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## Does anthropogenic climate change violate human rights?

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Early discussions of ‘climate justice’ have been dominated by economists rather than political philosophers. More recently, analytical liberal political philosophers have joined the debate. However, the philosophical discussion of climate justice remains in its early stages. This paper considers one promising approach based on human rights, which has been advocated recently by several theorists, including Simon Caney, Henry Shue and Tim Hayward. A basic argument supporting the claim that anthropogenic climate change violates human rights is presented. Four objections to this argument are examined: the ‘future persons’ objection; the ‘risk’ objection; the ‘collective causation’ objection; and the ‘demandingness’ objection. This critical examination leads to a more detailed specification and defence of the claim that anthropogenic climate change violates human rights.

**Keywords:** climate change; human rights; climate justice; future generations; climate duties

### Introduction

The Intergovernmental Panel on Climate Change (IPCC) states (with ‘very high confidence’) that, ‘Climate change currently contributes to the global burden of disease and premature deaths’ (Confalonieri *et al.* 2007, p. 393).<sup>1</sup> In the future, climate change is predicted to cause increased deaths, injuries, malnutrition, water stress and illness. There is, for example, ‘high confidence’ that climate change will ‘increase the number of people suffering from death, disease and injury from heatwaves, floods, storms, fires and droughts’ (Confalonieri *et al.* 2007, p. 393). Climate change is also expected to ‘increase malnutrition and consequent disorders, including those related to child growth and development’ (Confalonieri *et al.* 2007, p. 393). The IPCC predicts that ‘By 2020, between 75 million and 250 million people [in Africa] are projected to be exposed to increased water stress due to climate change’ (IPCC 2007b, p. 13). In short, climate change poses a serious threat to some of our most basic human interests.

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The IPCC is also confident about the causes of climate change: ‘Most of the observed increase in global average temperatures since the mid-20th century is *very likely* due to the observed increase in anthropogenic GHG [greenhouse gas] concentrations’ (IPCC 2007a, p. 39, original emphasis). The IPCC defines an outcome that is ‘very likely’ as one that has an ‘assessed probability of occurrence’ of more than 90% (IPCC 2007a, p. 27). There is greater than 90% probability that humans have caused global climate change. In other words, human actions that involve the emission of greenhouse gases threaten basic human interests.

This has led some activists and philosophers to argue that we should conceive of climate change as a human rights issue: we violate human rights by emitting greenhouse gases. This contrasts sharply with the dominant cost–benefit analysis approach to assessing how we should respond to climate change, which is used by economists. On the human rights approach, we do not try to calculate the economic costs of death, injury, malnutrition, water stress or illness and then weigh them against the opportunity costs of reducing greenhouse gas emissions.<sup>2</sup> Instead, we recognize human rights to life, physical security, subsistence and health that should be protected from violation by human action. If anthropogenic climate change threatens to violate these basic rights, each one of us has (at least) a duty to pay his or her fair share of the costs of preventing anthropogenic climate change. Moreover, our climate policy will have a very different goal: protecting human rights rather than maximizing welfare.

In this paper, I defend the claim that anthropogenic climate change violates the human rights to life, physical security, subsistence and health.<sup>3</sup> I will call these ‘basic rights’.<sup>4</sup> The exploration of the nature and scope of basic human rights is an important aspect of liberal political theory. Moreover, the development of liberal political theory in the 21st century depends on investigating how it can accommodate major new challenges, including climate change. The basic rights approach is best understood as a minimalist cosmopolitan liberalism. Liberal cosmopolitans recognize rights and duties that extend beyond state borders. A basic rights approach (probably) offers the least demanding account of those rights and duties. Therefore, most liberals should be concerned that anthropogenic climate change violates basic human rights and should recognize correlative duties.

The paper is divided into six main sections with a conclusion. The first section reviews the use of human rights language in philosophical discussions of climate change. The second section outlines the most common kind of defence of human rights in contemporary political philosophy – namely, an ‘important interests’ argument – and suggests that this kind of defence for the basic rights is largely uncontroversial (unless we reject the very idea of human rights). The third to sixth sections consider four objections to the claim that anthropogenic climate change violates basic rights. The third section considers the claim that future persons cannot have (basic) rights. The fourth section

considers the objection that rather than *violating* basic rights, anthropogenic climate change only *poses a risk* to them. The fifth section considers the claim that no individual person violates basic rights by emitting greenhouse gases because anthropogenic climate change is the cumulative outcome of the actions of many millions of people. The sixth section considers the argument that protecting basic rights from the effects of anthropogenic climate change would impose unbearable burdens on current persons. In responding to these objections, I will defend a distinctive interpretation of human rights and, in particular, an account of the climate-related duties that are correlative to basic rights.

### **Which human rights are violated by anthropogenic climate change?**

The United Nations Office of the High Commissioner for Human Rights has highlighted the impact of climate change on human rights:

Global warming could result in hundreds of millions of people suffering from hunger, malnutrition, water shortages, floods, droughts, heat stress, diseases triggered by extreme weather events, loss of livelihood, and permanent displacement. Indeed, climate change poses a direct threat to a wide range of universally recognized fundamental rights, such as the rights to life, food, adequate housing, health and water. (United Nations 2007)

The suggestion is that climate change is a ‘direct threat’ to some of the most basic human rights. Similar arguments have been made by political philosophers writing on climate change.

Henry Shue has argued that there is a human right to ‘physical security’ (Shue 1999, p. 39) and that this right is threatened by anthropogenic climate change:

The not-so-unlikely threats to the physical security of people in the not-so-distant future from fossil fuel consumption by people in the present include:

- the migration away from the equator toward both poles of semi tropical habitats suitable for mosquitoes and consequently of the mosquito-borne diseases that currently wreak havoc in the tropics;
- the infiltration by salt-water of the fresh ground water supplies of gigantic population centres like Shanghai [...]
- and much else. (Shue 1999, p. 50)

Simon Caney has identified several human rights that are threatened by climate change, including the right to life, the right to health, and the right to subsistence (Caney 2009a, 2009b). He has also suggested that:

It is arguable that climate change jeopardizes a human right to development. [...] Furthermore, one might argue that there is a human right not to be forcibly evicted [...] and that climate change violates this because people from coastal settlements and small island states will be forced to leave. (Caney 2010, p. 80)

Caney has also argued elsewhere that there is a human right 'not to be exposed to dangerous climate change' (Caney 2008, p. 539, Caney 2006, p. 263).

A similar climate-specific human right has been defended by Steve Vanderheiden, who suggests that:

Since rights exist in order to protect interests, a strong case can be made from the critical importance to human welfare of climatic stability for a right to an adequate environment with the corollary that the right includes a claim to climatic stability. (Vanderheiden 2008, p. 252)

Vanderheiden builds on Tim Hayward's argument for a human 'right to an environment adequate for (human) health and well-being' (Hayward 2005, p. 29). More recently, Hayward has also defended a human right to a fair share of 'ecological space':

[Climate] justice, like global justice more generally, and indeed as a part of it, implies a fundamental right of each individual to an equitable share of the planet's aggregate natural resources and environmental services that are available on a sustainable basis for human use. (Hayward 2007, p. 445)

Hayward's account suggests that the victims of climate change – as well as the poor more generally – have their human right to a fair share of the 'planet's aggregate natural resources and environmental services' violated by the actions of those in the developed world who use more than their fair share of natural resources and environmental services, including the absorptive capacity of the atmosphere.

In summary, political philosophers have argued that climate change violates a range of human rights. Some of these accounts have appealed to widely recognized human rights, including the rights to life, physical security, health and subsistence. Other accounts have defended 'new' climate-specific or environmental human rights. In this paper, I will focus on arguments that anthropogenic climate change violates widely recognized – or basic – human rights. If anthropogenic climate change violates basic rights, we may not need to defend more controversial – or more ambitious – human rights claims to justify urgent action on climate change.<sup>5</sup>

### **How should we defend human rights?**

The most straightforward way of defending any particular human right is to show that it has already been included in international human rights conventions. One attraction of this approach is that rights that have been widely recognized in international law may be less controversial than rights that have not been recognized in international law. Moreover, if we begin from legally recognized human rights, we may be able to avoid offering moral arguments to support our fundamental rights commitments. Basic rights to life, physical

security, health and subsistence can be readily defended in this way by appealing to major human rights documents, such as The Universal Declaration on Human Rights (United Nations 1948), The International Covenant on Civil and Political Rights (United Nations 1966a) and The International Covenant on Economic, Social and Cultural Rights (United Nations 1966b).<sup>6</sup>

However, the ‘legal’ approach to defending human rights is only a shortcut for most moral and political philosophers. The legal recognition of a human right is ultimately justified by a moral argument for that human right. Many different kinds of moral arguments have been offered for particular human rights.<sup>7</sup> However, basic rights – including the rights to life, physical security, subsistence and health – are often defended by appealing to the interests that they protect: ‘Virtually any argument in favor of a right will depend at bottom on emphasizing that the interest to which the right is asserted is genuinely important, fundamental, vital, indispensable, etc.’ (Shue 1980, p. 8). On this account, our most important human interests provide the grounds for basic human rights. We have seen that human rights provide the strongest (moral) protection that we can offer, therefore, they must be connected to our most important interests. As Griffin argues, in defence of his own account of human rights:

I choose those features [autonomy and liberty among others] precisely because they are important human interests. It is only because they are especially important interests that rights can be derived from them; rights are strong protections, and so require something especially valuable to attract protection. (Griffin 2008, p. 35)

Similarly, ‘especially important’ human interests in life, physical security, subsistence and health might reasonably be taken as grounds for basic human rights to life, physical security, subsistence and health.<sup>8</sup>

The ‘important human interests’ argument provides a relatively straightforward way of defending particular human rights. If we accept the argument for basic rights to life, physical security, subsistence and health, from here it seems a relatively straightforward step to the claim that anthropogenic climate change violates – or threatens to violate – these human rights. Caney has claimed that ‘it is clear that anthropogenic climate change violates [the right to life]’ by, for example, increasing the frequency of extreme weather events, including storm surges, which can be expected – based on previous experience – to cause ‘very high mortality’ among the coastal population of Bangladesh (Caney 2010, p. 75).<sup>9</sup> As seen above, there is ample evidence in the latest IPCC reports to show that anthropogenic climate change is likely to kill, injure, starve and cause illness to many millions of people. In short, anthropogenic climate change will violate their human rights.

So far, I have suggested that it is relatively straightforward to defend the claim that anthropogenic climate change violates basic human rights. We saw earlier that this is a significant moral claim with important consequences for

how we approach climate policy. Therefore, we should be careful to consider possible objections to the human rights approach to climate change. In the remainder of this paper, I will consider four important objections to the claim that anthropogenic climate change violates human rights. I will argue that all of these objections should be rejected. However, I will also suggest that considering these objections helps us to develop a more detailed understanding of basic human rights, how they are violated by anthropogenic climate change and what role they play in a theory of climate justice.

### **Can future persons have human rights?**

Many of the effects of climate change will harm future persons who have not been born or even conceived. However, it has been objected that future persons cannot have rights, including human rights, *now*. If future persons do not have rights now, current persons cannot have correlative duties to respect those (non-existent) rights. So, our human rights-based duties in 2009 will only be to persons living in 2009. In 2009, we have no human rights-based duties to persons yet to be conceived.

We should begin by noting that this objection may not be as significant as it initially appears to be. We can expect that many people living in 2009 will still be alive in 2050 and that some people living in 2009 will still be alive in 2100. Therefore, if we now have human rights-based duties to everyone living in 2009, we can expect that we also have human-rights based duties to many people living in 2050 and even to some people living in 2100. For example, we have a human rights-based duty not to do something now that will kill people aged 41 or over in 2050 or people aged 91 or over in 2100. So, we have a human-rights based duty not to cause anthropogenic climate change by emitting greenhouse gases today that will produce increased storm surges in Bangladesh in 2050, which will kill one or more persons aged 41 or older. Given that, it is likely to be very difficult to take action or develop climate policies that selectively protect those aged 41 or over in 2050, the human rights of those already born may also effectively protect the future human rights of those yet to be born.

Moreover, the cumulative nature of greenhouse gas emissions may also mean that by protecting current persons, some of whom will live for the next century, we will also be doing (more or less) all that we would be required to do if the human rights of future generations imposed duties on us now. It is, in large part, an empirical question (although, not necessarily one that we can answer with any certainty at this time) as to whether (or how far) the actions (or policies) required to protect the future human rights of future persons from anthropogenic climate change overlap with the actions (or policies) required to protect the human rights of current persons from anthropogenic climate change. My supposition is that at this point in history a good case could be made for considerable (if not complete) overlap. In other words, any current actions that would be required if future persons had human rights now



might also be required by the human rights of current persons. However, I will not rely on this claim. Instead, I will argue that we have duties now that are correlative to the human rights of future persons.

Those who claim that future persons cannot have human rights now do not deny that future persons will have human rights in the future when they become actual people (i.e., after they are born). As Ruth Macklin acknowledges, 'When these possible persons become actual persons, they will have all the *rights* ordinarily assigned to persons' (Macklin 1981, p. 152, original emphasis).<sup>10</sup> However, these future persons cannot have rights now. Axel Gosseries usefully labels this the '*right-bearer contemporaneity*' requirement: 'when and only when a person *will* come into existence, she *will* have rights' (Gosseries 2008, p. 456, original emphasis). Rights must be contemporaneous with their bearers. A right cannot exist at time *t* if the bearer of that right does not exist at time *t*. Gosseries distinguishes the right-bearer contemporaneity requirement from the '*obligation-right contemporaneity* requirement' (p. 456, original emphasis). The latter is 'the view that, for an obligation to exist, its correlative right would already need to exist' (p. 455). Rights-based duties must be contemporaneous with the rights that they are based on. A rights-based duty cannot exist at time *t* if the right that it is based on (or correlative to) does not exist at time *t*.

Gosseries' distinction suggests that there are two ways of responding to the objection that future persons cannot have human rights. The first response rejects the right-bearer contemporaneity requirement. Robert Elliot calls this the 'Non-concessional view': 'future people have rights, albeit contingent rights, in the present, although we cannot know who in particular will have these rights unless we know who in particular will come into existence' (Elliot 1989, p. 160). On this account, our actions today can violate the present rights of future people. The second response accepts the right-bearer contemporaneity requirement but rejects the obligation-right contemporaneity requirement. Elliot calls this the 'Concessional View':

Clearly present actions and policies will affect the interests of people who exist in the future. And the rights people have in the future will be determined by the interests which they have then. So, it would seem that if we can adversely affect their interests, which we can, we can violate their rights. The manifestations of such violations might not occur in the present but the actions or policies which cause them do. (Elliot 1989, p. 162)

On this account, our actions today can violate the future rights of future people. I propose to defend the Concessional View.<sup>11</sup>

Elliot's statement of the Concessional View offers a *prima facie* defence. If our current actions can adversely affect the important interests of future persons, we can violate their rights. I will consider four objections to this argument: the contingency problem; the indeterminacy problem; the temporal order problem; and the non-identity problem.

(1) The existence of future persons is contingent; they do not now exist. Future persons are merely ‘possible persons’ (Macklin 1981, p. 151). How can possible persons have human rights? However, advocates of the rights of future persons point out that:

[Our] collective posterity is just as certain to come into existence ‘in the normal course of events’ as is any given fetus now in its mother’s womb. In that sense the existence of the distant human future is no more remotely potential than that of a particular child already on its way. (Feinberg 1981, p. 147)

Feinberg’s claim is that ‘in the normal course of events’ future persons will certainly be born. Ernest Partridge makes the same point in a slightly different way: ‘future generations [...] are, barring catastrophe, virtually certain’ (Partridge 1990, p. 53). Future persons are not merely possible persons; they will be actual persons. The actual existence of future persons in the future is contingent only on the absence of catastrophe. It is not contingent in a morally relevant sense. The existence of particular future individuals may be contingent but the existence of some future persons is ‘virtually certain’.<sup>12</sup> Actual future persons will have human rights in the future and we know now (with ‘virtual certainty’) that there will be some future persons therefore there will be some future persons with human rights.

(2) We may know that there will be future persons but we do not know the identity of those persons:

The real difficulty is not that we doubt whether our descendants will ever be actual, but rather that we don’t know who they will be. It is not their temporal remoteness that troubles us so much as their indeterminacy – their present faceless and namelessness. (Feinberg 1981, pp. 147–148)

We do not know who will exist in the future. The class of future persons ‘does not have any identifiable members’ (Macklin 1981, p. 152). It is, however, unclear why this should be an obstacle to future persons having human rights in the future. As Partridge points out, ‘we need not look to posterity to find examples of duties to, or rights of, “unidentifiable persons”’ (Partridge 1990, p. 56). Feinberg offers an example:

We can tell, sometimes, that shadowy forms in the spatial distance belong to human beings, though we know not who or how many they are; and this imposes a duty on us not to throw bombs, for example, in their direction. In like manner, the vagueness of the human future does not weaken its claim on us in light of the nearly certain knowledge that it will, after all, be human. (Feinberg 1981, p. 148)

The human rights of unidentifiable individuals impose duties on us. We do not need to know the particular identity of a person before we know that they have human rights. Instead, human rights are grounded in our humanity: ‘We

attribute general and universal rights to people for what they are: human beings, and not with an eye to the question of which particular human beings they are, or to when and where they live' (Meyer 2003, p. 146, also Partridge 1990, p. 58, and Baier 1981, pp. 172–173). Human rights are grounded in the interests that we have *qua humans*. Therefore, we know that future persons will have (more or less) the same human rights as current persons. The indeterminacy of the identity of future persons does not offer any grounds for denying that they will have human rights.

(3) If future persons only have human rights in the future, how can current generations have current duties not to violate those rights? *Prima facie* there is something paradoxical about the suggestion that there can be a current duty that is grounded in a right that does not yet exist. However, consider the following scenario:

Imagine that I booby-trap a time capsule such that whoever opens it will be grievously injured. Someone does open it, in fact someone who is not yet born. What I do now is plausibly a violation of a right of that person, albeit not of one presently existing. (Elliot 1989, p. 162)<sup>15</sup>

Elliot is surely right that we intuitively recognize that the actions of the booby-trapper violate the human rights of his victim. The temporal distance between the action and the injury is not morally significant.<sup>14</sup> If the booby-trapper, B, set the bomb at time  $t$  and his victim, V, were alive at time  $t$ , we would have no doubt that the action violated V's rights even if the booby-trap were not set off and V was not injured until  $t + 80$  years. Yet, V will only have the right not to be injured in  $t + 80$  years if V is still alive in  $t + 80$  years. We do not attribute rights not to be injured to those who are already dead. We cannot simply assume that if V has human rights at  $t$ , then V will have human rights at  $t + 80$ . Indeed, V's human rights at  $t + 80$  are not dependent on V's existence at  $t$  but rather they are dependent on V's existence at  $t + 80$ . This suggests that there is no morally relevant difference between this case and Elliot's case where the victim,  $V_1$ , is not born at time  $t$  but is injured at  $t + 80$  years (or  $t + 500$  years) by B's actions at  $t$ . In both cases, B's actions at  $t$  violate the *future* human rights of a person living in the *future* (it just so happens that in one of the cases the victim was also alive – and had human rights – at  $t$ ). The status of the human right that grounds B's duty is the same in both cases.<sup>15</sup>

Therefore, the *prima facie* paradox of current duties grounded in future rights is not specific to the rights of persons not yet born. Indeed, insofar as the effects of all actions necessarily occur after the action, the 'problem' is quite general: all human rights-based duties are current duties grounded in the future rights of persons living in the future (even if it is the very near or immediate future). We are duty-bound not to act so that a person living in the future will have one of their human rights violated as a consequence of our actions. There is no paradox. Duties come temporally before human rights because actions come temporally before their effects. Human rights come

normatively 'before' (i.e., they justify) duties because effects on human interests come normatively 'before' (i.e., they justify) restrictions on actions that cause those effects. The relationship between human rights-based duties and the rights on which they are based reflects the relationship between normativity and temporality. There is no special temporal order problem for the future rights of future persons.

We can summarize the argument so far. It is generally accepted that future persons will have human rights. We have seen that the existence of future persons is 'virtually certain', therefore, there will be some future persons with human rights. We do not need to know the particular identities of future persons to know that they have human rights because human rights are rights that persons have *qua humans*. There is nothing paradoxical about future human rights imposing current duties. Instead, this reflects the relationship between normativity and temporality: effects on important human interests (human rights) justify restrictions on actions that cause those effects. Duties relate to causes; rights relate to their effects.

(4) The non-identity problem suggests that it is impossible for current generations to harm – or adversely affect – the interests of most future generations. If we cannot adversely affect the interests of future generations and human rights protect interests, it seems that we cannot violate the rights of future generations. How can it be that continuing to emit greenhouse gases that cause anthropogenic climate change does not adversely affect the interests of future generations? The answer lies in one peculiar feature of our relationship to future generations: 'We can affect their identity' (Parfit 1987, p. 357). John Broome explains how this is likely to occur in the context of climate policy:

Compare what will happen if we take steps to control our pollution of the atmosphere with what will happen if we do not. The steps we shall have to take will make a significant difference to people's lives. In the rich countries, for instance, people will almost certainly have to travel about less. Consequently, young people will form different groups of friends, meet different people, and marry different people. They will have children at different times, and those will, of course, be different children. After a century or so, nearly all of the people then living will be different individuals from the people who will be living if we continue to pollute in our present profligate way. (Broome 1992, pp. 33–34)

Any significant policy change will affect behaviour and will, consequently, affect the identity of future persons.<sup>16</sup> Different people will exist 150 years from now if we pursue a 'business-as-usual' policy than would have existed if we had pursued an 'emissions reduction' policy. Therefore, the victims of anthropogenic climate change in 150 years time would not have existed if we had pursued an emissions reduction policy. In other words, they cannot exist without being victims of anthropogenic climate change. This poses a moral challenge:

We should ask, 'If people live lives that are worth living, even though they are killed by some catastrophe, is this worse for these people than if they had never existed?' Our answer must be No. Though it causes a predictable catastrophe, our choice of [business-as-usual] will be worse for no one. (Parfit 1987, p. 372)<sup>17</sup>

We do not make anyone worse off than they would have been by adopting a business-as-usual policy because anyone who suffers the effects of anthropogenic climate change would never have existed if we had adopted an emissions reduction policy.

The non-identity problem does not undermine the claim that future generations will have human rights or that those rights impose duties on us now. However, it does have some implications for how we conceive of those rights and duties. The non-identity problem depends on a '*counterfactual* notion of harm':

Whenever we rely on a concept of harm, we compare the current condition of a given person [...] with her condition as it would have arisen in the absence of the allegedly harmful action. [...] Whenever the former condition is worse than the latter, the person has been harmed. (Gosseries 2008, p. 459)

If an action makes a person's situation *worse than it otherwise would have been*, it has harmed that person. The non-identity problem arises because without the action at  $t$  that causes the victim's death at  $t + 150$ , the victim would never have existed. Therefore, the action cannot have made her situation worse than it otherwise would have been. Human rights violations are normally harms in the counterfactual sense of harm. For example, if you violate my human right to physical security, you will typically make me worse off than I otherwise would have been. However, human rights violations can also be understood as – and should more fundamentally be understood as – harms in a second sense of that term. On the *threshold* notion of harm: 'Having acted in a certain way (or having refrained from acting in that way) at a time  $t_1$ , we thereby harm someone only if we cause this person's life to fall below some special threshold' (Meyer 2003, p. 147).<sup>18</sup> Human rights protect special thresholds. An action violates a human right when it causes someone to fall below that threshold. For example, an action violates the human right to physical security when it compromises a person's physical security – i.e., when it causes them to fall below the threshold of physical security. So, actions now can (in this sense) *harm* future persons by violating their human rights (i.e., causing them to fall below the thresholds protected by those rights). For example, emitting greenhouse gases that cause anthropogenic climate change, which produces storm surges, can violate future persons' human rights to physical security by causing them to be injured. The action causes the victim to fall below the threshold of physical security protected by the human right to physical security. Once again, we can see that the duty not to violate human rights does not depend on the identity of the

rights-bearer. Current persons have a duty not to undertake actions that will violate the rights of the actual future persons who will exist – even if those particular future persons would not have existed but for those very actions.<sup>19</sup>

In this section I have defended the Concessional View: current persons have current duties that are grounded in the human rights that actual future persons will have in the future. This supports our claim that anthropogenic climate change can violate the human rights of future generations.

### Risk and human rights

On the ‘paradigm conception of a human right violation [...] the negative duties imposed by human rights are taken to be specific, clear-cut prohibitions on certain kinds of actions (duties not to kill, assault, and so on)’ (Ashford 2007, p. 191). Emitting greenhouse gases does not seem to be the kind of action that fits this paradigm. In this section and the next section, I consider two ways in which emitting greenhouse gases does not fit this paradigm: our actions only increase the risk of harm; our actions only have harmful effects in combination with the actions of others. We might call these the ‘risk problem’ and the ‘collective causation problem’. I will argue that a plausible conception of human rights and their correlative duties should not be troubled by these problems.

The IPCC reports that there is ‘high confidence’, which it defines as ‘= 8 out of 10 chance’ (IPCC 2007a, p. 27), that:

The health status of millions of people is projected to be affected through, for example, increases in malnutrition; increased deaths, diseases and injury due to extreme weather events; increased burden of diarrhoeal diseases; [...] and the altered spatial distribution of some infectious diseases. (IPCC 2007a, p. 48)

The IPCC has less ‘confidence’ about – or attributes a lower probability to – many of the more specific and longer-term effects of climate change. Therefore, we cannot say that emitting greenhouse gases violates the human rights to life, physical security, subsistence and health. The most we can say is that emitting greenhouse gases *increases the risk (or probability)* that the human rights to life, physical security, subsistence and health will be violated.<sup>20</sup> This suggests that we need to weaken our original claim that anthropogenic climate change violates human rights. Instead, we should claim that anthropogenic climate change *increases the risk* that human rights will be violated.

I think this objection depends on an overly narrow understanding of human rights and the duties that are grounded in them. Shue suggests that a basic human right provides: ‘(1) the rational basis for a justified demand (2) that the actual enjoyment of a substance be (3) socially guaranteed against standard threats’ (Shue 1980, p. 13). It is the third element of Shue’s account that is of interest to us. Shue emphasizes that human rights provide a *social guarantee*

against *standard threats*. We can examine these two ideas – social guarantee and standard threats – separately. On Shue's account, it is 'not enough that at the moment it happens that no one is violating the right' (Shue 1980, p. 16). The correlative duty to a human right is not merely a duty not (personally) to violate that right. Instead, human rights generate a more complex set of duties, which includes the duty not to personally violate that right, but also includes 'a duty to create, if they do not exist, or, if they do, to preserve effective institutions for the enjoyment of what people have rights to enjoy' (Shue 1980, p. 17, also Caney 2007, p. 287).<sup>21</sup> On this account of a human right, the duty to promote institutions that effectively protect that human right is grounded in the right itself. If human rights are grounded in important human interests, the correlative duties must protect those interests. In a world where there is the possibility (or even the likelihood) of non-compliance with the duty not to personally violate human rights the correlative duties must include the duty to promote and preserve effective institutions 'that ensure that persons can enjoy their human rights' (Caney 2007, p. 287). If we did not have this duty to promote institutions that provide a social guarantee of human rights, then human rights would not adequately serve their function of protecting human interests.

However, Shue makes it clear that the social guarantee of human rights is not against all violations but rather against 'standard threats':

[If] people are to be provided with a right, their enjoyment of the substance of the right must be protected against the typical major threats. If people are as helpless against ordinary threats as they would be on their own, duties correlative to a right are not being performed. Precisely what those threats are, and which it is feasible to counter, are of course largely empirical questions, and the answers to both questions will change as the situation changes. (Shue 1980, pp. 32–33)

Shue's point is that it is not feasible to protect human rights against all threats. As he puts it, 'this protection need neither be ironclad nor include the prevention of every imaginable threat' (Shue 1980, p. 33). Instead, we should protect human rights against 'predictable remediable threats' (p. 33). I want to suggest that it is plausible to think of anthropogenic climate change as a 'predictable remediable threat'. It has been predicted by the IPCC that climate change threatens the human rights to life, physical security, subsistence and health. Moreover, the IPCC is confident that we can (at least, in part) remedy the threat posed by climate change (thereby protecting the human rights of many people) by reducing greenhouse gas emissions. So, basic human rights ground a duty to promote effective institutions that protect current and future persons from the predictable remediable threat of climate change.

I have argued that a plausible conception of human rights includes the correlative duty to promote effective institutions for the protection of human rights against predictable remediable threats. I have suggested that anthropogenic climate change is a predictable remediable threat. Therefore, the basic



human rights to life, physical security, subsistence and health, which are threatened or put at risk by anthropocentric climate change, ground a duty to promote effective institutions that reduce or eliminate that threat. The character of this duty is important. It is not a duty not to personally violate basic human rights by emitting greenhouse gases. Instead, it is a duty to promote effective institutions for the protection of basic human rights against the threat posed by greenhouse gas emissions. Anthropogenic climate change violates human rights because it is the consequence of our collective failure to fulfil our duty to promote effective institutions for controlling greenhouse gas emissions.

### **Collective causation, unspecified duties and human rights**

Emitting greenhouse gases does not fit the paradigm of a human right violation in a second respect: one person's actions only have harmful effects in combination with the actions of others. As Margaret Moore has suggested:

[Even] if I drive a large SUV, which is far beyond what I need to get to work every day, the pollution generated, by itself, doesn't cause global warming. The carbons emitted by me do not cause any harm, by themselves. The problem arises not because of my actions, but because millions of people like me, live a lifestyle that involves greenhouse gas emissions, and it is our uncoordinated individual action[s], which, together, cause harm to the environment. (Moore 2008, p. 504)

The harms of climate change are 'additive harms' or 'accumulative harms' (Ashford 2007, p. 195, Feinberg 1984a, p. 225). They are the consequence of the cumulative actions of many agents. One person's actions would not be enough to cause climate change and, therefore, would not cause the harms of climate change. Indeed, each person might reasonably argue that their actions make no significant difference to whether (or how many) people are harmed by climate change (Feinberg 1984b, p. 29). This suggests that no one who emits greenhouse gases violates the human rights of the victims of anthropogenic climate change.

The problem of additive harms – or collective causation – might be understood as a particular version of a more general criticism of human rights-based theories. Onora O'Neill has argued that the problem with rights-based theories is that they do not tell us who has the duty to protect rights (e.g. O'Neill 1986, pp. 101–103, 1996, pp. 129–135). O'Neill's particular target is positive rights, such as rights to welfare or education, because she assumes that we can specify the duties that are correlative to negative rights, such as the right *not* to be killed or injured. However, O'Neill's concern about unspecified duties extends to negative rights when those rights can be violated by the cumulative actions and collective practices – working through complex causal chains – of many millions of people.<sup>22</sup> In the context of anthropogenic climate change,



a human rights-based theory does not seem to tell us what we most need to know. Who has a duty to do what? When do a person's greenhouse gas emissions – or other actions – violate the human rights of victims of anthropogenic climate change?

I want to consider four responses to this problem. The first response is the most modest. The first response suggests that: '[One] may know of the existence of a right and of the reasons for it without knowing who is bound by duties based on it or what precisely are these duties' (Raz 1986, p. 184). Raz suggests that we do not need to be able to specify the correlative duties to defend a rights claim. We can recognize that there are basic human rights to life, physical security, subsistence and health and that they are violated by anthropogenic climate change without being able to specify the climate-related duties based on those rights. Raz acknowledges that without 'principles of responsibility' our 'knowledge of the precise content of the right [...] is incomplete' but he argues that this 'merely means that [we do] not know all the implications of the right. [...] It does not mean that [we do] not understand that [right]' (Raz 1986, p. 185). An account of human rights can still play an important part in a theory of justice even if it needs to be supplemented by 'principles of responsibility' (or an account of duties).

The second response strengthens the first response by pointing out that rights have a 'dynamic character' (Raz 1986, p. 185). The basic human rights that are threatened by anthropogenic climate change are not new human rights that have only come into existence with climate change. They are basic human rights that can be violated in many different ways. Anthropogenic climate change is a new threat – or a new way of violating – those rights. Therefore, the original formulation of the basic human rights could not plausibly have identified climate-related duties. This is a case where changes in 'circumstances which were not predicted [...] give rise to a new duty which was not predicted in advance' (Raz 1986, p. 185). The duties that are correlative to basic human rights will change over time because the 'typical major threats' will change over time (Shue 1980, p. 33). Anthropogenic climate change is a new way of violating basic human rights, which gives rise to new (yet to be specified) duties. This is a normal result of the dynamic character of basic human rights.

The first two responses both suggest that we should not reject a human rights-based approach to climate change because it does not appear to provide us with a fully specified account of the correlative duties. The third and fourth responses are more ambitious. The third response suggests that we can identify a correlative duty – namely, the duty to promote and maintain effective institutions that will 'specify and allocate' the more specific duties needed to ensure the protection of basic human rights (Ashford 2007, p. 217). This general duty is a slightly more detailed specification of the duty to promote effective institutions for the protection of basic human rights, which was suggested in the previous section. Interestingly, the justification for it is also

slightly different. In the last section, I argued that if (P1) we take human rights seriously and (P2) we expect some people not to comply with the duty not to personally violate human rights, then (C1) we should recognize a duty to promote effective institutions for the protection of human rights. The argument in this section does not depend on the likelihood of non-compliance. Instead, the argument is that if (P1) we take human rights seriously and (P3) we do not have clear and widely acknowledged criteria for specifying and allocating correlative duties, then (C2) we should recognize a duty to promote and maintain effective institutions that will specify and allocate the duties needed to ensure the protection of human rights. (C1) is intended to solve a problem of non-compliance; (C2) is (primarily) intended to solve a problem of allocation.

So far, I have suggested that everyone has a duty to promote and maintain effective institutions that will specify and allocate the more detailed duties needed to ensure the protection of basic human rights from the effects of anthropogenic climate change. Let us call this the 'general duty'. Of course, there is more work to be done in determining what the general duty requires from any particular individual given their particular circumstances. It is, for example, plausible that the general duty requires different actions from President Obama than it does from the average US citizen. Similarly, it might require different actions from the average UK citizen than it does from a person living on less than a US\$1 per day in a developing nation. The determination of the implications of the general duty for particular individuals at particular times is itself a matter of justice, which requires the fair allocation of responsibilities. However, our inability to determine fully the implications of the general duty without further work does not provide any reason for doubting that we have the duty.

The fourth response to the problem of unspecified duties suggests that we can and must go beyond the general duty. The general duty assumes that the specification and allocation of more specific duties must be done by effective institutions that aim to protect basic human rights from the effects of anthropogenic climate change. This suggests that we have no specific duties – for example, to limit our individual greenhouse gas emissions – until there is 'an actual [and "authoritative"] allocative scheme, operative and in force' (Feinberg 1984b, p. 30). This is morally problematic because it suggests that we can continue with 'business-as-usual' greenhouse gas emissions until there are effective institutional regulations in place that specify the level at which we are required to limit our emissions. This creates a perverse incentive for continuing non-compliance with the general duty: if we do not comply with the general duty and effective institutions are not created, we do not violate any human rights-based duties by continuing to emit high levels of greenhouse gases. If we want to avoid this problem, we need to go beyond the general duty.

I want to suggest two further duties that take us beyond the general duty. I will argue that both duties follow from the general duty. First, we have a duty

to rectify the wrong that we have done if we fail to comply with the general duty. On our account, if a person does not comply with the general duty, he violates the correlative human rights. We generally recognize that if a person violates another person's human rights, they have a duty to rectify the wrong that they have done.<sup>23</sup> What does rectification require in the context of the general duty? Let us assume that rectification cannot take place until effective institutions are in place and duties are specified and allocated. I would suggest that rectification requires that those who have not complied with the general duty should be allocated more burdensome duties, including, for example, lower limits on their future greenhouse gas emissions and a greater share of the monetary costs of adaptation measures. The minimum requirement should be that they are not advantaged over the course of their lifetime by their failure to comply with the general duty. Moreover, non-compliers might legitimately be required to accept a worse outcome if rectification (or compensation) of the situation of the victims of human rights violations caused by anthropogenic climate change, who might have been protected but for non-compliance with the general duty, requires it. In sum, the general duty implies a duty of rectification: under effective institutions, previous non-compliers must accept more burdensome duties that may make them worse off than they would have been if they had always complied with the general duty.

The second duty that follows from the general duty is the duty not to accept benefits that result from actions that violate someone's human right. If there were full compliance with the general duty, we might plausibly assume that effective institutions for specifying and allocating duties to protect basic human rights from anthropogenic climate change would quickly be implemented. Let us assume that some people comply with the general duty but others do not and as a result effective institutions are not implemented. Some of the compliers may benefit from the delayed implementation of effective institutions if, for example, they have been enjoying a lifestyle dependent upon a higher level of emissions than they would have been permitted under effective institutions. We might reasonably say that they are benefiting from the actions of the non-compliers. In other words, they are benefiting from actions that violate human rights. It is, however, surely wrong for someone who takes human rights seriously to accept benefits that result from human rights violations. Therefore, I would suggest that the general duty also implies a duty not to accept benefits that result from the failure of other people to comply with the general duty.

What does this additional duty require? I would suggest that it requires each person: (1) to reduce their greenhouse gas emissions to a level that they can reasonably believe would be consistent with the specification and allocation of duties by effective institutions; and (2) to accept that effective institutions can legitimately take into account the historic emissions (and other relevant actions) of those who have complied with the general duty (as well as those who have not complied) during the period that effective institutions

were delayed by non-compliance. In other words, the duty not to accept benefits requires both individual action now in advance of effective institutions and compliance with institutions that (effectively) specify and allocate duties 'retrospectively'.

I have suggested that the problem of collective causation can be understood as a particular version of the problem of unspecified duties. I have offered four responses. The first two responses modestly point out that the claim that basic human rights are violated by anthropogenic climate change would be significant even if the correlative duties were largely unspecified. The third response was a defence of the general duty to promote and maintain effective institutions that will specify and allocate the more detailed duties needed to ensure the protection of basic human rights from the effects of anthropogenic climate change. The fourth response derived two further duties from the general duty: the duty of rectification; and the duty not to accept benefits derived from human rights violations. I have offered interpretations of these duties that place significant demands on individuals before and after the implementation of effective institutions.

### **Demandingness and human rights**

So far, I have considered three objections to the claim that anthropogenic climate change violates human rights: the problem of future generations; the problem of risk; and the problem of collective causation and unspecified duties. In defending the claim, I have developed a more detailed conception of human rights and their place in a theory of climate justice. In particular, I have paid attention to the climate-related duties that are correlative to basic human rights. In this section, I want to consider one final objection to the claim that anthropogenic climate change violates human rights: the problem of demandingness.

Shue suggests that 'the main task' in defending a right is 'to answer the objection that the duties involved would ask too much of others' (Shue 1980, p. 9):

[No] matter how high the positive arguments [for a right] are piled, the critic can always respond by conceding it all but simply adding the objection, in effect, that recognizing the right in question would place too great a burden on all the other people with the duties to honor the right. (Shue 1980, pp. 8–9)

In the context of our discussion, the concern is that protecting basic human rights to life, physical security, subsistence and health from the effects of anthropogenic climate change would 'place too great a burden' on the duty-bearers. The 'cost' of protecting human rights from anthropogenic climate change is too high.

It has been suggested that the problem of demandingness is particularly acute when the rights of future generations are at stake. As Shue suggests, the

‘presumably indefinitely large number of persons in all future generations will completely swamp the numbers in any one current generation’ (Shue 1999, p. 49). This seems likely to lead to ‘impossible demands on us’ (DeGeorge 1981, p. 161, also Dasgupta 2005, p. 156). In the context of climate change, it has famously been suggested by Bjorn Lomborg (and some economists) that the cost of aggressively tackling climate change is too high. This argument is usually based on a cost–benefit analysis, which attributes monetary values to all benefits and burdens, including human life, physical security, subsistence and health. So, for example, Lomborg claims that ‘Global stabilization of CO<sub>2</sub> emissions [... would cost] almost twice the cost of global warming itself’ (Lomborg 2001, p. 310). However, Lomborg has also argued that the cost of aggressively tackling climate change is that the human rights of current generations in the developing world are not fulfilled. He suggests that the question we must answer is:

Do we want to help more well off inhabitants in the Third World a hundred years from now a little [by significantly reducing emissions now] or do we want to help poorer inhabitants in the present Third World more? To give a feel for the size of the problem – the Kyoto Protocol will likely cost at least \$150 billion a year, and possibly much more [...] UNICEF estimates that just \$70–80 billion a year could give all Third World inhabitants access to the basics like health, education, water and sanitation. (Lomborg 2001, p. 322)

So, the cost of protecting the human rights of future generations (which, Lomborg believes, may not be seriously threatened anyway) from the effects of anthropogenic climate change is that the human rights of current generations remain unfulfilled.

Is protecting basic human rights from the effects of anthropogenic climate change too costly? In part, this is an empirical question. However, it is ‘not a mere question of efficiency to be left to the economists’ (Shue 1980, p. 185, n. 22). Judgements about how much we can ‘afford to pay’ to protect human rights are quite different from the economic calculations in an economist’s cost–benefit analysis in two respects. First, we should not assess the opportunity costs of protecting a human right each time we might either do or not do something to protect it. As Shue suggests:

The judgement about whether we can afford to treat something as the content of a right [...] is a prior, stable judgement that is not re-opened every time that we must choose between consuming resources in the enforcement of the right and consuming the same resources in some other way. (Shue 1999, p. 47)

Judgements about the affordability of human rights should remain relatively stable. However, we have seen that human rights have a ‘dynamic character’: new threats, like anthropogenic climate change, can emerge to ‘old’ human rights, like the rights to life, physical security, subsistence and health (Raz 1986, p. 185). In such cases, it is appropriate to consider whether the right

should be understood to include protection against the new threat. The cost of including protection against the new threat should be a relevant consideration. Once a judgement has been made to include or exclude the new threat from the substance of the right, it should not be re-opened on every occasion when we can choose to act either to protect or not to protect the right.

However, we should also note that the judgement about whether to include the new threat does not need to be an all-or-nothing judgement. We have seen that the protection of human rights against standard threats 'need neither be ironclad nor include the prevention of every imaginable threat' (Shue 1980, p. 33). We might regard anthropogenic climate change as a standard threat to basic human rights but accept that protection against it cannot be 'ironclad'. In James Nickel's terms, we might 'prune' a right by '[cutting] back several dimensions of a particular right without cutting so deeply or extensively that the right ceases to exist as a meaningful norm' (Nickel 1987, p. 125). In such circumstances, we may 'reduce the level of protection' for the right by, for example, 'lowering expenditure' on the institutions that protect it (Nickel 1987, p. 126). If we offer a significant level of protection – for example, we significantly reduce the risk of any individual being killed by anthropogenic climate change – we might reasonably claim that the right remains a 'meaningful norm'. Analogously, we do not generally believe that the institutions of law and order must provide 'ironclad' protection against murder for our human right to life to be a 'meaningful norm'. Instead, they need only significantly reduce the risk of any individual being intentionally killed by someone else. This point is important because it suggests that anthropogenic climate change might be included as a standard threat to basic human rights to life, physical security, subsistence and health without providing 'ironclad' protection and, therefore, at a lower cost.

The second notable feature of a judgement about the costs of human rights is that '[usually], it is a judgement that cannot be quantitatively calculated' (Shue 1999, p. 47). As Nickel suggests, the opportunity costs of protecting human rights cannot be 'adequately represented on a single scale' because the costs may include not protecting (or even violating) other rights or other important moral norms (Nickel 1987, p. 124, also pp. 120–121). We have seen that one of the distinctive features of a rights-based approach is that it rejects the (monist) reductionism of economic cost–benefit analysis. Therefore, we cannot expect judgements about the costs of human rights to be reducible to economic calculations. Ultimately, we are making qualitative judgements about our moral priorities. We can, of course, expect them to take into account the economic costs – in particular, the implementation costs – of offering a particular level of protection of a particular right. We will, however, only be interested in some of the other ways that those resources could be deployed because our concern for human rights will take priority over mere preference satisfaction. As Shue suggests, '[first], we provide for basic rights; then, preference satisfaction uses whatever resources are left' (Shue 1999, p. 47).<sup>24</sup>

If we accept the priority of basic rights over other considerations and we recognize that protection of basic rights can be meaningful without being 'ironclad', I think it is plausible that the costs of protecting basic rights to life, physical security, subsistence and health from the threat of anthropogenic climate change will not be too high. In particular, we can deal with DeGeorge's concern that recognizing the rights of future generations will place 'impossible demands on us' and we can deal with Lomborg's concern about the basic rights of current generations. We can recognize and provide significant protection for the basic rights of future generations without requiring current generations to sacrifice their own basic rights. As Caney points out, future generations only impose unbearable duties on the current generation if we assume that there is a duty to 'maximise preference satisfaction' (Caney 2008, p. 548–549). Some members of the current generation need only give up their 'orgy of self indulgent consumption and unbridled pollution' to provide a significant level of protection for future generations (Shue 1999, p. 49). The richest 1% of the global population owned approximately 40% of global assets (US\$50 trillion) in 2000.<sup>25</sup> Each one of the 37 million people in the richest 1% of the global population had wealth of over US\$500,000. Even if the economic cost of protecting basic human rights from climate change is much higher than Lomborg's estimate of the cost of implementing the Kyoto Protocol – say, US\$750 billion per year – then a 1.5% per annum wealth tax on the richest 1% of the global population would more than cover the cost.<sup>26</sup> It seems extremely unlikely that a 1.5% wealth tax would pose a significant threat to the basic rights of someone with wealth of over US\$500,000. Moreover, it should be clear that Lomborg's claim that we have to choose between protecting the basic rights of the poor in the current generation and the (less) poor in future generations is false. The priority of basic rights requires that both sets of demands are met ahead of the preferences of the rich.

## **Conclusion**

Basic human rights are a central feature of liberal political theories. If anthropogenic climate change violates basic human rights, liberals must recognize anthropogenic climate change as an injustice. In this paper I have defended the claim that anthropogenic climate change violates basic human rights to life, physical security, subsistence and health. I have considered four objections: the problem of the rights of future generations; the problem of risk; the problem of collective causation and unspecified duties; and the problem of demandingness. In responding to these objections, I have defended a distinctive interpretation of human rights and, in particular, an account of the climate-related duties that are correlative to the basic rights. Each of us has a general duty to promote effective institutions for the specification, allocation and enforcement of more specific duties that will provide a significant level



of protection for current and future persons' basic rights from the effects of anthropogenic climate change. In addition, each of us has a duty not to accept benefits that result from human rights violations, therefore, each person has a duty now not to emit more than they would be allowed to emit under effective institutions. The implications of these duties for particular individuals at particular times will be different – and there is much more work to be done to determine our relative responsibilities for promoting effective institutions and how more specific duties should be specified and allocated by effective institutions. We can, however, safely conclude that the richer and more powerful members of the current generation have sufficient resources to fulfil their duties to protect basic human rights from the effects of anthropogenic climate change.

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### Notes

1. IPCC (2007a, p. 27) defines 'very high confidence' as '= 9 out of 10 chance'.
2. For a detailed discussion of the contrast between a cost–benefit approach and a justice approach, see Bell (2010).
3. I focus on anthropogenic climate change because this is a case where human action threatens to violate human rights.
4. The term is most widely associated with Shue (1980). The rights that I identify as 'basic rights' roughly overlap with those identified by Shue.
5. Of course, different accounts of human rights may have quite different implications for action on climate change (and on other issues). For example, Hayward's human right to an equitable share of ecological space is the basis for a particularly demanding egalitarian theory of global justice, which goes beyond standard conceptions of human rights as 'the morality of the depths [...] the line beneath which no one is allowed to sink' (Shue 1980, p. 18).
6. For an argument of this type, see Caney (2010). Caney combines this approach with a commitment to minimalism, i.e. he defends the human rights that he proposes by showing that they are less demanding than human rights that have been recognized in these international human rights conventions.
7. For a useful survey, see Caney (2005, chs 3, 4).
8. Caney offers 'important interests' arguments for the human right 'not to be exposed to dangerous climate change' (Caney 2008, pp. 537–539) and the human right 'not to suffer the ill-effects associated with global climate change' (Caney 2006, pp. 259–264). See also Vanderheiden's (2008, p. 241) defence of the human rights to an adequate environment and climatic stability.
9. Caney quotes from – and bases his claims about the effects of storm surges on – McLean and Tysban (2001, pp. 366–367).



10. The same point is made by DeGeorge (1981, p. 159).
11. In my view, the Non-concessional View is more difficult to defend because it is difficult to see how currently non-existent persons can have rights now.
12. It is, of course, also virtually certain that humanity will become extinct at some time in the future – as most species have done. The possibility of extinction has attracted some attention in the economics literature on climate change as a justification for ‘pure discounting’ of the future (e.g., Roemer 2008, p. 7, Dasgupta 2005, p. 161, Sterner and Persson 2008, p. 65). I discuss the role of risk more generally in the next section. My view on extinction-based discounting (which I cannot defend here) is that it cannot be justified in relation to rights except in the very long-term, i.e. we should not adopt a constant discount rate but might act as if the very far future rights of very far future persons (e.g., tens of thousands of years in the future) generate weak or no duties for us. I do not believe that this will have any practical consequences for our actions.
13. See also Shue’s (1999, pp. 38–39) analogous (but more imaginatively presented) ‘model land mines’ case.
14. Temporal distance is sometimes considered as an independent argument against the rights of future persons but it should be clear that from the moral point of view date of birth is morally arbitrary. For consideration of the ‘time-gap’ argument as a reason for rejecting rights, see Partridge (1990, pp. 45–48) and as a reason for discounting rights, see Caney (2009a, pp. 3–9). For clear statements of the claim that temporal distance is morally irrelevant, see, for example, Parfit (1987, p. 357), Roemer (2008, p. 22), Epstein (1992, pp. 84–85) and Caney (2009a, p. 8).
15. The analogy between the two cases is suggested by Baier’s (1981, p. 174) remarks.
16. The argument assumes that ‘sameness of genetic structure is [...] a necessary condition of personal identity’ (Kavka 1982, pp. 93–94). For more detailed discussion of this assumption, see Parfit (1987, pp. 351–355).
17. Parfit’s (1987, pp. 371–372) discussion relates to his own imaginary ‘Risky Policy’ case, which is (roughly) analogous to climate change.
18. Meyer (2003, p. 147) calls this the ‘subjunctive-threshold’ interpretation of harm.
19. Caney (2006, p. 268) offers a related solution to the non-identity problem but he presents it in a different way.
20. I discuss the effects of risk rather than the effects of uncertainty. It is common in popular discussions of climate change to emphasize uncertainty but the IPCC has shown an increasing willingness to estimate probabilities (or ranges of probabilities) for the effects of climate change, thereby technically ‘re-classifying’ them as risks rather than uncertainties. We talk of risks when we can ‘assign numerical probabilities to the various answers to the question “What will happen?”’ and we talk of uncertainties when we can ‘at most list the possible answers, not estimate their probabilities’ (Elster 1983, p. 185, note omitted). On the difference between uncertainty and ‘total ignorance’, see Elster (1983, pp. 201–202).
21. The proposed understanding of human rights should not be confused with Thomas Pogge’s ‘institutional understanding’ of human rights (Pogge 2002, p. 65). Pogge’s account differs from the proposed account in two important ways. First, he does not recognize a duty to promote just institutions to protect the human rights of those who do not already share institutions with us (pp. 64–66). For a good critical discussion of Pogge’s position, see Caney (2007, pp. 281–286). Second, on Pogge’s account ‘an isolated incidence of severe domestic violence or of parents starving their children could not qualify as a human rights violation. However, many would consider these to be human rights violations,

- and do not seem to be misusing the term “human rights” (Ashford 2007, p. 185, also Pogge 2002, pp. 65–66).
22. Hayward (2005) has argued that the problem of unspecified duties extends to all negative rights, including, for example, the right not to be tortured: ‘the circumstances under which a right not to be tortured is violated are not brought about simply by numbers of individuals failing to recognize their negative duty, but rather are a result of a systematic organization of power within which specific responsibilities are murkily dispersed’ (p. 53).
  23. There may also be reason to punish them for the wrong that they have done.
  24. The priority of rights over all other goods might not be absolute. Nickel (1987, p. 124) suggests that the rights budget, i.e. ‘the level of overall expenditure on rights’ – should be ‘small enough to (1) avoid putting unfair and destructive burdens on particular individuals, (2) avoid undermining the institutions and level of economic productivity needed to provide for the general welfare and implement rights effectively over time, and (3) avoid undermining the development and maintenance of a rich social, artistic, intellectual, and religious culture’. I think (1) is relatively uncontroversial, but (2) and (3) need rather more defence. My own view is that the priority of human rights over other values should not be absolute (so, the rights budget cannot consume the whole budget) but it should be closer than Nickel’s position appears to suggest.
  25. The wealth data in this sentence and the remainder of the paragraph is from Davies *et al.* (2008).
  26. Stern (2007) suggests that the cost of stabilizing greenhouse gas concentrations at a (relatively) safe level would be 1% of global gross domestic product per annum, which is US\$656 billion per annum based on 2007 estimates of global gross domestic product.

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