climate change—but also with benefits—the benefits of industrial activity, transportation, modern farming, recreation, heating, and cooling. Although we will have to implement means for deriving these goods that involve far fewer CO<sub>2</sub> emissions, it is nonetheless the case that ever since the industrial revolution the activities that have generated CO<sub>2</sub> have also produced important benefits, capital, and consumer goods that we continue to enjoy and that future generations will enjoy. Any reduction in costs for future generations will incur costs for the present and near future, and therefore predictably a reduction in certain benefits for the present and future. This is important for two reasons. One is that it is unreasonable to consider only the costs that future generations will incur from emitting activities; one has also to consider the gains in wealth that accrue to them due to our industrial activity. The second is that in the absence of a significant change in the global institutional structure, the future poor can be expected to suffer heavily in the payment of adaptation costs; and unless we construct our regulatory institutions to avoid it, the opportunity costs of mitigation will likely be especially costly to those who are presently poor. In the end one cannot really get a moral grip on the intergenerational alternatives that we face without some discussion of the intra-generational assignment of the costs and benefits of adaptation and mitigation.

The realization that the intra-generational assignment of the costs of mitigation and adaptation are also matters of justice significantly complicates any discussion of the assignment of the intergenerational costs of climate change. In order to attempt headway, I discuss these matters under three different scenarios. One scenario, which I call *Continued Deep Inequality* or *CDI*, assumes that although very modest gains will be made in addressing absolute poverty, along the lines of the First Millennium Development Goal, global inequalities and attendant severe poverty will continue for the rest of the century. My second scenario, *Global Justice* or *GJ*, assumes that global inequalities and attendant severe poverty are permanently eradicated in the very near future, in the time that it would take to arrive at a new international agreement on climate change and to establish the institutions for governing it. Thus, at the inception of the new CO<sub>2</sub> emissions reduction regime the global order is substantially just. The third scenario, which I call *Progressive Inequality Reduction* or *PIR*, assumes long-term institutional change, producing significant decreases in inequality and attendant poverty, such that by the end of this century the global economy is significantly more just than it is now.

I consider the following three principles for the assignment of the intergenerational costs of climate change:

- (1) Future Optimality: Present energy policy should produce an optimal sum of the foreseeable future costs and benefits of CO<sub>2</sub> emissions.
- (2) Future Sufficiency: Present energy policy should produce a sum of foreseeable future costs and benefits of CO<sub>2</sub> emissions that at least ensures the maintenance of just political and legal institutions.
- (3) Intergenerational Equality: Present energy policy should produce foreseeable future (adaptation) costs of CO<sub>2</sub> emissions whose proportion to overall future economic output is equal to the proportion of (mitigation) costs to output of the present generation.

By equalizing the proportions of costs to economic output, Intergenerational Equality allows that future persons might have more absolute costs than present persons. This would be permissible if the economic growth that our policies produced contributed to greater wealth in the future. By focusing on proportional equality and not absolute equality, then the principle can take into account the benefits of economic growth, which might be the result of polluting activity.

Future Optimality could be understood in either aggregate or per capita form. One reason to take it in the per capita form is to control for population growth. Another way to control for this is to limit its aggregate application to cases in which the population is the same size. Derek Parfit calls such a version of Future Optimality *The Same Number Quality Claim* or simply *Q*: “If in either of two outcomes the same number of people would ever live, it would be bad if those who live are worse-off, or have a lower quality of life, than those who would have lived.”<sup>11</sup> Parfit’s principle is, of course, of limited value precisely because of the unrealistic constraint that the comparison sets must contain the same population size. But it is nonetheless the most discussed version of Future Optimality in the literature on intergenerational justice.

James Woodward has criticized *Q* because of its demandingness on members of the present generation.<sup>12</sup> This concern is directly applicable to Future Optimality in either its aggregate or per capita form because both require present sacrifices to improve maximally the well-being of future persons. They repeat, and amplify as moral principle, a general historical trend that philosophers in earlier times viewed as deeply problematic, even to the extent of requiring a theodicy if a providential understanding of history were to be salvaged. Immanuel Kant worries that “earlier generations seem to perform their laborious tasks only for the sake of later ones . . . and . . . that only the later generations will in fact have the good fortune to inhabit the building on which a whole series of their forefathers . . . had worked.”<sup>13</sup> G. W. F. Hegel more vividly imagines the costs that the providential account has to justify when observing that history resembles “the slaughter-bench at which the happiness of peoples, the wisdom of States, and virtue of individuals have been victimized.”<sup>14</sup>

One need not assume that God is directing history to be bothered by Future Optimality. It is morally troublesome because it seems incompatible with

impartiality with respect to generational membership. It takes the interest of future persons as counting for everything, and those of the present for nothing. Privileging the interests of future persons over the present is especially problematic according the PIR scenario (stated previously) in which poor people in the future are assumed to be less poor both absolutely and relatively than those who are presently poor.

The problem with Future Optimality is that it runs afoul of our intuitions regarding impartiality. It is, however, easier to identify cases in which our intuitions about impartiality are violated than it is to understand clearly what impartiality requires. In most of the remainder of this essay this will be my concern.

### III

John Rawls's employment of the original position argument is a contractualist effort at modeling deliberative impartiality. It seeks an impartial outcome by means of procedural impartiality, in particular by the parties' absence of knowledge about various aspects of themselves—their location behind the veil of ignorance. Criticisms of contractualist approaches to intergenerational justice call into question whether there is such an approach that can advance our understanding of the requirements of impartiality in the context of intergenerational justice and even whether impartiality is a desideratum of intergenerational justice.<sup>15</sup> In this section I distinguish three versions of a broadly Rawlsian approach and argue that one is useful for present purposes.

To begin with, consider the requirements for fairness in the deliberation about principles of justice for the distribution of the costs of climate change. The point of an argument based upon hypothetical consent, in contrast to actual consent, is to insulate the outcome from the manner in which real-life privileges can distort the deliberative process. Given the global scope of climate change, an appropriate original position—if there is such—employed to justify duties of justice with respect to the costs of CO<sub>2</sub> emissions necessarily would be cosmopolitan in seeking to prevent parties from bargaining on the basis of their citizenship status. Moreover, due to the intergenerational nature of the problem of climate change, the original position also would have to prevent strategic bargaining on behalf of one's own generation.

Controversy, however, surrounds the manner of construction of an original position that could prevent distortions resulting from bargaining on behalf of one's generation. Because different constructions of the original position could lead to different principles being agreed upon, the controversy is material to understanding what intergenerational justice requires. Consider then the following three possibilities for constructing an original position for intergenerational justice:

1. Intergenerational veil of ignorance and all possible persons. Parties in the original position are (or represent) all actual persons from the present

generation and all possible persons from all future generations. They are subject to a deliberative constraint of a generational veil of ignorance that renders each of them ignorant of which generation is theirs.<sup>16</sup>

2. Intergenerational veil of ignorance and all actual persons. Parties in the original position are (or represent) all actual persons from the present and all future generations. They are subject to a deliberative constraint of a generational veil of ignorance that renders each of them ignorant of which generation is theirs.<sup>17</sup>
3. Present time of entry. Parties in the original position are (or represent) all actual persons from the present generation. They are subject to a deliberative constraint of a generational veil of ignorance that renders them ignorant of the place of the generation, of which they are all members, in history. They are also subject to the constraint that they must choose only a principle that they could endorse past generations as having chosen.<sup>18</sup>

The general idea of the original position is to model deliberative fairness so that the outcome of the deliberation is distinct and can be endorsed by everyone who accepts the moral importance of fair terms of deliberation. Different versions of the original position might be appropriate for different considerations of justice. In seeking to determine which version—if any—is appropriate, we ask ourselves not only which considerations ought not to influence deliberation, but also what manner of constraint can be put on deliberation to remove the unwanted influence. In actual deliberation we approximate impartiality when we rule out appealing reasons that could not be appealed to in the original positions due to its constraints. Each of the three proposals above seeks to prevent one from rejecting principles simply because they do not favor members of one's own generation. In order to determine which principle of intergenerational justice would be selected once such influences were removed, we must determine the most sensible manner of preventing the rejection of principles that do not favor one's own generation.

Consider the first proposal. In this proposal parties are ignorant of whether they are (or represent) actual or merely possible persons. Parfit claims that one cannot deliberate on the assumption that one might not exist. "We can imagine a different possible history, in which we never existed. But we cannot assume that, in the actual history of the world, it might be true that we never exist. We therefore cannot ask what, on this assumption, it would be rational to choose."<sup>19</sup> Parfit's point is not, I think, meant to be a psychological one, such as the problems that some people encounter when trying to reason as if they did not know their gender. Nor, if we look at the second sentence of the quotation, is the problem only one of practical deliberation. It seems rather to be an epistemic or logical problem. We cannot assume about the actual world that we never existed. If this is correct, then merely possible persons gain no representation in the original position.

Parfit does not elaborate on the point. So, consider two possible lines of reasoning in support of the view. The first is Cartesian: One's activity of imagining

the world commits one logically to one's actual existence. This puts a constraint on how the actual world can be imagined. Although one might imagine oneself as deliberating about principles to apply in other worlds in which one does not exist, one cannot imagine not existing in the actual world. The second is based upon the idea that justice is meant to apply to the actual world and the claim that a necessary condition of the actual world is that all and only actual persons exist in it. If any actual person's existence is a necessary condition of the actual world, and if one cannot imagine what is logically impossible, then one cannot imagine actual persons not existing in the actual world. I do not know which of these lines of reasoning—if either—Parfit would endorse. Both, however, seem plausible enough to create doubts about the first version of the original position. So, whatever the demands of impartiality are, I suppose that they cannot require us to treat similarly the interests of actual and possible persons.

I turn then to the second manner of constructing the original position. This construction avoids the problem of the first by including (or representing) only actual persons, present and future. But there seems to be no non-question-begging way to arrive at principles on this construction.<sup>20</sup> Different principles will guide different institutional schemes of regulating energy production and consumption. Within the histories of these different institutional schemes different people will meet, have sex, and rear children—for the reasons that Parfit rehearses. We cannot include actual future persons, then, unless we already assume an institutional scheme. But any scheme is in question so long as the principles that would regulate it are up for deliberation. Insofar as the constraints of the original position are meant to model our deliberations about justice, the upshot of the question-begging charge is that in our thinking about how to act in order to fulfill our duties to future generations, it makes no sense to suppose that persons who will exist are somehow fixed. Hence, whatever deliberative impartiality requires, it cannot range over both persons now living and persons who certainly will live.

Jeffrey Reiman, however, endorses what appears to be this second version of the original position. "Because they do not know their generation, the parties in the original position, in effect, represent all and only those people who, from this moment on, will ever exist: people who are currently living, and future people who do not yet exist but who one day will."<sup>21</sup> He distinguishes between the properties of persons and particular persons. "Normally, which particular one is will determine which properties one has. However, we can distinguish these two, and say that a person's fate (whether her life turns out to be good or bad) depends on her properties and not on which particular she is *as such*, that is, *as distinct from which properties she has*."<sup>22</sup> Reiman maintains that future persons' rights can be violated if our actions or institutions assign them properties (such as being impoverished) that are contrary to their rights. His account allows that the particular person is contingent on the principles adopted, but that persons' interests are not contingent.

From a future person's standpoint, it makes sense to think that it is in his or her interest to be born with certain properties rather than others, but it is not in his or her interest to be born

this particular one rather than that particular one *independent of differences in properties*. Thus a future person's properties may be morally relevant now, but which particular a future person is *beyond the difference in properties* is not.<sup>23</sup>

In response to the question-begging charge, suppose that Reiman claimed that in our deliberations about what we owe future generations we can distinguish between our lack of knowledge about who in particular will exist—which depends on the principles chosen—and the interests that persons who will exist will have.

Reiman's view would certainly be attractive if it managed to be a version of the original position that was free of the problems canvassed above. But this does not seem to be the case. For either the original position includes only actual (particular) persons or not. If it does not then, then it includes possible future persons. It therefore has the problems of the first version of the original position. If it includes only actual persons from all generations, then it is a question-begging account since the existence of persons regardless of their severability from their interests is dependent in part on which principles are selected. Reiman might counter that it is not persons, but interests that are represented in the original position. But unless we attach persons to these interests there will be no deliberation; and we do not then have a model for the impartial selection of principles.

There does not seem to be a deliberative constraint that will, as it were, let future generations speak for themselves in regards to what we owe them. Given the problems associated with the first two versions of the original position, Rawls seems to have been correct in *Justice as Fairness* to devise the original position along the lines of the third version for matters of intergenerational justice. Similar to the other two, the third constrains deliberation so as to establish impartiality, but unlike the other two the third does not involve representing parties from future generations. It therefore does not contain the problem of either including possible future persons deliberating or of begging the question about principles by including only actual future persons. In the present time of entry version, although the parties are ignorant of their generation's place in history, they know each other to be from the same generation; and an acceptable principle is constrained by the requirement that parties can endorse its selection by previous generations. The important lesson of this version is that we achieve impartiality in our deliberations about intergenerational justice in part by binding ourselves only to principles that we would find it acceptable for previous generations to have bound themselves.

#### IV

With an account of how to model deliberative intergenerational impartiality in hand, I return now to the discussion of the principles of justice for the assignment of climate change-related costs. In discussing choice within an original position the constraints on the parties are decisive. According to the present time of entry interpretation, the parties—all members of the same generation—are subject to four important conditions:

- (1) They do not know the place of their generation in history.
- (2) They must choose only a principle that they would affirm as having bound all previous generations as well.
- (3) They are indifferent to the well-being of members of other generations.
- (4) They seek maximal avoidance of costs for themselves (or for those whom they represent).

Just as the veil of ignorance constrains the rational pursuit of the primary goods in the intra-generational original position, so conditions (1) and (2) constrain condition (4). Rawls argues that in the intra-generational original position there would be agreement on a benchmark of equality, but that deviations from this to affirm the difference principle would be rational given the circumstances.<sup>24</sup> In the present case, conditions (3) and (4) would incline parties to favor their own generation maximally. Condition (2), however, constrains that choice. How do these constraints play out in considering the principles of Future Sufficiency and Intergenerational Equality? Would they lead to reasonably determinate results as, arguably, does the veil of ignorance in the case of intra-generational justice?

In deliberating about these principles I suppose that Intergenerational Equality guarantees Future Sufficiency, in other words that by Intergenerational Equality future generations do at least as well as they do by Future Sufficiency. So, Future Sufficiency might permit the present generation to assume fewer costs of mitigation than does Intergenerational Equality. The choice between the principles when looking forward can be seen as a choice between assuming more mitigation costs now to equalize costs between generations or allowing the possible assumption of fewer costs now so as only to ensure that just institutions are possible in the future. But when looking backward it is a choice between assuming fewer adaptation costs now because earlier generations chose to equalize or assuming greater adaptation costs now because previous generations only mitigated enough to preserve just institutions.

An argument that the parties would select Intergenerational Equality over Future Sufficiency goes as follows:

1. The parties would prefer previous generations to have maximally mitigated their climate change adaptation costs.
2. The parties would prefer to minimize the costs of mitigating future climate change.
3. All other things being equal, Intergenerational Equality best satisfies the preference stated in the first premise.
4. Future Sufficiency best satisfies the preference stated in the second premise.
5. The parties are constrained to choose only the principle that they would prefer earlier generations to have followed.
6. The parties are constrained to select Intergenerational Equality.

I call this *the equality argument*. Premises two and four are logically irrelevant to the argument, but they serve to illustrate the merits of the competing principle. If premise five were not there, there would be no rational grounds for choosing Intergenerational Equality over Future Sufficiency. A deliberative impasse would result. So, premise five has the virtue not only of modeling impartiality but also of producing a determinate outcome.

I take the equality argument to be a *pro tanto* warrant for Intergenerational Equality. In effect, it amounts to claiming that if we adopt an impartial attitude toward generational membership, and thereby exclude reasons that serve only to favor one generation over another, there is good reason to endorse the principle of Intergenerational Equality, which requires not imposing climate change adaptation costs on future generations that are a greater percentage of the overall economic output than the percentage of the mitigation costs for the present generation. In the next two sections I further defend this principle by addressing objections to it.

## V

One might object to the equality argument on grounds that the deliberative constraint that parties must select only the principle that they would prefer earlier generations to have chosen (condition (2) above) favors Future Optimality since any generation would prefer that the previous ones maximally benefit it. In section II, I maintained that intuitively Future Optimality seems inappropriate because the burden that it places on those now alive does not conform to our intuitions about the requirements of intergenerational impartiality. The present objection contends that condition (2) does not in fact support our intuitions about intergenerational impartiality.

This objection, however, fails to appreciate that the original position consists of practical deliberation about a principle to guide the (unspecified) present generation in relation to future generations, not a hypothetical deduction of what present persons would have liked past persons to have done. So, although condition (2) would not rule out Future Optimality if the parties were not deliberating about a principle to bind themselves, Future Optimality is ruled out by the parties' rational self-interest (condition (4)) and indifference to other generations (condition (3)), since as I discussed in section II Future Optimality would impose extremely heavy costs on members of the present generation for the sake of future generations.

The answer above would not be adequate if the parties knew themselves to be at the end of history with no future generations for whom they must assume costs. In that case, looking only backward with no concern about the future, they would select Future Optimality because, once again, this is what they would endorse past generations as having chosen. But when we deliberate about principles of intergenerational justice we assume that we are not at the end of history. If we somehow knew that, there would be nothing for us to deliberate about and no

reason to use the original position argument in any case. In effect, the parties' lack of knowledge of the place of their generation in history (condition (1)) models this. It also rules out saving nothing on grounds that they know that there were no previous generations, which knowledge would render condition (2) nugatory.

It is important to recognize that conditions (1), (3), and (4) do not function independently of condition (2). This is already made evident by the discussion of the equality argument. I noted that premises two and four of the argument are logically irrelevant to the conclusion, but that in the absence of the general constraint expressed in premise five, which is what I am referring to here as condition (2), a deliberative impasse would result. So appealing to conditions (1), (3), and (4) above to rule out Future Optimality should be understood merely as modeling the context for the parties in which deliberation constrained by condition (2) occurs, not as providing reasons for principle selection that are determinative independently of condition (2).

To recapitulate, the equality argument is a straightforward way of ranking Intergenerational Equality over Future Sufficiency. The possibility of selecting Future Optimality can be ruled out by the deliberative context, in which we assume that there will be future generations, and the parties cannot assume that there will not be, so that it makes sense to consider how we should act to limit the adaptation costs that we pass on to future generations.

## VI

Future Optimality was rejected in section II on grounds that it failed to satisfy an intuitive requirement of intergenerational impartiality. In the previous section I offered an original position argument against it as well. Neither of these arguments addresses what might be the most important claim in favor of Future Optimality, namely that it is the only principle that makes sense in light of the non-identity problem. In this section I defend Intergenerational Equality against the charge that it is undermined by the non-identity problem.

As I noted in section II, a version of Future Optimality is what Parfit calls *Q*: if in either of two possible outcomes the same number of people would live, it would be worse if those who live are worse off, or have a lower quality of life, than those who would have lived.<sup>25</sup> This principle requires us to optimize future outcomes, when the number of persons in the various possibilities is assumed to be the same. Now *Q*, Parfit notes, is not an instance of what he calls *The Person-Affecting View*, or simply *V*, that “[i]t is bad if people are affected for the worse.”<sup>26</sup> Presumably, he is using *worse* here as he uses *worse-off*, which he takes to refer “either to someone’s level of happiness, or more narrowly to his standard of living, or more broadly, to the quality of his life.”<sup>27</sup> To claim that a person is affected for the worse as in *V* requires a comparison of the person’s well-being in two different circumstances, the condition of the person as affected and her condition if the policy had been otherwise. *Q* does not rely on such comparisons;

instead it compares the condition of different people, those who live and those would have lived.

Parfit argues that it is a virtue of *Q* that it is not an instance of *V*. Employment of *V* is limited to cases in which the requisite comparison can be made. But changes in some institutional frameworks—including especially those regulating energy production and use—affect who will live in the future. Parfit claims that person-affecting views cannot account for what is wrong with arrangements in such cases. For these arrangements do not render actual future persons (whose lives are worth living) worse off since without such policies these persons would not have existed.<sup>28</sup> Call that *the no worse-off argument*.<sup>29</sup>

Now *Q* avoids the no worse-off argument because it does not require comparing the conditions of particular persons in different arrangements. *Q* can, of course, only be a provisional account because its application is limited (unrealistically in the context of energy policy) only to cases in which two policies would result in the same number of people being affected. It is not the limitations of *Q* that concern me, however. Rather the important question for present purposes is whether the principle of Intergenerational Equality is undermined by the reasons that Parfit offers to reject *V*.

Perhaps one could avoid the problem of person-affecting accounts of duties in non-identity cases by claiming that original position type arguments establish future-oriented duties that are owed to past persons.<sup>30</sup> We generally recognize that we can have a duty to preserve a certain artifact or natural area on the basis of an explicit promise to a person. So, perhaps we have a duty to mitigate the costs of climate change adaptation for persons in future generations on the basis of some kind of implied promise or promissory relation to persons in past generations. This account treats duties to future persons in a manner analogous to Kant's treatment of duties to animals.<sup>31</sup> Duties to future persons are indirect duties that are owed directly to our ancestors.

It would be a misunderstanding of the original position argument, however, to claim that it justified an implied promissory account of justice to future generations. The original position argument is meant to justify principles because of the fairness of the hypothetical procedure that generates the agreement, not because of an implied agreement between actual people. More generally, it does not seem reasonable to infer that members of the present generation have made any promises to past generations in virtue of, say, having enjoyed the fruits of their labor. Such enjoyment provides no reason to believe that members of the present generation have undertaken to save some of the fruits to pass on to future generations.<sup>32</sup> But perhaps the claim is that we have a duty to make such a promise, and having made it we then have a duty to keep it. But then the promissory duty alone does not justify the duty, it merely reinforces it. The view lacks what it is supposed to provide, namely an account of why we have a duty to make such a promise in the first place. The force of Parfit's criticisms cannot be avoided by taking duties to future generations as indirect duties directly owed to past generations in virtue of a promissory relation to them.

It is necessary then to consider directly whether the limitations that apply to *V* undermine Intergenerational Equality. Is Intergenerational Equality a version of *V*? If so, then apparently it is undermined by the non-identity problem. *V* holds that it is bad if people are affected for the worse. One way to read *V* is as making a claim about states of affairs. It states the conditions in which states of affairs are bad: all other things being equal between two states of affairs, one contains more badness than another if people's well-being is worse in the one than the other. Now, the principle of Intergenerational Equality judges institutions or policies, and is therefore not person-affecting in this sense of *V*.

But surely it is more charitable to read *V* as applicable to actions. This can be done by supposing that Parfit is assuming a premise in a teleological moral theory, namely that it is wrong to do what is bad. More simply we can read "it is bad" as equivalent to "an action is wrong." So read, *V* says that an action is wrong if the state of affairs that it produces makes persons worse off than an alternative action. Read this way, if not fully consequentialist, *V* is certainly at home in a larger consequentialist account. Now, the principle of Intergenerational Equality is a non-consequentialist principle because it entails that an action can be right even if it is not one that would produce the best state of affairs. This can easily be seen if for a moment we assume away the non-identity problem. According to the principle, institutions that regulate the emissions of CO<sub>2</sub> are just when future persons have been assigned an equal share (proportional to overall output) of the costs of climate change, even if the costs for these persons could have been lowered by another set of institutions, such as those that Future Optimality would require. Hence, Intergenerational Equality does not hold that policies are wrong if persons are rendered worse off. It is not person-affecting in that sense.

Even if Intergenerational Equality is a non-consequentialist principle, this does not ensure that it is not a problematic instance of *V* for it is not obvious that *V* includes only consequentialist principles. But the principle of Intergenerational Equality does not seem to possess the features that make *V* problematic in non-identity cases. The non-identity problem has purchase on *V* because it requires comparing the conditions of the same persons in two different circumstances. But insofar as a principle for the evaluation of actions or institutions does not require a comparison between persons' conditions as they are and as they might have been, it is not subject to the problems of *V*. The principle of Intergenerational Equality does not require such a comparison because it identifies present persons as wronged when their share of the costs of climate change (in proportion to their overall output) is greater than that of the previous generation, not when greater or lesser than some other possible share that these same persons might have had. Prospectively, Intergenerational Equality provides us with a reason not to permit CO<sub>2</sub> regulating institutions that would bring into existence persons whose proportional share of the costs of CO<sub>2</sub> emissions is greater than our own.<sup>33</sup> The comparison in either case is to earlier costs of different persons, not the costs that the same persons would have, or would have had, in some other future.

In response it might be objected that the problem with person-affecting views, namely that they require a comparison where none can be obtained, afflicts any meaningful principle that evaluates actions by their impact on individuals, either with respect to their well-being or with respect to what they are non-consequentialy owed.<sup>34</sup> Although Intergenerational Equality appears to avoid problematic comparisons of the same persons, it either rests on them or is nonsensical. Consider the following argument:

1. To claim that persons are wronged requires, at least implicitly, a comparison to a possible state of affairs in which these same persons would not have been wronged, regardless of whether the wrong is understood as a comparative diminution of the person's well-being or as a failure to act in accordance with non-consequentialist standards.
2. Such comparisons are undermined by the non-identity problem.
3. Intergenerational Equality states a sufficient condition for claiming that persons are wronged by climate change related institutions.
4. Intergenerational Equality is undermined by the non-identity problem.

The first premise of this argument in effect broadens the class of person-affecting views to include non-consequentialist principles. It is making a conceptual claim about what *wronged* must mean. If *wronged* is sensibly employed, it must be the case that there is an alternative action or practice in which the persons would not be wronged. If true, this premise would either reject Intergenerational Equality as incoherent for not making the requisite comparison or bring it into the fold of problematic person-affecting views.

Premise one is, however, implausible. There are well-known and much contested accounts of wrongdoing or injustice that do not satisfy the requirement it states. Although these accounts might be false, the debate that surrounds them is normative, not conceptual. It seems implausible to think that they are false simply because they are incoherent. Consider, for example, Rawls's Difference Principle. This principle requires that institutions maximize the expectations of the least advantaged members of society. Employing the Difference Principle necessarily involves comparing institutional arrangements to assess in which the least advantaged would be best-off. But the principle does not assume that the least advantaged will be the same persons across comparisons. This is obvious when one reflects on how Rawls identifies the least advantaged. He takes three characteristics as salient: those who are most disadvantaged in terms of family fortune and class origin; those whose natural endowments permit them to fare less well; and those whose luck in life results in less happiness.<sup>35</sup> It is significant that each of these three characteristics is basic-structure-dependent. In other words, whether a person is characterized in any one of these ways depends upon how the social institutions of society assign benefits and burdens. Under different institutions, different people would be least advantaged. So, if we were to compare an actual

society with its possible alternative that possessed very different institutions—for example, the actual one being libertarian and the possible alternative being egalitarian—different persons would be least advantaged. The Difference Principle directs us to compare the well-being of these different people, not the same people in different arrangements. Now, of course, the Difference Principle might be an invalid principle of justice. Certainly it is controversial. But it is significant that the controversy that it has generated is normative; it concerns whether the principle's requirements are appropriate. It is hard to understand how the Difference Principle could generate such controversy if it were simply incoherent.

Premise one is implausible. But if premise one is implausible then an intergenerational principle need not compare different conditions of the same persons in order sensibly to assert that persons have been wronged by institutions regulating CO<sub>2</sub> emissions. And the fact that Intergenerational Equality compares costs between different persons (intergenerationally) does not make it incoherent. If there is plausible criticism of Intergenerational Equality it is normative, not conceptual.

Parfit, however, has two arguments against invoking non-consequentialist principles to avoid the non-identity problem. In one he criticizes invoking rights to solve the problem, but since Intergenerational Equality does not invoke rights, I do not concern myself with that criticism.<sup>36</sup> He also contends that non-consequentialist accounts of wrongdoing must either rely on a failure to gain consent from those affected by the action or the presence of regret among those affected. In cases of institutional effects on future persons, consent cannot possibly be obtained. So, the institutions cannot be criticized on this basis. But it is also not the case that future persons whose lives are worth living, but who must pay greater proportional costs of climate change than we did, would necessarily regret our institutions. For they would not have existed but for these institutions.<sup>37</sup>

Parfit does not analyze the concept of regret in any detail; so it is somewhat difficult to assess the criticism that because of the absence of regret (where consent is not possible) there is no non-consequentialist basis for criticizing the action or policy. I start by noting that regret is an attitude, which either necessarily involves a moral judgment or not. Either way, however, it seems doubtful that persons who owe their existence to institutions cannot regret them.

One might hold that to regret a past action or practice necessarily requires the judgment that it was wrong and the belief that the course of history would have been morally better without it. Consider then the case of American slavery. Many—perhaps most—present citizens of the United States whose ancestors were in the country during the time of slavery would not have existed but for the institutions of slavery. This is plausible with respect to descendants of slaves, but also, when we consider the scale of related events such as the Civil War, with respect to very many of those whose ancestors were not slaves. The overwhelming majority of these people (whose ancestors were in the country at the time of slavery) judge slavery to have been a gross injustice, even though they would not exist but for slavery. This is analogous to persons who judge that their share of

climate change-related costs is unjust. The fact that in the case of any given person she would not exist but for this injustice does not stop her from judging it to have been an injustice, and from regretting it in that sense. Such moral judgments in these cases do not seem to be irrational. The only grounds for thinking so would seem to be that one cannot make moral judgments that are contrary to one's interests, but that is far-fetched.

Perhaps the critic of Intergenerational Equality would say that the example of the descendants of slavery does not capture what is deficient with non-consequentialist accounts in non-identity circumstances because in the example the descendants are claiming an historical injustice, but not an injustice to them. Since the injustice is not to them, they can rationally regret it even though they would not have existed but for the injustice. The problem arises in the case of a person claiming not merely that a wrong has existed, but that she has been wronged, when but for the allegedly wrong act she would not exist. But again, the response is more or less the same. There does not seem to be anything obviously irrational about a person judging that in some respects the world would have been a morally better place if the practice that allowed her to exist had not existed. If so, it does not seem to matter that one of the wrongs that would not have come to pass is a wrong to her.

There might be another way in which regret poses a problem to non-consequentialist views. Not that regret contains a moral judgment about a practice and that one cannot make a negative moral judgment if one would not exist but for the practice, but sincere regret necessarily includes the sincere wish that the practice had not existed. It is a virtue of an account of wrongdoing that it is consistent with persons sincerely regretting the identified wrong. But if one's existence depends upon the practice, a self-respecting person cannot sincerely wish that the practice had not occurred. Hence, an account of wrongdoing that identifies such a practice as unjust is deficient.

If the above argument is the problem that regret poses to non-consequentialist views in non-identity cases, it is not unique to such views. It is a problem for Parfit's *Q* as well. Imagine that in the future self-respecting persons are less well-off than the same number of other persons might have been if different institutions had regulated CO<sub>2</sub> emissions. Although these persons have been taught *Reasons and Persons* in school, and are therefore able to identify the historical wrongness of regulatory institutions, according to the criticism they cannot sincerely regret the injustice. If there is a way out for *Q* it is by denying that a self-respecting person cannot sincerely wish the non-existence of institutions upon which her existence depends. But, of course, this way out could be used by Intergenerational Equality as well.

Perhaps the point about regret is not that persons who would not exist but for a putatively unjust practice cannot experience regret, but that they might not, and when they do not, there is no injustice. But it is difficult to see why the attitude of the putatively wronged person should be a necessary condition of there being an injustice. This is not a standard feature of non-consequentialist

accounts. According to Rawls, for example, the least advantaged do not need to resent the social institutions that have governed their fate in order for the institutions to be unjust. Or consider the role of consent in constructivist accounts of justification. Typically these accounts do not hold that if one consents to the putative wrong it is less wrong. Part of the point of constructivist accounts, which take justification to be a function of some sort of idealized or hypothetical consent, is that persons' actual attitudes toward social practices might be unreasonably influenced by the benefit that they receive from the practice. Hence, a lack of regret among some of those identified as having been wrong does not seem undermining of a non-consequentialist principle that holds them to have been wronged.

In sum, because the principle of Intergenerational Equality does not require comparisons to other possible states of affairs in which the same persons would have existed, it is not undermined by the no-worse-off argument. Moreover, it is not obviously irrational for persons to judge that the institutional order to which they owe their existence is unjust. And even if we suppose that they cannot wish to have not existed, this does not provide a reason to favor a version of *Q* over Intergenerational Equality. Finally, it does not seem to be the case that the absence of regret on the part of those who have allegedly been wronged renders the alleged wrongdoing not wrong. So, the non-identity problem does not warrant the judgment that Future Optimality is superior to Intergenerational Equality.

## VII

The equality argument advanced in section IV does not take into consideration the three scenarios outlined in section II: CDI, GJ, and PIR. Would parties' knowledge of which of these scenarios is the case alter the outcome of their deliberations?

In the case of GJ there are no substantial distributive injustices that Intergenerational Equality would aggravate. So, there is no reason to think that the parties' assumption that GJ is the case, would affect their deliberations in a manner that would cast doubt on Intergenerational Equality.

If we suppose that the parties operate on the assumption of CDI, they are aware that serious intra-generational injustices exist and can be expected to continue to exist regardless of which principle is selected. But Intergenerational Equality places greater burdens on the present generation than does Future Sufficiency. These extra mitigation costs are not opportunity costs to global justice, however, because CDI assumes the continuation of injustice either way. But the mitigation costs might compound existing injustices if they fall disproportionately on the poor. On the other hand, mitigating adaptation costs can also help to reduce the compounding of future injustices, which would occur if extra adaptation costs were assigned to the future poor. So, condition (2), requiring parties to choose as they would want previous generations to have chosen, provides a reason to believe

that Intergenerational Equality would still be chosen since the lowered adaptation costs in the present, brought about by greater mitigation costs in the past, will compound present intra-generational injustice less.

PIR raises other considerations. Under PIR the intra-generational sharing of the costs of mitigation is likely to be unjust because the costs are assigned under conditions of injustice. The poor of the world are likely to suffer disproportionately to mitigate the future costs. Although this is likely to be the case in CDI as well, the difference is that the distribution of future adaptation costs under PIR will more closely approximate justice than will the distribution under CDI because of PIR's progressive reduction of inequality. Hence, under PIR the percentage of the costs of mitigation that today's severely impoverished will pay might be larger than the percentage of the costs that the future impoverished will pay for adaptation, even if overall the costs are proportional. This is for two reasons. In the future there will be a smaller percentage of the world's population that is severely impoverished; and the assignment of costs under a more just distributive regime might be less likely to compound whatever injustices exist. Additionally, if we assume a commitment to reduce severe poverty, the matter of the opportunity costs of mitigation becomes morally salient. The expenditures on mitigation are foregone opportunities to reduce current severe poverty.

If the parties decided on the basis of PIR, would they nonetheless select Intergenerational Equality over Future Sufficiency? One might think that condition (2) would unambiguously favor Intergenerational Equality in this circumstance. For it would place equal proportional burdens on generations which have unequal proportions of poor people. This would burden more heavily members of past generations who were poorer than present persons in order to reduce costs for present persons. However, past generations would also incur opportunity costs since they are committed to the long-term reduction of inequality but, because of higher mitigations costs, they have fewer resources to devote to the project. The problem is that such costs would produce greater past inequality with the likely consequence of greater present inequality, which the parties, deliberating under condition (2), would seek to avoid. Hence, it is by no means clear that there is an answer to the question of which principle would be chosen on the assumption of PIR in the absence of more detailed information about the context. It would depend upon how the presently least advantaged were to fare by institutions that required more past mitigations and thereby reduced present adaptation costs in comparison to institutions that would have mitigated less but allowed past poverty to be reduced more. This suggests that unlike the assumptions of CDI and CG, PIR could affect the outcome of the original position deliberations. But we cannot be certain how without significantly more information about the circumstances.

If presently there were a serious global commitment to progressively reducing unjust inequalities over time, which commitment would be partially compromised by diverting funds toward the mitigation of climate change, then there would be some reasons in favor of Future Sufficiency over Intergenerational Equality. In

such counterfactual circumstances, in which other institutions are already directed toward improving the well-being of poor persons in the future, it might seem reasonable to require less with respect to the mitigation of the costs of climate change.

## VIII

I assume that a virtue of an account of justice is its practicality, the extent to which it can direct our efforts at institutional reform and construction. In the case of each of the three principles for the distribution of the intergenerational costs of climate change, rational policy formation would require forecasting future costs. If we are to be guided by the principle of Intergenerational Equality, we will have to develop reliable forecasts of the likely future costs and benefits of various institutional frameworks in order to commit to the one which seems most likely to equalize proportional costs. Such forecasts will doubtless be highly imperfect, and things would go better if they were less so. But there is no reason to be so pessimistic as to think that forecasts will not provide important guidance.

There is moral satisfaction in knowing that our efforts at just institution building have been successful. But we are in an unfortunate epistemic circumstance with respect to principles of intergenerational justice. We cannot know whether they will be satisfied. We cannot revise our attempts in light of our failures because these will never be known to our generation. We can, however, assess how policies and institutions have worked in the past; and we can learn more about the properties of the climate system. We can, then, improve our understanding of what the likely consequences of our institutions will be. Although we will be denied the satisfaction of knowing that we have acted justly, we can act with some confidence that we are doing as we ought to do, and hope that one day there will be people who will be grateful for our efforts, if only we make them.

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## Notes

- <sup>1</sup>Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2007: The Physical Science Basis, Summary for Policy Makers*, 13. Available at <http://www.ipcc.ch/pdf/assessment.report/ar4/wg1/ar4-wg1-spm.pdf> (accessed April 3, 2009).
- <sup>2</sup>*Ibid.*, 13.
- <sup>3</sup>*Ibid.*, 16.
- <sup>4</sup>IPCC, *Climate Change 2001: Synthesis Report, Summary for Policy Makers*, 15. Available at <http://www.ipcc.ch/pdf/climate-changes-2001/synthesis-spm-en.pdf> (accessed April 3, 2009).
- <sup>5</sup>See for example, Fred Pierce, "Climate report 'was watered down'," *New Scientist* (March 10–16, 2007): 10. In 2004 newspapers published stories on a secret Pentagon report discussing the possibility of the shutdown of the thermohaline circulation and dwindling food, water, and energy supplies, with the result that "disruption and conflict will be endemic features of life." See Mark Townsend and Paul Harris, "Now the Pentagon Tells Bush: Climate Change Will Destroy Us," *The Observer*, February 22, 2004. Available at <http://www.guardian.co.uk/environment/2004/feb/22/usnews.theobserver> (accessed April 3, 2009).
- <sup>6</sup>IPCC, *Climate Change 2001*, 15.
- <sup>7</sup>Gordon McGranahan, Deborah Balk, and Bridget Anderson, "The Rising Tide: Assessing the Risks of Climate Change and Human Settlements in Low Elevation Coastal Zones," *Environment and Urbanization* 19 (2007): 17–37.
- <sup>8</sup>IPCC, *Climate Change 2001*, 89.
- <sup>9</sup>*Ibid.*, 90.
- <sup>10</sup>*Ibid.*, 89.
- <sup>11</sup>Derek Parfit, *Reasons and Persons* (Oxford: Oxford University Press, 1984), 360.
- <sup>12</sup>James Woodward, "The Non-identity Problem," *Ethics* 96 (July 1986): 820–21.
- <sup>13</sup>Immanuel Kant, "Idea for a Universal History with a Cosmopolitan Purpose," in *Political Writings*, ed. Hans Reiss, trans. H. B. Nisbet (Cambridge: Cambridge University Press, 1970), 44.
- <sup>14</sup>G. W. F. Hegel, *The Philosophy of History*, trans. J. Sibree (New York: Dover Publications Inc., 1956), 21.
- <sup>15</sup>See for example, Brian Barry, "Justice Between Generations," in *Law, Morality, and Society*, ed. P. M. S. Hacker and Joseph Raz (Oxford: Clarendon Press, 1977), 268–84; Edward A. Page, *Climate Change, Justice and Future Generation* (Cheltenham: Edward Elgar Publishing, 2006), 134–37; Parfit, *Reasons and Persons*, 391–93; and Woodward, "The Non-identity Problem," 824–25.
- <sup>16</sup>Rawls rejects this construction in *A Theory of Justice*, rev. ed. (Cambridge, MA: Harvard University Press, 1999), 120. It is defended by Brent A. Singer, "An Extension of Rawls' Theory of Justice," *Environmental Ethics* 10 (Fall 1988): 221, and by David A. J. Richards, "Contractarian Theory and Intergenerational Justice," in *Energy and the Future*, ed. Douglas MacLean and Peter G. Brown (Totowa: Rowman & Littlefield, 1983), 131–50.
- <sup>17</sup>Jeffrey Reiman employs a version of this in his "Being Fair to Future People: The Non-identity Problem in the Original Position," *Philosophy and Public Affairs* 35 (2007): 69–92.
- <sup>18</sup>John Rawls, *Justice as Fairness: A Restatement* (Cambridge, MA: Harvard University Press, 1999), 160.
- <sup>19</sup>Parfit, *Reasons and Persons*, 392.
- <sup>20</sup>Reiman, "Being Fair to Future People," 79.
- <sup>21</sup>*Ibid.*, 83.
- <sup>22</sup>*Ibid.*, 84; emphasis in the original.
- <sup>23</sup>*Ibid.*; emphasis in the original.
- <sup>24</sup>Cf. Rawls, *A Theory of Justice*, 130.
- <sup>25</sup>Parfit, *Reasons and Persons*, 360.
- <sup>26</sup>*Ibid.*, 370.
- <sup>27</sup>*Ibid.*, 357–58.
- <sup>28</sup>*Ibid.*, 361–64.

<sup>29</sup>Following Woodward in “The Non-identity Problem,” 805.

<sup>30</sup>Marcel Wissenberg defends this view in “Extending Rawls’s Savings Principle,” in *Fairness and Futurity: Essays on Environmental Sustainability and Social Justice*, ed. Andrew Dobson (Oxford: Oxford University Press, 1999), 191–92.

<sup>31</sup>Cf. Immanuel Kant, *Eine Vorlesung über Ethik*, ed. Gerd Gerdhardt (Frankfurt am Main: Fisher Taschenbuch Verlag, 1991), 256–58.

<sup>32</sup>Cf. Page, *Climate Change*, 119–24 for a fuller discussion of related issues.

<sup>33</sup>Here I am following Woodward’s perspicacious analysis in “The Non-Identity Problem,” 821–27, in which he compares the kind of reason a principle of intergenerational justice gives to not act contrary to it to the kind of reasoning that valuing a promise gives to not knowing making promises that one cannot keep.

<sup>34</sup>Page seems to take this view in *Climate Change*, 138–50.

<sup>35</sup>Rawls, *A Theory of Justice*, 83.

<sup>36</sup>Parfit, *Reasons and Persons*, 364–66.

<sup>37</sup>*Ibid.*, 373–74.