University of Reading

Climate Change Burden Sharing: Capacity, Responsibility, and the Distinctive Wrong of Noncompliance

PhD Thesis in Political Theory

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Declaration:

I confirm that this is my own work and the use of all material from other sources has been properly and fully acknowledged.

ALEX MCLAUGHLIN

Abstract

This thesis provides an account of climate change burden sharing. I reject the view, known as integrationism, which holds that principles of burden sharing should be regulated solely by a general theory of distributive justice. I argue, positively, that two capacity-based principles ought to play the dominant role in burden sharing. The first, The Exemption, justifies subsistence emissions in a scarce carbon budget. I claim that the second, The Ability to Pay Principle (APP), is plausible in its own right and can also act as a proxy for historical responsibility for climate change, which I argue must be construed in terms of the overuse of the global emissions sink. I further develop a set of parameters of responsibility, which justify departures from the APP in special cases. The first two parameters allow us to move away from the APP in certain cases where it produces unfairness. I also add a harm avoidance constraint to these parameters, in order to guard against the possibility that they produce a shortfall in the net contribution to burden sharing. My final parameter holds developed states responsible for wrongful noncompliance. I claim that the noncompliance of these states with their obligations towards climate change burden sharing constitutes an additional and distinctly relational injustice. More specifically, I argue that it expresses a message of disrespect to particular agents in the present who are connected to those most vulnerable to climate impacts in a number of morally important ways.

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Introduction

Climate change is regularly cast as 'the most urgent moral challenge' facing humanity.[1] This is quite the resounding statement; after all, at a time of pervasive gender inequality and armed conflict, humanity is hardly short of urgent moral challenges. But it is easy to see why people are tempted to describe climate change in such lofty terms, even if we might also harbour some worries about framing it in this way.[2] What seems to set the issue apart, in the eyes of many, is the scale of the burdens that can be associated with it. If it continues to be left unabated, climate change will inflict very severe burdens on a very large number of future people.[3] These burdens will stem, in myriad different ways, from the planetary-scale changes to the climate that are resulting from the actions of the current and previous generations which have greatly increased the concentration of greenhouse gases in the atmosphere. This explains the 'urgency' of the urgent moral challenge of climate change anyway**:** it is imperative that steps are taken very quickly to limit the harm that will come about as a result of climate change impacts. But what of the challenge?

It is morally urgent that I apply the brakes in my car when approaching a busy crossing, but this is no challenge. In this case the moral imperative to avoid seriously harming those pedestrians using the crossing does not require either myself or any other party to bear any significant costs – at least on the assumption that I am not, say, rushing a very sick relative to the nearest hospital. Climate change, however, does not have such an unproblematic moral structure. The key point is that many people are enjoying a resource that will necessarily have to be limited if we are to avoid serious climate impacts. So in this case, the case of avoiding dangerous climate change harm, *there are* costs to pursuing the morally required course of action, though just how severe these costs are will depend on how important the resource that must be limited is to different people. As it turns out, of course, the resource in question, namely, the earths capacity to safely absorb emissions, is often very important indeed. Here is the challenge then. In order to collectively respond to the

[1] M. Hudson, 'It's ten years since Rudd's "great moral challenge", and we have failed it', *The Conversation,* online: < http://theconversation.com/its-ten-years-since-rudds-great-moral-challenge-and-we-have-failed-it-75534> (accessed Dec 2018)

[2] Specifically, the worry is that framing it in this way will legitimatise certain solutions that would ordinarily be perceived as too risky or unjust. We might be concerned, for example, about proposed geoengineering solutions to climate change. This concern is raised in C. Barry, A. P.J. Mol & A. R. Zito, 'Climate change ethics, rights, and policies: an introduction', *Environmental Politics,* 22:3 (2013) pp.361-376 at. p.361

[3] Though, as we will see in chapter 1, given that the effects of climate change are already making themselves felt, many of these people are not remote in time at all.

moral imperative of avoiding intolerable climate change, we will need people to bear some potentially important costs.

My main aim in this thesis is to provide a comprehensive account of who ought to bear these costs, that is, I will be trying to determine 'who ought to bear the burdens of preventing intolerable climate change?'[4] I have already implicitly drawn on a distinction between the two main categories of climate burden, which I will discuss at much greater length in Chapter One. Roughly, a prevention burden is a burden associated with preventing climate change occurring, whereas an impact burden is a burden associated with the impacts of climate change. Even though my focus, as the above question suggests, will primarily be on prevention burdens, the other side of the coin, impact burdens, will also feature prominently throughout the discussion. Not only will the principle I articulate in Chapter Three have a direct bearing on what we judge as 'intolerable climate change', but the nature of these impact costs will feature more generally in my arguments, as a way of helping flesh-out the nature and importance of our obligations towards climate change prevention. The project, then, is an attempt to respond to the urgent moral challenge of climate change by providing an account of how the burdens associated with preventing it ought to be shared between us. My use of the word 'ought' is very important: my interest is specifically on what a *fair* distribution of these burdens would be. There will surely other factors that will have a bearing on appropriate policy all-things-considered, but the animating conviction of this project is that fairness should be central in guiding our response to the threat of climate change.

In taking up this challenge I will be contributing to the growing literature on climate change burden sharing. A further core aim of the project, however, is to pay close attention to the changing landscape of our obligations towards climate change burden sharing. I will show that some established views about climate justice have been superseded and will suggest at a number of points that recent contributions to the literature have not been attentive enough to this fact. The importance of this sort of critical disposition is pressed on us by Henry Shue, in a recent piece reflecting on one of his many theoretical contributions to the filed. As he nicely puts it, '[o]ne way in which normative theory can guarantee being irrelevant is to keep discussing the same formulations of the issues while the world moves on'.[5] We need analysis that shed light on the problem as we find it, paying sufficient attention to the moral status of our actions in response to burden sharing so far, and this is what I will try to do in the following.

[4] I will use the terms 'cost' and 'burden' interchangeably throughout the thesis.
[5] H. Shue, 'Subsistence Protection and Mitigation Ambition: Necessities, Economic and Climate', *British Journal of Politics & International Relations* (forthcoming)

The thesis will be structured as follows. In Chapter One I will try to convey the structure of its problem in more detail by drawing attention to the specific sorts of burdens we can associate with climate change and by considering how the literature has so far treated the question about their fair distribution. In this discussion I will draw out a number of issues that I take to be unresolved. These issues will yield a structure for the rest of the project, and subsequent chapters will attempt to address them. In this vein, Chapter Two will consider the view known as Emissions Egalitarianism, which holds that climate change should be governed, to a greater or lesser extent, by the idea that people possess an equal right to emit. It will reject this view, but will also reject an alternative proposal, known as Integrationism, which is suggested in its wake. Chapter Three will consider how the imperative of climate change burden sharing should relate to poverty. I will advance my own principle, which I will call The Exemption, to navigate the potential tension between the two considerations of avoiding, first, disastrous climate change and, second, extreme poverty. Chapters four and five will provide an account of how to weigh the competing considerations of capacity and historical responsibility. I will suggest that capacity is the fundamental principle of climate change burden sharing, but I will articulate a number of parameters of responsibility that will allow for departures from this principle in certain special cases. Before moving on, however, I want to take a step back to consider how philosophers might have something useful to contribute to these debates and why they have thought it especially important that they do so.

I. Conceptual Apparatus

To start with, I should clarify the sorts of conceptual apparatus we have available to us to tackle the problem of climate change burden sharing. Though they are not privileged in terms of perceiving the intuitions relating to fairness with which I will be working, philosophers have proven apt at interrogating these convictions, formulating them into concepts and principles and, sometimes, working them out into more general theories. In the current context, where we are thinking about the fair distribution of the costs of climate change, the relevant convictions, concepts and principles and theories are those to do with *distributive justice*.

To start with, a principle of distributive justice is 'a principle which tells us how some particular benefit or burden – or set of benefits and burdens – *ought* to be shared out'.[6] For instance, let us say that we think that someone should receive a certain benefit because they deserve it; we

[6] C. Armstrong, *Global Distributive Justice* (Cambridge: Cambridge University Press, 2013) p.16 (original emphasis)

believe, that is, that some property they possess (e.g., beauty) or something about their work (e.g., effort) has given them a claim over that good or bad. This would be to appeal to a distributive principle of desert. Of course, desert is not the only distributive principle that we can think of. Another popular distributive principle holds that a good or bad should be distributed equally among a certain group (a principle of equality);[7] another says that we should allocate a good in a way that ensures that people have their basic needs met (a principle of sufficiency).[8] The first thing we could say, therefore, is that if we come across a set of goods or bads (e.g. the costs of climate change), one thing we could do is appeal to one or more distributive principles to guide our allocation of those costs.

I think it is worth noting here that often principles of distributive justice are taken not to apply directly to certain goods but rather to underlying structures that link people together in certain kinds of ways.[9] Take, for example, the *Stanford Encyclopedia of Philosophy's* definition, which holds that principles of distributive justice are 'best thought of as providing moral guidance for the political processes and structures that affect the distribution of economic benefits and burdens in societies'.[10] The underlying structure that this definition takes to be important for the application of distributive principles is something akin to the economy and public institutions that underpin domestic societies. Whether this is an accurate restriction of the domain of a principle of distributive justice is very much up for debate. Indeed if it were true, one might worry about our ability to apply distributive principles to the costs of climate change at all. These costs, as many have noted, are both global and intergenerational. Thus, if the application of distributive principles is restricted to distinct economies, then our ability to appeal to them in the case of climate change would be contingent on our being able to describe the global and intergenerational realms in the same kind of way. Many, suffice it to say, would want to strongly resist this sort of description.

These issues will be important later, and I will discuss them at greater length then. But for now we can note that one notion which help us address the question about the fair distribution of prevention burdens is a principle of distributive justice. Indeed, discussion has focused on three of these in particular: The Polluter Pays Principle (PPP), The Ability to Pay Principle (APP) and The Beneficiary Pays Principle (BPP).

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[7] For a landmark discussion see, L. Temkin, *Inequality* (Oxford: Oxford University Press, 1993)
[8] For a classic statement see, H. Frankfurt, 'Equality as a Moral Ideal', *Ethics*, 98 (1987) pp.21-43
[9] the most notable view along these lines is Rawls's, which takes principles of distributive justice to apply to the 'basic structure of society'. J. Rawls, *A Theory of Justice: revised edition* (Cambridge: Harvard University Press, 1999) p.6
[10] Lamont, Julian and Favor, Christi, "Distributive Justice", *The Stanford Encyclopedia of Philosophy* (Winter 2016 Edition), Edward N. Zalta (ed.), <https://plato.stanford.edu/archives/win2016/entries/justice-distributive/>

A *theory* of distributive justice, on the other hand, would need to tell us a little more than this. Whereas we can imagine a *principle* of distributive justice guiding our allocation of just one benefit or burden, if we were to advance a *theory* of distributive justice we would be giving an account of what would be a fair distribution of the total package of benefits and burdens among a specified group of agents. Again, there is much disagreement about what more precisely a theory of distributive justice ought to include, and I will mostly leave this debate until Chapter Two. But I think we can say some general things which will help us begin to develop a picture of the topic under discussion.

First, a theory of distributive justice will have to tell us what the relevant agents are. Most theories of distributive justice refer to humans as the principal agents of distributive justice, but some might object to this, for instance, on the grounds that some nonhuman animals should also be included in the scheme. Furthermore, when we are thinking about *global* questions of distributive justice, as will be the case in this project, we might think that collectives, like modern states, are also relevant in and of themselves. Identifying the *type* of agent is not enough, however, as we will also need to specify whether our proposed theory ought apply to all or only some of these agents.[11] A popular view, to illustrate the point, holds that while individual humans are the appropriate type of agent, the demands of distributive justice only arise from certain relationships that we stand in with others. On these accounts, a theory of distributive justice would only apply to a subset of human beings.

Once the matter of who ought to be included within a theory of distributive justice has been settled, two more substantive issues would need to be addressed. One would be to establish the 'good' by which we could judge whether agents have received their due. This is often referred to as the *currency* of a theory of distributive justice. On one very influential account it is 'primary social goods' that are the currency of distributive justice, where these goods include 'rights, liberties and opportunities, income and wealth, and the social bases of self-respect'.[12] But there are a number of other positions we might take on this issue. It is important not to assume that the currency is necessarily the same as the goods that are actually *distributed* or *shared out* between us. There are a number of views that do not insist upon identifying a currency that can distributed directly in the way that we could distribute a physical resource. For instance, some philosophers

[11] See S. Caney, *Justice Beyond Borders: A Global Political Theory,* (Oxford: Oxford University Press, 2005) p.103
[12] J. Rawls, *A Theory of Justice, revised edition.* (Harvard: Harvard University Press, 1999) pp.78-81

think that the currency of distributive justice is a measure of how well a person's life is going in some overall sense.[13] They might, drawing on a popular example, hold that a version of welfare is what matters from the point of view of distributive justice.[14] The key point is that on these theories it will be impossible to directly distribute the good and, as such, proponents will identify proxies (money, for example) to be used to try to achieve the distribution called for by the theory. I will explore some of these questions in more detail as the project develops.

A theory of distributive justice would not be complete without specifying how the relevant goods should be shared among the appropriate agents. So having identified a set of agents, a good or set of goods as a currency, a theory would include one or more principles to tell us how much of the currency each agent should hold as a matter of justice, as well as some idea about who should be required to provide it to them. When stating a more comprehensive picture about distributive justice, one important point of disagreement to note concerns how directly these conclusions should feature in our final judgments about what we ought to do. One popular view, associated with John Rawls, holds that justice generates a strong normative demand, yielding enforceable duties that determine how different agents must act. Rawls famously remarked that 'justice is the first virtue of social institutions, as truth is of systems of thought. A theory no matter how elegant and economical must be rejected or revised if it is untrue; likewise laws and institutions no matter how efficient and well-arranged must be reformed or abolished if they are unjust'.[15]

On another popular view, however, our conclusion about what would be best from the point of view of distributive justice need not amount to a normative judgement about the course of action we *must* take. Instead, on this account, distributive justice represents one moral value we ought to be given due weight in determining what we ought to do all things considered.[16] An important contrast, then, is that on this latter view distributive justice must be traded against other moral values, which can in principle lead to us move away from the most just course of action. For example, we might imagine a case where the value of efficiency outweighs justice, that is, where taking the most just course of action would involve forgoing a course of action that would

[13]Thomas Christiano calls this a fundamental substantial good. T. Christiano, 'A Foundation for Egalitarianism', in *Egalitarianism: New Essays on the Nature and Value of Equality* ed. by Nils Holtug & kasper Lippert-Rasmussen (Oxford University Press: Oxford, 2007) pp.41-83

[14] For a notable view which thinks welfare is at least part of the currency of justice see, G.A Cohen, *On the Currency of Egalitarian Justice, and Other Essays in Political Philosophy* (Oxford: Princeton University Press, 2011) The Capabilities metric would be an alternative fundamental substantial good.

[15] Rawls, *A Theory of Justice,* p.1

[16] See G.A. Cohen, *Rescuing Justice & Equality* (London: Harvard University Press, 2008) e.g., pp.276-279. For a useful discussion on how this sort of view differs in the relevant respect to the Rawlsian one introduced above see, P. Tomlin, 'Can I be a Luck Egalitarian and a Rawlsian?', *Ethical Perspectives* 19:3 (2012) pp.371-297 (at. pp.376-380)

leave everyone significantly better off. To proponents of this view, notably G.A. Cohen, this approach allows us to see the compromises and losses that are an unavoidable part of making final judgements about how we should act, given that these decisions require us to consider a range of different factors.

So there is room for disagreement about the strength of distributive justice when it comes to determining action. That said, it is important to stress that on either view justice is considered to be a weighty consideration: the fact that on the latter justice can in principle make room for other values does not imply that it has little weight. On the contrary, I think it is fair to say that most (all?) of those who endorse this sort of view think justice is very important indeed and ought to be central in our decision making.

This very brief overview of distributive justice is unavoidably impressionistic, partly because I do not want at this point to argue for any substantive claims. As we will see in Chapter Two, I actually think it is difficult to make conceptual claims about distributive justice without smuggling in substantive commitments. For now I want to reiterate a few points from the above discussion. First, and very generally, when we encounter an issue that raises questions about burden sharing, we can appeal to concepts of distributive justice. Second, there is a distinction between a principle of distributive justice and a full-blown theory of distributive justice. I have emphasized this distinction because there is a debate unfolding in the literature, which, again, I will take up in Chapter Two, concerning the coherence of stating principles of climate change burden sharing in isolation from a more comprehensive theory of distributive justice.

II. Reasons for Interest

a. High Stakes Burdens

Political philosophers, then, by drawing on ideas about distributive justice, should have something valuable to contribute to debates about climate change burden sharing. But why have they thought it so important that they do so? I have already mentioned one reason why: climate change throws up a range of burdens of a magnitude that few, if any, other issues do. Put simply, we are faced with an issue of very high moral stakes. I will provide a more extensive overview of these burdens in Chapter One. For now let me briefly sketch the core of the problem in order to help elevate the importance of the question I will go on to address.

The Intergovernmental Panel on Climate Change (IPCC), in a recent assessment report, highlights a range of concerning risks associated with climate change.[17] The lives and livelihoods of those residing in low-lying coastal areas are at risk from the impacts of climate change. Climate change will increase the rates of heat related mortality. It will likely threaten food security and food systems. And it will also impact severely on nonhuman animals and ecosystems. Strikingly, there is a risk of all of the above impacts arising *even if* we limit climate change to 2°C above pre-industrial levels. Currently, however, climate policy is on course to significantly overshoot this. If current policy pledges are realised – and this is a big *if* – *Climate Action Tracker* estimates that the global average temperature will increase by around 3°C.[18] The burdens associated with this temperature increase are more enormous still. As a recent study published in *The Guardian* puts it, warming to this level, as a result of sea level rises, for example, would 'ultimately redraw the map of the world', making many currently highly-populated coastal regions uninhabitable.[19]

What is more, there has been a distinct shift in recent years from thinking about climate change as a gradual phenomenon –where the effects progress in a relatively linear fashion – toward viewing it as one characterised by irreversible tipping points and potentially catastrophic events.[20] What this unpleasant view of climate change implies is that the unfolding of the physical costs may be punctuated by a series of massive and unpredictable climate emergencies. A concern for how these costs would impact on present and future people is a key reason why philosophers have devoted much time to thinking about climate change.

At the same time, philosophers have also noted how high the stakes are when it comes to limiting people's access to fossil fuel-based energy. Climate change mitigation, as we will see in detail in the next chapter, will require us to dramatically reduce, ultimately to zero, the amount of greenhouse gases we emit. In thinking about this problem, philosophers have noted an important contrast. In developed states we remain heavily reliant on fossil fuel-based energy, and as a result

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[17]All information from, IPCC, 2014: 'Summary for policymakers'. In: *Climate Change 2014: Impacts, Adaptation, and Vulnerability*. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Field, C.B., V.R. Barros, D.J. Dokken, K.J. Mach, M.D. Mastrandrea, T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, R.C. Genova, B. Girma, E.S. Kissel, A.N. Levy, S. MacCracken, P.R. Mastrandrea, and L.L. White (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA,pp.13-15

[18] Online: https://climateactiontracker.org/global/temperatures/ (accessed: 31/12/18)

[19] J. Holder, N. Komenda & J. Watts, 'The three-degree world: the cities that will be drowned by global warming', *The Guardian*, 2017, <https://www.theguardian.com/cities/ng-interactive/2017/nov/03/three-degree-world-cities-drowned-global-warming> [accessed: 30.12.18]

[20] C. McKinnon, *Climate Change and Future Justice: Precaution, Compensation, and Triage* (Oxon: Routledge, 2012) pp.47-51

it provides us with a range of important goods. For example, we use it to fuel the transport that moves us around; the electricity that lights our homes and offices; and to produce the concrete that paves our roads. But it all also provides us with a range of much less-important looking goods. The way we use energy to consume material goods, for example, can often look rather frivolous; so can the amount we shower, or the way we eat. Moreover, even though at the individual level we often do not have all that much control over the energy infrastructure of the state we live in, transitioning to renewable energy would actually be very affordable for most developed states.[21]

When we turn to consider the situation for the poorest inhabitants of the world, we are confronted with a very different situation. Tragically, 1.2 billion people lack access to electricity and 2.7 billion to clean cooking facilities.[22] For these people, access to the cheapest form of energy is vital – and currently this energy is often provided by fossil fuels. Given this situation, if the costs of mitigation are borne by the wrong people, these burdens too could be incredibly severe.

Henry Shue, as we will see later, has been a pioneer in elucidating for us the dimensions and power of this point. What seems to animate him, more than anything, is a fear that the international response to the imperative of climate change prevention will be structured in a way that deprives those most in need of emissions access to them. The following quote captures his concern nicely.

> "The position that no one may increase her carbon emissions beyond what they are now would be completely outrageous for a number of moral reasons, most of them obvious. Those whose subsistence rights are not fulfilled now because they lack sufficient electricity would be doomed to continue indefinitely with some of their most fundamental rights not honoured as a result of a policy (namely, no new carbon emissions) adopted by the rest of us to deal with climate change. Whatever the status of their rights violations now, the deprivations would in the future would be the result of a conscious choice made by the rest of us to impose a policy on them incompatible with eliminating the deprivations and would thus constitute about as straightforward and massive a rights violation as is imaginable."[23]

[21] N. Stern, *Why Are We Waiting: The Logic, Urgency and Promise of Tackling Climate Change* (London: MIT Press, 2015)
[22] See International Energy Agency, *Energy Poverty*, at <http://www.iea.org/topics/energypoverty/ > (accessed: 10/04/2017)
[23] H. Shue, *Climate Justice: Vulnerability and Protection* (Oxford: Oxford University Press, 2014) p.328 (footnotes omitted) Darrel Moellendorf expresses similar concerns in his recent book. Darrell Moellendof, *The Moral Challenge of Dangerous Climate Change: Values, Poverty, and Policy* (Cambridge: Cambridge University Press, 2014) for example, p.22

This brief sketch of climate burdens should, I hope, convey not only why philosophers have been concerned about climate change prevention but also about the distribution of the burdens of achieving this goal. The potential magnitude of impact costs make prevention morally imperative; the potential magnitude of prevention costs *for some* makes it imperative that the wrong agents do not bear them. Given that many of the emissions in developed states are much less important and could, with sufficient political will, be replaced with alternative forms of energy, it would be a gross injustice were those prevention burdens indeed left to fall on the wrong agents. I will return to this dynamic, which helps us see the normative structure of climate change burden sharing, at numerous points later; indeed, it will be something of a theme throughout the project. I think it can help, in different ways and in different contexts, clarify people's obligations in relation to climate change.

b. Prospects for Success

The magnitude of the threats posed by climate change, though probably the primary reason that philosophers have been prompted to write extensively on the issue, is not the only one. There have also been a number of other features specific to the climate change context that have led philosophers to hope that due consideration would be paid to matters of distributive justice. As I said above, we should be clear about how the landscape of burden sharing has evolved, and so it is important to add that these hopes have mostly been dashed in reality. Still, in each case I think the core point still stands, telling us something interesting about the shape of the problem. I think we just have to see the importance of these points in a different light.

First, it is often noted that the absence of a coercive global agent, climate change agreement will almost certainly be voluntary on the part of the states that sign up. Following on from this observation, it is argued that fairness in the distribution of burdens would be a necessary condition of reaching an agreement. This might seem like a plausible thought. As Miller puts it, 'given that the agreement cannot be coercively enforced, in the absence of a global authority with sufficient power at its disposal, individual states are unlikely to comply unless they believe that the costs they are having to bear are fair ones'.[24] In addition, Miller observes that given that mitigating climate change will require that citizens of developed countries make genuine alterations to their lifestyle,

[24] D. Miller, *Global Justice and Climate Change: How should Responsibilities be Distributed?* The Tanner Lectures on Human Values, Delivered at Tsinghua university, Beijing March 24–25 (2008) p.123

'and to make a persuasive case for these changes', governments will 'need to be able to show that the targets that have been set by the international community are fair'.[25]

There are three things we should note about this point. The first is that even if this were the case, the standard of fairness required might not amount to much. Given the very unjust looking baseline we are confronted with, we might think genuine fairness in climate change burden sharing would have to move a long way from the status quo.[26] More specifically, we might suspect that the fairness that different states would settle for will be related to feasibility constraints, that is, what is settled for at any point in time will surely be coloured by perceptions about what can realistically be expected. Second, *even if* a condition of a state signing up to a climate agreement is that they perceive (or its citizens perceive) it is fair, it should be noted that perceived fairness is not the same as actual fairness, and a climate agreement might be sold as fair when it is ultimately not. Finally, again assuming that perceived fairness is a necessary condition of a climate agreement, we should also acknowledge the possibility that developed states might not be willing to pay the price of fairness, preferring instead the decidedly unfair business as usual – they might, in other words, forgo a climate change agreement if it is in tension with their short-term interests.

It is interesting to consider the recent Paris Agreement in light of the second two of these points. The Paris Agreement swaps a concrete standard of fairness for something more like the 'prospect' of future fairness and yet was signed voluntarily by 175 states. Instead of sharing the contents of an overall emissions budget between states, the Paris Agreement demands that each put forward an 'intended nationally determined contribution' (INDC) that details the emissions reductions they will perform. The idea is that states will 'ratchet up' the ambition of their pledges as time goes on and that together these commitments will be enough to limit climate change to below 1.5 degrees. The Paris Agreement, then, does not offer a determinate account of how 'we should share the costs of climate change between us'; it just says that nations should put forward INDCs that are 'guided' by principles of fairness.[27] I do not want to comment now on the likelihood of this ambition being met. The point is merely that this diplomatic innovation makes this link between fairness and the reaching of an agreement less secure. Perhaps, though, we could shift the emphasis of the point slightly and say that fairness is a necessary condition for a 'voluntary and ultimately successful agreement'. This would be to say that although Paris suggests that

[25] Ibid
[26] H. Shue, *Climate Justice: Vulnerability and Protection* (Oxford: Oxford University Press, 2014) ch.1
[27] Specifically the 'principle of common but differentiated responsibility', which I will discuss in the next chapter. Conference of the Parties, 'Adoption of the Paris Agreement', *UNFCCC*, (12/12/2015) p.21

fairness is not a necessary condition of *reaching* an agreement, the future fairness of INDCs will be necessary for the agreement to actually succeed in adequately reducing emissions.

The structure of the problem, then, where states will likely have to come to a voluntarily agreement on climate change, is another reason that philosophers have been drawn to the issue of burden sharing. In addition, it is likely they will have also been struck by the extent to which discussions about the fair distribution of climate burdens have been prominent outside of the academy. In particular, a number of norms have been institutionalised in important statements about climate change that make direct reference to issues of distributive justice. For example, 'the principle of common but differentiated responsibility', stated in the Framework Convention on Climate Change as well as in the Paris Agreement, has been interpreted as clearly institutionalising a principle of fairness into international efforts to tackle climate change. Darrel Moellendorf is an example of a philosopher who has taken very seriously these institutional norms as a platform for engaging in political theory in this context.[28] In the introduction to his recent and important work on climate change, he writes, 'this book takes… norms seriously because they provide guidance for international deliberations by taking some discussions off the table and by directing the ambitions of proposals made in international negotiations'.[29]

In a similar vein, philosophers have also been struck by the vocal activist movement that has developed around the issue. As we will see in the next chapter, many of these movements have framed climate change as an issue of historical injustice, where the rich have used more of a common resource than they should have at the expense of the poor. Viewed from this vantage, burden sharing is not just one of a number of problems raised by climate change but rather the central or defining one. Although climate activism has leant very heavily on this idea about historical responsibility, I will show that philosophers have developed a number of powerful objections to this line of argument. What is telling is the very fact that philosophers *have* been prompted to engage directly with these arguments. Climate justice, in this sense, has provided a forum where people from a range of backgrounds have invoked normative arguments about fairness and in many cases philosophers have sought to critically engage with these arguments.

[28] Or 'Public philosophy' as he calls his attempt to communicate to both philosophers and policy makers. Darrell Moellendorf, *The Moral Challenge of Dangerous Climate Change: Values, Poverty, and Policy* (Cambridge: Cambridge University Press, 2014) p.5

[29] Moellendorf, *The Moral Challenge of Dangerous Climate Change,* pp.2-3

c. Theoretical Puzzles

As well as the reasons related to the practical features of the problem, political theorists have also been struck by the way in which climate change intersects with a range of debates in the field. Indeed, some have observed that the challenges posed by climate change to our established theories are so diverse and numerous that they have been moved to conclude that, at the very least, serious revisions to our moral theory will be required. Dale Jamieson, for example, takes this sort of view, and seems far from convinced that we will be able to effectively bring reason to bear on the problem. Climate change, as he sees it, 'swamp[s] the machinery of morality, at least as it currently manifests in our moral consciousness'.[30] Where we are to look for progress is to him obscure as '[i]t is difficult to know exactly what counts for or against proposed revisions in morality'.[31] Stephen Gardiner, another prominent philosopher who has written on the subject, is similarly doubtful about the ability of conventional moral theories to adequately comprehend and provide solutions to the challenges posed by climate change. He frames the problem as a 'perfect moral storm', which 'involves the convergence of a number of factors that threaten our ability to behave ethically'.[32] Such is the force of their combination that 'even if the difficult ethical questions could be answered, we might still find it difficult to act'.[33] So, for Jamieson and Gardiner, it is not only the number of theoretical challenges posed by climate change that give us food for thought, but also their severity.

Suffice it to say that many theorists have endeavoured to address these challenges, and one way of looking at the climate justice literature is as an attempt to do exactly this: to try and respond to climate change through established theoretical frameworks. This theoretical complexity of the issue is yet another reason why philosophers have been interested in climate change. As for the radical conclusion of Jamieson and Gardiner, although they are undoubtedly right that climate change throws up a number of vexing issues in the direction of political theory - and the ways in which they articulate and organise them are revealing in and of themselves – ultimately, as will become clear, I think their concerns are overdrawn. This project will try and show that careful

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[30] Dale Jamieson, *Reason in a Dark Time* (Oxford: Oxford University Press 2014) p.144

[31] Ibid, p.7

[32] S. Gardiner, 'A Perfect Moral Storm: Climate Change, Intergenerational Ethics, and the Problem of Moral Corruption', in in *Climate Ethics: Essential Readings*, ed. by S. Gardiner, S. Caney, D. Jamieson, H. Shue (Oxford: Oxford University Press, 2010) pp.87-99 (at. p.88)

[33] Ibid. It is worth noting that although Jamieson and Gardiner share a scepticism about the capacity of current theory to deal with climate change, they disagree with each other on a number of points. For a recent and enlightening exchange see Dale Jamieson, *Reason in a Dark Time* (Oxford: Oxford University Press 2014) cf. S. Gardiner, 'Climate Ethics in a Dark and Dangerous Time', *Ethics* 127 (2017) pp.430-465

elaboration of ideas about distributive justice allows us to provide plausible accounts of burden sharing. For now, let me briefly flag up one general debate, especially relevant for this thesis, which climate change interacts with in a number of interesting ways.

Climate change has emerged as an issue in political theory in the wake of something that we might cautiously describe as a consensus about domestic distributive justice. While there is, of course, still room for productive and important disagreement in these debates, most theorists have converged around a set of what we can describe as 'liberal egalitarian' ideas. These views can be characterised, very roughly, as views that in addition to advancing a set of core liberties also seek to place some limits on socioeconomic inequalities.[34] In light of this broad agreement, theorists have turned to consider whether these ideas can be extended from this domestic political context to other areas of human life. For example, some theorists have moved to examine the extent to which these ideas should be extended into the special context of family relationships.[35] More salient to the issue under discussion, significant literatures have emerged which debate the appropriateness of extending these ideas from the domestic to the global and intergenerational domains. Climate change is an issue that raises questions about significant benefits and burdens at both of these levels. In the first instance, the actions of previous and the current generation are generating burdens in the future by contributing to climate change. This is an issue of intergenerational justice. Second, climate change poses a question about global justice concerning how the benefits and burdens of mitigation and adaptation should be shared among the current generation.[36]

Theorists of global and intergenerational justice, then, will be particularly interested in the way climate change interacts with and poses challenges for our existing ideas about distributive justice. But the correct picture here is not one where 'established' debates about global and intergenerational have turned to the 'applied' issue of climate change as it has emerged; rather, the relationship is more of a symbiotic one, where the development of contemporary debates on these general topics has gained momentum simultaneously alongside the emergence of climate change. This is especially true of the global justice debate, to the extent that it might not be all that accurate to insist upon a deep distinction between the 'global justice' and the 'climate justice' literature at

[34] The most notable articulation of such a view is Rawls's in *A Theory of Justice*.
[35] See, for example, A. Swift & H. Brighouse, 'Legitimate Parental Partiality', *Philosophy & Public Affairs* (2007) 37:1 pp.43-80
[36] This is only a general characterisation. As I will discuss in the following literature review, some scholars challenge the restriction of this second question to the global domain.

all. Perhaps the most revealing indication of this relationship can be seen in the fact that some of the scholars who have featured most prominently in the climate justice literature – and who will therefore feature prominently in this project – have also made important contributions to debates about global justice.[37]

My own view is that climate change poses some very pressing problems for those theorists who want to restrict the scope of distributive justice to national or state communities. In Chapter Four, in particular, I will invoke a cosmopolitan egalitarian account of distributive justice to settle *some* of the burdens of climate change prevention, and so the project will hopefully be of relevance to the debate unfolding about the nature of global justice.

III. Conclusion

In this introduction I have primarily tried to do two things. First, I have stated the general question that this project will address. To repeat it, that question is: who ought to bear the burdens of preventing intolerable climate change? Second, I have tried to elucidate some of the ways in which this question is important and interesting. It is important, first and foremost, because of the moral stakes at play; it is interesting in the way the structure of the problem seems, at least at first glance, hospitable to our theorising about distributive justice; and it is interesting in the way in throws up a number of novel challenges for our existing theoretical frames. In the next chapter I will provide a detailed taxonomy of climate change burdens and will survey the philosophical literature on the topic. Doing so will help us see more clearly the nature of the problems that need to be addressed, as well as some of the ways in which we might go about tackling them.

[37] For example, Henry Shue, David Miller, Simon Caney, Chris Armstrong and Darrell Moellendorf have all made notable interventions in both debates.

Chapter 1

Climate Costs and Principles of Burden Sharing

Climate change poses a massive and urgent challenge to humanity. If left unchecked it has the potential to inflict very serious harms upon people over a time-scale that is almost impossible to comprehend. But if we counter climate change too vigorously, and without due attention to where the costs of this response fall, we risk depriving some of the very poorest in the world access to their only affordable source of energy. I drew out these two themes – the importance of avoiding dangerous climate change and the importance of fair burden sharing in doing so – in the introduction. In this chapter I want to put some flesh on them by pursuing two main tasks. First, I will provide a rather more thorough taxonomy of the sort of costs we are talking about when we refer to 'the burdens of climate change'. Second, I will review the burden sharing literature so far. By the end of the chapter, then, at a minimum we should have a clear sense of the sorts of burdens that are at stake in our question, as well as an understanding of the different argument philosophers have enlisted to try and address it.

As important as this is, the second part of the chapter will also serve a further purpose. In considering how philosophers have responded to climate change burden sharing to date, I will focus in on a number of disagreements that have endured. Mostly this will follow naturally from engaging with these debates: controversies attract more scholarship, after all, and literature does not normally accumulate around consensus. But I will attempt to organise these disagreements into a number of distinct stands, and these strands will help provide a structure for the rest of the thesis. To be clear, I will not argue that these issues can be maintained as strictly analytically distinct; indeed, one of the main challenges for the rest of the thesis will be to draw my arguments in response to each together in a careful and consistent way. My more modest claim is that, generally speaking, an account of burden sharing that addresses these problems will be more satisfactory than one that does not.

I will proceed as follows. Section I will introduce the distinction between impact costs and prevention costs and will elaborate on the former. Section II will do the same for prevention costs which philosophers have thought more pertinent for distributive justice and burden sharing. In

section III I will introduce the problem of burden sharing, which will allow me (IV-VI) to elaborate on the three strands of debate that I will structure the thesis around. The first strand askes what role, if any, the idea that we have an equal right to emissions ought to play in our account; the second is concerned with the relation between poverty alleviation and climate change mitigation; and the third takes up the debate between historical responsibility and capacity. Section VII will conclude by drawing these three strands together and stating the resulting structure for the chapters that follow.

I. Impact Costs

Already I have introduced the categories of climate burdens that I will discuss in this section and the next. A helpful way to conceptualise the general structure of the problem is to make a cut between *Impact Costs* and *Prevention Costs*. These costs are closely related: impact costs are those that will come (and are coming) about as a result of climate change, prevention costs are incurred when actors take steps to stop these effects from causing harm. As we will see, both of these general categories can be divided into numerous subcategories. Needless to say, I will not be able to provide an exhaustive account of these costs here, and so my discussion will have to cut some corners. This will be unproblematic so long as we are clear about what we need from such a discussion. There seem to me to be two particularly important reasons to include a discussion of the various costs associated with climate change.

First, if we are going to assess arguments about how climate costs should be shared out, it seems *prima facie* helpful to have a sense of what these costs are. There might be features of these costs that are important for our thinking about their distribution, and so it will be helpful to have this discussion here before moving onto the more abstract argumentation that will make up the bulk of the thesis. Second, even this relatively concise taxonomy will reveal that the category of climate costs is a very broad and diverse one. This is crucial, as without an appropriately full picture of the relevant costs, there is a danger our principles will misfire. If we want to fairly allocate the costs of preventing climate change, we will need to consider the range of costs that could fall on different agents. If we systematically miss a certain set, which fall disproportionately on some, then we will not be a achieving a fair distribution of climate burdens. As we will see, the main worry here is that the relevant costs will be reduced to those that can be measured in economic terms, and this can miss a range of costs to things we have reason to value. Overall, then, the following

discussion on costs will help us see more clearly the nature and importance of the problem that confronts us, and will serve as a warning about construing these burdens too narrowly.

a. Magnitude and Vulnerability

For every small change in environmental conditions there are a range of potential costs. This makes the category of *Impact Costs* a very complex one. There are, though, a few things we can say without inviting too much controversy. First, we are now long past the point where we can avoid the impacts of climate change altogether. A recent IPCC report noted with 'high confidence' that climate change has already had a negative impact on crop yields, for instance, and has increased the frequency of climate-related extreme events.[1] To provide some perspective for these impacts, it is estimated that '[t]he mean surface-air temperature is *already* around 0.74°C (1.33°F) warmer than preindustrial times'.[2]

To get a sense of the sort of potential impact costs, we could make a rough division in this category of costs between a) those stemming from the increase in global average temperature, b) those stemming from extreme weather events, and c) those stemming from climate catastrophes, such as those that could occur if we were to pass so-called climate 'tipping points' and set in chain massive and irreversible effects.[3] Though there is broad agreement that the first two categories of cost will be forthcoming, and an increasing recognition that third will also if climate change is left unabated, there is nonetheless significant uncertainty surrounding each. This is true in at least two interesting senses. First, there is uncertainty about the precise nature of the costs. While climate models are becoming increasingly accurate in their predictive capacity, the complexity of the climate system means that the way in which climate change develops will remain unavoidably imprecise. Second, and relatedly, there will often be an unavoidable degree of uncertainty around the extent to which any given event is a direct result of anthropocentric climate change. This is especially true of category (b): the IPCC is 'highly confident'[4] that an increase in extreme weather

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[1] Intergovernmental Panel on Climate Change, 'Summary for Policy Makers' in *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* eds. by C.B Field, V.R. Barros, D.J Dokken, K.J Mach, M.D, Mastrandrea (Cambridge: Cambridge University Press) pp. 1-32.
[2] Moellendorf, *The Moral Challenge of Dangerous Climate Change* (Cambridge: Cambridge University Press, 2014) p.9 (my emphasis)
[3] For a concise, and concerning, introduction to these category of cost see, C. McKinnon, *Climate Change and Future Justice: Precaution, Compensation and Triage* (London: Routledge, 2012) p.48
[4] IPCC, *Impacts, Adaptation, and Vulnerability,* p.14

events will indeed take place but it may remain difficult to determine whether any one extreme weather event in particular owes its existence to climate change.

So these are the sorts of impacts we might expect. But what I am concerned about in this project, remember, is how these impacts can translate into burdens that different people will experience, and as Megan Blomfield helpfully highlights, these costs cannot be determined with reference to the severity of physical perturbations of the climate system alone.[5] To be sure, the scale of the potential climate event may well give us an indication about the gravity of the harms likely to befall human interests: we could be fairly confident, for example, that were the Totten Glacier to pass the threshold of irreversible melting, potentially prompting an increase in sea-level of 3.5m, it would be extremely harmful to a great many people.[6] To get a more fine-grained picture, however, we would have look at the *human* as well as *physical* dimensions of the picture.

Firstly, people can be more or less *exposed* to climatic events depending on where they live. In the case of irreversible melting of the Totten Glacier, for example, people who live in coastal regions will be more exposed to the rises in sea-level. Second, people can be more or less *vulnerable* to climate events. To stick again with the example of rising sea-levels, those people who live in regions with adequate sea walls, although exposed to the effects of climate change, might not be especially vulnerable to them. It is a much-noted feature of climate change that, in general, the states most *exposed* to the effects of climate change tend to be relatively poor and so are also the most *vulnerable* to its impacts.[7] This point, sometimes referred to as the issue of 'skewed vulnerabilities', is a recurring one, and I will return to it later in more detail, particularly in Chapter Five. It is not hard, though, to see the social side of this connection. Poorer states will be more vulnerable to extreme weather events than rich ones, for example, as a result of their infrastructures being less resilient to sudden storms. They will also be more vulnerable to the food shortages that will likely result from increased average temperature, because they will have less capacity to absorb price fluctuations.

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[5] M. Blomfield, 'Climate Change and the Moral Significance of Historical Injustice in Natural Resource Governance' in *The Ethics of Climate Governance*, ed. By A. Maltais & C. McKinnon (London: Rowman and Littlefield, 2015) pp.3-23 (at. pp.5-8)

[6] See H. Shue, 'Climate Dreaming: Negative Emissions, Risk Transfer, and Irreversibility' (March 24, 2017). Forthcoming in Special Issue of *Journal of Human Rights and Environment*.

[7] For examples of authors who highlight this tendency see, See, for example, Stephen Vanderheiden, *Atmospheric Justice* (Oxford: Oxford University Press, 2008) pp.46-47; N. Klein, *This Changes Everything* (London: Penguin Books, 2015) p.416; L. Meyer and D. Roser, 'Climate Justice and Historical Emissions', *Critical Review of International Social and Political Philosophy* 13:1 (2010) pp.229-253 (at.p.229)

It is important not only to think about vulnerability in general terms, at, say, the state or city level. Given identical climate effects, it is surely true, *ceteris paribus,* that an individual who lives in a city with a developed infrastructure will be less vulnerable than an individual who lives in a city with an undeveloped infrastructure. The less developed infrastructure might be less resilient to severe storms, for instance, which will increase in frequency as a result of climate change. But this general indicator would of course insufficiently recognise the extent to which people within these cities will be vulnerable to different extents depending on, for example, their situation and how much they depend on infrastructure set to be impacted.

At the far end of the spectrum is what we might call *attachment vulnerability*, which can capture cases where people's life plans are very closely tied to a stable climate. More specifically, we can say an agent has attachment vulnerability when climate change threatens something (e.g., an external object or a practice) that for them represents an irreplaceable component of their wellbeing, which is central to their identity and features prominently in their life-plans.[8] Noting attachment vulnerability also helps us perceive the vulnerabilities of more rural people or communities that may generally have a closer relationship with the natural world, and whose vulnerabilities will be missed if we focus only on threats that can be measures in economic terms.

A good example of those who have high attachment vulnerability in the case of climate change would be the aboriginal groups in Canada, such as the Naskapi peoples, who reside in the subarctic regions of Quebec and Labrador. These communities have traditionally hunted migratory caribou, which as a result have become for them the source of great value and meaning. As well as providing them with food, the Naskapi use the caribou for making wigwams, clothing and other artefacts, and have also endowed upon them significant religious meaning.[9] The Naskapi people, then, as well as other indigenous groups in Canada, have a strong attachment to the caribou and

[8] Caney seems to be getting at something like this sense of this attachment in his criticism of John Broome's argument that, through deferring costs of preventing climate change (see below) into the future, we can mitigate 'without sacrifice'. Caney's point is that even on the assumption that it was possible to engage in such cost-deferral, the financial burdens of preventing climate change will not be the only costs incurred. His brief discussion notes three criteria that seem important in getting to grips with the other sort of cost that he has in mind: 1) bears a relation to a person's sense of meaning in life, 2) is partly definitive of a person's identity, and 3) is tied a person's self-respect. S. Caney, 'Two Kinds of Climate Justice: Avoiding Harms and Sharing Burdens', *The Journal of Political Philosophy* 22:2 (2014) pp.125-149 (at pp.133-134). It should be noted that there is also an important question about whether morally relevant attachments are generally held on the part of groups or individuals. For discussion see, M. Moore 'Natural Resources, Territorial Right, and Global Distributive Justice', *Political Theory* 40:1 (2012) pp.87-107 (esp.92-95) cf. C. Armstrong, 'Justice and Attachment to Natural Resources', *The Journal of Political Philosophy* 22:1 (2014) pp.48-65 (esp.53-ff.)

[9] A. Tanner, 'Innu (Montagnais-Naskapi)', *The Canadian Encyclopaedia,* accessed: <http://www.thecanadianencyclopedia.ca/en/article/innu-montagnais-naskapi/> (18/03/17).

would suffer a deep sense of loss were they to disappear. Unfortunately, a number of recent studies suggest that the practices of these indigenous groups are, and increasingly will be, threatened by the impacts of climate change, which is causing the caribou to shift their migratory patterns[10] and, through a variety of means,[11] reducing their numbers.

Importantly, from the point of view of the Naskapi people, the presence of their caribou represent a nonsubsititutable part of what it means for them to live a good life. Promising to provide them with food, shelter and clothing as compensation for the disappearance of the herds would not be adequate to cover their loss.[12] So these are the sort of cost I had in mind above, when I said that we ought to be wary about construing climate burdens in solely economic terms. That said, it is not necessary for people to live in rural communities to have attachments vulnerable to climate change impacts. Indeed, people are often very attached to their homes and surrounding communities, and so if the infrastructures are vulnerable to climate change, their attachments will be vulnerable also. I think this condition describes a great many people. As we will see, these attachment costs can be incurred on both the prevention and impact side, but I have chosen to elaborate on them at more length now because I think the examples relating to impacts are a little more vivid.

Summing up this brief overview, we can make a number of general observations about climate change impact costs. On the physical side, climate change can manifest in many different ways and has the potential to be quite literally catastrophic. These impacts will be funnelled through the social determinants of vulnerability. People are structurally vulnerable to its effects, for example, through the way they will create pressure on food supplies or expose infrastructures to extreme weather events. Moreover, for many people climate change poses a threat to their central way of life.

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[10] Sapna Sharma, Serge Couturier, Steeve D. Côté, 'Impacts of climate change on the seasonal distribution of migratory caribou', *Global Change Biology* 15 (2009) pp.2549-2562.

[11] Sharma *et al* note(p.2559), for example, that a warming climate leads to thinner ice and up to 10, 000 Caribou can drown in the summer months from falling through. A recent study in *Nature Climate Change* notes that Caribou herds will also become fragmented as a result of the effects of climate change. This will reduce their genetic diversity and, again, result in a decrease in their numbers. See Glenn Yannic *et al*, 'Genetic diversity in caribou linked to past and future climate change', *Nature Climate Change* 4 (2014) pp.132-138

[12] That is not to say that these things should not be provided if this threat was to materialise, only that they would be insufficient if considered as a means of making them 'whole again'.

II. Prevention Costs

Furnished with a rough understanding of the potential impact costs of climate change, we should be able to perceive clearly the task that confronts us. The aim of climate policy must be to ensure that impermissible impact costs do not come to pass. As a placeholder for this constraint, I will use the term *intolerable level of warming*. Although this framing should reveal that there are actually a range of possible views we could take about on this 'intolerable level', the dominant articulations of this target have come from policy negotiations, where it is framed as a temperature increase from a pre-industrial baseline that should not be exceeded. Notably, the recent Paris Agreement strengthened the policy ambition of this temperature target from 2°C, which had been the widely cited figure until then, to 1.5°C.[13]

It has been oddly neglected by political theorists, but we might construe the question about the appropriate target as itself one about distributive justice, given the extent to which it will structure the distribution of significant burdens and benefits across many generations.[14] As we will see in Chapter Three, I think any plausible account of climate justice will have to say something substantive about what the appropriate target of climate policy should be, although I will stop short of providing a comprehensive account of what Simon Caney describes as the *Just Target*.[15] Can we say anything about the target in passing? In light of something I noted above, one thing we can say is that we cannot avoid climate change altogether: some impacts are already being experienced, and yet more are locked-in. The target of climate policy therefore cannot be that we should avoid climate impacts altogether. On the other hand, we can place at least a minimal constraint on the setting of the target by stipulating that any plausible account will be committed to avoiding type (c) costs, that is, those associated with so called climate catastrophes.

There are two broad categories of prevention costs. First, there will be *mitigation burdens* which are those incurred in trying to limit climate change to a given target. Second, *adaptation burdens* are those which stem from our efforts to ensure that those impacts permitted by that

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[13] For 2°C see, UNFCCC, *Report of the Conference of the Parties on its sixteenth session* (Cancun: 29/11/2010) p.3. The report notes a recognition that it needs to strengthen its commitment and mentions 1.5°C as a potential figure. This is put into place in Paris, where the expressed aim is to hold 'the increase in the global average temperature to well below 2 °C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 °C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change'. See, Conference of the Parties, 'Adoption of the Paris Agreement', *UNFCCC*, (12/12/2015) p.21.

[14] For some recent exceptions, see Moellendorf, *The Moral Challenge of Dangerous Climate Change*; Caney, 'Distributive Justice and Climate Change', in S. Olsaretti (eds.), *The Oxford Handbook of Distributive Justice* (Oxford: Oxford University Press, 2018) pp.664-688.

[15] Caney, 'Distributive Justice and Climate Change', pp.678-672

target do not cause harm. Below I will try and provide an overview of the sorts of burdens that will fall under these two types of prevention cost.

a. Mitigation Burdens

Avoiding an intolerable level of warming, whatever we take that precise level to be, will require that agents discharge a number of responsibilities to limit humanities impact on the climate. These responsibilities generate *mitigation burdens*. In slightly more technical terms, mitigation measures are intended to reduce the anthropocentric forcing of the climate system. Mitigation burdens naturally splits into two subcategories. One thing we could do to remain within our temperature target is enhance the capacity of the global emissions sink. These sinks, which include the world's oceans and forests, fulfil the vital role of removing emissions from the atmosphere. Call the associated costs *enhancement burdens*. We might also want to include within this category *conservation costs*. If we are to seriously enhance the global emissions sink, we will not be able to simultaneously deplete it; in other words, conservation is a necessary condition of enhancement. This should be easy to see: if we are plausibly to enhance the global emissions sink then we must, for example, conserve the Amazonian rainforest.

Although sometimes missed, the importance of this category of costs is striking. The conservation of the carbon sinks, at the very least, looks mightily important from the point of view of mitigation. For a sense of just *how* important consider that 'globally, forests store around 652 billion tonnes of carbon, which dwarfs the estimated 337 billion tonnes of carbon which have been released into the atmosphere because of fossil fuel consumption and cement production since 1751'.[16] The prospects for enhancement to play the dominant role in mitigation, however, is doubtful. The Royal Society, in their assessment of 'the role of land carbon sinks in mitigating climate change', estimate that even under very unlikely, best-case assumptions about the uptake of terrestrial sink enhancement,'[c]hanges in forestry and agricultural practices and slowing deforestation can therefore only achieve a maximum of 25% of the required reductions by 2050, with little further potential thereafter (as soil carbon levels equilibrate for example)'.[17] This is an important point to emphasise. What it suggests is that although - as a result of the vast stores of carbon in the global sink - significant conservation measures will likely be a necessary condition of

[16]Cited in, F. Schuppert, 'Carbon Sink Conservation and Global Justice: Benefitting, Free Riding and Non-compliance', *Res Publica* 22:1 (2016) pp.99-116 (at p.100)
[17] The Royal society, *The Role of Land Carbon Sinks in Mitigating Global Climate Change* (2001) p.9 The IPCC estimates they are referring to are increases in temp between 1.4 – 5.8 degrees.

mitigation, they will not be sufficient. The simple reason for this is that there is a process which drives 'anthropocentric forcing' much more than terrestrial sink management.

The main way in which we can hope to avoid intolerable warming, then – and this is by far the more extensively discussed by philosophers – is by reducing the overall quantity of greenhouse gases that are emitted. This side of mitigation requires *abatement burdens*. As it stands, we still derive a huge proportion of our energy from fossil fuels. In 2014, the World Bank estimated the percentage of total global energy produced by fossil fuels remained at 80%.[18] The way that we should think about the necessary reductions has been clarified by recent developments in climate science. The key breakthrough in this context is the discovery that for every temperature target there is a cumulative level of emissions must not be exceeded if we are to stand a reasonable chance of remaining within that target. This creates what has become known as a 'carbon budget' that can be applied according to one's favoured target.[19] Seen from this vantage, the appropriate question to ask about abatement is less 'what level of carbon emissions can be safely sustained over time?', and more 'how quickly do we need to reduce our emissions to zero in order to remain within the carbon budget set by our temperature target?'.[20] The first, and somewhat misleading, question can be read to assume that there is some safe level of greenhouse gases that we could indefinitely emit. The reality of the situation is better captured, therefore, by the second question, which is alive to the fact that there is essentially no safe level of emissions that could truly be sustained indefinitely.[21] This will be important later, as I will use the concept of a carbon budget as a distributive framework for some of my arguments.

So avoiding intolerable climate change will require that certain agents engage in activities that can be described as mitigation. The quantity of greenhouse gases emitted will have to be reduced and ultimately stopped altogether; and carbon sinks will, at the very least, need to be maintained, and better yet enhanced, alongside these emissions cuts. The more specific sorts of costs that these measures will entail are varied. Initially, and very importantly, they can be set up as opportunity costs. The opportunity cost for an agent in performing some action refers to the cost that they incur by not taking the cheaper alternative. When thinking about abatement, for

[18] World Bank Data, <http://data.worldbank.org/indicator/EG.USE.COMM.FO.ZS> (accessed: 26/04/17)
[19] For useful discussion of the climate budget see, H. Shue, *Climate Justice: Vulnerability and Protection* (Oxford: Oxford University Press, 2014) pp.303-319 & pp.324-327 C. McKinnon, 'Justice in a Carbon Budget', *Climatic Change* 133:3 (2015) pp.375-384. For a striking visual representation of our current trajectory toward the carbon budget see, trillionthton.org.
[20] Of course, as I have just indicated, the capacity of the sink will also bear on this question.
[21] I am talking here about economy level emissions. Perhaps it would be sustainable for me to, say, fuel my personal glass-sculpting factory by burning fossil fuels if everyone immediately else stopped emitting.

example, if we were to allocate a responsibility to agent X to reduce their emissions over a certain time period by 50%, the opportunity cost for them in carrying out this responsibility would be equivalent to how much cheaper it would have been for them to continue to emit fossil fuels. This explains, of course, why it is so imperative to reduce the price of renewable energy: the closer it is to the price of fossil fuel-based energy, the lower the opportunity cost for an agent to take the renewable path. In theory at least, if the price of renewables became cheaper than fossil fuels then there would be no opportunity costs incurred in making the switch; indeed, there would be an incentive for the agent to move to the alternative.[22]

These opportunity costs actually refer to a package of distinct burdens, or at least they do when we consider different levels of agency. For example, the opportunity cost of reducing a state's emissions by X% - how much extra it costs for to produce that portion of energy through renewables – entails a number of individually costly actions, such as those required to integrate the relevant technologies into the energy grid or to buy them in the first place. This is important. There are a number of welcome recent economic analysis that suggest the cost of transitioning to renewables will be lower than commonly thought, and for a number of my later arguments I will leverage the claim that the costs of mitigation, *if borne by the right agents*, are very manageable. But appreciating that opportunity costs actually refer to a number of different actions should alert us to the possibility that these costs will be borne by different agents, which in turn suggests that there will be winners and losers from these actions.

The structure of costs is similar on the enhancement side. Opportunity costs are especially stark in the case of conservation costs. To fix thoughts, consider the well-known Yasuni-ITT Initiative, which was a proposal launched by the Ecuadorian government to raise money for the protection of a part of the rainforest within their territory.[23] Without receiving finance, the Ecuadorian government said that they would have to remove the forest in order to access the oil underneath. The basis of their argument for demanding this funding was related to the opportunity cost that they would incur by not doing so: protecting the rainforest would amount to them forgoing the chance to access the estimated 846 million barrels of oil that lay underneath. It would

[22] I say 'in theory' here because this assumes that that the market would reflect the genuine price of the energy. In reality this will unlikely be the case. As we know, fossil fuel companies have significant political influence and can use this influence to obstruct the relative affordability of renewables.

[23] For information see, Ecuador Yasuni ITT Trust Fund <http://mptf.undp.org/yasuni> (accessed: 26/03/2017). The Ecuadorian government pledged to use the fund, which was administered by the United Nations Development Program, to 'finance renewable energy and sustainable development investments such as avoidance of deforestation and conservation of ecosystems'.

be unfair, they claimed, if they had to be the ones to bear the full extent of this opportunity cost given that everybody enjoyed the benefit of the absorptive capacity of this emissions sink. The figure they deemed it necessary for the developed nations to put together was half of the estimated value ($3.6billion) of the oil.[24] As it happened, this target was not met and the Ecuadorian government have begun to drill for oil in the Yasuni National Park. It does, though, serve as a sombre illustration of the sorts of opportunity costs that agents will encounter in the context of their mitigation responsibilities.

There are some other burdens that we could associate with conservation. To genuinely guarantee the conservation of a resource, it will often be necessary to allocate protection responsibilities, which will entail a set of *protection costs.* And in some cases where this has failed and a resource has been despoiled, we may additionally think some agents ought to bear restoration responsibilities, and of course some *restoration costs* will follow from these.[25] Again, it is worth noting that these costs could be bundled together under the general description of opportunity costs – they both refer to potential costs incurred in conserving a resource rather than exploiting it for more economically valuable ends. I mention them separately for the same reason: this general categorization might not be sensitive enough to the reality of multileveled agency, where different actors might ultimately have to bear these costs.

Finally, *attachment costs*, in a sense analogous to attachment vulnerabilities, are also relevant to mitigation. Engaging in the level of abatement and enhancement required would be transformative, and a number of contemporary practices would therefore be threatened.[26] A good example of this concerns the fate of the coal mines. Aggressive mitigation will entail the closure of coalmines, which in turn will entail that those miners who have traditionally worked them will no longer be able to do so. As well as the financial burdens that the miners will experience from this, they may also experience a deeper sense of loss that has to do with the disappearance of a livelihood that is partly definitive of who they are.[27] There is not such a widely cited example in the enhancement case, but we can imagine one easily enough. A significant afforestation

[24] For philosophical treatment of this case see, F. Schuppert, 'Carbon Sink Conservation and Global Justice', pp.99-116; E. Page, 'Qui bono? Justice in the Distribution of the Benefits and Burdens of Avoided Deforestation', *Res Publica* 22 (2016) pp.83-97 (at. pp.88-ff.); C. Armstong, 'Fairness, Free-Riding and Rainforest Protection', *Political Theory* 44:1 (2016) pp.106-130

[25] I borrow these two types of responsibility from C. Armstrong, *Global Resources: An Egalitarian Theory* (Oxford: Oxford University Press, 2018) ch.10

[26] See, N. Stern, *Why Are We Waiting: The Logic, Urgency and Promise of Tackling Climate Change* (London: MIT Press, 2015) ch.2 'Building a New Energy-Industrial Revolution' for a discussion about the scale of this required transformation.

[27] Caney, for instance, uses this example. See Caney, 'Two Kinds of Climate Justice', pp.133-134

programme may seek to use land which is for some the location of deep religious or symbolic meaning. In such a case, it appears some will experience attachment costs as a result of mitigation.

Some might object that this overview of mitigation costs omits an important category. Recently debate has emerged over the viability and defensibility of geoengineering technologies as a supplement, or alternative to the sorts of measures I have catalogued above. Roughly, geoengineering is the large-scale manipulation of the climate to counteract climate change.[28] It is not the same as mitigation, then - it seems a stretch to describe these technologies as a means to reduce *anthropocentric forcing* – but it has the same aim of limiting global climate change. When defined in this way geoengineering is a very broad category. It contains, notably, so called 'negative emissions technologies' (NETSs), which refer to technologies designed remove carbon dioxide from the atmosphere. It also contains proposals known as 'social radiation management' (SRM), which are potential strategies to divert infrared radiation from the sun. While it would, given the increasingly serious attention being paid to these technologies in policy discussions, be an oversight not to mention these potential responsibilities in this discussion of the potential costs of climate change, I will set them aside for the purpose of this thesis.

There are two main and related reasons for this move. First, we have to be mindful of the scope of a single project. Engaging in a satisfactory discussion of the normative defensibility of these technologies and their relation to burden sharing, *as well as* intervening in the slightly more established debates about climate change burden sharing would be too ambitious a task. Second, I am very sceptical that distributive justice in climate change entails the widespread deployment of geoengineering strategies. These technologies are associated with massive and unknown risks, something which cannot generally be said of the mitigation strategies I have discussed so far, and it is not clear under what circumstances taking these risks would be permissible.[29] They also raise a load of governance issues, given that in some cases they would have to be managed and maintained over a very long period of time.[30] It is doubtful that, at least at our current juncture, we should see 'geoengineering' as an alternative strategy for mitigation; indeed, this 'plan b'

[28] The Royal Society, *Geoengineering the Climate: Science, Government, and Uncertainty* (London: The Royal Society, 2009) <https://royalsociety.org/~/media/Royal_Society_Content/policy/publications/2009/8693.pdf> (accessed: 03/04/2017)

[29] See, for example, S. Gardiner, 'Is "Arming the Future" with Geoengineering Really the Lesser Evil?: Some Doubts about the Ethics of Intentionally Manipulating the Climate System' in *Climate Ethics: Essential Readings*, ed. by S. Gardiner, S. Caney, D. Jamieson, H. Shue (Oxford: Oxford University Press, 2010) pp.284-315

[30] Jamieson, for example, claims that scale of social management required here, possibly over a period of millennia, is unprecedented. See, Jamieson, *Reason in a Dark Time,* pp.220-221

framing, as it sometimes called, has come in for strong criticism in the literature for the way it presents geoengineering as a close moral comparison with an abatement-led mitigation.[31]

b. Adaptation Burdens

If we are to avoid 'an intolerable level of climate change', we will have to perform some amount of mitigation. I have drawn attention above to some responsibilities and associated costs that will be demanded by this process. As I have also said, however, 'an intolerable level of climate change' cannot be 'any climate change at all'. There will be some significant effects of climate change, and people are already experiencing these effects. This being so, there is another category of prevention costs: those that will be demanded in order to prevent the effects of climate change from causing harm. These costs are known as *adaptation burdens*. More precisely, the IPCC define adaptation as '[t]he process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate and its effects'.[32] Before moving on to consider how the philosophical literature has thought about allocating the costs of climate change, let me note a few general features of these adaptation burdens.

The obvious first thing to say is that the necessity for adaptation is driven by an agent's vulnerability to climate change impacts. By reducing a person's vulnerability, adaptation measures reduce the likelihood of climate effects harming that person. There is a problem here, though, which ties back to the above discussion about impact vulnerabilities. Some vulnerabilities are easier to reduce than others; indeed, the way in which I defined at*tachment vulnerabilities* – in part as a nonsubstitutable aspect of a person's wellbeing – it will not be possible to adapt to the effects of climate change in full. The Naskapi peoples will be harmed by the loss of their caribou, I suggested, even if all the individual goods that the caribou provide them with are supplied in other ways.

The second general point, which follows from the first, is that adaptation measures will need to be discharged unevenly across the globe.[33] People will be varyingly vulnerable to the effects of climate change and the effects they are vulnerable to will be different. Some states may be set to suffer rather severely, others negligibly; some may be vulnerable to an increased frequency of

[31] See Gardiner, 'Arming the Future' and Jamieson, *Reason in a Dark Time,* esp.p.219. I should add that my scepticism about geoengineering owes most to discussion over the past three years with Josh Wells.
[32] IPCC, *Impacts and Vulnerability,* p.5
[33] Which is not to say that where adaptation is discharged needs to be linked to the place from which is funded.

severe storms, others to drought, yet others may unfortunately be vulnerable to both of these effects. The extent and type of adaptation that is required will then vary across both of these dimensions. What this means is that we cannot point to a standardized set of adaptation measures that will be necessary for everyone to engage in. That said, there are a number of general measures that we can point to that are constant across different regions. In general, states will have to improve their disaster risk management by, for example, improving infrastructure resilience and early warning systems. Increases in water and land management will also be required across each region. It is also the case that those coastal regions exposed to sea level rises will require defences, in the form, for example, of sea walls.[34] We can see, then, that this is a distinctly global problem. And it is worth emphasising again the point about skewed vulnerabilities. It is generally the poor who are most vulnerable to climate change, both as a result of their structural vulnerability and physical exposure, and so a greater portion of adaptation burdens will have to be borne in taking measures to protect them.

III. Approaching the Problem

This is the picture, then, that has confronted political theorists when they have turned to consider questions about climate change. To recap, the core features are as follows. There are a range of potential impact costs, some of them massive, which will result as geophysical events are funnelled through the determinants of people's vulnerability. There is an imperative therefore to stop some of these costs from coming about and there are further set of costs associated with securing this moral imperative. These prevention costs can be divided between mitigation and adaptation, where the former are required to limit the amount of climatic change that will occur and the latter to guard against the effects which do come about. Clearly we have a very important issue, and clearly we have an issue that raises questions about distributive justice. Lukas Meyer and Dominic Roser go as far as to say that '[c]limate change policy constitutes the largest (re)distributive policy of human history. It affects on a large scale who will be harmed how much by climate change and who has to carry how many costs in order to limit this change.'[35]

It is now time to turn and see what the philosophical literature have had to say about this issue. Let me begin with two general observations. To start with it is worth reiterating what I

[34] All information from IPCC, *Impacts and Vunerability*.
[35] L. Meyer & D. Roser, 'Distributive Justice and Climate Change: The Allocation of Emission Rights', *Analyse & Kritik* 28 (2006) pp.223-249 (at. p.223)

mentioned above, which is that overall theorists have tended not to see the setting of the target as part of the core structure of the distributive problem. I think this neglect is probably explained by an implicit assumption that we ought to mitigate to as lower target as possible. This lacuna is addressed by more recent accounts, and I will elaborate on why below, but for a time the relevant domain of distributive justice was taken to be the allocation of mitigation and adaptation costs for a fixed target.

A second point to note, though, is that even on this restricted scope, debate has focused on just some of the prevention costs that I mentioned above. I think it is fair to say that abatement burdens have received the most theoretical attention.[36] There seem to be two main, and clearly related reasons for this, both of which are in my view plausible. First, as observed by Jamieson, is that people have been concerned about detracting focus from mitigation. In particular, many have been cautious about devoting significant attention to adaptation, in case this should come to be seen as an *alternative* to mitigation. Not only is this seen as a worse alternative – it would be better to prevent the effects of climate change from occurring at all than to permit them and then try to adapt to their effects – people have also worried that adaptation costs are less likely to be internationalised and more likely to be left to lie where they fall.[37] Second, and relatedly, the focus on abatement in particular can probably be explained by the fact, already mentioned, that current emissions levels are the main driver of climate harm, and so are seen as most urgent to address.

With these general points noted, let me introduce what I take to be the main debates in climate change burden sharing. To repeat: these issues are clearly related; separating them out makes them conceptually clearer and will help us develop our own account of burden sharing, but we cannot insist that they are strictly analytically separate. These issues will provide a structure for the thesis, and so a sustained discussion of them will come later. At this point I mainly want to introduce them and draw attention to the disagreement they have elicited.

IV. Emissions Egalitarianism

One prominent debate in climate justice concerns whether people have an equal right to atmospheric space and therefore emissions. This principle, which, following Christian Baatz and

[36] There are some recent debates which buck this trend. For example, a recent issue of *Res Publica* focused entirely on enhancement and conservation responsibilities. See, for example, F. Schuppert, 'Carbon Sink Conservation and global Justice'; E. Page, 'Qui bono?'.
[37] See Jamieson, *Reason in a Dark Time*, pp.214-219

Konrad Ott, I will call Emissions Egalitarianism (EE),[38] is a very popular one.[39] Indeed Steven Vanderheiden notes '[m]ost scholarly commentators defend some version of the equal emission rights (EER) thesis, arguing that all persons are entitled to equal shares of atmospheric absorptive capacity'.[40]

Clearly, the direct focus of this principle is on people's claims to the atmosphere, but a more or less comprehensive account of burden sharing can be derived from this fundamental concern. To illustrate, consider the most exclusively carbon-based account of climate justice that we can imagine. This account would distribute mitigation responsibilities so that people had equal access to emissions over time;[41] adaptation responsibilities could then be allocated to those who have exceeded their allowance in the past.[42] Thus we can see that EE is more accurately considered as a family of different views, which can in principle be applied to different sorts of prevention costs, to different sorts of agent (e.g., individual or collective) and across different spans of time.[43] What is distinctive about this approach is, as Derek Bell notes, that it is solely carbon-based and does not refer at all to the broader interests of the agents in question.[44] Accounts of EE are united by the view that one very important consideration in the context of climate change burden sharing is that agents get to enjoy their equal right to the atmosphere.

So what arguments have people advanced in favour of EE? What considerations have led people to endorse it? It is striking, actually, how little argument has been adduced in support of EE – especially in light of its popularity. As Bell highlights, when people have turned to think about what a fair share of this resource should be, EE has struck them as so obvious as to barely be in need of argument.[45] Take Singer's oft-quoted framing of the issue: 'if we begin by asking,

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[38] C. Baatz and K. Ott, 'In Defence of Emissions Egalitarianism?', in *Climate Justice and Historical Emissions* eds. by L. Meyer & P. Sanklecha (Cambridge: Cambridge University Press, 2017) pp.165-198

[39] For some examples see, S. Vanderheiden, *Atmospheric Justice* (Oxford: Oxford University Press, 2008); D. Moellendorf, 'Treaty Norms and Climate Change Mitigation', *Ethics & International Affairs* 23:3 (2009) pp.247-265; C. Baatz & K. Ott, 'In Defence of Emissions Egalitarianism?'; P. Singer, 'One Atmosphere' in *Climate Ethics: Essential Readings*, ed. by S. Gardiner, S. Caney, D. Jamieson, H. Shue (Oxford: Oxford University Press, 2010) pp.181-200

[40] S. Vanderheiden, 'Globalizing Responsibility for Climate Change', *Ethics & International Affairs,* 25:1 (2011) pp.65-84 (for quote p.73)

[41] Although in my framing this account would only guide our allocation of *abatement* responsibilities, which is again to reflect the emphasis of the literature, we could extend this to cover enhancement responsibilities by conceiving of such measures as creating an emissions credit. I will discuss this point at greater length in a moment.

[42] See D. Bell, 'Carbon Justice? The Case against a Universal Right to Equal Carbon Emissions,' in *Seeking Environmental Justice,* ed. by Sarah Wilks (Amsterdam: Rodolphi, 2008) pp.239-257 (at. p.246)

[43] Simon Caney, 'Just Emissions', *Philosophy & Public Affairs* 40:4 (2012) pp.255-300 (at.pp.260-263)

[44] Bell, 'Carbon Justice?', esp. p.245

[45] Ibid, pp.239-242. That is to say that those who have argued for EE have found it rather obvious – this principle has had a number of detractors. I will discuss some of these below, but for a rather different critique of EE to those that I will mention (i.e. an explicitly nonegalitarian critique) see, L. Bovens, 'A Lockean defense of grandfathering

"why should anyone have a greater claim to part of the global atmospheric sink than any other?" then the first and simplest response is "no reason at all"".[46] It is certainly true that EE rests on a simple idea, and one suspects that the potential pragmatic value of this simplicity is behind some endorsements of the position, even if this is not explicitly stated.[47] But this is not a normative argument, and people do seem to think that EE is possesses normative plausibility. Consider two candidates.

First, in statements of EE we can discern an emphasis on the *unowned* nature of the resource at stake. It would be absurd, so the argument goes, to claim that you have some prior claim to ownership over part of the atmosphere – this, after all, is what we are getting at when we describe the atmosphere as a *common resource*. Given this lack of ownership, or prior claims, over the good, there seems to be a presumption in favour of sharing it out equally. This seems to be implicit, for example, in the quote from Singer above, when he asks, rhetorically, 'why should anyone have a greater claim to part of the global atmospheric sink than any other?'

A second, slightly more speculative reason concerns the correlation between emissions and economic growth. It has been observed by many that historical use of fossil fuels is a fairly reliable indicator of current wealth. This relationship throws up some vexed issues when we try to think about the relative weights of different moral considerations, as we will see in Chapter Four. But it seems plausible that some have been seduced not only by the simplicity of this principle but also by the way it tracks a very important inequality between different agents. In short, equality in holdings of emissions over time *might* promote a more general equality in holdings.

I think there are two main critiques of EE. I will set one of them aside for now, as I will take it up at length in the next chapter. This is Caney's integrationist critique, which seeks to persuade us to reject EE along with the methodological orientation it stems from. The objection I will rehearse here is raised by Megan Blomfield and is especially important in light of the apparent advantages of EE just mentioned. Her main claim is that these arguments mischaracterize the nature of the good with which they are concerned.[48] The natural resource that we are using up

emission rights' in *The Ethics of Global Climate Change* ed. By D.G. Arnold (Cambridge: Cambridge University Press, 2011) pp.124-145

[46] Singer, 'One Atmosphere', p.190

[47] For an example of an argument where this pragmatic argument is made explicit see Baatz and Ott, 'In Defence of Emissions Egalitarianism?'.

[48] M. Blomfield, 'Global Common Resources and the Just Distribution of Emission Shares', *Journal of Political Philosophy* 21:3 (2013) pp.283-304

when we emit fossil is not strictly 'atmospheric space' but rather 'the global sink capacity'. Thus an equal per capita right to emit within the carbon budget grants people a symmetrical claim to the global sink capacity, not the more specific resource of the atmosphere.[49]

This is important because it is not clear anymore whether we can call the resource at stake a 'common' one. After all, a significant portion of the global emissions sink, such as the world's rainforests, are located *within* different territories. I hope this is familiar from the above discussion: in considering mitigation burdens we saw that intolerable warming is a function both of the emissions added to the atmosphere and the emissions taken out of it by various sinks, hence the importance of sink conservation and enhancement alongside the more conspicuous emissions reductions. It is not clear that it is a common resource now because many people think that states have substantial claims over the resources in their territory.[50] Insofar as EE trades on the unowned nature of the resource emissions are consuming, then, this finding looks problematic; it implies that the view puts some resources up for distribution that it really ought not to by proceeding as if everyone has equal claims.

This seems a forceful argument against the classic formulation of EE, but it is worth saying two things about it before moving on. First, perhaps it is possible to reformulate the EE claim in such a way that it avoids Blomfield's worries. If we could work out what the total level of safe emissions would be, perhaps we could take out of the common stock emissions permits in proportion to those which territorial sinks would remove. We could then allocate these permits to the states in which these sinks were located. The remaining permits – those that could be considered as actually deriving from *common* resources like the atmosphere – could be distributed according to EE. Whatever the plausibility of this move, and I think it is doubtful, it is fair to say that this is not the argument that proponents of EE have traditionally been making and as such we would at the very least have to reassess the perceived strengths of EE in light of this restriction.

The second point to note is about what exactly Blomfield's argument establishes. What it *does not* establish is that states have legitimate claims over all of the resources within their territory. Although at points she seems to express sympathy towards this idea,[51] this would require further

[49] For argument see, Ibid, pp.287-293
[50] This is known in the literature as the principle of permanent sovereignty. For discussions of this principle see, C. Armstrong, 'Against "Permanent Sovereignty" Over Natural Resources', *Philosophy, Politics & Economics* (2014) pp.1-23; L. Wener, 'Property Rights and the Resource Curse', *Philosophy and Public Affairs* 36:1 (2008) pp.1-32
[51] Blomfield, 'Global Common Resources', pp.295-299

argument. Where her argument has force is against the way in which EE has been presented in the literature, specifically as not relying on potentially controversial views about global distributive justice. In observing some important facts about the nature of the resource in question, her argument cracks the veneer of uncontroversial simplicity that has been thought to weigh so heavily in its favour.

V. The Limit

A second issue concerns how climate change should relate to a minimal threshold of human interests. I will refer to this principle, which I will discuss in Chapter Three, as *The Limit*. I am using the term 'minimal threshold of human interests' as a placeholder, as people disagree about how to flesh it out – it is the task of The Limit to do so. One important point about this principle though is that there seems to be agreement that we should have some version of it in our account. In Chapter Three, on the way to stating my own version, I will try and draw out in detail the different ways in which this principle has been articulated. For now, let me just note the general ways it has arisen in discussion.

One way in which The Limit often surfaces is in the context of debates about historical responsibility, which I will survey in the next section. Specifically, the obvious presence of this threshold is taken to show that the popular considerations of historical responsibility cannot be the only ones in town, given that they should be waived in the case where a high historical emitter is now poor.[52] More often, though, the limit is stated through Henry Shue's 'breakthrough'[53] distinction between subsistence emissions and luxury emissions. [54]

On this second view The Limit is connected to a theme that runs through this project, which I suggested in the introduction was one of the main reasons philosophers have become so interested and concerned about climate change. Emissions are very important *both* in the way they produce potentially massive impact costs and in the way they represent a vital source of energy for

[52] See, for example, E. Page, 'Distributing The Burdens of Climate Change', *Environmental Politics*, 17:4 (2008) pp.556-575 at. p.559; S. Caney, S. Caney, 'Climate Change and the Duties of the Advantaged' *Critical Review of International Social and Political Philosophy*, 13:1 (2010) pp.203-228 (at pp.212-214); S. Caney, 'Cosmopolitan Justice, Responsibility, and Global Climate Change' in *Climate Ethics: Essential Readings*, ed. by S. Gardiner, S. Caney, D. Jamieson, H. Shue (Oxford: Oxford University Press, 2010) pp.122-146 (at. p.132)

[53] Indeed, it is testament to the lasting influence this distinction has had that Shue's original article is to be the subject of a special edition of the *British Journal of Politics and International Relations*. See, especially, H. Shue, 'Subsistence Protection and Mitigation Ambition: Necessities, Economic and Climate', *British Journal of Politics and International Relations* (forthcoming); A. McLaughlin, 'Justifying Subsistence Emissions, Past and Present', *British Journal of Politics and International Relations* (forthcoming)

[54] H. Shue, 'Subsistence Emissions and Luxury Emissions', *Law & Policy*, 15:1 (1993) 39-60.

those in poverty. This is why philosophers have seen climate change prevention *and* fair burden sharing as such important moral problems. But in other ways emissions look decidedly unimportant, at least in the scheme of the questions we are addressing here. Many houses in the United Kingdom, for example, seem to try and compete with each other over the festive period to see how many bright decorative lights they can put on the front of their house. Shue's thought, which has resonated in the climate justice literature and beyond, is that if there are emissions that have to be sacrificed, then it is these less important luxury ones that ought to go. This is why, on Shue's view, subsistence emissions ought to be permitted.

If there is a general consensus concerning The Limit, why does it warrant the sort of sustained attention I plan to give it? The key here is to turn to some more recent developments in the literature. Put simply, the problem is that widespread noncompliance with moral obligations toward mitigation has massively diminished the carbon budget, which has cast this strong commitment to unconditional subsistence emissions in a different justificatory light. Specifically, we now need to address the implications for climate harm of maintaining this protection, given that subsistence emissions may take place outside of the carbon budget. They confront us with a moral problem here precisely because we want to afford them such a strong status – luxury emissions do not do so, given we can more straightforwardly rule them impermissible in conditions of severe carbon scarcity.

Debate in the recent literature has reflected this change, even if it has not adequately understood it. In his recent book, Darrel Moellendorf states his version of The Limit, *The Antipoverty Principle*, which states the commitment to protecting the threshold in familiarly strong terms.[55] Stephen Gardiner, however, has objects to this principle vigorously, partly on the grounds that the way it protects this threshold is 'strongly overriding'.[56] I will pick up this disagreement later, but its presence reveals that although we will need some version of the limit in our account, it is a more contentious principle to articulate in present circumstance.

VI. Capacity and Responsibility

The debate over the relative moral force of the considerations of considerations of capacity and historical responsibility, which will take up the final two chapters of the thesis, has been possibly

[55] Moellendorf, *The Moral Challenge of Dangerous Climate Change*, p.22
[56] S. Gardiner, 'Climate Justice in a Dark and Dangerous Time', *Ethics*, 127 (2017) pp.430-466 at. p.444

the central one in the climate justice literature. Its prominence and complexity will be reflected by the fact it will take up a greater portion of the thesis than the others – it will be discussed over two chapters rather than one. This question has been cast as one concerning whether climate justice ought to be primarily backward-looking or primarily forward-looking. The following overview of these arguments will have three general aims. First, I want to provide a sense of the core principles at stake, their importance and perceived strengths and weaknesses. Second, in doing so I want to convey something of the dialectic nature of the debate. Finally, I want to show the main questions that the standard argument from historical responsibility will have to answer are also the main issues the beneficiary pays principle (BPP) will need to answer. My later arguments will be in relation to these core objections to backwards-looking arguments, and so it is important to see that these quite different looking historical arguments are both affected.

a. The Polluter Pays Principle

The basic and familiar thought behind the principle of historical responsibility holds that those who caused a particular problem ought to be the ones burdened with resolving it. In the present context, this conviction implies that when we are considering how to allocate the costs of mitigation and adaptation, we should look to those agents who are responsible for bringing the threat of climate change about. This view is often expressed in the literature by 'the polluter pays principle' (PPP), which simply holds that 'those who caused the problem should pay'.[57] In the following I will use 'historical responsibility' and 'the PPP' interchangeably.

One key strength of this argument, especially emphasized in early accounts, is taken to be the widely-held and uncontroversial nature of this general intuition. As Henry Shue puts it, '[a]ll over the world parents teach their children to clean up their own mess'.[58] Perhaps as a result, the PPP also finds broad support in the activist literature that surrounds the climate justice movement. Naomi Klien, for instance, seems to take arguments about historical responsibility as almost self-evident. 'Few dispute', she tells us, that historical responsibility is an 'argument with justice and international law on its side'.[59] On her view, this conclusion flows from 'the principle of common but differentiated responsibility' (CBDR), which 'basically means that everyone is responsible for

[57] Caney, 'Climate change and the duties of the Advantaged, p.204.
[58] H. Shue, 'Global Environment and Environmental Inequality' in *Climate Ethics: Essential Readings*, ed. by S. Gardiner, S. Caney, D. Jamieson, H. Shue (Oxford: Oxford University Press, 2010) pp.101-112 (at.p.102) Peter Singer is similarly convinced of the wide applicability of the PPP, noting that it captures a simple 'you broke it, now you fix it' idea. P. Singer, 'One Atmosphere', p.187
[59] N. Klein, *This Changes* Everything, p.410.

being part of the climate solution but the countries that have emitted more over the past century should be the first to cut and should help finance poorer countries to switch to clean development models'.[60]

If this is what the principle of common but differentiated responsibility meant, then then this would be significant indeed. It is a principle with an impressive pedigree in international climate institutions, initially affirmed in in both The Rio Declaration and the Framework Convention on Climate Change. It has remained, moreover, prominent in statements since and, as I mentioned in the introduction, is present in the recent Paris Accord as the principle that ought to guide each state's national determined contribution to mitigation. But as we will see later, one prominent account in the literature proposes an interpretation of the principle of CBDR that leaves no room for historical responsibility whatsoever.[61] Moreover, I will argue it is implausible to hope to derive a plausible account of burden sharing on the basis of whatever commitments, however plausible they look at first glance, happen to widely shared; what ultimately matters is the strength of argument marshalled in support of a certain principle.

As is often the way, it turns out that the devil really is in the detail with the argument from historical responsibility, and when we start to unpack this general principle the water becomes rather murkier. It is not clear, to start with, how the argument ought best to proceed. Stephen Gardiner outlines two possibilities.[62] On the first, responsibility for resolving the problem – through additional mitigation and adaptation responsibilities – tracks proportional contribution to emissions. The thought here seems to be that agents have a duty to prevent the harm, in terms of impact costs, that will come about as a result of their emissions. Call this view *Responsibility for Climate Harm*. The other view frames historical responsibility in terms of overuse of a global natural resource. What has gone wrong on this argument is the fact that some have consumed more than their fair share of emissions at the expense of others. Call this *The Fair Share View*.

We can see that the Fair Share View of historical responsibility can be connected with the other fair shares view I discussed above: that is, EE provides a fair share of the resource that an

[60] Ibid.
[61] Moellendorf, *The Moral Challenge of Dangerous Climate Change*, ch.5. It should be noted that Klein's interpretation, with its emphasis on historical considerations, is the more standard one. See, for example, L. Rajamani 'The Principle of Common but Differentiated Responsibility and the Balance of Commitments under the Climate Regime' *Review of European Community and International Environmental Law* 9:2 (2000) pp.120-131.
[62] S. Gardiner, 'Ethics and Global Climate Change', in *Climate Ethics: Essential Readings*, ed. by S. Gardiner, S. Caney, D. Jamieson, H. Shue (Oxford: Oxford University Press, 2010) pp.3-36 (at. pp.14-16)

agent has overused. This view is often framed in terms of an 'emissions debt'.[63] It should be noted, as is also alluded to by Gardiner,[64] that these two arguments for historical responsibility can be ran together – often, I think, without sufficient precision. Eric Nuemayer, for example, argues, in widely cited article, that developed states ought to bear additional responsibilities on *both* of these grounds.[65] The disagreement between these two conceptions of responsibility will be a key theme in Chapter Four. Their simultaneous existence in the literature reflects some interesting and distinctive features about the nature of climate change harm.

A pure argument from historical responsibility, then, would give a very simple answer to the question under discussion. The burdens of mitigating and adapting to climate change should be allocated to those who have contributed the most. This should be so because they have used more of something than they should or because they have caused a severe problem which will potentially inflict massive harms on others, or for both of these reasons. Despite the simplicity of these arguments, and despite the broad appeal of the basic intuition about responsibility upon which they are founded, few philosophers have advanced a position that is purely based on historical arguments. There are two sorts of reasons that could explain this reluctance. On the negative side, one might think that responsibility cannot be the whole story in the climate change case as a result of some problems internal to the argument itself. Positively, one could think that there are just good reasons to include some *other* normative considerations into our thinking about climate change burden sharing. It might be that these further considerations are very important in and of themselves and that the argument from historical responsibility should make room for them.

I think probably a mix of both of these sorts of reasons are behind most people's preference for a pluralist account of climate justice, but the polemical nature of the way in which the literature has developed has ensured that it is the negative factors have been the most extensively discussed. Theorists have tended to take as their launchpad the idea that historical considerations have a significant role to play and, in turning to critically examine arguments along these lines, have drawn attention to a number of serious looking objections. This, naturally, has

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[63] For a good overview and generally sympathetic account of this concept see For a critical appraisal of the concept of 'climate debt' see J. Pickering & C. Barry, 'On the concept of climate debt: its moral and political value' *Critical Review of International Social and Political Philosophy* 15:5 (2012) pp.667-685 For a more skeptical view see S. Caney, 'Environmental Degradation, Reparations, and the Moral Significance of History', *Journal of Social Philosophy,* 37:3 (2006), 464-482

[64] Gardiner, 'Ethics and Global Climate Change', p.14

[65] E. Neumayer, 'In Defence of Historical Accountability for Greenhouse Gas Emissions', *Ecological Economics*, 33:2 (2000) pp.185-192

prompted defenders of historical arguments to develop responses to these objections, and so on and so forth. As such, I think it is fair to say that debates about the PPP have been a significant driver of the literature on burden sharing more generally. Below I will try and explain in more detail exactly what I mean by this. Prior to doing so, however, it will be helpful to briefly state these objections.

b. Objections to the Polluter Pays Principle

Consider first what we can call *the agency problem*. Identifying a duty-bearer under the PPP requires us to be able to identify an agent who was causally responsible for an emitting act. Only that way can we hold that agent responsible for the costs associated with those particular emissions, which, after all, is the PPP's *modus operandi*. Some have doubted, on these grounds, the ability of the PPP to capture a significant portion of historical emissions, for given the that industrialization started centuries ago, it would seem to require us to attribute responsibility to agents who are now dead.

As simple as the agency problem is to state, one might think that it is open to an equally simple rejoinder. The agency problem is only a problem, the defender of historical responsibility might say, if you treat the relevant agents as individual human beings, but these are clearly not the relevant agents that we have in mind in the case of climate change. When we think about the causal contribution of the rich to this process, we often talk in collective terms and say that it is the developed *nations*, or developed *states,* that have caused climate change, and that it is these agents who are therefore responsible for bearing the associated costs. It is true that the force of the agency problem will recede if we can meaningfully point to *collective moral agents* that have contributed to climate change over time but doing so may not be a straightforward task. Simon Caney, for example, has questioned our ability to identify collectives over the relevant timeframe that would meet the normative standards necessary to generate PPP obligations on the part of their current members.[66]

The second main objection to the PPP, which I will call *the problem of fault*, relates to the fact that many people take contributory fault to be a necessary condition of PPP responsibility and consider it to be absent in the present case, for at least some portion of earlier emissions. So the basic claim here is that the PPP requires there to be something wrongful or unjust about historical emissions when actually there is nothing wrongful or unjust about them. One version of this

[66] Caney, 'Environmental Degradation, Reparations, and the Moral Significance of History', pp.470-472. As a general point, we should be wary to read off from official documents a genuine commitment to a collectivist methodology. For discussion see, Vanderheiden, *Atmospheric Justice*, p.169

objection is simply the denial that the purportedly problematic act has the characteristics that it is supposed to. If the claim is that historical emissions are faulty because they were carried out by agents in excess of their fair share, one way to reject the argument is to deny that historical agents used more than their fair share;[67] similarly, if the claim about fault relies on a particular connection between these emissions and climate harm, responsibility might be rejected on the grounds that no such connection exists.[68]

But the most common objection along these lines accepts that these emissions do have the relevant characteristics – they are excessive, or they are harmful – but claims that a set of further conditions that are necessary to attribute blame do not hold in this case, specifically, knowledge about the effects their emissions would have. This is the objection from excusable ignorance.[69] Excusable ignorance refers to a specific type of non-negligible ignorance: it is not only that an agent did not know about the effects of their emissions, but it is additionally the case that they could not have been reasonably expected to know about the effects their emissions. The excusable ignorance version of the problem of fault, then, holds that is unfair to ask an agent (the agency problem notwithstanding) to bear the costs of their previous emissions when they could not have reasonably known what these effects were.

While it is hard to deny that there was some point in history beyond which people were generally excusably ignorant about the effects of greenhouse gases – though precisely when this point occurred is another question[70] – some have doubted the force of this objection. One response has been to deny that liability and culpability must go together: insisting upon a standard of *strict liability* for historical emissions would remove the necessity for contributory fault and restore the PPP's ability to ascribe responsibility for historical emissions.[71] In turn, others have

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[67] See, for example, D. Miller, Global Justice and Climate Change: How should Responsibilities be Distributed?', *The Tanner Lectures on Human Values* 28 (2009) pp.117-156 at. p.136

[68] See, for example, W. Sinnott-Armstrong, 'It's Not *My* Fault: Global Warming and Individual Moral Obligations', in *Climate Ethics: Essential Readings*, ed. by S. Gardiner, S. Caney, D. Jamieson, H. Shue (Oxford: Oxford University Press, 2010) pp.332-347

[69] For a very helpful discussion of this issue see R. Schüssler, 'Climate justice: a question of historic responsibility?' *Journal of Global Ethics* 7:3 (2011) pp.261-278

[70] Indeed, Jamieson, for example, argues that some people living today cannot be reasonably expected to know about the effects of their emissions. Jamieson, *Reason in a Dark Time,* pp.151-153. We also should not neglect the idea that excusable ignorance should operate as a sliding scale: the more available the knowledge about the effects of greenhouse gas emissions, the less their obligations are waived by ignorance considerations

[71] For an account sympathetic to strict liability, see J. Pickering & C. Barry, 'On the concept of climate debt: its moral and political value'. They state that '[a]s a general matter, liability for debt does not imply guilt or direct culpability (p.672) Henry Shue also seems to be sympathetic to such a standard in this case. See, Shue, 'Global Environment and International Inequality', p.104. For a rather more subtle attempts at attacking the ignorance objection to fault, see D. Bell, 'Global Climate Justice, Historical Emissions, and Excusable Ignorance', *The Monist* 94:3 (2011) pp.391-411

questioned the idea that strict liability can salvage the PPP, mostly by pointing to disanalogies between the climate change case and other cases where the application of this standard has seemed plausible.[72] There is a lot more to say about the problem of fault, and I will return to it later.

The other main objection to the PPP I will call *the insensitivity problem*, and it stems from a concern about some considerations the PPP misses. There are two main ways the insensitivity problem arises. First, the principle of historic responsibility has nothing to say about how we ought to distribute the burdens of non-anthropocentric climate change.[73] Second, the PPP is blind to capacity and can therefore be associated with violating The Limit by burdening very poor states on the basis of their past emissions. As I mentioned above, this is one of the main contexts where The Limit arises in discussion and, as I also mentioned there, the standard response to these worries has been to acknowledge that the PPP will need to be supplemented by at least one other principle.

There is an important clarification to add before moving on. These objections, as should be clear, will be more or less limiting of the PPP. For example, the problem of excusable ignorance will only tell against certain historical emissions; and so too the insensitivity problem will only limit the application of the PPP. The claim here, then, is not that these arguments have been thought to defeat the PPP entirely, only that it appears implausible to develop an account of burden sharing solely on the basis of the PPP.

c. The Beneficiary Pays Principle

A second historical approach has developed to a significant extent in response to the concerns raised about the PPP. Edward Page, one of the leading advocates of this third principle, outlines it as follows.

> '[S]tates should shoulder the burdens associated with responding to climate change according to the extent that they have derived economic benefits from activities… that have released greenhouse gases into the atmosphere since the beginning of the industrial revolution'.[74]

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[72] For a recent (and ultimately critical) discussion of some of these arguments see Moellendorf, *The Moral Challenge of Dangerous Climate Change,* ch.6.

[73] For example, Page, 'Distributing the Burdens of Climate Change', p.558. Caney frequently cites this worry about the PPP. For example, 'Climate change and the duties of the advantaged', p.212-213

[74] E. Page, 'Give it up for Climate Change', *International Theory*, 4:2 (2012), pp.300-330 (at. p.306); see also, Page, 'Distributing the Burdens of Climate Change', p.562. For a classic statement of the BPP more generally see D. Butt,

This principle has become known in the literature as the 'beneficiary pays principle' (BPP).[75] Page is very explicit about the way in which the BPP is supposed to come to the rescue of the backwards-looking position. In his view the problem with the Ability to Pay Principle (APP), which I will discuss in a moment, is that its focus on an agent's capacity makes it blind to the specifics of the problem at hand. The BPP, in contrast, is able to 'finesse a range of problems associated with holding present states morally responsible for the environmentally altering behaviour of ancestral political units, as well as further problems associated with linking any particular state's cumulative greenhouse gas emissions with particular adverse outcomes arising in other states';[76] in other words, it is able to avoid the problems that undermine the PPP while at the same time preserving the general intuition, the 'widespread conviction', as Page describes it, that historical considerations are fundamentally the ones that should guide our thinking about climate justice.[77]

At first glance, there appears to be something to this claim, as it does not seem that the problem of fault or the agency problem arise in the same way. After all, we are no longer looking for those agents responsible for carrying out distant historical acts, only those who are currently benefiting from their effects.[78] With regards to the problem of fault, we clearly do not want to say that the currently existing beneficiaries were in any way at fault for historical emission, given that they did not carry them out themselves. But perhaps this is too good to be true. One core question for the BPP concerns its general justification. Though for many it captures the thought that 'history matters', there is a worry that it does so by illicitly trading on the intuitive force of the PPP in the way that it attributes some independent moral importance to causality.[79] The reason causality is important in the PPP case relates to culpability: what matters on this view is that some agent (or

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Rectifying International Injustice: ***Principles of Compensation*** *and Restitution Between Nations* (Oxford University Press, 2009)

[75] It is worth noting the debate about this principle in the context of climate change has, in turn, been a contributing factor in the upsurge of literature on the BPP as a general principle. See the special issue of *The Journal of Applied Philosophy* 31:4 (2014) on 'Benefiting from Injustice'. See also, K. Lippert-Rasmussen, 'Affirmative Action, Historical Injustice, and the Concept of Beneficiaries', *Journal of Political Philosophy* 24:4 (2016) pp.72-90

[76] Page, 'Give it up for climate change', p.407

[77] Indeed, these apparent advantages were pre-empted by a tendency for theorists to reach out to beneficiary intuitions in discussions that were nominally at least about the PPP. Henry Shue, for example, notes that while it would be unfair to hold someone responsible for something to which they are 'completely unrelated', we benefit from the 'enduring economics structures' traceable to industrialisation. See Shue, 'Global Environment and International Inequality', p.105. For a critical discussion of this point see, S. Caney, 'Cosmopolitan Justice, Responsibility, and Global Climate Change', p.128. Nuemayer also seems to appeal to beneficiary considerations in his discussion of historical responsibility. See Nuemayer, 'In Defence of Historical Responsibility'.

[78] In reality this may be too quick. Even assuming that we can identify currently existing beneficiaries of historical emissions, these are surely not the only agents that have benefited from them. Thus we would be in need of further argument as to why the current beneficiaries should bear *all* of the burdens of historical emissions, even though some in the past will also have benefited from them and so will some in the future.

[79] This critique is made persuasively in R. Huseby, 'Should the Beneficiaries Pay?' *Politics, Philosophy & Economics*, 14:2 (2015) pp.209-225 (at pp.218-211)

agents) had (the relevant degree of)[80] control over the causal chain and acted voluntarily in a way that brought harm upon others. Say I threw a stone and it smashed the window of your shed, I owe you compensation precisely because I set in motion a causal chain that culminated in you suffering an injustice. In the beneficiary case, though, the receipt of benefits is often involuntary, and so it is an open question whether we should give the causality the same kind of status.[81]

Moellendorf also raises doubts about the general applicability of this principle.[82] In the first instance, it is easy to think of cases where the idea that the receipt of benefits is obligation-generating seems somewhat strange. Moellendorf has an example where your diligent neighbour's upkeep of her property increases the price of your own. In this case, do you really have an obligation to relinquish to her this increase in value, or at least a portion thereof? This seems rather demanding. The standard move therefore is to restrict the scope of the principle to those cases where an agent is benefiting from *injustice*. Such a move would make the principle less inclusive – although given the extent of injustice present in the world it would still surely be rather demanding – but it raises a problem of its own in the context of climate change. If we want the BPP to capture the benefits flowing from historical emissions and we also accept, as we seem compelled to, this scope restriction, then we need it to be the case that historical emissions represent some kind of injustice. But this seems to throw us back to the troubles of the PPP, for identifying such an injustice in (significant portions of) historical emissions is exactly what the problem of fault threw into question. So however the BPP fares in tackling the agency problem, it does not seem to circumvent the problem of fault. This will be important later, because I will develop an argument concerning the injustice of historical emissions which will therefore apply to both.

d. The Ability to Pay Principle

Given the necessary presence of The Limit in our account, we know that considerations of capacity will have some role to play in our thinking about climate change burden sharing, specifically, in (at least partly)[83] helping us set the minimal constraints. The ability to pay principle (APP) takes this focus on an agent's capacity and applies it more comprehensively to climate change burdens.

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[80] On this view this is what is absent, for example, in the case of excusable ignorance.

[81] A related line of criticism here is that the BPP draws on (again illicitly) a luck egalitarian intuition about arbitrary advantage. After all, luck egalitarianism will come to the same conclusion as the BPP in paradigm cases. For a good expression of this criticism see, Lippert-Rasmussen, 'Affirmative Action, Historical Injustice, and the Concept of Beneficiaries'.

[82] Moellendorf, *The Moral Challenge of Dangerous Climate Change*, p.169

[83] Even if we think The Limit, as I will argue we should, ought to have some kind of harm avoidance constraint, it would be very implausible to think that it should not refer to capacity at all.

Henry Shue captures the underlying thought well: 'among a number of parties, all of whom are bound to contribute to some common endeavour, the parties with the most resources normally should contribute most to the endeavour'.[84]

As should be obvious, the APP is a very different principle than those discussed above. Aside from the clear normative divergence, it also requires a very different sort of empirical information. The PPP, we could say, is in need of *problem-specific information*. In its tracking of responsibility, it requires information about how the problem came about: it needs to know who contributed to the problem of climate change and the extent to which they did so. The APP, on the other hand, requires *agent-specific information*. The agent-specific information required will depend on the measure of capacity thought to be appropriate. One might think, for example, that GDP is the appropriate measure, or some index of human development,[85] or perhaps how easy it would be for a state to reduce their greenhouse gas emissions.[86]

The APP, similar in this way to the PPP, is a principle that has many admirers in debates about climate justice and also has institutional credentials. The popular 'greenhouse development rights approach', put forward by Paul Bauer, for example, holds that an APP should be given a percentage weight against the PPP and that together these principles should guide the allocation of climate burdens.[87] Indeed, in the original formulation, the weighting suggested as appropriate was 60/40 in the direction of the APP.[88] On the institutional front the 'principle of common but differentiated responsibilities' is most often stated with the addition of 'and respective capabilities', indicating at least some recognition at the institutional level that the APP is a relevant principle. In saying this, however, it can often be the case that the APP is advanced as a supplementary principle to the PPP, in order to pick up the slack where the historical principle fails. Simon Caney, for example, proposes a hybrid account of burden sharing, where the APP picks up the 'remainder' of costs that cannot be captured by the PPP as a result of the objections against the historical view that I mentioned above.[89] So the APP is popular, but it is rarely taken to be the sole principle of

[84] Shue, 'Global Environment and International Inequality', p.105
[85] Moellendorf takes this as the relevant metric in *The Moral Challenge of Dangerous Climate Change*, ch.5 &6.
[86] Miller thinks that this sort of capacity is relevant. Miller, 'Global Justice and Climate Change', pp.150-ff.
[87] P. Baer, T. Athanasiou, S. Kartha & E. Kemp-Benedict, 'Greenhouse Development Rights: A Framework for Climate Protection That is "More Fair" Than Equal Per Capita Emissions Rights' in *Climate Ethics: Essential Readings*, ed. by S. Gardiner, S. Caney, D. Jamieson, H. Shue (Oxford: Oxford University Press, 2010) pp.215-231.
[88] For a discussion of this approach including comparisons with alternative views, see Page, 'Distributing the Burdens of Climate Change', pp.567-ff.
[89] Caney, 'Climate change and the duties of the advantaged', p.213.

climate justice, and there is a possibility that a significant degree of its popularity is a result of the problems associated with the PPP.

Moellendorf's view is the exception here, in that he does propose that the APP can serve as a principle to govern *all* prevention burdens. The metric of capability that he deems important (the relevant agent-specific information) is a state's score on the 'human development index'.[90] Moellendorf's account is a rich and complex one and will come under more sustained discussion later. It will be helpful, though, to sketch in brief the general contours of his account, if only to get some idea of the different sort of justification that would be required to base a position solely on this principle.

True to the dialectical structure that I alluded to above, Moellendorf provides both a set of reasons that cast doubt upon the ability of the PPP to comprehensively guide burden sharing and a set of reasons for why his preferred principle, the APP, is an important one and not vulnerable to these objections. He also offers an interesting rationale for why this is the case; an explanation, that is, for *why* a responsibility-based principle fails in this case and for why an APP is better suited. Against the PPP, Moellendorf thinks the problem of fault is decisive.[91] As for his positive justification for the APP, Moellendorf invokes the Rawlsian idea that 'fairness in a cooperative scheme for mutual advantage requires that the institutions that mediate the cooperation be judged by their effects on the least well-off'.[92] So long as Moellendorf can show that mitigating climate change is beneficial to all – and this seems on the face of it to be a plausible claim – then the APP follows naturally as the principle that would naturally be the least demanding on the poor.

The more general point Moellendorf makes about responsibility is to claim that remedial responsibility – the sort of responsibility associated with asking an agent to fix something they have broken – is ill-suited to the project of climate change prevention. This task, in his view, is a more transformative one, involving the design and implementation of a new energy regime which will alter more fundamentally the social terms upon which we interact. Instead of remedial responsibility, Moellendorf proposes an architecture of *Social Responsibility*, which is supposed to apply to the design of institutions.[93] His thought, then, is that part of the reason why a PPP seems

[90] Moellendorf, *The Moral Challenge of Dangerous Climate Change*, p.176
[91] I will argue later, though, that he does not successfully show that the problem of fault defeats the PPP.
[92] Moellendorf, *The Moral Challenge of Dangerous Climate Change*, p.174
[93] Ibid, pp.156-158

limited is that climate change is just not the sort of case where we should be looking to correct an imbalance caused by historical actions; it is rather a case that demands we scrutinize more deeply the way in which international politics is organized. An APP approach, which would make room for global poverty reduction, is in his view an appropriate expression of this sort of idea.

The APP, of course, is not without its critics. It is striking, though, and in keeping with the narrative that I have sketched above, how few of these criticisms directly target the logic underpinning the APP. Instead, the complaint seems often to be more about the APP's failure to adequately capture what is concerning us in the case of climate change. In this sense, the APP has its own version of *the insensitivity problem*. Specifically, the worry seems to be that its demand for agent-specific information is a weakness against the PPP, which seems, by design, to get a better grip on the specifics of the problem. It is not necessarily that the APP is a problematic principle in itself; on this view it is just that it is not so weighty when considered against the strong responsibility intuitions that people have in the context of climate change. As we have seen, this is clearly a central motivation of Page's pursuit of the BPP. This concern will be discussed at greater length in Chapter Four, where I will find it lacking. My own, rather surprising conclusion will be that the APP actually does a better job of tracking historical responsibility than does the main articulation of the PPP.

A second worry about the APP is that it relies on controversial or demanding accounts of distributive justice. Göran Daas-Otterström expresses exactly this concern. The APP, he believes, relies on our having 'positive cosmopolitan duties'.[94] Positive cosmopolitan duties, he continues, 'are duties to further the well-being of others no matter where they live and no matter one's relationship with the recipient'. He thinks that in the climate change case, the APP 'clearly relies on such duties' as 'a duty to further the well-being of others with regard to past emissions is… largely the same thing as a duty to assist people with whom the duty-bearers have no special ties or associative relations'.[95] There are two reasons why someone might advance this argument. First, someone might argue against the APP on the grounds that it is reliant upon the existence of obligations that *we do not* in fact have. Alternatively, they might argue against it on the grounds that it is reliant on the existence of obligations which most people *think that we do not* have and which would therefore make the APP unlikely to gain agreement on climate change. This second

[94] G. Duus-Otterstrom, 'The Problem of Past Emissions and Intergenerational Debts', *Critical Review of International Social and Political Philosophy* 17:4 (2014) pp.448-469 (at p.451)
[95] All quoted passages Ibid.

argument is a strategic one and can stay neutral about whether these obligations do actually exist.[96] Again, I think this concern about the APP is misplaced, but I will postpone a proper discussion of it until chapter 4.[97]

e. The Intergenerational Ability to Pay Principle

Above I have outlined how the APP has typically been articulated in the climate justice literature. Recently, however, a number of theorists have appealed to ability to pay intuitions to argue for a rather different conclusion. As I have stated it so far, the question about burden sharing is taken to be posed to the current generation. Which agents, *out of those currently alive*, should bear the burdens of climate change? While the different principles will ascribe responsibilities to different agents *among* the current generation, they have all operated with the assumption that it is the current generation that should pay. Although this seems initially a rather plausible thought – if mitigating climate change requires us to perform actions *now*, then it seems entirely natural to think that those who will be required to bear the burdens will have to be among those agents – upon closer inspection it might seem like a misguided restriction. After all, from the outset climate change has been acknowledged to be an intergenerational problem - why should we assume that all of the *costs* of climate policy ought to be borne by the present? This is an especially pressing question for the proponent of the APP, because it is standard practice amongst economists to assume that the future will be on average better off than us and therefore more *able* to bear the burdens of climate policy. Thus we can frame this principle as an intergenerational version of the APP.

The idea that we should defer the burdens of mitigation into the future has recently received more attention.[98] I will set aside the question of whether it is practically possible to transfer these costs to the extent that the proponents of this argument imagine. Let us be charitable and assume that we can – the question that is more interesting for our purposes is whether there are indeed principled grounds upon which to do so.

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[96] Daas-Otterström's arguments are framed in this spirit.

[97] Notice initially, though, that Moellendorf's arguments for the APP are not framed in this spirit, that is, as expressing a cosmopolitan view about distributive justice.

[98] J. Broome, *Climate Matters: Ethics in a Warming World* (New York: Norton & Company, 2012) ch3; M. Rendall, 'Climate change and the threat of disaster: the moral case for taking out insurance at our grandchildren's expense', *Political Studies* 59 (2011) pp.884-899; A. Maltais, 'Making Our Children Pay for Mitigation', in *The Ethics of Climate Governance*, ed. By A. Maltais & C. McKinnon (London: Rowman and Littlefield, 2015) pp.91-111; S. Caney, 'Climate change, intergenerational equity and the social discount rate', *Politics, Philosophy & Economics* 13:4 (2014) pp.320-342, esp. pp. 330-ff. Note, however, that this argument is not always framed as an intergenerational version of the APP. Broome, for example, defends the proposal on pragmatic grounds.

In the first instance, this reading of the APP will at the very least be faced with the same set of objections that I have just discussed. Perhaps the objection from responsibility looks even more salient: is it really fair to ask those potentially far into the future to pay the costs of a problem that they have no responsibility for creating? One response here is to point out that the difficulties for the PPP shows that there are limits to the extent to which the current generation are responsible for climate change. But this only points to limits: insofar as we think that there are some emissions that should be covered by the APP, the deferral of costs argument is still live. Another way this objection might go is to claim that *even if* there are limits to the extent the current generation can be held responsible for historical emissions, they are nonetheless differently situated in relation to the problem of climate change in a way that gives them a special sort of responsibility to take the appropriate actions *and* bear the costs of climate change prevention. I will defend an argument like this in Chapter Five by drawing attention to a distinctive wrong committed by the current generation, the wrong of noncompliance, which presses back against the move toward deferring the costs of mitigation.[99]

As well as the objections to the standard APP that I mentioned above, theorists have raised a number of independent objections against this intergenerational version of the principle. Stephen Gardiner, for instance, has expressed a concern that this proposal amounts to a case of intergenerational extortion – if not intergenerational theft.[100] In his view, there is something troubling about the idea that we can permissibly borrow from future people in the name of future people, which is one way of interpreting what this policy would amount to doing. These people, after all, have no say in the policy and might well object to it were it possible for them to do so. In addition to this, Gardiner worries about the precedent that this sort of action would set. What, he asks, is to stop us coming back for more money from the future? And what is to stop us from applying this sort of cost deferral to other policies?

Another worry specific to this version of the APP concerns the assumption that future people will be 'better off' than us in the relevant sense. This is of course a necessary condition of our deferring the cost of mitigation on ability to pay grounds. Although an assumption that continued economic growth will indeed make people 'better off' than us is widely held among

[99] Caney, for example, attempts to articulate a version of the APP which is 'history sensitive', thus making the current more connected to the source of the climate change problem. S. Caney, 'Climate change and the duties of the advantaged', pp.214-219

[100] S. Gardiner & D. Weisbach, *Debating Climate Ethics* (Oxford: Oxford University Press, 2016).

economists, philosophers have been more wary of the idea.[101] According to Henry Shue, 'in the context of rapidly worsening climate' it is not 'reasonable simply to assume that human well-being, however it is measured, is either certain or highly likely to improve generally with each generation'.[102] There is a question here about the extent of the climate change effects that are now unavoidable; the point of cost deferral, remember, is that we engage in mitigation now while shifting the costs to future people. If we were to do so vigorously, perhaps it would not be the case that we were in 'in the context of rapidly worsening climate'. Nonetheless, given the crucial nature of this assumption for the argument, it will have to be scrutinised.

VII. Conclusion

This chapter has pursued two main tasks. I first set out the sort of burdens that will be associated with climate change. The aim here was to provide a sense of what we are talking about when we are talk about the 'burdens of climate change'. In marking out the distinction between impact costs and prevention costs, we can see clearly the problem of burden sharing as it has arisen for political philosophers. The second aim was to relay how the literature so far has responded to this question in order to better appreciate the main questions my account will have to answer and the main problems it will have to address.

The first issue that I identified concerned the popular view that people have an equal right to the earth's absorptive capacity. Some powerful criticisms have been levelled against this approach, and I will pick this issue up in the next chapter. I will argue that we ought to reject both EE as well as a popular alternative, namely, the method of integration. Second, I highlighted the proximity of the moral imperative of poverty-alleviation to that of climate change mitigation. Accounts of burden sharing have respected this imperative through the inclusion a principle I called The Limit, but I suggested that this principle has some different questions to contend with in light of persistent and widespread noncompliance with burden sharing. I will articulate my own version of this principle, The Exemption, in Chapter Three. Third, I outlined the disagreement between primarily backwards-looking and primarily forward-looking views about climate justice. These views diverge on whether the core criteria for burden sharing should be an agent's capacity,

[101] for an excellent philosophical discussion on the assumptions often made by economists, see Jamieson, *Reason in a Dark Time,* ch.4; For a notable economist's view W. Nordhaus, *The Climate Casino* (Yale: Yale University Press, 2013) pp.79-82

[102] H. Shue, 'High Stakes: Inertia or Transformation?', *Midwest Studies in Philosophy* XL (2016) pp.63-76 (p.65)

or something about their relation to historical emissions. A number of objections have been levelled at either perspective, and I will adjudicate between them in chapters 4 and 5. My argument in Chapter Four will be that, rather surprisingly, the APP serves best as a general principle for capturing historical responsibility for climate change. In Chapter Five I will articulate some parameters of responsibility which will permit some departures from this principle.

Chapter 2

Against Integrationism

Consider two observations that might appear to reveal a tension in the way that people have thought about climate justice. First, notice that there can be a tendency in the positions I outlined in the last chapter to bracket climate change off from other issues and to think about it to a large extent as separate, a topic of study in its own right. This is certainly true of those principles I outlined that had a *problem-specific* focus, specifically, Emissions Egalitarianism (EE), The Polluter Pays Principle (PPP) and The Beneficiary Pays Principle (BPP). These principles only seek information specific to the problem at hand and, each in their own way, imbue climate justice with a rather narrow focus as a result. The most expansive version of EE, for example, simply needs to know whether you have used more or less than your equal share of emissions in order to generate an account of fair burden sharing. If you have exceeded your equal share, you will be obliged to bear burdens towards climate change prevention. Positions that lean heavily on one or more of these ideas do not therefore seem all that concerned with how climate justice 'fits' with other issues that warrant our moral attention.

Now consider the second observation, also mentioned in the last chapter, which might seem at odds with this sort of focus. Climate change and its politics will increasingly impact on a great range of human interests. The effects of climate change will, for example, increase people's vulnerability to tropical diseases. They will threaten people's ability to secure food and water. Climate change mitigation, if we are to seriously engage in it, will impact on people's access to affordable energy. The changing energy mix will alter national infrastructures and will change way that our cities look. From whichever side we look, people's welfare will be significantly affected by climate change. Where farmers who depend on a stable climate to carry out their agricultural practices will have their way of life threatened by climate change, coal miners, whose sense of identity is often tied closely to the fossil fuel industry, will face comparable costs in making the sacrifices necessary to prevent these effects coming to pass. The interconnectedness of climate change with a range of other issues is of course widely recognised. Lord Stern, for example, makes the following observation.

> "[C]ountries often do not view the greenhouse gas abatement benefits of low-carbon measures in isolation; rather they see climate change as intimately connected with other important issues, including energy security (both access and affordability), local environmental pollution, local nature reserve pressures, industry policy and competitiveness, macroeconomic reform, poverty reduction, social policy, equity, innovation and, growth. An international framework focused over narrowly on building targets to reduce emissions per se can risk artificially separating climate change mitigation from other policy concerns with which it is, and is perceived by many countries to be, integrated."[1]

On the one hand, then, we have a literature that has mostly viewed it appropriate to articulate principles of climate justice independently from other issues; on the other, we have a picture of climate change as a diverse issue that cuts across a range of areas that we tend to think relevant from the point of view of global and intergenerational justice more generally. Recently this tension has received more attention in the political theory literature. Simon Caney, in particular, has argued stridently that we ought to reject what he describes as the 'isolationism' of many approaches to climate justice and instead incorporate climate justice within a more general theoretical framework. He labels this more expansive approach *Integrationism*, or *The Method of Integration*.[2]

It is this debate that I will focus on in this chapter. My argument will be that we ought to reject both routes. I will agree with Caney that we ought to reject approaches that attempt to generate an account of burden sharing by looking at holdings of only one good. But I will also reject his Method of Integration, which attempts to subsume climate justice within a general theory of global and intergenerational justice. The discussion will proceed as follows. Section I will rehearse and endorse Caney's critique of EE. Section II will defend Caney's view against a separate attack from mine, which questions his claim that integrationism is more practical than EE. In section III I will develop my own criticism of Caney's position, by suggesting that integrationism slips between a definitional claim about distributive justice and a substantive one. I show that he only presents arguments for what I call The Definitional Claim. Having rejected both EE and integrationism, a question arises about what we have left. Section IV will thus reflect on the implications of this methodological discussion for the rest of the project. To this end I will introduce a further critique

[1] Nicolas Stern, *Why Are We Waiting: The Logic, Urgency and Promise of Tackling Climate Change* (London: MIT Press, 2015) pp.226-227

[2] For his initial, and most notable statement of the view see S. Caney, 'Just Emissions', *Philosophy & Public Affairs* 40:4 (2012) pp.255-300. He has elaborated on his view recently. See S. Caney, 'Distributive Justice and Climate Change', in S. Olsaretti (eds.), *The Oxford Handbook of Distributive Justice* (Oxford: Oxford University Press, 2018) pp.664-688. The first part of the chapter will primarily reference the first of these articles, but I will discuss the more recent article later. It is clear that the core of Caney's view has not shifted between articles.

to Caney's integrationism, in the form of The Burden Sharing Claim, which will also set out the conceptual approach that later chapters will follow.

I. Against Emissions Egalitarianism: Caney's Critique

One side of the puzzle I highlighted above is the tendency for theorists to develop accounts of burden sharing in light of obligations solely about the specific features of climate change. EE is a paradigmatic example of this. As we have seen, this principle holds that due to our symmetrical claims on the global sink capacity,[3] we should be granted an equal right to emit, and that right will generate for us (at least part of) an account of climate change burden sharing. One of the main reasons people seem to have been attracted to this principle is its simplicity, but this is hardly a comprehensive defence, and it is often not made very clear where the further argument is supposed to come from. Caney takes up this lacuna in an influential paper,[4] and his conclusion is that EE is in fact unsupported. His argument against the view has two main steps. He first shows that EE cannot be squared with any accounts of distributive justice, given that these views do not apply to single goods. Second, he shows that EE does not make for a plausible exception to this tendency, and so should not be singled out for its own principle. I think we should accept Caney's criticisms here, but reject the positive argument that he takes to necessarily follow.

In order to persuade us that EE does not follow from an existing account of distributive justice, Caney primarily considers a range of egalitarian theories.[5] These theories, one would think, offer the most likely basis from which to argue for the notion that emissions permits ought to be governed by a principle of equality. To recall some language that I introduced earlier, what these theories have in common is a commitment that the *currency* of justice should be distributed equally among the relevant agents. Where they differ is in what they take this currency to consist of.[6] Caney's point is that *none* of these currencies is simply 'the atmospheric commons', or, to

[3] Often the view is in fact frames in terms of access to the atmosphere, but we saw, thanks to Megan Blomfield, that this conception of the resource at stake is a faulty one. See M. Blomfield, 'Global Common Resources and the Just Distribution of Emission Shares', *Journal of Political Philosophy* 21:3 (2013) pp.283-304.
[4] Caney, 'Just Emissions'.
[5] Caney also rejects the idea that EE can be derived from a sufficientarian position, 'Just Emissions', pp.262-265. I lack the space to discuss it here but I take it to be persuasive. It is telling that David Miller, a theorist who endorses something like a sufficiency principle internationally, concurs with his conclusion. D. Miller, *Global Justice and Climate Change: How should Responsibilities be Distributed?* The Tanner Lectures on Human Values, Delivered at Tsinghua university, Beijing March 24–25 (2008).
[6] The question of agency, which I also mentioned in outlining the components of a theory of distributive justice, is not important for Caney's arguments.

incorporate Blomfield's criticism, 'the global sink capacity', and so it is unclear why any egalitarian should want to endorse EE.

Caney places 'orthodox' egalitarian theories which define the good in a rather inclusive way at one end of his spectrum.[7] If you thought 'welfare' was the appropriate egalitarian currency, for example, it would seem strange to endorse EE, for it would suggest that equal emissions permits were a necessary condition of people enjoying equal welfare. This claim is obviously false. As Derek Bell notes in his discussion of the same point, people's conversion of emissions into welfare will depend on both their internal preferences (Paul likes going for long drives, while Suzie likes going for long walks) and their external circumstance (Paul lives in a cold country, while Suzie lives in a mild one).[8] Supplying two people who differ in both of these dimensions equal emissions would likely result in them enjoying very different levels of welfare. If equality of welfare was our aim, much better, *ceteris paribus*, would be to give Paul a greater than equal share of emissions permits. The same point holds for Dworkinian resource egalitarianism and for capabilitarian egalitarian theories.[9] Both of these views also favour a general currency, and equal holdings in this currency will not be best promoted through equal holdings of one specific good, specifically the good of emissions.

At the other end of the spectrum are the more restrictive currencies that pursue equality of natural resources. While these might appear initially more promising as a basis for EE – those arguments framed emissions permits in terms of access to a *natural resource*, after all – they ultimately fail also, and for much the same reason. As Caney notes, even these currencies identify a *bundle* of natural resources and so again give us no reason to seek equality just with regards to *one* of these resources on its own. This is true even on the most restrictive view, which advances equality just over common natural resources. The egalitarian principle should apply to *all* of these common resources rather than to one in isolation.[10]

At its heart, then, Caney's primary attack on EE is a simple one. It is against the grain of distributive justice, he thinks, to single out a good like emissions permits for its own principle. But are there any other arguments that we could draw upon to support EE? What could motivate this

[7] Caney, 'Just Emissions', p.265
[8] D. Bell, 'Carbon Justice? The Case against a Universal Right to Equal Carbon Emissions,' in *Seeking Environmental Justice,* ed. by Sarah Wilks (Amsterdam: Rodolphi, 2008) pp.239-257 (at. pp.248-249)
[9] See R. Dworkin, *Sovereign Virtue: The Theory and Practice of Equality* (Cambridge: Harvard University Press, 2001) esp. Ch.1 & 2; M. Nussbaum, *Creating Capabilities* (Cambridge: Harvard University Press, 2011)
[10] For discussion of the natural resources arguments, see Caney, 'Just Emissions', pp.266-272.

unusual practice? The second part of Caney's argument is that emissions do not represent an exceptional case where we would be justified in assigning it its own principle. Note that Caney admits such exceptions do exist. His claim is that *even if* we sometimes think it would be appropriate to single out a good for its own principle, we should not do so in this case.

Firstly, we have good reason, Caney thinks, to distribute basic civil and political rights according to their own principle of equality. These sorts of exceptions come from *the equal rights argument.*[11] Caney is doubtful, though, that we could make a plausible argument about EE being exceptional on these grounds. The main reason for this is that emissions permits lack the sort of symbolic value that is expressed by equal civil and political rights. An unequal distribution of emissions rights does not, in his view, undermine our equal status as members of a political community in the way that an unequal distribution of, say, unequal voting rights would. Next, we may have *paternalistic* reasons to distribute a good directly by its own principle, if we were worried about people's ability to secure that good by themselves.[12] In casting doubt on the prospects of an argument for exception on these grounds, Caney draws attention to a very important feature of emissions permits, which is their *substitutability* with other goods. What is valuable about emissions permits, of course, is that they provide us with a means to produce energy - we obviously do not value the emissions permits in and of themselves. Emission permits are substitutable for this reason: we can in principle use other goods, like renewable energy, to provide us with what we would otherwise derive from emissions. So with regards to this sort of exception, whatever we thought about the principled merits of actually being paternalistic, it would strange to think that we should be with emissions permits in particular when the good that we actually cared about (that is, energy) could be provided in a number of other ways. Finally, Caney rejects set of arguments for why concerns about *pragmatism* cannot support EE.[13] The core of his argument holds that developing nations place a high priority on their ability to pursue their own sustainable development. To the extent that climate mitigation does not take these needs into account – and EE is guilty of this given its insensitivity to background conditions – it will be resisted by developing countries.[14]

[11] Caney, 'Just Emissions', pp.273-274
[12] Ibid, pp.274-277
[13] Ibid, pp.277-283. Peter Singer, for example, appeals to the alleged pragmatic value of EE, alongside its utility-promoting credentials, in his argument for the principle. See P. Singer, 'One Atmosphere' in *Climate Ethics: Essential Readings*, ed. by S. Gardiner, S. Caney, D. Jamieson, H. Shue (Oxford: Oxford University Press, 2010) pp.181-200 (at pp.194-196)
[14] The earlier quote from Stern certainly adds plausibility to this thought.

Although I think there is more to be said about some of Caney's points, in my view they do enough to convince us to reject EE. As I have indicated, however, Caney also uses his critique of EE as a basis for a more positive argument. His view is that we ought to situate the allocation of emissions permits within an integrationist account of climate justice. An integrationist approach, as he defines it, 'treats climatic responsibilities in light of a general account of global justice'.[15] What he means by this, it turns out, is that we should have a complete theory of global and intergenerational justice, and then we should proceed from this when thinking about issues of distributive justice in particular practical settings, like the one of climate change burden sharing. Caney further proposes a five-step procedure to express this integrationist commitment in the context of emissions rights. While it will be unnecessary to outline this procedure at length, the main steps can be stated easily enough.[16]

The first step is to advance a complete theory of distributive justice, which includes a global and an intergenerational component. Step two is the *sustainability condition*, which acts as a constraint upon theories of global and intergenerational justice. The aim is to make sure that such theories make reasonable demands on the natural world. With a sustainable account of distributive justice in hand, step three works out some provisional implications in terms of greenhouse gases by specifying an energy entitlement. The reason this is provisional is because step four, *the (narrow) substitutability proviso*, determines the extent to which this energy could be provided by other, non-fossil fuel means. Finally, step five allows for some political procedure. This step is intended to provide some determinate content to step four, while allowing space for agents to freely choose how to realise their final entitlements to greenhouse gases.

At this point we should be able to see both the positive and the negative components of Caney's position. On the negative side, he argues against EE by showing that it cannot be motivated in any of the ways we might expect. He then claims, positively, that his arguments against EE compel us to adopt an integrationist approach, and provides a five-step procedure as a methodology for doing so.

[15] Caney, 'Just Emissions', p.259. In a more recent article he includes a slightly more formal definition. I will consider this later.
[16] For his five-step procedure see, Caney, 'Just Emissions', pp.291-ff.

II. Practicality: Rescuing Emissions Egalitarianism?

In section IV I will develop my own set of criticisms and reject Caney's positive argument: his case for integrationism, I will suggest, fails. Prior to doing do, however, I will consider a different sort of criticism of this procedure. Recently Christian Baatz and Konrad Ott have mounted a partial defence of EE on the grounds of feasibility.[17] I will argue that their argument does not achieve what they think it does, and so should be rejected. It is important to be clear about exactly why we should reject integrationism, and we should not do so for the reasons Baatz and Ott provide. That said, I do think they help us perceive the limited reach of Caney's feasibility-based argument for integrationism.

Caney criticises the isolationism of EE, recall, partly on the grounds that it would be impractical to ignore issues like development when considering the distribution of climate burdens, for many disadvantaged states would simply refuse to sign-up to an agreement that did not take these broader goals seriously. Baatz and Ott's core complaint is that Caney's five-step procedure looks more impractical still.[18] They claim further that EE's value in terms of feasibility does not come at too great a cost to justice, and so in conclusion (tentatively)[19] endorse it against Caney's critique.

In arguing for this conclusion Baatz and Ott develop their own standard for assessing a given 'proposal'.[20] They think, specifically, that there are three categories in which it must meet a requisite standard. A proposal should be judged according to its institutional feasibility, political feasibility and justice. Institutional feasibility, according to Baatz and Ott, refers to how well a proposal 'corresponds to existing institutions and how easily it can be implemented given current institutions'.[21] They take political feasibility to refer to 'the political will to implement a proposal'.[22] These categories are incommensurable, in that a failing in one category cannot be compensated for by a high score in one of the others. A proposal which is a near perfect embodiment of justice will therefore presumably be rejected, on the grounds that it would not pass through the feasibility categories; but so too will the very unjust proposal which is sadly very institutionally and politically

[17] C. Baatz and K. Ott, 'In Defence of Emissions Egalitarianism?', in *Climate Justice and Historical Emissions* eds. by L. Meyer & P. Sanklecha (Cambridge: Cambridge University Press, 2017) pp.165-198
[18] Ibid, pp.188-195
[19] Ibid, p.194
[20] What exactly they mean by 'proposal' is unfortunately not made all that precise.
[2121] Baatz and Ott, 'In Defence of Emissions Egalitarianism?', p.188
[22] Ibid.

feasible. Their claim is that that EE could meet the requisite standards in each of the three categories, whereas the five-step procedure could not.

I will not relay all of their arguments relating to the political and institutional feasibility categories, but the key points can be stated generally. The main reason they doubt the institutional feasibility of the five-step procedure is because of its complexity.[23] Not only does the five-step procedure require us to go back and forth between our theory of global and intergenerational justice and the natural world, in order make sure the former makes sustainable demands on the latter, it also allows for political process at different levels of governance. Both of these steps are complicated and require institutions to gather and process massive amounts of data. In comparison EE is a simple proposal and does not seem to make such extensive demands of currently existing institutions. As for political feasibility, Baatz and Ott think that introducing tradable permits would make EE more flexible, which would blunt some of Caney's criticisms against the view. More pointedly, the broader-looking 5 step procedure would seem to entail fewer emissions permits for rich states, given their relative advantage, and this will likely be resisted.

I think there are some important questions to ask of Baatz and Ott's points concerning feasibility, but I will grant them for the sake of argument. I will also accept, again for the sake of argument, their evaluative standard and the stipulation attached that a proposal must pass through all three categories. What I am interested in is whether, on their own account, they give us reason to prefer EE over integrationism, and this turns, in my view, on the comparison drawn in the 'justice' section.

The first important point to note is that their comparison here is made with Caney's minimal account: the five-step procedure is tied, on this view, to a sufficientarian theory of distributive justice. This of course leaves us room to endorse a more ambitious, maximal account which will be more just but presumably even less practicable. Their claim is that even though EE is less just it is not 'much less just'[24] and so might yet be preferred. So this is how they reach their conclusion. Their thought is that even though EE scores worse in the justice department, it is a superior proposal given how it fares in all three categories taken together. I do not think, however, that Baatz and Ott successfully reach this conclusion.

[23] Ibid, pp.190-193
[24] Ibid, p.189

Consider the following three arguments they offer in support of EE in the justice category. First, they note that it might be the case that EE might secure sufficiency for everyone. Whether this will be so depends, though, on the size of the carbon budget and the level at which we set the sufficiency threshold. Second, the substitutability of greenhouse gas emissions, in one sense an argument against EE's focus on emissions, is also a reason why it might not be unjust at all. Although a current EE distribution would not allow currently disadvantaged states to pursue industrial development in the way that rich states have, 'emissions are just one means among others to meet development goals'.[25] If EE was pursued alongside a set of other pro-development policies, it need not necessarily be unjust. Third, the justice credentials of EE could be improved in Baatz and Ott's view if it were combined with a BPP or a PPP to capture responsibility for past emissions.[26]

I think it is important to note first of all that Baatz and Ott's argument is troubled immediately by their own assertion that EE is less just but not 'much less just' than the sufficientarian five-step procedure. Caney is proposing this view as a minimal account of justice, and it seems odd for Baatz and Ott to admit that EE would fare worse than it, albeit in their view only marginally, but still claim it could pass through the justice category. Rather it seems we should reject any view which is any less just than this minimal standard. I think more interesting problem, though, concerns the sort of claims Baatz and Ott have to make in order to make the comparison in the justice category. Specifically, they rely on a number of conditional claims to ensure EE meets the requisite standard: they say, in each case, that EE might be sufficiently just *if* some certain further conditions held.

The most revealing of these claims is the one which draws our attention to the substitutability of greenhouse gas emissions. In effect, their argument is that given there are other ways to promote development, EE could be just *if* it were one of a broader package of development policies. But this holds EE to a different standard than the five-step procedure, and the inconsistency introduced undermines their claim that EE fares better when considered across all three of their suggested categories. If, as they stipulate, a proposal must pass through each category, and if certain conditions have to hold in order for EE to meet the justice standard, then

[25] Ibid, p.189

[26] They also note (p.189) that development, on some metrics, need not be as energy intensive as has conventionally been assumed. The capabilities approach, for example, places its emphasis not on economic growth but on freedom to achieve certain core functionings. I think Baatz and Ott are right that too great a focus has been put on economic over more human aspects of development, but they would need rather more than this observation to convince us that an EE distribution of emissions would be sufficient to fuel adequate development.

we can only endorse it if these conditions do actually hold. That being so, it seems we should also incorporate these conditions into our assessment of its institutional and political feasibility; we need to know, in other words, whether it is feasible that EE will be implemented as part of a package of pro-development policies.[27]

I think it would be difficult to establish an advantage here against the five-step procedure, partly because they will run up against some of their own arguments. As we have already seen, they hold that one reason that the five-step procedure would be politically infeasible is because it would entail costs for developed states who would receive fewer emissions entitlements. But the modified version of EE, with the necessary further conditions satisfied, seems to have the same implication: it requires the rich to foster development through other policy means. At the very least, Baatz and Ott will require further argument for why we should think the EE proposal compatible with justice is any more feasible than the five-step procedure. The general problem, then, is that Baatz and Ott pass EE through the justice category by illicitly incorporating further conditions which are not included in their assessment of it in the other two categories. By doing so they fail to show that it should be preferred over the five-step procedure.

So what should we conclude from this in relation to the current discussion? The above criticism, to be clear, does not show that the five-step procedure is more feasible than EE; rather, it suggests that feasibility does not help us adjudicate between the two proposals as it does not tell decisively in favour of either. In fact, what I think this discussion does is render stark the gap between justice in climate change burden sharing and reality. If we do fix our sights, as I think we should, on proposals that meet at least some threshold of justice, we will unfortunately run up against feasibility limits. In Chapter Five I will return to this gap between justice and practice, as I think there are some particularly pernicious features of noncompliance in the context of climate change burden sharing which we should want to incorporate into our account of burden sharing.

[27] The same point of course holds for their other conditional claims. If EE is only sufficiently just when supplemented by principles of historic responsibility, then we need to know how feasible it is for EE to pursued in combination with them. That said, the conditional claim about the possibility of EE being compatible with a certain sufficiency threshold and a certain carbon budget does not obviously raise the same questions about feasibility.

III. The Definitional Claim and The Methodological Claim

In the previous section I offered at least a partial defence of Caney's integrationism against the charge that it is impractical in comparison with isolationist principles like EE. In this section I will outline my own criticisms of Caney's view, which focuses not on the feasibility of integrationism but rather on his principled argument for it. It will be necessary first to look more closely at how Caney moves from his critique of EE to his positive statement of integrationism. The following quote nicely captures the conclusion he wants to draw.

> "The key is *not* to treat greenhouse gases in isolation, but rather to locate them in a more general theory of justice. Only in that way do we put greenhouse gas emissions in their rightful place. The fair distribution of greenhouse gases is, we might say, epiphenomenal. There is a fair distribution of burdens and benefits more generally; satisfying this will bring in its wake a certain distribution of greenhouse gas emissions."[28]

Caney's observation is that distributive justice does not, without good reason, apply specific principles to specific goods; instead it tends to apply a principle to some package. As we can see from the above quote, the question about the correct theory of distributive justice is Caney's view more fundamental than the 'epiphenominal' one about the distribution of any one good in isolation, and he thinks that theorists have been regrettably inattentive to this point when they have approached questions of climate justice. General theoretical commitments should therefore be at the forefront of our mind: an agent will either be entitled to a good or they will not, and this will be determined by a general theory of distributive justice. Caney's is advancing what we can call the definitional claim.

> *The Definitional Claim:* Whether an agent is entitled to good A will be determined,[29] unless A is exceptional in a way that emissions are not, by a general theory of distributive justice.[30]

This claim clearly captures his criticisms of EE, which is not proposed as a theory of distributive justice, does not follow from one and does not make for a plausible exceptional case. Given it does

[28] Caney, 'Just Emissions', p.299

[29] Caney uses the term 'entitlement' throughout his statement of integrationism in *Just Emissions*. This is typical of his work more broadly. For example, elsewhere he states that '[w]hat is distinctive about distributive justice is that they refer to that which people are *entitled*' (emphasis original). See S. Caney, *Justice Beyond Borders* (Oxford: Oxford University Press, 2005) p.104

[30] I am assuming that the strict equality principle of 'one person, one vote', and the others like it that Caney admits would constitute exceptions to his integrationism, is not a general theory of distributive justice.

none of these things, Caney holds is that we have 'no reason to accept the claim that greenhouse gas emissions should be distributed on an equal per capita basis'.[31] But this definitional claim is very general and leaves a lot open. Most obviously, we need to know how to move from a general theory to an entitlement to a specific good. What does it mean for a general theory to 'bring in its wake' distribution of emissions?

Caney wants to pursue a further, stronger claim than this definitional one. As we have seen, he thinks his argument yields a methodology, the five-step procedure, for working out people's shares of greenhouse gas emissions. It is important to emphasise that he develops his integrationist view solely on the basis of arguments against EE, that is, he does not consider *any* arguments for or against alternative positions. Indeed, he states view as entirely methodological, claiming that it is not attached to any particular substantive account of distributive justice. He is very clear about this, at a number of different points. He stresses that he has not 'provided a *substantive* answer to the question… [of fair shares], but, building on my criticisms of the equal per capita view, I have outlined the *method* by which one can ascertain what would constitute a fair distribution of greenhouse gas emissions'.[32] His arguments only reach the definitional claim, however, and do not support his method of integration.

The main reason for this is that Caney's methodology excludes views about distributive justice which can satisfy The Definitional Claim. This is a problem: without further arguments against these views he has slipped from a definitional claim about distributive justice to a substantive one. To illustrate, consider again step 1 of Caney's five-step procedure. That step, recall, asks us to work out our theory of global and intergenerational distributive justice. From here, his procedure holds that we should move, step by step, towards the political context of climate change burden sharing. The direction of travel, then, is one where we move from a pre-articulated theory *into* a specific real-world context involving the distribution of goods and bads; a theory, on this view, is worked out *prior* to questions about benefits and burdens as they arise in practice.

Such an approach does not seem to be, despite Caney's assertion, neutral between different substantive views about distributive justice. One view that will be hostile to this picture is that

[31] Caney, 'Just Emissions', pp.299-300

[32] Ibid, p.300, emphasis original. He also notes that '[t]he account here does, of course, need to be developed further. Most obviously, the claims in Steps 1 and 2 need to be *given substantive content*. As I have stressed above, however, my aim here is to *set out the methodology'* (p.299, emphasis added). See also note 87, p.292.

known as the *practice-dependent approach*. Andrea Sangiovanni's notable statement of the view is as follows.

> *Practice-dependence Thesis*: The content, scope, and justification of a conception of justice depends on the structure and form of the practices that the conception is intended to govern.[33]

As we can see from this above statement of it, this view holds the very content of principles of distributive justice are tied to political practices, and so *it is not* the case that we can move from an abstract theory into a political setting, for this setting is integral for the articulation of the theory in the first place. These theorists object to what they call 'practice-independent' theories on the grounds that they are too removed from the structure of politics. In contrast these views try to articulate principles in light of the purpose and values of different practices which recognise the distinctiveness and importance of particular social relations.[34] Sangiovani, for example, recommends that practice-dependent theorists begin the theoretical process by interpreting the aims and (idealised) normative commitments that inhere in a particular practice.[35] The key point for the present discussion, though, is that these practice-dependent views still aim to provide general theories of distributive justice, even if they move in a different direction from the one Caney suggests, and so there is no reason why they cannot endorse the definitional claim. They can agree, in other words, that a general theory of distributive justice will yield an entitlement to a specific good, it is just that this theory is generated in part through a detailed consideration of the practice at hand.

The example of practice-dependence is sufficient to undermine Caney's methodological conception of integrationism. His methodology relies on substantive commitments that he has not argued for and claims are irrelevant for the project.[36] Given the practice-dependence view can

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[33] A. Sangiovanni, 'Justice and the Priority of Politics to Morality', *Journal of Political Philosophy* 16:2 (2008) pp137-164 (at. p.138)

[34] For some important practice dependant accounts, see L. Valentini, 'Global Justice and Practice-Dependence: Conventionalism, Institutionalism, Functionalism', *Journal of Political Philosophy* 19:4 (2011) pp.399-418; M. Ronzoni, 'The Global Order: A Case of Background Injustice? A Practice-Dependent Account', *Philosophy and Public Affairs* 37:3 (2009) pp.229-257

[35] Sangiovani, 'Justice and the Priority of Politics to Morality', pp.148-152. Sangiovani has put this approach into action: see A. Sangiovani, Solidarity in the European Union, *Oxford Journal of Legal Studies* 33:2 (2013) pp.213-241

[36] It is worth noting that Caney has recently developed some direct arguments against the practice-dependent view. See, S. Caney, 'Global Distributive Justice: Seven Theses about Facts and Empirical Research', in *The Oxford Handbook of International Political Theory* ed. by C. Brown & R. Eckersly (Oxford: Oxford University Press, 2018) pp.104-118. But what is important at this point is whether his methodology for integrationism is supported by the arguments he presents for it. As we have seen, it is clearly presented as a neutral methodological position; at no

conform with his definitional claim but reject his five-step procedure, in order to convince us of his methodology he would need to show us why these theories are wrong. All of this of course assumes that we should accept his definitional claim, something which I will exert some pressure on in the next section.

IV. Comments on Methodology

In this final section I want to take stock and reflect on the implications of the foregoing discussion on methodology for the rest of the thesis. The first point to stress is that although I have rejected Caney's methodological integrationism, and so after this chapter will mostly avoid the term 'integrationism' given its association with this strong position, there are clearly some forceful concerns underlying Caney's argument. We certainly should not bracket off climate change entirely from other considerations of global justice in the way that some analysis of climate justice have. Indeed, when stated in a general way – that we should treat climate change 'in light of'[37] or 'in conjunction with'[38] considerations of global justice – integrationism is an appealing position. But this is not, as Caney intends, a full-blown methodological statement; instead it seems to refer to a general disposition or characteristic of our theory. Caney's integrationism is rather emptied out on this reading, even if it does help us see where previous accounts have erred.

So our rejection of integrationism need not entail that we endorse what Caney calls 'isolationism', the view where we treat climate justice as some moral domain unto itself. We should instead reject the notion that the opposition between integrationism and isolationism can operate as a fine-grained analytic distinction or justify a similarly detailed methodological position. My own approach will certainly foreground some important concerns of global justice. The next chapter, for example, will consider how climate change mitigation interacts with another imperative of global justice, that of poverty alleviation.

It is also important to emphasise that my rejection of Caney's integrationism should not be read as endorsement of practice-dependent approaches. My complaint was that Caney's methodology excluded these views without argument, not that they are the correct ones. As it

point does he indicate that its success or failure hangs on his arguments against practice-dependence which, incidentally, were developed subsequently. I will explore the implications of my arguments if we are tempted by practice-independent theories in the next section.

[37] Caney, *just Emissions*, p.259

[38] Ibid

happens, my own substantive view, which I will draw from more explicitly in Chapter Four, is similar to Caney's in that it is practice-independent and egalitarian.[39] In that chapter I will also reject Darrel Moellendorf's and David Miller's accounts of burden sharing, and one way these arguments might be read is as criticisms of practice-dependent approaches to climate justice. The point is that only substantive arguments against these positions will do: we cannot rule out certain approaches by fiat.

Perhaps, though, this disclosure about my own position is problematic for my above arguments. Even though I have revealed a flaw in Caney's argument – a slip between a definitional claim and substantive methodological claim – given my sympathy toward his substantive view, *am I* not obliged to follow his methodology? On this argument, while I have shown that others are not compelled towards integrationism, I have not shown that I am free to eschew it. Let me make two replies to this challenge.

First, the problem I have revealed in Caney's argument is an important one. His integrationist approach has been influential, and it is crucial to be clear that it is not a necessary implication of his critique of EE. His argument is incomplete on the terms that it is presented. Second, I think we can deny, even on the sort of practice-independent view Caney favours, that the *sole* aim of principles of climate change burden sharing is to marshal first-order considerations of distributive justice. In other words, we should reject The Definitional Claim. To help illustrate, consider the following, more recent statement of Caney's integrationism.

> *Strong Integrationism:* this holds that we should treat X merely as one element in the total package of burdens and benefits and then this total package should be regulated by a general principle of justice.[40]

It follows from this, for Caney, that:

[39] My use of the term 'practice-independent' is somewhat reluctant, as I think it concedes some discursive ground to practice-dependent theorists. The term practice-independent can be read to suggest a disinterest in political practices, whereas all that 'practice-independent' theorists, in Sangiovani's terms, deny is that these determine the *content* of justice which can therefore vary between different settings. This denial is compatible with thinking that practices matter in a range of morally important ways and, more specifically, that they matter for developing our theories, even if they do not alter what we want to say about justice at the most fundamental level. For a defence of Caney's cosmopolitan egalitarian view see S. Caney, 'Humanity, Associations, and Global Justice: In Defence of a Humanity Centred Cosmopolitan Egalitarianism', *The Monist* 94:4 (2011) pp.506-534

[40] Simon Caney, 'Distributive Justice and Climate Change', p.672

> *C1)* the burdens of climate change should be regulated by a general principle of distributive justice.[41]

But we could also endorse, and I think it would be more plausible to endorse, the following:

> *C2)* The burdens of climate change should be regulated *in part* by a general principle of distributive justice.

The basic idea here is that principles of climate change burden sharing can be sensitive to considerations other than those of distributive justice. On this view, considerations of distributive justice can be practice-independent, but they are not the only ones in town when it comes to articulating principles of climate change burden sharing. They will surely be weighty considerations in this context - indeed it is likely they will be the *most* important in play - but there is at least room for others.

We can state this disagreement between *C1* and *C2* at a deeper level by introducing a contrast to The Definitional Claim.

> *The Definitional Claim:* Whether an agent is entitled to good A will be determined, unless A is exceptional in a way that emissions are not, by a general theory of distributive justice.

The practice-independent theorist, I have suggested, might instead endorse:

> *The Burden Sharing Claim:* Whether or not an agent should receive good A is determined *at least in part* by a theory of distributive justice.

The Definitional Claim and The Burden Sharing Claim differ in the strength they attribute to distributive justice. On The Definitional Claim, distributive justice tells us what we are entitled to: it tells us directly what we can demand from others. On The Burden Sharing Claim, distributive justice is one (weighty) consideration that should have a bearing on what we are ultimately entitled to. On The Burden Sharing Claim, therefore, considerations external to distributive justice can also have a bearing on who ought to hold a particular good.

[41] Caney is using 'principle of justice' in the above quote as shorthand for 'principle of distributive justice'; after all, the chapter from which it is taken is in the Oxford Handbook of *Distributive Justice*.

The view I am making conceptual space for here is widely endorsed by egalitarians, and is generally attributed to G. A Cohen.[42] There are two key, and related, claims for our purposes. First, distributive egalitarians tend to be pluralists about value, that is, they are not committed to the view that distributive justice is the only thing that matters from a moral point of view. Second, they claim that principles can operate at different levels, expressing pure moral commitments to a greater or lesser extent. Thus, while they endorse equality at the level of fundamental principle, they can, and do, endorse principles that aim to promote other values alongside it.[43]

Cohen famously combines these two points in his criticism of Rawls's construction of the original position, a hypothetical procedure where people, stripped of information about their talents and social position, are tasked with selecting principles for a society.[44] On the one hand, Rawls uses the original position as a way of determining what justice is at the fundamental level. But it is at the same time supposed to be a mechanism for social design. For Cohen it would be odd to think that a procedure for telling us how to regulate society would arrive at a fundamental moral principle expressing a single value. More specifically, he thinks that Rawls makes two mistakes, correlating to the two points I made above: the original position in his view generates rules of regulation which are not fundamental principles and which contain values other than distributive justice.[45]

Analogously, we can say that The Burden Sharing Claim allows us to recognise the difference between a first-order commitment of distributive justice and the downstream normative issue we are addressing about who should bear climate change burdens.[46] An example will help make this point more concrete. We might think, for instance, that there are important *relational* dimensions to climate change burden sharing that our principles ought to be sensitive to. Perhaps we think that the actions of some developed states toward climate change politics so far constitutes a form of wrongdoing which our principles of burden sharing should be able to accommodate but

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[42] See G.A. Cohen, *Rescuing Justice & Equality* (London: Harvard University Press, 2008) esp. ch.7; G.A. Cohen, *On the Currency of Egalitarian Justice, and Other Essays in Political Philosophy* (Oxford: Princetown University Press) ch.12

[43] For a concise overview of both of these claims see Cohen, *Rescuing Justice & Equality*, pp.276-279

[44] For Rawls's outline of the original position see, J. Rawls, *A Theory of Justice, Revised Edition* (Cambridge, Mass: Harvard University Press, 1999) pp.15-20

[45] We may also think, for example, that the values of stability and publicity should be given weight in designing a society.

[46] Practice-dependent theorists will not be tempted by this further claim, given they deny the centrality of the distinction I am alluding to here between more fundamental principles and principles that incorporate further considerations that arise in specific contexts. They will be content instead with The Definitional Claim, and they will likely think that the additional considerations that arise in practice should be incorporated into the content of their theory of justice in the first place.

which *is not* reducible solely to the distributive dimensions of the problem. I will make just such an argument in Chapter Five, and so will have the chance later to flesh this out. In lieu of this substance, the key point for now is that if there is conceptual room for our principles to house considerations other than those of distributive justice, the direct route from theory or principle of distributive justice to theory or principle of climate justice is not one even the practice-independent theorist is compelled to take.

V. Conclusion

This chapter has rejected two popular views of climate justice. First, I detailed Caney's negative arguments against EE and argued that we ought to accept them. In doing so I considered and rejected an attempt to rescue EE on grounds of feasibility. Second, I rejected methodological integrationism. Caney's articulation of this view, I argued, slips between a definitional claim and a substantive claim about distributive justice, but his arguments only establish the former. I finally turned to consider the implications of this discussion for the rest of the project, given that I will later draw on a substantive view close in some important ways to Caney's own. My point was that although distributive justice is, on some substantive views, integrationist – that is, it applies a practice-independent principle to some 'package' of goods – even these theories do not clear a straightforward path to the method of integration in the context of climate change burden sharing, given that these principles need not *only* be instantiations of considerations of distributive justice. Practice-independent theorists can reject The Definitional Claim and endorse instead The Burden Sharing Claim. Note that The Burden Sharing Claim is very permissive: there are many ways in which our theory of distributive justice might interact with further considerations. But it is important to clearly open up this conceptual possibility for the practice-independent theorist, especially given I will follow this path in later chapters.

Chapter 3

The Limit of Climate Justice: Unfair Sacrifice & Aggregate Harm

It is generally accepted that the net cost of climate change mitigation, although significant, could be absorbed without too much disruption to the global economy. One oft-cited analysis has it that it would cost roughly 2% of global GDP, which amounts to about a years' worth of economic growth. This would mean, as Dale Jamieson notes, 'that if we were to adopt this policy it would take until 2050 to reach the GDP level that we would otherwise reach until 2049'.[1] There are, though, distributions of this overall burden that would make mitigation incredibly costly for some agents. The reason for this is simple. According to the World Bank, approximately 767 million people currently remain in poverty.[2] In order to alleviate their poverty, these people require access to affordable energy, which would allow them to pursue economic growth. Currently, however, the most affordable source of energy for many of these people is that provided by fossil fuels, and this is of course exactly the sort of energy production that must be reduced, and ultimately ceased, if we are to successfully mitigate climate change. If mitigation measures increased the price and reduced the availability of fossil fuels without ensuring an alternative was available to these people, this policy would have the effect of exacerbating or prolonging their misery.[3] To inflict such severe costs on these people, already in such a desperate state, seems obviously objectionable. As I mentioned in Chapter One, however, certain developments have made the formulation of this principle a rather more vexed issue than it has been in the past.

This task will occupy the present chapter. I will call this principle, which expresses the constraints poverty imposes on climate change policy, *The Limit*. The chapter has two main aims. First, I will attempt to bring some clarity to this issue by drawing attention to its increasing theoretical importance and by situating it in the literature on climate change burden sharing. To this end,

[1] D. Jamieson, *Reason in a Dark Time* (Oxford: Oxford University Press, 2017) p. 106. Jamieson qualifies that this is on a straight line extrapolation but notes the consensus on this general point that the costs of mitigation are relatively manageable. For a notable analysis which is even more optimistic than the figures cited by Jamieson see Nicolas Stern, *Why Are We Waiting: The Logic, Urgency and Promise of Tackling Climate Change* (London: MIT Press, 2015).
[2] The World Bank, *Taking on Inequality: Poverty and Shared Prosperity 2016* (World Bank Group: Washington, 2016) p.3
[3] For a powerful and illuminating outline of this bind, see H. Shue, *Climate Justice: Vulnerability and Protection* (Oxford: Oxford University Press, 2014) ch.17.

section I will suggest that the limit is a particularly acute site of a tension between the harm avoidance and burden sharing imperatives of climate justice which is present in our relationship with climate change more broadly. Section II will introduce two versions of this principle, both of which I suggest have been present in the literature. The second main aim of the chapter is to develop a case for one of these two views, which I will call The Exemption. In sections III & IV I will argue that this principle does a much better job, in present circumstances, than the dominant account in the literature, which views the limit as a right to emit. In the final two substantive sections (V-VI), I will defend The Exemption against a number of independent objections which allege it is too permissive of climate harm.

I. The Limit

I hope it is clear from the above sketch that The Limit is a very important principle. As I outlined in Chapter One, every plausible account of climate justice thinks there should be such a principle. We may initially be struck, in light of this, by the comparative lack of direct attention it has been paid. Accounts respected it, specifically, by addressing the question of who should pick up the burdens of climate change so that the poorest would not have to. The Limit would often arise in these debates as a version of what I earlier called *the insensitivity problem* for the Polluter Pays Principle (PPP), that is, as a way of showing that the PPP would need to be supplemented by considerations of capacity in order to ensure that the very poorest were not burdened for their historical emissions. But in terms of the theoretical attention elicited, this was taken to be a rather obvious point, and debates were then primarily concerned with identifying the principles of distributive justice to range over prevention costs more generally.

In more recent discussions, however, we often see more attention given to the nature of the relationship between climate change and poverty.[4] Why is this? It is probably not because political theorists have suddenly become more concerned about poverty. I think a better explanation is that they are increasingly worried about the potential for the imperatives of poverty alleviation and climate change mitigation *to undermine one another*. I sketched one side of this tension above: mitigation's need to reduce fossil fuel consumption threatens to pull away a vital source of energy from those currently in poverty. This, though, is not a new concern and should have been

[4] Most notably, D. Moellendorf, *The Moral Challenge of Dangerous Climate Change* (Cambridge: Cambridge University Press, 2014). See also S. Gardiner, 'Reason in a Dark and Dangerous Time', *Ethics* 127 (2017), pp.430-465, hereafter *RIADDT*.

a relatively stable consideration in debates about climate change mitigation. Primarily it is the other side that is the moving part.

What is propelling this tension is the failure of developed states to comply with their obligations toward climate change mitigation and meaningfully reduce their fossil fuel consumption. A recent study by *Carbon Brief* conveys well the extent of their indifference. 'As of the beginning of 2016', it notes, 'five years and two months of current CO_2 emissions would use up the 1.5C budget'.[5] Even allowing for a generous margin for error on this study, we can see that there is a strong and urgent imperative to cut greenhouse gas emissions rapidly. This is a serious problem, of course, insofar as we want to allow room for fuel intensive growth for impoverished states. Unless developed states show a marked improvement in their willingness to fulfil their climate change obligations, this poverty alleviation risks undermining mitigation efforts to popular targets.

II. Two Principles

What is missing from recent debates about The Limit, however, is a sense of what should properly be expected of this principle. One way of putting what I have said above is to say that that the *Harm Avoidance* and *Burden Sharing* aspects of climate justice are increasingly in tension with one another.[6] On burden sharing grounds, we will be inclined to think that impoverished states ought to have access to subsistence emissions where necessary, such would be the costs to them if they were not to enjoy such access; on harm avoidance grounds, in light of the scarce carbon budget, we will be concerned about the impact of these emissions on successful mitigation. What we need to know is how the limit ought to respond to this tension. One of the main aims of this chapter is to defend a particular view which I think is best able to do so. First, though, let me introduce the two versions of the limit that I will be working with.

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[5] R. McSweeney & R. Pearce, 'Analysis: only five years left before 1.5C budget is blown', *Carbon Brief* (2016) <https://www.carbonbrief.org/analysis-only-five-years-left-before-one-point-five-c-budget-is-blown> [accessed 14/9/17]. For a very striking representation of the remaining space in the different budgets see: <http://www.trillionthtonne.org/> See also, C. Figueres, H. Joachim Schellnhuber, G. Whiteman, J. Rockström, A. Hobley and S. Rahmstorf, 'Three Years to Safeguard our Climate', *Nature* (2017), <http://www.nature.com/news/three-years-to-safeguard-our-climate-1.22201> [accessed: 15/01/2018]

[6] The distinction between *Harm Avoidance* and *Burden Sharing* is drawn in S. Caney, 'Two Kinds of Climate Justice: Avoiding Harm and Sharing Burdens', *The Journal of Political Philosophy* 22:2 (2014) pp.125-149. Caney seems to want this distinction to have a specific normative role, where each side of climate justice demands its own account of agent's obligations and where our overall account would then instruct us on how to trade them against each other. I do not want to endorse this prescriptive reading of the distinction, but it seems to me to a useful and intuitive heuristic that captures well two central considerations of climate justice.

Consider, first, a very simple and intuitive principle which *prima facie* provides a good expression of the limit and which, roughly, has been endorsed by a number of important accounts.

> The Exemption: *Agent A*[7] *is exempt from bearing any of the costs of preventing intolerable*[8] *climate change because their capacity is below threshold x*

This principle, which I will call *The Exemption*, offers an amnesty from climate change prevention costs. Formulated in this way, The Exemption leaves a number of important questions open. Most obviously, we will need to know about threshold *x*. Versions of The Exemption view fill in *x* by appealing to the general interests of the agents in question. So one view, for example, might be that states which fall below a sufficiency threshold should be exempt from climate change burdens.[9] Another version, recently propounded by Moellendorf, holds that threshold *x* should be tied to poverty.[10] These views will also have to tell us something about how sufficiency or poverty ought to be measured.[11] As I have said, The Exemption has often not been justified at significant length: it has been taken be rather obvious that these interests should be protected against climate change costs. That said, sometimes we find an additional step between the statement of the interests that The Exemption is supposed to protect and the statement of The Exemption itself through something like a right to development, which can find support from a range of positions on global distributive justice.[12]

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[7] For the purposes of this chapter, I will not take a view on the specific agents that should be exempt from climate change costs. In my view, The Exemption should ideally protect individuals, for whom these interests are so important. There are, it has to be acknowledged, some well-trodden difficulties in the context of climate justice in applying principles to individuals. Climate change policy is mostly addressed directly to states who are considered the most effective actors in this domain.

[8] 'Intolerable' here is a placeholder, which substantive accounts will have to elaborate. I will have more to say about how this principle interacts with the temperature target of climate change policy later.

[9] Caney highlights the possibility of a sufficientarian exemption. See S. Caney, 'Distributive Justice and Climate Change', in S. Olsaretti (eds.), *The Oxford Handbook of Distributive Justice* (Oxford: Oxford University Press, 2018) pp.664-688, esp.p.671

[10] Moellendorf, *The Moral Challenge of Dangerous Climate Change,* p.22. D. Miller, 'Global Justice and Climate Change: How should Responsibilities be Distributed?', *The Tanner Lectures on Human Values* 28 (2009) pp.117-156 also frames his exemption in terms of poverty. He writes, 'The first step is to draw a line between societies in which poverty is endemic and those in which it is not (p.145)' This may, however, turn out to be just a turn of phrase, as at other points he indicates that his concern is with sufficiency (e.g., p.141). This broader concern would be consistent with his general view, which takes global justice to satisfied so long as people everywhere have their basic rights met. See David Miller, *National Responsibility and Global Justice* (Oxford: Oxford University Press, 2007) ch.7. Moellendorf's focus on poverty also seems to some degree pragmatic (pp.24-26)

[11] For some insightful thoughts about the difficulties of locating such a threshold see, Jamieson, *Reason in a Dark Time*, pp.156-159

[12] For an example of a minimalist about global justice endorsing this principle see, Miller, *Global Justice and Climate*, pp.145-147 For a global egalitarian see, Moellendorf, *The Moral Challenge of Dangerous Climate Change*, ch.1.

In order to draw out a second way in which we might develop the limit, recall the problem that I identified in the introduction. People's ability to access certain goods can be very important, and climate change prevention might endanger people's ability pursue courses of action which would allow them to enjoy one particularly important good. This is exactly what we found so concerning about the possibility of mitigation costs falling on the wrong agents: people require access to affordable energy, and mitigation threatens to deprive the very poorest of this good by limiting their access to fossil fuels. These considerations suggest a second general approach. The limit, on this second view, should protect an agent's ability to enjoy this good directly.

Call this view *The Permission*:

The Permission: *Agent A has permission to emit greenhouse gases in circumstances fulfilling criteria x, y and z*

As we can see, everything on this view hangs on how we specify and elaborate the appropriate criteria. Just as with The Exemption, it seems that this view will have to refer to the general interests of the agent in question. In this chapter's introduction, I suggested that what would be so objectionable about certain agents having their access to fossil-fuels undermined in the name of climate change prevention was that this would lead to them incurring a very severe cost. The reason that the costs would be so severe for these agents was because they would have such a detrimental impact on their ability to lead a minimally good life.

By far the most notable example of The Permission is captured by a distinction drawn by Henry Shue between subsistence and luxury emissions, which I introduced in Chapter One. This principle has been influential in the climate justice literature and beyond.[13] In marking out this distinction, Shue observes a powerful fact: carbon emissions provide us with a means to access a great many goods, and these goods can stand at varying proximity to our basic rights. Some emissions will stand in a very close relation with our basic rights. For example, they might provide

[13] For original distinction see, H. Shue, 'Subsistence Emissions and Luxury Emissions', in S. Gardiner, S. Caney, D. Jamieson, H. Shue (eds.), *Climate Ethics: Essential Readings* (Oxford: Oxford University Press, 2010) pp.200-215. Shue has recently noted that this is his 'most influential and widely cited article' (*Climate Justice*, p.6). Indeed, it is the subject of a forthcoming special edition in the *British Journal of Politics and International Relations* celebrating 'Breakthrough Articles'. See also A. Mclaughlin, 'Justifying Subsistence Emissions, Past and Present' in this issue. For examples of others who have utilized or discussed it see, S. Vanderheiden, *Atmospheric Justice: A Political Theory of Climate Change* (Oxford: Oxford University Press, 2008); Jamieson, *Reason in a Dark Time*; H. Lawford-Smith, 'Difference-Making and Individuals' Climate-Related Obligations', in C. Hayward & D. Roser (Eds.), *Climate Justice in a Non-Ideal World* (Oxford: Oxford University Press, 2016) pp. 64-82.

the electricity to power a water treatment works that helps secure basic sanitation for a community. Other emissions are an instrument for accessing much more luxurious goods. A large quantity of emissions is necessary, for instance, in the production of a certain pedigree of beef, perhaps for sale and consumption in an expensive restaurant in the UK. The simple idea at the centre of Shue's distinction is that when making the necessary cuts for climate change mitigation, the emissions producing the category of subsistence goods ought to be given priority over those which go toward the production of luxury goods of the sort captured by my second example. From this point on, when I say 'The Permission' I am referring to this particular view.

III. Burden Sharing: Form

What we need to know, then, is which of the two versions of the limit we ought to endorse, and a key issue here is how well they speak to the tension between burden sharing and harm avoidance that I outlined above. In this and the following section, I consider the burden sharing dimension of the problem and develop an argument for rejecting The Permission. We should favour, instead, The Exemption, which has a decisive advantage over The Permission in the way that it is structured in this context and which can also capture the intuition about fairness that underpins Shue's view. Subsequent sections will defend The Exemption against the charge that it is inadequately sensitive to the harm avoidance imperative of climate justice.

To start with, notice an important similarity between the two views of the limit. Both The Permission and the exemption, I observed, reference a set of *general human interests*. Whereas The Exemption addresses itself to them directly, The Permission addresses itself to a good which promotes these interests in certain cases. This reveals a serious problem with The Permission in the burden sharing context. For one thing, it seems The Exemption will condemn whatever cases The Permission does. If, as seems very plausible, it is *costly* to not have access to emissions as a result of climate change mitigation when one's subsistence is at stake, then The Exemption will condemn cases where subsistence emissions are out of the reach of those who require them. The Permission will say of these cases that agents ought to be able to emit if the criteria they set for a right to do so are fulfilled; The Exemption will permit subsistence emissions on the grounds that it would be impermissible for these agents to bear the cost that not having access to them would represent. In light of the fact that The Exemption will have this implication for subsistence emissions, we might worry about the distinctiveness of The Permission. I will return to this point below.

More worryingly for The Permission, this point about its form – its focus on the single good of emissions – represents a clear deficiency in the burden sharing context. We have seen in the previous chapter how this can be problematic. Specifically, The Permission has the characteristics of what Simon Caney calls an 'isolationist' principle of distributive justice: it is a principle which applies to a single good.[14] Of course, I rejected Caney's distinction between isolationism and integrationism on the grounds that it relies on an undefended substantive claim. But I did also endorse his argument against Emissions Egalitarianism (EE), which took issue with its narrow focus, and I think basically the same concern applies here.

Part of Caney's concern with these "isolationist" principles is that absent sufficient justification for their narrow focus, they can lead us astray by fetishizing one good at the expense of other important considerations. For the most part, distributive justice displays a much broader concern than these principles are able to capture. The Permission, for example, is clearly motivated by a concern about a *general* set of human interests, and this makes its isolated focus on the good of greenhouse gas emissions problematic. A concern about subsistence properly amounts a concern that people have a *package* of goods that allow them to lead minimally decent lives; thus a concern about a good like greenhouse gas emissions on grounds that relate to its impact on subsistence is not really a concern about that good *per se*, but rather about its propensity to promote the ability of people to lead minimally decent lives.

We can see the implications of this problem for the current discussion. Think of a case, for instance, in which an impoverished state, perhaps just because of geographical proximity, is compelled to bear the costs of building a settlement for migrants who have left their homes due to effects associated with climate change. This is a clear example of a case that should be the concern of the limit. While it would be very unfair for these states to have to bear these costs, The Permission remains silent here: it is not a situation in which granting emissions permits is appropriate. In sum, the isolationism of The Permission leads it to miss a range of costs that are important in the burden-sharing context. In order to make for a plausible formulation of the limit, it seems that it would at the very least have to be supplemented from elsewhere.

[14] S. Caney, 'Just Emissions', *Philosophy & Public Affairs* 40:4 (2012) pp.255-300 esp. pp.262-265 and his *First General Challenge*, p.271.

A version of this argument has been put to Shue before.[15] Indeed, in more recent writings he distances himself from the isolationism of his original permission, noting that 'strictly speaking' it is not, as his initial view implied, the means to securing these general interests that matter but rather the end of these interests themselves.[16] Of course, the more general form of The Exemption fares better in this regard, as it is committed to protecting these interests from prevention costs broadly construed. However, we are also pointed toward an important modification of that view. In the climate change context, we know that the costs of preventing climate change – those which my initial formulation of The Exemption addresses – are not the only set of costs we are concerned about. There are also the costs that stem from the impacts we are trying to prevent. Given our fundamental concern is with these general interests, we should also protect those below the minimal threshold from impact costs, and so we can see there is a natural harm avoidance constraint which flows from The Exemption. We can reformulate it as follows.

> The Exemption: *Agent A is exempt from bearing any of the costs of climate change impacts or climate change policy because their capacity is below threshold x*[17]

IV. Burden Sharing: Justification

The problem I just identified is a general one with the *form* of The Permission when it comes to climate change burden sharing. There are, though, a set of further problems that relate to its *justification* in this context. To get at these problems, part of this section will be dedicated to unpacking the permission view. Getting clear about its scope will allow me to pursue two further claims. The first of these identifies a further reason we have to reject The Permission on burden sharing grounds. The second wards off a recent suggestion that the view can help us think about the harm avoidance aspect of the problem. These arguments, in laying bare the implications of The Permission, will also establish that much of what is useful about the view can be accommodated by The Exemption.

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[15] It is made with particular force in, T. Hayward, 'Human Rights Versus Emissions Rights: Climate Justice and the Equitable Distribution of Ecological Space', *Ethics and International Affairs* 21:4 (2007) pp.431-450 (at p.441). Hayward discussed the issue in terms of human rights, but I do not think we need to.

[16] Shue concedes Hayward's 'convincingly made' point against him in Shue, *Climate Justice: Vulnerability and Protection,* p.329 fn.34

[17] Thus Moellendorf builds into his antipoverty principle a protection against both policy and impact costs. On this point see also, Caney, 'Distributive Justice and Climate Change', pp.668-672

It will be helpful first to state the influential passage from Shue in full. My arguments are inspired by a recent attempt by Stephen Gardiner to assert the superiority of The Permission over a specific version of The Exemption, and he quotes from Shue as follows.

> "I believe [HS1] that the emissions from these poor, economically less developed countries also ought to rise insofar as this rise is necessary to provide a minimally decent standard of living for their now impoverished people. This is, of course, already a (very weak) judgment about what is fair: namely, [HS2] that those living in desperate poverty ought not to be required to restrain their emissions, thereby remaining in poverty, in order that those living in luxury should not have to restrain their emissions."[18]

As a platform for my arguments it is important to notice an ambiguity in the above quote. The Permission does not provide an exhaustive account of when subsistence emissions are permissible. Rather, it identifies a condition, namely, a potential unfairness in relative sacrifice, which can be sufficient to justify subsistence emissions. This can be expressed as a conditional claim: The Permission says that people living at or below subsistence should not have to give up an instrument to the alleviation of their plight *if* there are others who could forgo that good and make up the required sacrifice at a much lesser cost to their wellbeing.[19] But it is clear that it is not necessary for this unfairness to exist for subsistence emissions to be permissible. Imagine, to illustrate, a bleak world where everyone is below the subsistence threshold but where there is enough room in the carbon budget to absorb a temporary increase in emissions. Presumably this is a case where subsistence emissions are permissible, even though by stipulation the relevant unfairness is absent. Shue is therefore wrong to say that the right to subsistence emissions is 'a simple judgment about fairness', which he then makes explicit by noting the potential disparity in what different agents would be sacrificing.[20] Instead, the unfairness *is one way to vindicate* the judgment that people should have access to subsistence emissions.[21]

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[18] Gardiner, *RIADDT*, p.445 The overall comparative criticism that I want to respond to here is collected under the label *Poverty Constraints*, pp. 445-448.

[19] For further discussion on this point see, A. McLaughlin, 'Justifying Subsistence Emissions, Past and Present', *British Journal of Politics & International Relations* (forthcoming)

[20] Note that Shue, by objecting to the *disparity* between the sorts of sacrifice different agents are being asked to bear, is assuming fairness is a comparative concept. I need not take a view on the validity of this assumption: my point is just that this comparative justification, whatever we label it, cannot be the only one for permissible subsistence emissions.

[21] Gardiner seems to miss this point, describing HS2 as 'a gloss on HS1, and so to tell us how to interpret it'. Gardiner, *RIADDT*, p.445

Gardiner's criticism of The Exemption that I have in mind is targeted at Darrell Moellendorf's 'antipoverty principle'. As the name suggests, this principle appeals to the metric of poverty to set the minimal threshold protected from climate costs. Gradiner's view is that we ought to reject this principle and instead stick with The Permission, the settled expression of the "'pro-poor" stance' that is 'ubiquitous' in the literature. In particular, he worries about the 'strongly overriding' nature of the antipoverty principle when it comes to permitting poverty-alleviating emissions, in comparison to the 'much weaker' permission. The thought here is presumably that given the fact that The Permission only judges subsistence emissions permissible in certain cases where others can make cuts to luxury emissions, it will condone less harm than the antipoverty principle, which permits them in a greater range of cases. But having stated The Permission in its appropriate conditional form, we can identify two main (and related) reasons why it cannot serve as a basis for the sort of criticism Gardiner wants to bring to bear on the antipoverty principle.

The first is that given the condition of the carbon budget, it is not clear that The Permission can justify, or will be able to justify for much longer, subsistence emissions on the part of those agents below the threshold. It is not, therefore, a settled and plausible alternative in light of current circumstance. At first glance, this might appear a puzzling claim. Clearly there remains a significant discrepancy in what people use emissions for. Many people continue to produce emissions in order to enjoy luxury goods and, as I highlighted in my introduction, many still rely on them for their subsistence. The key point to notice, though, is that Shue is not justifying subsistence emissions on the basis that luxury emissions exist; rather, his claim is that it is unfair for some to have to make very important sacrifices *so that* others do not have to make comparatively unimportant sacrifices. I italicise 'so that' because this is the all-important conjunction: Shue's distinction only applies in circumstance where counterfactual cuts to subsistence emissions would preserve luxuries for others. In an increasingly constrained carbon budget, however, it is not clear that we can always appeal to this distinction, for the simple reason that there will come a time, if it has not come already, when the emissions of the developed states will not be able to be supported by the carbon budget *regardless* of what the underdeveloped do or do not do. Or, to put it in Shue's terms, it would no longer be true to say that cuts to subsistence emissions would be 'in order that' others could avoid making cuts to luxury emissions, as these agents would have to sacrifice their less important emissions anyway. I should be clear: this is not a criticism of Shue, who was of course

confronted with a very different situation to that which pertains presently.[22] It does, though, amount to a criticism of Gardiner's use The Permission in this very contemporary debate.

This is not to say that there is no potential unfairness present in relation to different agent's capacities to sacrifice toward climate change mitigation. Indeed, there is a modification of the view that suggests itself in light of this point. Rather than directly focus on the good of 'emissions', we could recast the distinction in a more general form. What is properly motivating Shue on this interpretation is a concern about unfair sacrifice *simpliciter*: it would be unfair for some to have to make very important sacrifices in the face of climate change, in order that others could avoid making much less important sacrifices.[23] Now, I think this is an important unfairness that persists in climate change mitigation. Although it may not be the case that the developed states can protect those below the minimal threshold from climate change costs entirely by leaving room in the carbon budget for their emissions, by ensuring an adequate supply of renewable energy technology they can do something functionally equivalent. Even if this more general unfairness is implicit and not foregrounded in Shue's initial distinction, I think it retains the 'sense of elementary fairness' he takes his original account to embody.[24]

My second point, however, is that neither the original version nor this more general articulation can make for a plausible view of the limit if we expect it to specify the amount of harm permitted by the principle. The conditional that Shue's view turns on provides a simple and powerful rationale for why rich states and their inhabitants should bear the costs of climate change mitigation instead of the poor. They should do so because they could make the required sacrifice at a much less important cost to their wellbeing. So if we agree, as we should, with the content of Shue's conditional, a right to subsistence emissions will be generated in certain cases: sticking with the original version, those cases in which the rich have acted in a way that satisfies the conditional, preserving room in the carbon budget for subsistence emissions.[25] But it does not tell us anything about whether they are permitted in cases where the rich do not make the required sacrifice, which is of course the sort that we are particularly interested in given the situation as it is. If we do not have an account of subsistence emissions in conditions of noncompliance, we do not know how

[22] Indeed, it is worth noting that at the time Shue was initially writing, the carbon budget framing had not been developed as way to conceptualise the issue. His concern was primarily to reduce 'flows' of emissions, not the 'stocks' which we now know are the fundamentally important measure.
[23] Or, in keeping with the spirit of the original: it would be unfair for some to have to make subsistence sacrifices, in order that others could avoid making luxury sacrifices.
[24] H Shue, 'Subsistence Emissions and Luxury Emissions', p.202
[25] On the modified version, a larger part of the sacrifice from the rich will have to be through renewable transfers, and so less subsistence emissions will be justified by the distinction.

much climate harm permissibly flows from the principle. This is a surprising conclusion, as it suggests that Shue's distinction has not justified, as many seem to have assumed, the subsistence emissions that have been carried out under the noncompliance that has characterised climate politics.

Gardiner's comment about the strength of The Permission relative to the antipoverty principle is therefore rather moot. He cannot get any conclusions about permissible aggregate harm from this principle, and so cannot use it draw this comparison between the two views. Shue's distinction was intended only to inform burden sharing efforts and does not help us think about the permissibility of subsistence emissions when these measures are not forthcoming. Notice, further, that it is not open for Gardiner to respond here that we should interpret the distinction, despite the wording in the quote above, as sanctioning a right to subsistence emissions in any circumstance where agents *could* absorb climate costs through sacrifices to luxuries, regardless of whether or not they do actually sacrifice them. Or at least he could not do so while pressing concerns about the permissiveness of the antipoverty principle, for this view would be completely blind to climate change harm and could be associated with potentially unlimited emissions in the event that the conditions for the potential unfair sacrifice remain.[26] I think this point has more general import. It seems to me that Shue's distinction is often deployed in this incorrect way, that is, as simply generating a right to subsistence emissions in contexts like the present, where vast disparities in ability to sacrifice persist.

It is clear, then, that despite its popularity in the literature, Shue's permission cannot make for a satisfactory account of the limit. First, the *form* of the principle – as a right to a single good – makes it problematic in terms of climate change burden sharing. Second, there are a number of issues with its *justification* in light of our current situation *vis a vis* climate change mitigation. It makes a conditional claim which is increasingly untenable given the scarcity of the carbon budget, and it is a burden sharing principle which does not speak to the harm avoidance concerns that have been elevated by noncompliance. The above discussion has also revealed something important about

[26] It is worth mentioning that in his criticisms of Moellendorf, Gardiner does gesture toward an alternative interpretation of The Permission. The permission, he suggests, should be viewed as a right to self-defence, where those making claims to subsistence emissions should do so on the basis that they are defending their basic interests against an external threat (*RIADDT*, p.446). It is hard to know what to make of this suggestion, as Gardiner leaves it largely unelaborated. It is certainly not a natural interpretation of Shue, and so would have to be justified on its own terms. I am very sceptical about the prospects of developing an account of subsistence emissions in self-defence, but I lack the space to articulate and critique such a view here. As it stands, we certainly have not heard enough about this proposal to consider it as an alternative version of the limit. For a slightly lengthier, although still insufficiently detailed, discussion of this potential view see, S. Gardiner & D. Weisbach, *Debating climate ethics* (Oxford: Oxford University Press, 2016) pp.122-126.

the relationship between Shue's view and The Exemption. In considering how we might think about Shue's distinction in a scarce carbon budget, I suggest that we could recast it to apply to climate change prevention costs more generally. Not only would this have the virtue of speaking to the context of climate change mitigation as we find it, it would also offer a way to answer the objection from integrationism that I initially levelled against The Permission.

Of course, the obvious thing to say here is that the principle is no longer a permission to emit greenhouse gases. In fact, in making the modification required to rescue the intuition underpinning Shue's distinction, it seems we have just arrived at another way of motivating an exemption from climate change costs. Specifically, now we can say that we should exempt those below the minimal threshold from climate change prevention costs, at least insofar as this does not undermine these equivalent interests in the future, 1) because these interests are of such import that they should not be set back by climate change prevention, and 2) because there are others who could easily bear these costs. This is of course a boon for The Exemption when it comes to thinking about climate change burden sharing. Not only is it of the right form, but it can also capture the important and powerful intuition about fairness. I have not, though, provided an independent defence of The Exemption on harm avoidance grounds, and it is this task that will occupy the rest of the chapter.

V. The Exemption in Context

In these final two sections, I want to consider the harm avoidance implications of The Exemption in more detail. So far, I have developed a case for this principle primarily by revealing its superiority over an alternative that has been popular in the literature. Indeed, in section IV, I argued that The Exemption can absorb a modified version of the justification for this alternative anyway. But notwithstanding its comparative superiority, perhaps The Exemption is still inadequately sensitive to the harm avoidance aspect of climate change and too permissive of emissions. Gardiner certainly thinks this and considering some of his (non-comparative) objections to the antipoverty principle will serve well to illustrate how some complaints against The Exemption might go. My main strategy initially will be to try and contextualize The Exemption within a broader account of climate justice. This approach may prompt a further worry, not levelled directly by Gardiner, which I will articulate and reject in the final section.

The first objection I will consider alleges that a 'basic tension' cuts through Moellendorf's account as a result of his endorsement of the antipoverty principle.[27] Again, this objection, if forceful, will tell against The Exemption, which is similar to the antipoverty principle in the relevant respect. One important implication of both these principles is that they constrain the range of temperature targets that climate change policy can permissibly aim for. This is because whether a target is permissible or not depends on whether it imposes costs upon those below the minimal threshold.

Gardiner thinks that this feature leads to tension in Moellendorf's account in the following way. At points, he notes, Moellendorf appears to favour targets that are lower than mainstream ones (e.g., 1.5 and 2 °C), in light of the risks climate impacts pose to the global poor. On the other hand, Moellendorf also emphasises that we must remain open to targets being higher than these, in the event that mitigating to them would impose costs upon those in poverty. Moreover, given that poverty-alleviation will require significant energy, and given the reasons we have to be sceptical about whether developed countries will do enough to ensure that this energy demand is mostly met by renewables, 'absent significant change', the antipoverty principle 'appears to support targets that are dramatically weaker than those currently mainstream in climate change policy'.[28] In the end, concludes Gardiner, 'Moellendorf is not entirely clear how he resolves this tension'.[29]

It is not obvious to me what exactly Gardiner is objecting to here, let alone how it can be described as a 'basic tension' in Moellendorf's account. The objection, remember, is not with the implications of the antipoverty principle *per se*: the problem is not that by being potentially associated with these higher targets it is too permissive of harm. The complaint is rather that this is somehow inconsistent with other things Moellendorf says, namely, that a lower target should be preferred. At first glance it appears Gardiner is just restating the tension I outlined earlier in a slightly different way. We have two impulses in this case, tracking the burden sharing and harm avoidance aspects of climate justice, which because of noncompliance are pulling in opposite directions. It is not theoretically inconsistent or incoherent to harbour these two impulses, nor is it the job of our theory to 'resolve' this tension. Our theory is rather a response to this tension; it tells us what to do, which courses of action are permissible or impermissible, in light of massive noncompliance with required emissions reductions and justified claims for subsistence energy.

[27] Gardiner, *RIADDT,* pp.447-449
[28] Ibid., p.448
[29] Ibid.

There is an important caveat to add here. I am not claiming that our theory is completely blunt against the tension between harm avoidance and burden sharing in poverty cases. In fact there are number of ways we might adjust it to make it speak more directly to the noncompliance that is causing the problem. For example, we might articulate a 'non-ideal' account of climate justice that paid more attention to the feasibility constraints operating in climate politics.[30] The point is just that political theory cannot completely resolve a tension that is driven by the noncompliance of real-world actors.[31]

Perhaps, though, the tension that Gardiner is objecting to is more empirical than it is theoretical. His concern might be that Moellendorf is in principle open to two different policies (one that aims for a higher target, another for a lower one) which will likely both impose costs upon those in poverty, given certain features of climate politics. A higher target would result in poverty-exacerbating costs through climate impacts; a lower target, given the noncompliance of developed states with renewable energy provision, will impose poverty-exacerbating costs through mitigation, as a cheap form of energy is limited without an alternative being made available. Gardiner's claim might be that Moellendorf must pick his poison here and cannot remain noncommittal between these options. But in fact Moellendorf does take a fairly clear stance on this. In the event that we are faced with a choice where *any* option we pick sets back poverty alleviation, we must, he tells us, pick that which does so the least.[32] Now, this might not be a satisfactory response, but Gardiner will need an argument for why this is so. If it is the empirical tension that is eliciting his concern, it is not true to say that Moellendorf fails to address it. I will not here take a view on this very tragic case, except to note that we will need to supplement our principle in light of it.

In a separate objection, which he labels *Narrowness*,[33] Gardiner does want to make a more direct harm avoidance complaint. Put simply, his concern is that endorsing something as strong as the antipoverty principle does not give due weight to other things we value in the context of climate change. We presumably care, he observes, about impacts to people's wellbeing above our minimal

[30] See, for example, S. Caney, 'Climate Change and Non-Ideal Theory: Six Ways of Responding to Non-Compliance', in C. Heyward and D. Roser (eds.), *Climate Justice in a Non-Ideal World* (Oxford: Oxford University Press, 2016) pp.21-43

[31] It is worth mentioning that some of Gardiner's criticisms are inspired by a concern that Moellendorf's answer to noncompliance is to take more seriously the prospect of geoengineering. For Gardiner's perception of this feature of Moellendorf's account, see *RIADDT*, pp.455-ff. For Moellendorf's own discussion, *the Moral Challenge of Dangerous Climate Change*, pp.192-202

[32] Moellendorf, *The Moral Challenge of Dangerous Climate Change*, p.23

[33] Gardiner, *RIADDT,* pp.441-444

threshold; but we may also care about a range of other things, such as potential losses of cultural artefacts, or about the way climate change will impact on nonhuman life. The antipoverty principle is indifferent to these considerations. Gardiner worries that as a result of its narrow focus, the antipoverty principle is not an adequate guarantor of sustainable growth, for so long as impact costs do not set back poverty-alleviation[34] they will be permitted, no matter how offensive they are to these other values. Even if we endorsed a broader metric for our exemption than poverty, he still takes it that this point would hold. 'Are we really prepared to say', he asks rhetorically, 'that a world in which human rights are protected is one where international climate policy has succeeded?'.[35]

I would agree with Gardiner that the sorts of considerations he mentions give us *additional* reasons to insist upon sustainable growth, over and above that generated by the danger of the environmental impacts of climate change setting back poverty alleviation. It does not seem to be the case, though, that endorsing The Exemption precludes us from taking such a view. The simple point to register here is that while it is true that The Exemption itself does not itself express a concern for sustainability apart from that motivated by the minimal threshold, we need not think – and its advocates have not thought – of this principle as fixing the *ambition* of our account. As I mentioned at the beginning of this chapter, the principled limit on climate change policy that I have been trying to elucidate has not tended to be viewed as exhaustive of climate justice but instead as a minimal constraint that we must advance, or, as Miller puts it, a 'first step'[36] we must take, prior to refining our more ambitious convictions about what climate justice should look like all-things-considered. So The Exemption need not set what we would consider the 'just' temperature target,[37] as this can be fixed by further principles in our account. Under certain conditions, like those of noncompliance, it tells us what it *might unfortunately have to be* as a result of the strong limit on the range of permissible burden sharing patterns. Although I suspect even this criticism is too quick, if Moellendorf's account it too narrow it is because he does not explicitly frame it in this manner, not because it is an inevitable implication of endorsing a principle like The Exemption.[38]

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[34] I will, though, return to this empirical assumption below.
[35] Gardiner, *RIADDT*, p.442
[36] Miller, 'Global Justice and Climate Change', p.145
[37] Caney, for example, adopts the terminology of 'the just target'. See Simon Caney, 'Distributive Justice and Climate Change'.
[38] It seems likely to me that the narrowness of Moellendorf's account is explained by its pragmatic framing (pp.3-6). Moellendorf is very concerned, as we know, with the possibility that those in poverty will bear the cost of climate change mitigation. But aside from this he does not express any further concerns about an aggressive mitigation policy; in fact, at numerous points (e.g. p.19; ch.2) he registers the dangers of climate change impacts that *are not* linked to poverty, which would be protected by setting a lower target. Thus if we were to put to Moellendorf an

If further principles establish general harm avoidance constraints by making agents duty-bound to mitigate to a preferred target, they will, in turn, reduce the amount of climate harm; or they will do so at least insofar as the relevant duties to make renewable energy available in place of subsistence emissions are complied with. Situated in this way, worries about The Exemption *necessarily* forcing other considerations of value out of our theory should be assuaged. What the principle asserts is a priority for those below the threshold.[39] If the interests below the minimal threshold cannot be protected at the same time as the other things we affirm in the context of climate justice, then our priority must be first and foremost with The Exemption, which expresses the absolute minimum requirement of an account of climate change burden sharing.

VI. The Exemption and Aggregate Harm

Of course, as has been a recurring theme in this chapter, the record of developed states in fulfilling their climate obligations has been abysmal, to the extent that even this minimal component is in danger of being violated. This naturally leads us to a final harm avoidance worry, which I will discuss in this final section. Both of my responses to Gardiner so far have tried to fortify our general theory against the potentially excessive harm permitted by The Exemption. But bringing to light other principles in our account that will reduce climate harm if complied with may not be completely reassuring if we have reason to be concerned about noncompliance in the future. As such, we ought to consider how this principle fares in terms of harm avoidance when considered in isolation.

In my view, we can indeed imagine cases where The Exemption permits too much harm, and so I will not pursue the strong claim that it expresses our most fundamental convictions about how much harm is permitted as a cumulative effect of agents pursuing their vital interests. I will, though, suggest that we still ought to endorse this principle as one which captures our considered convictions about climate justice, once we note some specific features about what would have to pertain in order for these problematic cases to come about. Considering the following two policies will be helpful in illustrating what I mean.

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incredible policy which mitigated climate change to, say, to 1°C, without impose costs upon those in poverty, it would seem to me very easy for him to endorse it.

[39] For an insightful discussion, in a more specific climate justice debate, which relates to my response here and in the previous paragraph see, F. Schuppert, 'Carbon Sink Conservation and Global Justice: Benefitting, Free Riding and Non-compliance, *Res Publica* 22 (2016) pp.99-116 (at pp.112-ff.)

Policy 1) Mitigates climate change to a low temperature target but imposes a small cost upon some agents below our minimal threshold. (*High mitigation, small cost*)

Policy 2) Does not substantially mitigate climate change, and so permits significant impacts, but does not impose any costs upon those below our minimal threshold. (*Low mitigation, no cost*)

Faced with a hypothetical choice where we must pick between just these two policies, many will be inclined toward Policy 1). Put in a slightly different way, they will admit that even though it would be very regrettable to allow those in poverty to bear any of the costs of climate change prevention, there is some level of aggregate harm that would justify our doing so in a case where these were our only two options.[40] Of course, the reason this poses a problem is that opting for policy 1) would violate The Exemption. We might worry that this should prompt us to move to a slightly different principle. What should we make of this case, where The Exemption seems to arrive at the wrong conclusion?

Moellendorf considers an analogous objection to his antipoverty principle, and the point I want to emphasise is a development of the most forceful of his three responses.[41] Given 'there are no practicable policy leavers that would present us with the option envisaged in the hypothetical scenario', he argues, we ought not to worry about it and should instead focus on designing principles for 'this world'.[42] I take it that the general thought underlying this response is something like the following. Even though there are some extreme cases where The Exemption does not cohere with our considered judgments, in reality we will never face these hard cases, and so we will effectively always be able to endorse it. As I have said, I think this response is along the right lines. It requires, though, some elaboration. Once we think more closely about the reasons these cases are so remote, we can see why it would be inappropriate to modify The Exemption to guard against these concerning harm avoidance implications. I will actually offer two responses, which will target two rough views about the sort of cases that a principle ought to be able to respond.

[40] The exact level of aggregate harm that would prompt this concession is not important, so long as there is such a level.
[41] Moellendorf, *The Moral Challenge of Dangerous Climate* Change, pp.26-27. His first response is simply to restate the reasonableness of the conviction not to set back poverty alleviation that we started with. His second is a concern that weakening this hard commitment will require to mark out a line or threshold that looks arbitrary and which does will not carry the requisite moral urgency. I do not find either of these two responses entirely convincing, but I lack the space to engage with them here.
[42] Ibid., p.27

These responses are separate: if the first leaves you unsatisfied, I hope you will be pacified by the second.

First of all, it is important to see that our dominant current understandings of climate science suggest that Policy 2) (*low mitigation, no cost*) is implausible. It is well-understood that the impacts of climate change will disproportionately fall on parts of the world where poverty is prevalent.[43] The idea that there could be a policy that mitigates poorly but does not impose costs on those below the minimal threshold is therefore a farfetched one, unless we make some *very* optimistic assumptions about the rate at which the global population will be lifted above the threshold or the adaptation technologies that will be available to those in vulnerable areas. As an empirical matter, then, the sort of policy that would reveal the problematic harm avoidance implications of The Exemption – the one which performs minimal mitigation – would also breach its requirement not to further harm the world's poorest people.[44]

Some will have a less prosaic view about the sort of cases that unsettle a normative principle and will be unsatisfied by the response that The Exemption arrives at the correct verdict in *policy choices* which have a reasonable chance of actually arising. Perhaps this empirical point is too contingent. To these potential objectors, we can offer a different response, one which focuses not on the empirical determinants of climate policy but on the normative structure of the particular problem.

Another way in which the case I presented feels so contrived is that it presents these two options as *exhaustive* of the set of possible mitigation pathways. This is of course why it is troubling: we are forced to choose between these two policies, and The Exemption rules against that which mitigates substantially. In thinking about whether this case presents us with a reason to modify The Exemption, it is important to consider *why* it is we can be confident that we will not be left with just these two policies. One reason I want to suggest is important here has to do with what we know about the structure of the climate change problem. A central characteristic of climate change, as I alluded to in the introduction, is that it is a problem which the rich could relatively easily move to solve by engaging in mitigation. As such, in order for a problematic case to arise -

[43]See, for example, IPCC*, Adaptation, and Vulnerability* (Cambridge: Cambridge University Press, 2014). Access online: <http://www.ipcc.ch/report/ar5/wg2/>

[44] This point also suggests Gardiner's concern about The Exemption undermining other considerations of value is overdrawn. If the concern is that poor mitigation will lead to the loss of other things we care about, this empirical observation suggests The Exemption will at least partly protect them as an indirect effect of protecting the minimal threshold against climate impacts.

where the possible mitigation pathways do not include an option (or set of options) where the rich could mitigate easily so that the poor do not have to - our relation to climate change prevention would have to alter significantly. [45]

The capacity of the rich to easily avert further harms to the poor is most likely the main reasons that Shue's distinction is so vivid and has had such purchase among commentators. When he points to the 'luxury' sacrifices required from the rich, he is not only noting something important about the *relation* between different agent's position *vis a vis* climate change prevention costs, he is also noting something about the costs generally, which is that they are relatively easy for the rich to bear. I do not think this point requires too much precision. All Shue is saying is that given the affluence of many contemporary actors, the sacrifices required for climate change mitigation could be made while *still* leaving them very affluent. [46]

Making this point about the nature of mitigation sacrifice explicit is important in capturing why we find it intuitively troubling to place further limits on The Exemption in light of the case introduced above. In thinking about the tension between burden sharing and harm avoidance at the limit, it under-describes matters to say that we are confronted with the issue we are because of noncompliance. The insidious feature of the climate change case is that there is widespread noncompliance with *generally easy to discharge* duties toward what is an incredibly important problem. When we know mitigation is structured in such a way, it would be inappropriate to modify The Exemption in light of the two-policy case, which, in presenting us with an exhaustive set, assumes away this distinctive feature of climate change sacrifice. As I will show in Chapter Five, such is the power of this point, which Shue has been so committed to, and effective at, advancing, it can help us flesh-out an account of what is distinctively wrong about the noncompliance of developed states with their obligations of burden sharing. So I will have more to say about how we can incorporate this point into our overall account of burden sharing.

[45] Notice something important: the claim here is not that the rich will always be able to act in a way that ensures climate change is successfully mitigated and a dangerous aggregate level harm avoided. We have reason to doubt, in fact, that this will be the case. The point is that unless something significant changes, it will also be relatively easy at *t1* for rich agents to make the transition away from fossil fuels in order to ensure that the harm does not become considerably worse than what was unavoidable at *t1*.

[46] Indeed, this is a motif that recurs through his work. See, for example, Shue, *Climate Justice*, p.235; p.239. See also E. Cripps, *Climate Change and the Moral Agent: Individual Duties in an Interdependent World* (Oxford: Oxford University Press, 2013) pp.64-66. Cripps is dismissing a related objection about the demandingness of mitigation duties. For some economic analysis of this point see fn.1 above.

VII. Conclusion

I began this chapter by outlining an increasingly acute tension between two central imperatives of climate justice. While our convictions about burden sharing will be strongly disposed to shield those below a given threshold from prevention costs, given the obstinate refusal of developed states to engage in substantial mitigation we know that this will foreseeably lead to more climate harm. We need a principle to help us navigate this tension. In thinking about such a principle, we have seen that both its *form* and *justification* are of prime import. A very popular account in the literature, The Permission, is problematic on both these grounds. We should favour instead an exemption from climate change costs for those below a certain minimal threshold. Though we may initially be worried about the permissiveness of this principle toward climate harm, I have articulated some reasons why we are able to maintain this strong conviction. Partly my strategy was to situate The Exemption within a broader account of climate justice, but I also responded to a hypothetical case where it seems to lead us astray. My argument here was that our concerns about this case will be diffused once we note some of the problematic empirical and normative assumptions it has to make in order to trouble The Exemption.

Chapter 4

Collapsing the Argument from Historical Responsibility

The current and future poor have very weighty interests in improving their condition that should not be set back by climate change burden sharing. In Chapter Three I defended a principle, which I called The Exemption, to protect these interests and to act as on constraint on the allocation of mitigation and adaptation responsibilities. What the priority of this principle suggests is that capacity, or ability to pay, has to be at least one important consideration our overall account of burden sharing: indeed, it shows that below some minimal threshold it is in fact all that matters, and we need not look for any other information, such as the quantity of greenhouse gases that agent has emitted, to judge that it would be impermissible for them to bear climate change burdens.[1] This raises two interesting and interrelated questions. First, if The Exemption tells us who should not bear the burdens of preventing climate change – those in poverty, who are below the minimal threshold – a question follows about who *should* pick up the burdens. Put simply, that question asks 'how should we distribute the burdens of mitigating and adapting to climate change to those above the threshold?'. Second, given that considerations of capacity are decisive up to this point, there is a question about how much further they can take us. Can we develop our account entirely on the basis of ability to pay, or must we also make room for additional normative considerations? Broadly speaking, this chapter and the next will attempt to answer these two questions.

On The Exemption, capacity acts as a limit on the allocation of prevention costs. It says nothing about whether, or to what extent, those above the threshold should bear burdens; it just states that below a certain capacity ought not to bear any. But of course this is not the only way that capacity can enter the picture. The standard conception of the ability to pay principle (APP), stated roughly, holds that the burdens of dealing with a problem should be weighted in a way that makes those more able to contribute bear a greater share of the overall burden.[2] In the climate change case,

[1] Including, of course, both prevention *and* impact costs.
[2] See, for example, H. Shue, 'Global Environment and Environmental Inequality' in *Climate Ethics: Essential Readings*, ed. by S. Gardiner, S. Caney, D. Jamieson, H. Shue (Oxford: Oxford University Press, 2010) pp.101-112; S. Caney, 'Climate change and the duties of the advantaged', *Critical Review of International Social and Political Philosophy* 13:1 (2010) pp.203-228 (at p.204)

ability might be measured, as it is in many other political contexts, in terms of financial resources or some other measure of how well-off that agent is. More technically, capacity does not act as a limit here but rather is tied, for those not exempt from paying, to a progressive marginal contribution of the overall burden. I am going to simplify matters for this chapter by collecting both of these functions for capacity under the APP. The APP, on my definition, shields those below the minimal threshold from costs and applies a progressive level of contribution to those above it.[3] I take it this is near enough the way the APP is standardly presented in the literature, even if these two ways capacity can be relevant are not always distinguished.[4]

We can see, then, that the APP is a forward-looking principle which allocates burdens according to how an agent fares in absolute terms and relative to others. Notice that, on the standard view, this principle does not require specific details about how a problem came about in order to allocate the burdens associated with resolving it; to return to some terminology I introduced in my literature review, we require only *problem-independent* information. It is this apparent indifference to the nature of the problem at hand that has led many to reject the APP in favour of alternative principles of burden sharing to allocate at least some of the costs of mitigation and adaptation.[5] In particular, debate has gathered around the importance of historical responsibility. The central thought animating this line of argument is simple enough to express, even though it has proven a far thornier position to defend in philosophical terms. Clearly, some have contributed a great deal more than others to the development of climate change, and the principle of historic responsibility holds that the burdens of climate change prevention ought to somehow track this differential contribution. For now I will refer to this view in general terms, just as the principle of, or argument from, historical responsibility, but I will develop a more refined version of it as the chapter unfolds.

In determining how far the APP can take us in our thinking about climate justice, this is the main challenge: we need to know much room it must leave in our account the principle of historical responsibility. Indeed, I suggested in Chapter 1 that this debate between capacity and responsibility has been one of defining ones in the field of climate justice. My aim in this chapter

[3] Though what exactly this progressive rate should be is another question, which I will set aside here.
[4] For two authors who do foreground this distinction see, D. Miller, 'Global Justice and Climate Change: How should Responsibilities be Distributed?', *The Tanner Lectures on Human Values* 28 (2009) pp.117-156 (at.p.145); D. Moellendorf, *The Moral Challenge of Dangerous Climate Change* (Cambridge: Cambridge University Press, 2014) ch.1 & 6.
[5] E. Page, 'Distributing the burdens of climate change', *Environmental Politics* 17:4 (2008) pp.556-575 (at. pp.561-563); J. Pickering and C. Barry, 'On the concept of climate debt: its moral and political value', *Critical Review of International Social and Political Philosophy* 15:5 (2012) pp.667-685

is to show that the general argument from historical responsibility fails and that as a result we ought to advance the APP as our fundamental principle of burden sharing. Our first order commitments of distributive justice, I will suggest, point us toward considerations of capacity. The next chapter will consider whether we might nonetheless be able to justify departures from this principle in certain special cases. My conclusion will be that we can, and I will argue that a number of Parameters of Responsibility can play an important role in climate policy by helping us evaluate the nationally determined contributions (NDCs) that are the general mechanism for mitigation in the Paris Agreement.

Before engaging in this discussion, it will be necessary to flag-up an important simplification I will make for this chapter in light of an earlier argument. In Chapter One I drew attention to two different historical principles. One often goes under the banner of the polluter pays principle (PPP). This is a direct argument from historical responsibility, which attempts to hold agents directly responsible for their past contributions to climate change. The other is known as the beneficiary pays principle (BPP). As we saw, this is still a historical principle, seeking to capture the apparent moral relevance of historical emissions, but one that approaches the problem in a different way. It does not seek to attribute responsibility for historical emissions directly – it does not look for the agents who carried out these historical acts – but rather looks to the agents in the present who have *benefited* from them. I argued in Chapter One that any plausible version of BPP requires some historical injustice, and as a result of this will be vulnerable to any objection to the PPP that targets the supposed faultiness of historical emissions. My own argument will ultimately do just this, that is, it will question our ability to identify the injustice of historical emissions. As a result, my conclusion will I think apply, *mutatis mutandis*, to the BPP.

With this clarification in hand, the argument will proceed as follows. Sections I and II will consider two accounts of climate change burden sharing based on rather minimal commitments, which, strikingly, reject the principle of historical responsibility (almost)[6] entirely. I will suggest their rejection is implausible, however, and this is largely to do with the constraints entailed by their minimal commitments. We should instead endorse more ambitious and demanding accounts of distributive justice, and these theories will have to take more seriously the case for historical responsibility. Section III will articulate the most plausible structure for the argument from historical responsibility. Sections IV and V will show, however, that these more demanding accounts of distributive justice are vulnerable to a problem that renders them unable to vindicate

[6] This caveat refers to Miller's position and will become clearer below.

the standard argument from historical responsibility. Importantly, in unpacking the implications of this view we are in fact pointed back toward the APP, and as a result we should endorse this principle as fundamental in climate change burden sharing. Section VI will conclude.

I. Moellendorf on Responsibility

Darrel Moellendorf has recently advanced an account of climate justice that makes the APP the sole criteria of burden sharing. As we have already seen, his antipoverty principle makes capacity considerations decisive at The Limit, but he also holds that above this level, mitigation and adaptation responsibilities should be allocated on the basis of ability to pay. Importantly, he frames his account in explicitly minimalist terms: he is embarking, he tells us, on a project of *public philosophy*, that is, one which takes the practical constraints of climate politics very seriously, working from the 'inside out' to provide defensible philosophical interpretations of key treaty norms, rather than importing principles justified at some higher level of abstraction.[7] In this section, however, I will show that the arguments he enlists in his rejection of historical responsibility are incomplete and only tell against a certain portion of emissions. Further, while Moellendorf does provide some positive arguments for the APP, they will be unable to cover this deficit without abandoning their minimalism. As such, Moellendorf fails to convince us that responsibility considerations are irrelevant from the point of view of climate change burden sharing.

What do I mean when I say that Moellendorf's arguments only tell against the principle of historical responsibility for a certain portion of emissions? The thrust of his argument should be familiar from my discussion of the objections to the PPP in chapter one. He notes, to start with, that the argument from historical responsibility can be defended on either *fault* or *no-fault* grounds.[8] On the fault-based version, the question is whether we can find something faulty about historical emissions. If we can, we can say to those responsible for the emissions that they should be held liable for extra climate burdens on the basis of their wrongdoing. On the no-fault version, the challenge is to provide plausible grounds for why agents ought to bear extra burdens as a result of emissions that cannot be connected to any wrongdoing of theirs.

[7] Moellendorf, *The Moral Challenge of Dangerous Climate Change*, p.4
[8] For Moellendorf's treatment of historical responsibility see, *The Moral Challenge of Dangerous Climate Change*, pp.164-173

Moellendorf first rejects fault-liability on the grounds that it is undermined by the absence of wrongdoing for a portion of historic emissions. He notes, for example, that many past emissions were carried out under conditions of excusable ignorance, or by parties long since dead. A key point, though, is that his arguments here only identify limiting reasons, that is, reasons that limit the reach of the historical argument by taking certain emissions off the table. What he does not do is develop a general argument against historical responsibility, instead raising arguments that only apply up to a certain point. At one stage, Moelledorf seems to recognise this, noting in his discussion about the problem of ignorance and data-collection for early emissions that '[a] credible fault account of responsibility would seem to be limited to the emissions of those people currently living and only since the late 1980s or early 1990s'.[9]

So Moellendorf's arguments against historical responsibility will only take us so far, and many will be inclined to think *there is* something problematic about more recent emissions, a possibility he seems open to himself. But as I have said, Moellendorf wants to reach the conclusion that considerations of historical responsibility do not apply *at all*, and to get here we will need some further argument.[10] Does he say anything further to indicate where this support might come from? At points, Moellendorf suggests that the very inability of the historical argument to span all emissions is decisive against it. He notes that the historical responsibility argument is subject is subject to the general problem that '[e]ven if the principle [of historical responsibility] can assign the burdens of reducing CO_2 emissions (or financing adaptation), it is silent on permission to emit CO_2 in order to fuel poverty-eradicating economic growth'.[11] But this seems overly stipulative: it is very common, as I outlined in Chapter Three, for accounts of climate justice to guard against exactly this possibility, namely, the possibility of a burden sharing principle allocating mitigation responsibilities to those in poverty. Moellendorf of course has his own version of this constraint, the antipoverty principle. If we ought to be monists about climate justice principles, then the

[9] Ibid., p.166

[10] Further, in discussing the potential wrong of the overuse of the global sink capacity, which will be considered at significant length below, he notes '[w]e have a clear and vivid sense of the upper limit of the carbon budget for our generation because at the present emissions level… we might shoot past the cumulative budget. Doing so would certainly exceed our budget. It is far less clear what the carbon budget for any previous generation might have been…' This point, in questioning the wrongness of certain historical emissions, can again be read to imply that *there is* something wrong with more contemporary ones. Moellendorf, *The Moral Challenge of Dangerous Climate Change*, p.172.

[11] Ibid., p.173. This is not the only point at which Moellendorf suggests that the inability for historical responsibility to plausibly cover all emissions is decisive against it. He notes, in the same passage where he seems to acknowledge the presence of fault for more recent emissions, that 'although this is a means to divide up responsibility within the present generation alone, the problem of insufficient collection leaves responsibility for all earlier emissions unassigned' (p.166).

inability of the historical argument to provide a complete account of burden sharing would give us grounds to reject it, but Moellendorf has not provided an argument for this.[12]

Moellendorf, then, deploys a number of arguments against historical responsibility, but they are incomplete and do not cover a portion of recent emissions that we might think are in some way faulty. Though his negative arguments on their own cannot make good on the conclusion that the APP should be the sole principle of climate change burden sharing, perhaps the positive arguments he provides in favour of this principle can. The APP, he argues, *both* avoids the problems of trying to track responsibility for historical emissions *and* coheres nicely with the right to sustainable development.[13] It is unlikely, though, that Moellendorf's right to sustainable development can dislodge responsibility considerations entirely, for two main reasons.

The first relates to the sort of argument Moellendorf provides for the right to sustainable development, where the strategic aims of his account are in full view. Rather than appealing to a deep justification for the right, he prefers what he calls a *superficial* one. A superficial justification, as he describes it, is one which does not rely on a complex account of global justice but rather 'appeals to a familiar sense of the reasonableness of acting in good faith'.[14] Moellendorf's idea is that states have already signed up to this right of sustainable development, for example in the United Nations Framework on Climate Change (UNFCCC), and should therefore commit to a climate regime that reflects its status as a reasonable deliberative norm.[15] In one sense this is an appealing sort of argument: it seems to move from fairly uncontroversial, or minimal, premises to ground some obligations concerning how states should act. But in relation to the present discussion, it is not clear that this is a virtue, for it is being asked to bear significant weight in overriding responsibility considerations for potentially wrongful recent emissions. The proponent of historical responsibility might respond that their account leaves room for the very important development claims at the limit – it will prioritise development at least up until a certain threshold - but that beyond this, the moral case for responsibility for wrongful recent emissions ought to assume a priority over an argument from sustainable development justified on the basis of reasonable prior commitments. If Moellendorf wants to remain true to his minimalism, then, it is doubtful whether he can appeal to his version of the right to sustainable development to prop up

[12] In fact, he might be read as being open to the possibility of pluralism. See, Ibid., fn.43, p.173
[13] Ibid., p.164
[14] Ibid., p.140. Moellendorf does (at.p.142) suggest that his view is compatible with a deeper justification for the right, but it is the superficial version that is the primary version that he articulates and includes in his account.
[15] Ibid., pp.136-137

the APP against the challenge posed by responsibility for recent emissions. The justificatory constraints he places on his account means it is ill-equipped to counter the independent moral weight of responsibility considerations.

Moellendorf does make some remarks that might be thought to address this worry. The charge of unreasonableness we would levy against any state flouting the right to sustainable development by, for example, continuing to emit heavily from a position of relative advantage at the expense of others, might not, he notes, seem sufficiently strong.[16] In response, he points out that 'the gravity of the charge of being unreasonable in a deliberative context is dependent on the purpose of the deliberation and the party's role in achieving that purpose'.[17] Mitigating climate change and pursuing human development are both clearly very important goals, and this in Moellendorf's view elevates the condemnation that would be due to those states whose actions departed from a reasonable agreement.[18] But this brings me to the related second problem with the idea that Moellendorf's rejection of the argument from historical responsibility can be supplemented by his right to sustainable development.

Stated simply, the problem is that is seems open for the proponent of historical responsibility to themselves construct a superficial justification in support of their position. The Principle of Common but Differentiated Responsibility (CBDR), as I mentioned in Chapter 1, has been a constant presence in climate change agreements, including the recent and most high-profile one in Paris. Importantly this principle has been standardly interpreted as containing a responsibility element.[19] This norm of (responsibility-sensitive) CBDR has similarly important aims, if indeed the aims of superficial justification can be used to elevate its status. In common with the right to sustainable development present in climate change agreements, one of the twin aims of the principle of CBDR, as normally construed, is to successfully mitigate climate change. In combination with this aim, whereas the right to sustainable development focuses on development claims, the principle of CBDR (partly)[20] couples mitigation with the responsibility for causing a threat. There are arguments to be had about the relative importance of these aims –

[16] Ibid., p.141
[17] Ibid.
[18] As an aside, if the appropriate level of condemnation is linked to the importance of the goal of human development, it is not clear to me that this justification really does avoid appealing to a deeper justification for the right to sustainable development.
[19] For a notable example see, L. Rajamani 'The Principle of Common but Differentiated Responsibility and the Balance of Commitments under the Climate Regime' *Review of European Community and International Environmental Law* 9:2 (2000) pp.120-131.
[20] Even on the more historical reading, the principle does leave room for other considerations, such as the development claims of the very poor that rightly exercise Moellendorf.

and this chapter will certainly engage in these arguments – but restricting ourselves to thinking only in terms of a *superficial justification*, it is not clear that we can attribute any greater prior importance to the development aim over the responsibility one, when both are present in international agreements.

Now, one might be tempted to respond here that Moellendorf *does* provide some moral arguments to cast doubt on the principle of historical responsibility. But I think there are two problems with the idea that these arguments can adjudicate between these potential superficial justifications in favour of the right to sustainable development. First, I have shown that Moellendorf's arguments are limited, specifically in the way that they leave open the possibility of some wrongful emissions. This is consistent with thinking, as the standard construal of the principle CBDR seems to, that historical responsibility *is to some degree* relevant in deciding mitigation and adaptation burdens. The second, more general problem is that on Moellendorf's statement of it, the superficial justification just is not in the business of marshalling first-order moral argumentation for different principles. Rather, a superficial justification acts as a way of grounding obligations from reasonable deliberative norms present in a particular context. The understanding of CBDR as expressing a historical component seems to have emerged as just such a norm, and it is not clear to me why this should not suffice as a satisfactory superficial justification by Moellendorf's own standards.[21]

It appears, then, that Moellendorf's argument for a capacity-based account of burden sharing is ultimately unpersuasive. His arguments against historical responsibility only tell against a certain portion of past emissions, and we need not be monists about climate justice, unless he gives us good reason to be. I have also given some reasons to suggest that his positive arguments for the APP cannot underwrite his complete rejection of historical responsibility. His positive arguments for the APP make the right of sustainable development central, but he deploys only a minimal justification for this concept. As such, the defender of historical responsibility will feel they have been given insufficient reason to abandon their concern about responsibility for harm, especially in relation to recent emissions. Moreover, it seems that it is open to a defender of the historical view to articulate their own superficial justification for the importance of catering climate

[21] Moellendorf's requirements for a superficial justification do of course rule out a set of unreasonable principles. There might be 'reasonable excuses' (p.137) permitting departures from a norm if circumstances meant that there was a weighty moral imperative to do so. Norms can also be illegitimate (pp.137-140) if certain standards are not met. These conditions are rather permissive, however, and will not trouble my argument concerning the principle of CBDR

change burden sharing to at least partly accommodate responsibility considerations. In order to block this possibility, Moellendorf would need to provide us with some further argument explaining why the sustainable development norms present in climate change agreements should assert a complete priority over those which emphasise historical responsibility.[22]

II. Miller's Principle of Equal Sacrifice

David Miller has also advanced an account of climate change burden sharing that makes a version of the APP the central principle. His account is a stimulating one for a number of reasons. In his work on global distributive justice more broadly, Miller has advanced a robust account of national responsibility, which leaves no room for cosmopolitan egalitarian demands.[23] Although nation states, in his view, are not bound by strong obligations of global distributive justice, they can generate weighty obligations through their conduct with each other and through the decisions they make as collectives. As he puts it in his intervention into the climate change debate, '[n]ations are transhistorical units of the right kind if we want to assign present-day members responsible for what their predecessors have done'.[24] Given this picture we would be forgiven for expecting Miller to make a principle of historic responsibility the central component in his account and advocate that mitigation burdens be allocated according to national responsibility for past emissions. But in the end Miller shuns this principle almost entirely, noting that responsibility considerations only matter – and even though he is more explicit than Moellendorf about problematic recent emissions, he remains very noncommittal about the implications of this - since around 1990.[25] How does he arrive at this perhaps unexpected conclusion?

Miller has not performed a volte-face here: the problem as he sees it is not with the notion of historic responsibility itself but rather with the form the argument has to take in this specific context. As he notes, and as I catalogued in Chapter One, there are normally taken to be two potential routes for this argument. On either, it is important that we are able to find something wrong with historical emissions in order to hold the relevant agents responsible for the additional

[22] Note that Moellendorf has drawn on his notion of a superficial justification in a more recent paper. It does not seem to mark any significant change in his position, though, and importantly does not contain an argument that will help him out of this bind. See D. Moellendorf, 'Taking UNFCCC Norms Seriously', in. C. Heyward & D. Roser eds. *Climate Justice in a Non-ideal World* (Oxford: Oxford University Press, 2016) pp.104-123
[23] D. Miller, *National Responsibility and Global Justice* (Oxford: Oxford University Press, 2007)
[24] Miller, 'Global Justice and Climate Change', p.128
[25] Ibid., p.137 & 151

mitigation and adaptation costs associated with them.[26] The first possibility holds that what is wrong with historical emissions is that they cause harm through the climate impacts they produce. The second holds that historical emissions were wrongful in the way they effectively constrain other agent's access to a valuable resource. Here the idea is that some have previously used more of the global sink capacity than they should have given the constraints of the carbon budget. I will dwell on these two possibilities and on the general issue of the form of the argument from historical responsibility in the next section, but for the moment I want to focus in on the alternative Miller offers us in light of his rejection of either the views.

Miller thinks that if it is to be made at all, the argument from historical responsibility has to be framed in terms of the latter form of wrongdoing, that is, the wrong of overusing one's share of greenhouse gas emissions. He thinks this argument is also destined to fail, however, because he denies we have *any* general claims to greenhouse gas emissions over and above whatever access to them is necessary to secure our basic needs.[27] For Miller, we just do not have a substantial claim to this good, and so it is implausible to think we can construct an argument for responsibility based on the notion that some agents have been deprived their fair share of it. In rejecting the argument from historical responsibility for this reason, Miller is signalling his commitment to global sufficientarianism and the fact that he believes our account of climate change burden sharing should be compatible with this theoretical position. This view, roughly speaking, holds that global distributive justice is satisfied so long as people lead lives of a sufficient standard, and people's claims to resources are correlatively restricted to those required to lift them to, and maintain them at, that level.[28] So Miller, like Moellendorf, thinks that our account of climate justice should rely only on minimal commitments, though his reasons are more to do with his general view about distributive justice than they are pragmatic concessions to a particular political context.[29] But how does he develop an alternative account of climate justice which does not appeal to a view about global distributive justice more substantial than sufficiency?

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[26] I am assuming here that a standard of strict liability is implausible in this case. Though I do not have space to relay the critiques here, I think the strict liability view is unpopular in the literature. For a very perceptive critique see, R. Schüssler, 'Climate Justice: a question of historic responsibility?', *The Journal of Global Ethics* 7:3 (2011) pp.261-278 (at. pp.264-267). See also Moellendorf, *The Moral Challenge of Dangerous Climate Change*, p.168.

[27] Miller, 'Global Justice and Climate Change', e.g. p.136

[28] Note that what Miller thinks about domestic distributive justice is quite another thing, for he believes we have rather thicker duties to our co-nationals. See D. Miller, *Principles of Social Justice* (Cambridge, Massachusetts: Harvard University Press, 1999)

[29] Moellendorf's minimalism fits this practical description. See Moellendorf, *The Moral Challenge of Dangerous Climate Change*, pp.4-6

In place of an account of historical responsibility, Miller advocates what he calls the 'principle of equal sacrifice', which demands equally costly emissions cuts from each state measured as a percentage of their GDP. Chris Armstrong has developed two lines of criticism against this principle which I think are telling, and my own are a development of his.[30] On the one hand, suggests Armstrong, we should want to enquire about the alleged minimalist credentials of this principle; on the other, we should want know more about its general plausibility. In my view these two criticisms are closely related and in combination they reveal why minimalist views about global distributive justice are ill-equipped to deal with problems of international burden sharing.

Notice, first, that in at least one sense the principle Miller arrives at appears an egalitarian one. It seeks to allocate the necessary sacrifice for climate change on an *equal* basis. This seems a little strange; after all, Miller situates his own view on global justice in opposition to cosmopolitan egalitarians, who he thinks are fundamentally mistaken about the scope of principles of distributive justice. Elsewhere his position is that there are no valid principles of distributive equality that operate globally. This is in Armstrong's view an important concession to global egalitarianism, for it seems a recognition on Miller's part of the presumptive appeal a principle of equality in a burden sharing context such as this.[31] Miller does draw a distinction that might justify his departure, between *shallow* principles of equality and *deep* ones. A lot of weight therefore hangs on this distinction. Not only does he need to convince us of the consistency of his view about climate justice with his view about global justice, but he also needs to avoid undermining his rejection of the principle of historic responsibility. That rejection relied on his sufficientarian theory of global justice to argue against the plausibility of the idea that we can generate obligations of burden sharing on the basis of some having overused their fair share of a global resource. It would be a problem for this argument if Miller were to illicitly appeal to, or entail, some more substantial egalitarianism.

Miller illustrates his distinction with an example which is supposed to show that we can have either shallow or deep reasons to favour a principle of equality.[32] An example of a deep principle of equality would be that which demands all adult citizens are allowed a single vote, as a way of reflecting their equal moral status as citizens. But sometimes we do not have such weighty reasons to opt for equality. The example Miller uses to illustrate shallow equality is a case where

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[30] C. Armstrong, *Justice & Natural Resources: An Egalitarian Theory* (Oxford: Oxford University press) ch.2, esp. pp.35-40.
[31] Ibid, p.39
[32] Miller, 'Global Justice and Climate Change', pp.139-141

we just need some non-arbitrary way to divide the remaining wine between guests after a party. Here there is not a comparably deep reason to prefer equality, we just need *a* principle, and an equal division is a simple and intuitive fit.

I think this example is helpful in revealing of the problems faced by global minimalists in trying to develop plausible accounts of international burden sharing. In the case that Miller describes, it seems to me very plausible that we should apply a simple equality principle to the remaining wine. But consider some important features of this example. For one thing, the example is rather trivial. In the party case there are not really any weighty moral interests at stake, and it is largely because of this that the simple equality principle has appeal. Here we do not need to spend time engaging in deep moral enquiry or trying to persuade other party goers of the appeal of our preferred theory of distributive justice; we just need some very simple way to avoid disagreement. This is obviously not a good description of the climate change case, where there are very weighty moral considerations in play. After all, this is a case where we need to limit access to a good that is often very important in promoting people's interests and allowing them to pursue their life plans, in order to try and prevent incredibly severe and so morally very weighty impacts from coming about.

The trouble now is that this does not look like a context where we need a simple and pacifying equality rule, and when we apply one we thus encounter some problematic implications. As Armstrong points out, by demanding an equal sacrifice from *current* GDP, Miller's principle treats the status quo as the appropriate baseline.[33] One potentially troubling implication of this feature is that a less developed country could in principle take a greater share of the overall mitigation burden in terms of emissions reductions if it could make those cuts comparatively cheaply. Miller is of course aware of and unmoved by this implication, but I think most will judge an account of burden sharing unfair if it can be associated with such a conclusion and will be led as a result to view the shallowness of this principle a problematic implication of his background view.

At the same time, we might also wonder whether Miller's principle actually commits him to more than he thinks it does, for there are clearly other global problems, aside from climate change, that we have a 'basic ethical obligation'[34] to resolve through burden sharing. For example,

[33] Armstrong, *Justice & Natural Resources*, p.39
[34] Miller, 'Global Justice and Climate Change', p.129

we might think that global trade, or global migration, create problems of sufficient ethical stakes that we ought to move to solve them collectively. Both of those issues stymie the pursuit of domestic justice agendas and foreseeably result in deprivation and poverty in parts of the world. Given Miller's chain of reasoning, the question is whether in these cases we ought also to prefer a principle of equal sacrifice, which asks those states who are able enough to contribute to do so equally. It seems that Miller's arguments in the climate change case push us in this direction, and if so it does seem a dent to his claim that no substantial principles of distributive justice apply globally and correspondingly for his rejection of historical responsibility for climate change on the grounds that sufficiency exhausts individual's claims on global resources. Specifically, it does not seem that sufficiency exhausts global justice, for we now have a strong case for a more general egalitarian principle (of equal sacrifice) to govern the allocation of global burdens.[35]

To sum up, it seems that Miller is stuck in something of a bind. First of all, he recognises that the most promising route for an account of historical responsibility is one framed in distributive terms but rejects this possibility on the grounds that we do not have a fair share of the global sink capacity over and above that required to fulfil our sufficiency. In carving out an alternative, more minimal position, however, Miller's view seems both implausible and unstable. It is implausible because its shallowness makes it blind to important moral arguments about, for example, whether current holdings in wealth can operate as a justifiable baseline for climate change burden sharing; it is unstable because it seems to contain a logic that commits Miller to a form of global egalitarianism, specifically in terms of sacrifice toward global problems, which is in tension with the sufficientarian position he is arguing on the basis of.

In combination, my discussion of Moellendorf and Miller has shown that it is hard to develop a plausible and coherent account of climate change burden sharing on only minimal commitments. In particular, neither account does enough to persuade us of the irrelevance of considerations of historical responsibility and make the required room for their dominant APPs. In my view we should endorse more demanding ideas about distributive justice, and when we do we will have to confront the challenge posed by the argument from historical responsibility head on. I will argue, though, that even when we do we ought to reject historical responsibility as

[35] To resist this conclusion Miller would have to explain why the 'basic ethical obligation' to respond to climate change is importantly distinct from our obligations other important global issues. It is doubtful he will be able to do so however. For one thing, it seems the most plausible explanation for our ethical obligation in this case stems from the way it will threaten general human interests. The problem for Miller is that lots of other global problems have this feature too.

standardly construed. Before elaborating on why this is the case, it will be important to return to the issue, alluded to above, about the *form* of the argument from historical responsibility.

III. Historical Fair Shares

As I mentioned above, there are two main versions of the argument from historical responsibility.[36] In this section I will unpack them in a little more detail and argue in favour of one in particular, which I will call *The Fair Share View*. Although I will not argue for this version at length, the view is clearly a plausible one, and given its popularity in the literature, the arguments that follow about its implications for certain views about distributive justice will be of general interest.

a. Responsibility for Climate Harm

Both of the responsibility arguments that I will cover are sensitive to the potential harm caused by climate change impacts, though they are in slightly different ways. The first, which we can describe simply as *responsibility for climate harm*, moves directly from the imperative of avoiding climate change impacts to the issue of additional responsibility for burden sharing. In fact, it seems the underlying principle here is a version of the harm principle. The thought is that given normally we are required to refrain from causing harm - and should incur responsibility for associated costs if we do not abide by this prohibition - in the climate change case we ought to be held responsible for the costs that stem from our harmful emissions. Mitigation and adaptation responsibilities are of course burdens that arise in order to prevent the harm of climate change impacts, and so the principle of historic responsibility holds that the agents of previous emissions are obliged to pick up the prevention costs stemming from these harmful actions. Standardly the view holds that states are the appropriate agents and prevention burdens ought to track their proportional contribution to net emissions.[37]

Scholars of climate justice often focus on a number of what we might call application problems with this argument. I outlined the contours of these debates in my Chapter One. These objections accept the basic form of the argument in the climate change context but seek to limit its application by pointing to some exceptional cases, such as those where emissions were carried out under conditions of excusable ignorance or by those in poverty. There are also, however, some

[36] Gardiner notes this possibility in a notable early review article in *Ethics,* but it is, as he points out, more or less implicit in accounts preceding that. See S. Gardiner, 'Ethics and Global Climate Change', *Ethics*, 114:3 (2004) pp.555-600

[37] For a statement of this view see, Page, 'Distributing the Burdens of Climate Change'.

serious problems with the form of this argument that relate to the way it makes the connection between emissions and climate change harm.[38] I will restrict myself to noting two related, controversial and implicit claims lurking beneath the move from climate harm to responsibility for burden sharing tied to proportional contribution to emissions, both of which are relatively well-worked in the literature, even if they are not always made in relation to this particular debate.

> *The Harm Claim*: Disaggregated acts of emissions cause climate harm.

The responsibility for climate harm argument seems to rely on this claim: it wants to say that emissions are harmful, in terms of the impacts they will produce, in order to ask states to bear the extra burdens associated with preventing these impacts coming about. But the relationship between discreet acts of emissions and climate change harm is vexed. The reason for this is that climate change displays the features of an aggregation problem, where what is ultimately problematic is the interaction of discrete emissions with countless other emissions. To many philosophers it seems incorrect to say that disaggregated emissions are in and of themselves harmful, given that they do not seem to make a difference on their own and the climate harm they are associated with depends on the actions of innumerable others;[39] indeed, as Miller points out, in the context of the debate about historical responsibility, it is possible that early industrial emissions could have been sustained without giving rise to climate harm, such were their comparatively low levels.[40]

> *Marginal Equivalence of Harm*: Disaggregated acts of emissions each cause the same amount of climate harm.

The problem with second claim is clearly related to the first, again drawing our attention to some peculiarities in the way climate harm develops. Let us say, controversially, that discrete acts of emissions *do* cause some degree of climate harm. Even if we do say this, there remains a further problem in that it seems implausible to claim that different emissions lead to an equivalent level of harm. Again, the standard version of the responsibility for climate harm argument seems to

[38] I set aside, in the interests of space, the non-identity problem.
[39] For the canonical statement W. Sinnott-Armstrong, 'It's Not *My* Fault: Global Warming and Individual Moral Obligations', in *Climate Ethics: Essential Readings*, ed. by S. Gardiner, S. Caney, D. Jamieson, H. Shue (Oxford: Oxford University Press, 2010) pp.332-347.
[40] Miller, 'Global Justice and Climate Change', p.131

require this, by demanding that a state's share of burden tracks its *proportional* contribution to emission. Consider two ways in which the marginal equivalence claim is problematic.

First, climate impacts are of course partly physically determined, and we know that different emissions behave differently. As Dale Jamieson shows in a recent paper, the possible paths for a molecule of carbon after being released are vast. They can be taken up by different earth systems (e.g. the oceans, or the biosphere), over vastly different periods of time, and at some point they may return to the atmosphere and be associated with some weather event linked to climate change.[41] To say that different emissions lead to the same amount of climate harm therefore flies in the face of our best understandings of climate science. Second, climate harm is not only physically determined, as people's vulnerability also depends on social factors, such as how developed their state infrastructure is or what adaptation measures have been put in place to protect them. This dimension too is a clear affront to the idea that there is a certain, equal amount of harm attached to each emitting act.

There is of course a great deal more to say about these two points and about the responsibility for climate harm interpretation of the historical argument more generally. I do think, though, this discussion reveals some of the severe difficulties this version will face. The core of the problem is that the harm attached to historical emissions is not equal to their proportional contribution to the cumulative total, and so it is not clear whether an account of responsibility can be derived directly from the obligation to prevent one's actions leading to climate impacts.

b. The Fair Share View

The harm stemming from climate impacts still features in the second form of the argument from historical responsibility, but it is a further step removed. More concretely, the argument holds that an agent's responsibility for preventing excessive climate change harm from coming about is a function of how much more of the global sink capacity they have used than they should have. On this version of the argument, what agents are being held responsible for, what is problematic or wrongful, is construed in distributive terms: the issue with past acts of emissions is not to be found directly in the climate impacts they will potentially produce but in the fact they will deny other agents access to a scarce resource. This articulation of historical responsibility I will call the Fair Share View.

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[41] D. Jamieson, 'Responsibility and Climate Change', *GLOBAL JUSTICE: THEORY PRACTICE RHETORIC* 8:2 (2015) pp.23-43 (at p.31)

The Fair Share View: a) Agents have a fair share of the global sink capacity, and b) if they exceed it they owe additional mitigation and adaptation burdens.

As should be clear from the above statement, the arguments has two stages, insisting first that we have an entitlement to, or fair share of,[42] the global sink capacity, and second that we incur a cost if we overshoot it. The claim also yields two important conditions that are necessary if we are to operationalise it in an account of burden sharing. First, we need to be able to identify the agents who have used more than their fair share. Second, we need to be able to provide at least a rough account of the extent of their overuse. I think these two stipulations are simple and uncontroversial, and only by satisfying them can the responsibility argument tell us the prevention burdens different agents have incurred as a result of their overuse of their fair share. I will return to them below.

How plausible is this general form of the historical responsibility argument? I think it is a much more promising conception than responsibility for climate harm. First, this principle avoids the problems associated with developing an account of responsibility directly from climate impacts. The threat of climate change harm, on the Fair Share View, places a limit on the enjoyment of a resource, but this limit can operate at the aggregate level and we do not require detailed knowledge about the impacts generated by specific emissions. Once we have this limit, the information we need relates to agents' entitlements to the global sink capacity, and this relies principled argument rather than climate science. I will outline below some ways in which the informational demands of the Fair Share View are problematic in their own way, but the issue I identify has normative and not epistemological roots.

Second, and importantly, however, even in moving away from a concern solely with the impacts from climate harm, this view is able to identify an intuitive account of an injustice present in climate change which captures some important features of the normative structure of the case. For one thing, the historical use of the resource of the global sink capacity has been incredibly important and does a lot to shed light on the world we currently live in. As has been oft-noted, the historical exploitation of the global sink capacity bears a close relation to the distribution of current wealth, given the extent which economic development has been, and remains, tied to industrial activity. When we ask, along with Henry Shue, '[w]hat is the difference between being

[42] I will use these two terms interchangeably.

born in 1975 Belgium and being born in 1975 Bangladesh?'[43], a key part of our answer has to refer to the fact that one is born into an industrial society while the other is not, presenting the Belgian infant with a range of benefits unavailable to the Bangladeshi infant.

Indeed, this question actually reveals two sides of the same story. Overuse is, on the one hand, very important in that it generally confers with it a range of significant advantages. But this is only one dimension, as on the other hand, given the upper limit to the cumulative level of emissions compatible with avoiding excessive climate impacts, the overuse by some will undermine the ability of others to enjoy their fair share. In this sense, the fair share argument connects with claims of 'constrained development'[44] made by states whose access to the global sink capacity is limited by the imperative of mitigation. They often couch their argument in terms of an ecological, or emissions, debt that the developed have incurred and must discharge through climate change prevention.[45]

So this version of the historical argument ties the threat of climate change harm to the excessive use of a valuable resource to give a fuller account of the relevant injustice in the context of climate change. It claims that some have used more than their fair share of the global sink capacity, thus deriving great benefit, and in so doing have created a grave threat, which can be prevented only if others have their access to this resource severely limited. The relationship I alluded to above, between historical emissions and the contemporary global political and economic structure, is undoubtedly deep, even if its precise nature can be hard to pinpoint. Indeed, climate change can seem in many ways expressive of a more general structural injustice the development of the global economy. While I will not try explicitly to parse this interconnection further, the surprising conclusion of the following, to the effect that it is in fact the APP that best captures this historical injustice, should be seen in light of this close relationship. We should not, in my view, shy away from this implication; rather, we should pay due attention to the complexities which emerge when we think carefully about this problem and how it interacts with our ideas about distributive justice.

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[43] H. Shue, 'Global Environment and Environmental Inequality' in *Climate Ethics: Essential Readings*, ed. by S. Gardiner, S. Caney, D. Jamieson, H. Shue (Oxford: Oxford University Press, 2010) pp.101-112 at p.105

[44] E. Page, *Give it up for Climate Change, International Theory*, 4:2 (2012), pp.300-330 (at .p.315)

[45] For a concise and helpful overview of this debate see, M. Blomfield, 'Historical Use of the Climate Sink, *Res Publica* 22 (2016) pp.67-81. See also, Pickering & C. Barry, 'On the concept of climate debt: its moral and political value' *Critical Review of International Social and Political Philosophy* 15:5 (2012) pp.667-685

IV. Egalitarianism and Fair Shares

Let me briefly restate the arguments so far. We have seen that minimalist accounts of climate change burden sharing seem to run into serious problems. In particular, both Moellendorf's and Miller's views failed to give convincing rejections of the argument from historical responsibility. I proposed that more demanding theories of distributive justice offer the potential to yield more plausible accounts of burden sharing. These views will of course have to deal with the argument from historical responsibility, and in the last section I settled on a particular version of that argument, namely, the Fair Share View. Miller's rejection of the argument from historical responsibility is especially interesting in this light. His view, recall, was that the argument from historical responsibility fails because it relies on our having substantial entitlements to global resources, something which is ruled out by his sufficientarian account about distributive justice. In other words, although he accepts the *form* of the Fair Share View, he rejects its *substance* as a result of his minimalism about global justice. On the assumption that more demanding theories of global distributive justice will ground more extensive entitlements to global resources - as surely they will - we might therefore think they will be more hospitable to an account of historical responsibility. I will attempt to show, however, that even on the more substantial entitlement to the global sink capacity that will follow from these accounts it is very hard to get the responsibility argument off the ground, and in fact when we try and unpack this position we are pushed back towards considerations of ability to pay.

The following argument is quite general, and I think it will apply to a range of what we might describe as 'global egalitarian theories'. I will avoid a detailed exposition of this categorisation, but the central tenets of such a position are as follows. For one thing, in contrast to views like Miller's, these accounts will hold that duties of distributive justice apply globally and not merely between those co-nationals, or co-citizens, who share in some kind of bounded community. They will be committed therefore not only to relieving absolute but also relative disadvantage globally and will think that global inequalities stand in need of justification. Global egalitarians tend to be concerned with *general* inequalities in how well people's lives go, that is, they hold it is a matter of justice if my life goes much better, in some overall sense, than yours does and this is the case *even if* we live very remotely from each other.

This final point is very important. We have already seen that egalitarian ideas have an established pedigree in debates about burden sharing. In particular, the view that holds emissions

ought to be distributed on an equal per capita basis has been one of the most popular in the field.[46] That principle, as Caney pointed out, bucked the trend of these more general egalitarian accounts by focusing on just a single good. The more inclusive egalitarian views that I am gesturing to here are instead concerned about ensuring equal holdings across a 'package' of goods that contribute to a more general and fundamental currency. The more inclusive the package is – that is, the more goods that are in principle included in it – the more general the equality pursued. Caney's critique from integrationism pointed out that if these theories are concerned with a general equality across a package, then, on the most part,[47] the appropriate share of any single good will be tied to an agent's complete holdings. The implication of this is that distributive egalitarians should want shares of single goods to be 'equalizing'[48] with respect to the primary currency they favour for equality; they will mostly deny that bespoke principles should apply to individual goods. So with respect to the problem at hand, our fair shares of the global emissions sink will tend to be equalizing with regards to some more fundamental currency. I say they 'will tend' to because egalitarians might also want to leave room for special claims that people have to particular resources through, for example, their attachment to them or through the way they have improved them. I will return to the subject of special claims in the next chapter; the discussion at this point will be restricted to the general claims of distributive justice that are generated by these egalitarian theories.[49]

For egalitarians, then, individual goods mostly matter derivatively, in terms of how they contribute to equal holdings of a more general currency. Although in theory this currency can be quite abstract, in practice egalitarians will rely on proxies to help them make the relevant comparisons between agents. What is more, the same proxies will apply, more or less, to a number of different conceptions of the currency.[50] Popular accounts that are concerned about resources, welfare or capabilities, for example, can all plausibly be tied to a single proxy. What is very important for the present discussion is that the sort of stand-ins we might appeal to here will be those commonly suggested to measure different state's ability to pay. This is just to say that both

[46] Stephen Vanderheiden once went as far as to remark that '[m]ost scholarly commentators defend some version of the equal emissions rights (EER) thesis' S. Vanderheiden, 'Globalizing Responsibility for Climate Change', *Ethics & International Affairs,* 25:1 (2011) pp.65-84 (for quote p.73).
[47] Remember that Caney does note some important exceptions to this tendency. Voting rights, for example, are a good that should be allocated according to its own principle of equality. See Caney, 'Just Emissions', pp.272-277
[48] Armstrong, *Justice and Natural Resources*, p.75
[49] For the distinction between *special* and *general* claims see, C. Armstrong, 'Justice and Attachment to Natural Resources, *Journal of Political Philosophy* 22:1 (2014) pp.48-65 (esp. pp.48-54)
[50] This convergence in real-world settings makes it, I think, less incumbent on me to pick between take a stance on the correct currency.

principles – the egalitarian one and the APP – centrally require a way to determine how well-off different agents are, and that that way will usually be the same.

For example, it is often assumed, at least by economists, that GDP can be used as a reasonable proxy for the *welfare* of a particular state, or rather of the average person living in that state. But better capturing, I think, the spirit of the philosophical views which display a concern for distributive equality would be something like the United Nations Human Development Index (HDI).[51] This richer index displays a concern for much more than just the financial holdings of particular agents, and those who endorse the sorts of view I am interested in – as a way, remember, of capturing disparities how well or not a person's life is generally going – are of course concerned about more than *just* financial resources. Ability to pay metrics, then, can make for a good way of capturing the inequalities that elicit the concern of global egalitarians.

I have gestured toward a general, and I think very plausible, set of egalitarian theories, and have drawn attention to some attributes they have in common. To recap, the two especially important features moving forward are, first, that these views care about equality across a package of goods and only care about individual goods derivatively, and second, that this package of goods can be measured in terms of ability to pay. The reason I have introduced these views, of course, is because they will yield a more substantial account of global sink entitlement, and so will make for a potentially more extensive argument from historical responsibility. It should be clear that these are much more demanding views than Miller's, potentially generating expansive claims over global resource benefits to the extent they represent an important source of people's wellbeing.

I think there are many theorists of climate justice who are also sympathetic to this sort of view of distributive justice, and so my arguments should have wide application. Perhaps the most striking example of someone who fits this description, though, is Simon Caney.[52] First, he affirms a particularly demanding version of egalitarianism of the sort I have outlined which applies to the

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[51] United Nations Development Programme, *Human Development Report 2016: Human Development for Everyone*, <http://hdr.undp.org/sites/default/files/2016_human_development_report.pdf> (accessed 29/06/2018). Darrell Moellendorf opts for this metric of ability to pay. See Moellendorf, *The Moral Challenge of Dangerous Climate Change*, pp.132-135

[52] As an initial point it is important to note that Caney explicitly affirms the sort of fair share account of responsibility I am assessing, that is, he thinks that an account of historical responsibility must be attached to a view about global sink entitlement so that we can establish whether, and to what extent, an agent has exceeded their fair share. See S. Caney, 'Cosmopolitan Justice, Responsibility, and Global Climate Change' in *Climate Ethics* ed. by S. Gardiner, S. Caney, D. Jamieson, H. Shue (Oxford: Oxford University Press, 2010) pp.122-146 (at p.134); S. Caney, 'Distributive Justice and Climate Change', in *The Oxford Handbook of Distributive Justice*, ed. By S. Olsaretti (Oxford: Oxford University Press, 2018) pp.664-688

metric of human capabilities.[53] And second, although he does not think we can inherit historical responsibility from now-dead previous inhabitants of our states, he does seem to think that responsibility should play a (the?) dominant role in climate change burden sharing.[54] In outlining his 'hybrid' account, made up of the polluter pays principle (PPP) and a version of the APP,[55] he notes that the APP should merely pick up the 'remainder'[56] emissions in those cases where the conditions for properly holding an agent responsible are not met. Aside from the burdens flowing from the emissions of the dead, these remainder emissions picked up by Caney's APP are those carried out by the excusably ignorant or the impoverished.

So Caney's account yields a conclusion that we might expect given what I have said so far: his view is that historical responsibility for at least a significant portion of emissions should be a primary principle of burden sharing and has a demanding account of global sink entitlement running in the background which can underwrite this claim. My argument in the next section, however, will be that there are serious problems when we think about the conjunction between the argument from historical responsibility and these views about distributive justice.

Let me make one clarificatory point before moving onto my argument. As I noted in chapter two, Caney adopts the language of entitlement when discussing distributive justice and climate change, and as a result seems to have a particularly strong view about egalitarian demands on principles of burden sharing. Specifically, his strong integrationism views considerations of distributive justice as exhaustive of climate change burden sharing. As I will clarify in the next chapter, my own view does not have this implication. Rather than as generating an entitlement to a particular resource, we might instead see an egalitarianism as generating a *claim* to a particular resource, or a particular benefit or burden, which should be given due weight in the final decision about who ought to have what. Egalitarians, then, will be in agreement that people have a fair share of a particular resource that is determined by their commitments of distributive justice, but they might view this fair share as either a strong entitlement or a *pro tanto* claim. The following argument will apply to either of these views, and so I will use 'claim', 'entitlement' and 'fair share'

[53] S. Caney, *On Cosmopolitanism* (forthcoming)
[54] For a detailed discussion of how Caney views these historical emissions and the relevance of the historical debts to distributive justice more generally, see, S. Caney, 'Environmental Degradation, Reparations, and the Moral Significance of History', *Journal of Social Philosophy,* 37:3 (2006), pp.464-482
[55] S. Caney, 'Climate change and the duties of the advantages', *Critical Review of International Social and Political Philosophy* 13:1 (2010) pp.203-228
[56] Caney, 'Climate change and the duties of the advantaged', p.213

interchangeably throughout. In the next chapter I will consider the implications of this argument for my specific view about how we ought to view these fair shares.

V. Unrecoverability and the APP

Now we have our view about distributive justice in hand, let me restate the challenge for the historical argument. At a minimum, a successful version of this argument requires us, first, to be able to identify those (historical) agents who have overused their fair share of the global sink capacity. Second, it requires us to be able to provide at least a rough account of the extent of their overuse. These are the two criteria I mentioned above, and only by satisfying them can the responsibility argument tell us the prevention burdens different agents have incurred as a result of their overusing their fair share. The problem, though, is that on these more plausible, demanding views of sink entitlement, fair shares are contingent in three ways which render them unrecoverable when applied to historical emissions. Two of these senses of contingency are closely related, but the other arises, as we will see, somewhat separately. What is more, any attempt we make to try and rescue the historical position points us back toward the APP. This is a striking conclusion: it suggests that if we want to allocate burdens according to historical responsibility for climate change, we must use the APP as a proxy. This finding, along with the fact that the APP is an independently plausible principle, establishes that it ought to be the fundamental principle in our account, or the relevant baseline from which to assess climate change burden sharing.

I noted above, drawing from Caney, that on inclusive theories of equality what fundamentally matters is how agent's fare in comparison with each other across a package of different goods. The specific good of the global sink capacity therefore matters derivatively in terms of how it contributes to this overall package.[57] This picture makes an agent's fair share contingent in two ways. First, an agent's fair share of one good is contingent on their holdings of other goods and how those goods contribute to their wellbeing. To put the relevant point more simply, an agent's fair share of this resource depends on their holdings of lots of other resources that determine how able they are to lead a good life. Second, at the same time, an agent's fair share is also contingent on *other* agent's holdings of the relevant package of goods; after all, equality is relative measure, which is concerned with how agents fare in comparison to others. As I have said,

[57] For an interesting discussion on this issue applied to historical emissions – so far as I know the only other discussion on the topic – see, M. Blomfield, 'Historical Use of the Climate Sink', *Res Publica,* 22 (2016) pp.67-81 (at. pp72-74)

fair shares will be equalizing with respect to the fundamental currency, so if one agent is doing better than another overall, their claims to particular resources will be smaller in comparison, and vice versa for those agents who are faring worse.[58]

These contingencies seem problematic when we turn to think about historical emissions, such are the informational demands this argument generates. In order to know whether an agent has overstepped their fair share of at any point in history we have to know what they have across a range of different goods, *as well as* what other agents have at that time. Given the extent of the challenge here, in my view the very notion of a historical fair share becomes unrecoverable. Certainly, it should be clear that this is a considerable distance from the Emissions Egalitarianism (EE) view. In that case, the much more modest requirement is to work out how much of the global sink capacity it would be permissible to exhaust and then divide this equally between the numbers of entitlement-bearers. An agent's fair share at one point in time is on this view the same as other agents, and this is the case over the period relevant to historical emissions. We have seen that this view is implausible for other reasons, but we might at least think its relative simplicity to calculate counts in its favour. On the more plausible, but variable, view of fair shares, however, the information we require is vastly more complex. In lieu of this information it might seem that we cannot establish what we need to: we cannot identify those agents who have used more than their fair share, nor the extent to which they have done so.

I think this problem of unrecoverability is indeed a serious one for the responsibility argument, but perhaps the conclusion drawn in the previous sentence is a little too quick. It does, though, seem to tell against the standard argument from historical responsibility, expressed in the form of the PPP. It thus problematizes, for example, the prominent role that Caney imagines for this principle in his hybrid account. His PPP holds that agent's should be responsible for extra climate burdens when they exceed their entitlement to emissions, but my claim is that this entitlement is unrecoverable. So can we make any progress in response to this problem? Are there any plausible responses for the responsibility view? As I have indicated, I think we can say something more here, but, surprisingly, our further attempts to unpack the implications of the Fair

[58] I am assuming here a substitutability of greenhouse gas emissions with other resources. There are of course limits to the substitutability of different goods: some amount of certain goods (e.g. air, water) are necessary to survive. These limits do not apply to greenhouse gas emissions, however, for reasons that I will discuss shortly. For helpful discussions of the issue of substitutability in this context see, Caney, 'Just Emissions', pp.283-291; Armstrong, *Justice and Natural Resources*, p.74

Share View will push us back toward the APP. I will make two simplifications at this point. The second I will drop again in a moment, but it serves a useful illustrative purpose.

First, let us assume now that it is states who are the relevant agents of climate justice. The initial argument about contingency did not rely on a particular view about agency: the point was rather about the relationship between a general currency and entitlements to isolated goods over time. That is not to say the implications of the argument is the same regardless of the level of agency we are working at. Indeed, the historical fair share seems *even more* unrecoverable on the individualist position, given the vastly greater number of entitlement holders that have existed; the point is just that the central thrust of the argument tells against either view about the appropriate agency. Even in light of this simplification, however, I am not appealing to a thick account of collective agency, and so I think those egalitarians who lean toward the individualist position, as most do, should still endorse my argument. This simplification to a state level of agency seems to me a common and mostly sensible move in the climate justice literature. While some, like Miller, endorse a substantively collectivist position, as a reflection of the independent moral importance of certain communities, others do so on rather thinner grounds, perhaps by way of recognising their derivative importance in securing the entitlements of individuals or as a reflection of the constraints of a certain political context.[59] It is only this latter sort of collectivism, which can still maintain individuals are the primary units of concern when it comes to global distributive justice, that I want to rely on here.

Second, imagine for a moment that emissions are a scarce good that are *necessary* for people to produce energy. It is uncontroversial, of course, that people have an entitlement to energy: some amount of it is required for people to lead a good life. If people have an entitlement to energy *and* emissions are necessary to produce that energy, then people have an entitlement to some fair share of the global sink capacity. But what would this fair share look like? On the assumption that the proxies egalitarians favour to make real-world judgements about inequalities will be the same as those we generally use to determine an agent's ability to pay, it seems like an agent's fair share will be indexed to the APP. This is just a reflection of the equalizing tendency of fair shares. Those who are faring better overall – have greater *ability to pay* – will have smaller general claims to the global sink capacity, while those who have less will have greater general claims.

[59] For discussion on this point see, S. Vanderheiden, *Atmospheric Justice: A Political Theory of Climate Change* (Oxford: Oxford University Press, 2008) ch.5, (esp. pp167-ff.); L. Meyer & D. Roser, 'climate justice and historical emissions', *Critical Review of International Social and Political Philosophy* 13:1 (2010) pp.229-253 (esp.p.244)

We can see, then, that even though they are contingent, we do have a principle that can help us think about fair shares of the global sink capacity. Everyone will have *a* claim to a share of the global sink capacity, given the stipulation I have made about its necessity for energy production, but those with greater ability to pay will have generally smaller shares. One conclusion we can draw from this is that the richest states historically, who will have had smaller claims to the global sink capacity, will have been more likely to exceed their fair share of emissions and incur obligations of responsibility. The APP, in other words, can help us think about contingent fair shares and appears to be an indicator of historical overuse.[60] I will clarify and defend the precise nature of the claim I am making about the APP here shortly, but first let me reveal the final aspect of the contingency of the historical argument and show how it too points us toward considerations of capacity.

Specifically, let me drop the simplification I just made about the relationship between greenhouse gas emissions and energy production. We know that in fact *it is not* the case that the global sink capacity is *necessary* for an agent to secure her energy entitlements. While it is true that as a result of climate change mitigation emissions are a scarce resource, it is not the case that they are strictly necessary for us because there are a number of other goods that can fulfil an equivalent role. This feature of a good, which signals the fact that it can be replaced by another (or others) without a loss to the agent enjoying it, is often referred to as its 'substitutability'.[61] In principle, emissions producing fossil fuel-based energy is of course substitutable with other forms of energy production, such as solar or wind.

It would therefore be a mistake to read off from an agent's general energy entitlements their entitlements to emissions in particular, because this will additionally depend on the extent to which emissions are 'necessary' for them to actually produce this energy. The sense of 'necessary' at stake here is I think very interesting and could be unpacked at some length, but I do not think that task need occupy the current investigation. What we can stay instead is that those states which have a greater ability to diversify their energy provision and easily produce it from other means will have, again, a smaller entitlement to the global sink capacity. The thought is just that these

[60] Relative growth rates matter here. In particular, there are two potentially problematic cases for my argument. The first is where a once relatively poor state is now relatively rich; the other is where a previously relatively rich state is now relatively poor. In neither case does it look like the APP does a particularly good job of capturing their historical sink entitlement because it is indexed to only current relative wealth. In the next chapter I will consider how much of a challenge these cases represent for my argument, as well as how we might tailor the APP to accommodate them.

[61] For a helpful discussion of this feature in relation to emissions, see Caney, 'Just Emissions', pp.283-291

agents have access to other goods that would allow them to enjoy the relevant energy entitlement, so have weaker claims to the global sink capacity and are owed a smaller share.

We can see here why we require an appeal to at least the sort of collectivism that I mentioned above. This 'ability to substitute', as we might call it, is a capacity mostly possessed by states, who have the means to alter the mix of energy infrastructures. All I mean by this is that it does not seem as plausible to say that individuals have control of the set of options they are confronted with when it comes to producing their energy. The point to stress is that this ability to substitute seems to be one component of an agent's broader ability to pay; it seems, that is, that ability to substitute will in many (most?)[62] cases broadly track an agent's general capacity, since one primary determinant of an agent's ability to substitute is that they have the financial resources available to produce and implement this technology. It will be harder, *ceteris paribus*, for a poor state (historically and presently) to make the transition to renewables, given that it will be harder for them to develop and implement the relevant technology. Given that their ability to substitute is lower – emissions are more necessary for them – they will be entitled to larger shares of the global emissions sink, and vice versa for rich states.

This is another way, then, in which the fair share required for the historical responsibility argument is linked to ability to pay: my claim is that general egalitarian claims to a particular good will be attenuated if an agent has easy access, in comparison to others, to alternative ways of providing the more generic good that the entitlement is intrinsically concerned about (e.g. energy), and their broader ability to pay will be one important factor in determining whether or not such an alternative is easily available. Again, the relevant conclusion in relation to the discussion at hand seems to be that rich agents would have had historically even smaller shares of the global sink capacity than they would if this resource was *necessary* for energy provision and will therefore, once again, have been more likely to exceed it.

[62] This is of course largely an empirical question, but the sort of cases I have in mind that would buck the trend are those where wealthy states who, for geographical reasons, are unable to easily implement renewable energy technologies.

VI. Conclusion

This chapter has argued that the APP ought to play the primary role in climate change burden sharing. I started by restating the plausibility of the APP. We know from our discussion of the limit of climate change policy that considerations of capacity will have to play some role in our account. We also know, though, that many people think that historical responsibility instead should play the dominant role in our thinking about climate justice. In trying to make a start on adjudicating between these claims I considered two prominent accounts which side in favour of the APP but ultimately found them both wanting. Moreover, they both suffered from a common problem: they did not do enough to convince us of their claim that historical responsibility should be afforded such a limited role. I then argued, following Miller and others, that the best, perhaps only plausible way to develop the argument from historical responsibility is through the notion of an exceeded historical fair share.

In this vein, the latter part of the chapter showed that views about distributive justice that will likely yield substantial claims to the global sink capacity will be ill equipped to generate a straightforward account of responsibility, despite those like Caney who suggest they can be bolted on to the PPP. On these accounts, any agent's fair share of the global sink capacity is a fluid thing, dependant on the set of goods an agent has generally and how they contribute to their wellbeing, the goods other agents have and how they contribute to *their* wellbeing and the ability of different agents to substitute emissions with other forms of energy. This dynamic entitlement seems implausible to apply historically, in light of its incredibly demanding informational requirements. Specifically, we would need to know an agent's access to goods more broadly and how their holdings compare to others. In trying to make progress in thinking about a historical fair share, I suggested we are pointed back, in interesting ways, towards ability to pay. To be clear, I do not think that the argument from historical responsibility straightforwardly collapses into the APP, but I do think that its approximation of the historical argument, combined with its independent plausibility as a principle of burden sharing, we ought to prefer the APP as the fundamental principle of climate change burden sharing. In other words, the APP should constitute the baseline from which we should evaluate just climate change policy and we must be given very good reason to depart from this principle. To this end, the next chapter will argue that although our general concerns about distributive justice point us toward the APP, we can nonetheless articulate some context-specific parameters of responsibility to help us think about the relevance of agency for climate change burden sharing.

Chapter 5

Accommodating Agency: Parameters of Responsibility in Climate Change Burden Sharing

I argued in the previous chapter that the sort of historical responsibility relevant for climate change burden sharing is that which tracks the overuse of the global emissions sink. It is this overexploitation which has created the threat of dangerous climate change that must be avoided through international burden sharing. I concluded that, surprisingly, the ability to pay principle (APP) can operate as a proxy for getting at this overuse, even though it does not capture it exactly. In addition to this indirect virtue – its ability to approximate the argument from historical responsibility – the APP is also a plausible burden sharing principle in its own right, which can be endorsed by a number of positions on distributive justice. In light of these two main advantages, my claim was that the APP ought to play the dominant role in burden sharing; it is, in other words, our fundamental principle of climate justice. In this chapter I want to consider the question of whether there might be some special cases where we can nonetheless justify departures from this principle.

In the end I will argue that there are two main reasons why we should ask the APP to bend in light of context-specific considerations of responsibility. First, we should modify it to deal with exceptional cases that reveal some potential unfairness present in my argument for the APP. This objection from unfairness questions the way I use *current* ability to pay as a proxy for use of the global sink capacity over a substantial historical period. Second, we should deviate from current a current APP in order to capture the wrong of noncompliance. I will suggest that inaction on climate change, *in light of knowledge about the severity and location of its potential effects*, represents an additional and distinctly relational injustice which our account of burden sharing should be able to account for. With respect to both, I will outline a number of parameters of responsibility to express the justifiable departures. Once I have my complete account in hand – the APP, along with the parameters justified by these two arguments – I will consider how it interacts with an argument that suggests we defer the costs (importantly, not the actions) of mitigation into the future. I will argue that my argument for the APP is less open to this form of cost sharing than others, and even less so after the fine-graining that takes place in this chapter.

My deployment of 'parameters of responsibility' is inspired by Iris Marion Young's advocacy of 'parameters of reasoning' in the context of structural injustice.[1] Young's idea is that although structural injustice does not give rise to discrete, in principle specifiable duties, there are nonetheless a number of parameters of reasoning we can use to help us orient ourselves toward our duties and begin to discharge them. My parameters are similar to this in that they will not yield exactly calculable additional or reduced burdens for each state; rather, they are intended as standards to help us judge the permissibility of departures from the APP. This evaluative function is, I think, especially well-suited to the domain of climate politics given the mechanism of Nationally Determined Contributions (NDCs) recently agreed upon in Paris. These contributions represent different state's pledges to climate change burden sharing, and the Paris Agreement requests they be communicated publicly, in a clear and transparent way, so that the international community can judge whether they amount to their fair share of the net cost of mitigation.[2]

When assessing whether an NDC constitutes a *just* contribution to burden sharing, my account thus asks, first, whether it tracks that state's relative ability to pay. If not, it asks whether this departure can be vindicated by one or other of my parameters of responsibility. If their contribution *does* match their ability to pay, we can ask whether it might nonetheless be insufficient once we have factored in my parameters. A final point to emphasise about my parameters is that I do not think my list should be considered exhaustive. My aim is to show that my account can be rendered responsibility-sensitive in important context-specific ways and to outline some of the main reasons we might want to depart from the APP.

The argument will proceed as follows. As a way of clarifying the sort of role we might want my parameters of responsibility to play in our account Section I will show that if we even if we did not include them at all, my argument for the APP would not entail a problematic responsibility scepticism. I will suggest that there are in fact three possible points of entry for responsibility considerations in my account. I will show that one of these possibilities, the possibility that responsibility considerations can be incorporated into general egalitarian claims on the global sink capacity, is implausible and should be rejected. Section II will consider some possible ways in which unfairness might enter into my argument for the APP. Here I will outline my first parameters of responsibility as a way of addressing these concerns. Specifically, these parameters will allow departures from the APP to accommodate differences in economic growth rates between states. Section III will introduce the other main way I will incorporate considerations of agency into my

[1] I. M Young, 'Responsibility and Global Justice', *Social Philosophy and Policy*, 23:1 (2006) pp.102-130 (at. pp. 125-131)
[2] United Nations, *The Paris Agreement* (Paris: United Nations, 2015) accessed online at <https://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf> [accessed 02/01/2018]

account and clarify how my own approach differs to alternatives in the literature. In Section IV I will develop my own view, *wrongful noncompliance*, and articulate a further parameter of responsibility. The final substantive section (VII) will consider the implications of my parameters of responsibility for an argument that advocates we defer the costs of mitigation into the future. I will suggest my parameters give us reason to be sceptical about that proposal.

I. Conceptual Clarifications

Let me begin the discussion by drawing attention to the different points at which it is conceptually possible for my account to incorporate considerations of responsibility. In the previous chapter I set up the potential tension between the considerations of responsibility and ability to pay. Both are often seen as very plausible principles of burden sharing and it can be hard to adjudicate between them. My view, at least initially, has fallen on the side of capacity by arguing that it is the APP which should form our evaluative baseline in the climate change context, with the burden of proof falling on any departures from this principle.

It is important, though, to emphasise that my objection was to a very specific sort of responsibility. To give it its technical, if somewhat cumbersome description, it is the responsibility for the historic distributive injustice of the overexploitation of the global emissions sink. I called the claim that this sort of responsibility is central to a just distribution of the burdens of climate change the Fair Share View. This form of historical responsibility seems plausible in the climate change case and is endorsed by a number of influential accounts, but I showed that when combined with the plausible accounts of distributive justice most likely to yield substantial entitlements to the global emissions sink, this argument requires information that is unrecoverable without the help of the APP. It is of course compatible with thinking this sort of responsibility can only be captured by the APP - and even then only imperfectly -to hold that many other problematic forms of conduct can be captured more directly. The surprising implication of the general responsibility argument in this context is a reflection of the distinctiveness of the climate change problem, which I have gone to some lengths to describe, in contrast to other problems where harm is generated in a more linear fashion and where a proportional contribution might therefore more genuinely reflect wrongdoing. This should be obvious, but it is worth making the point explicit in order to block the accusation that my account embodies a controversial responsibility scepticism. My argument did not deny the importance of responsibility considerations, only our ability to identify them *in this specific context* without the APP as a proxy.

Now consider, along with the Fair Share View, some further conceptual possibilities for incorporating responsibility into to my account, which I will describe and, where necessary, fill out substantively over the course of the following discussion.

> *Responsibility Weighted General Claims*: An agent should be held responsible for their relative level of capacity, and this should be taken into account when determining their general claim to the global sink capacity.
>
> *The Fair Share View:* An agent should remain within the fair share derived from their general claim to the global sink capacity and are responsible for mitigation and adaptation burdens if they do not.
>
> *Responsibility for Noncompliance:* An agent should bear additional responsibilities in light of their noncompliance with climate change burden sharing.

The first of these, Responsibility Weighted General Claims, might initially seem to pose a challenge for my argument in the previous chapter, but I think it can actually be handled rather easily and does not warrant any modifications to my position. I will briefly rebut this challenge, before turning to the more promising avenues for accommodating agency.

My main claim in the last chapter was that general egalitarian claims to the global sink capacity at any point in time are tied to the APP, as a result of the way relative capacity both reflects the strength of agent's claims to a particular resource and provides an indicator for how easy it would be for them to access alternative forms of energy. It is the first of these points which is relevant here. Following insights from Chris Armstrong and Simon Caney, I claimed that egalitarians will think that the benefits and burdens of a particular resource should, *ceteris paribus*, be distributed in a way which equalises different agent's holdings in the relevant currency of equality. The APP can help us achieve this purpose, I suggested, because it acts as a proxy for a range of plausible accounts of the currency, and also has an equalising effect by demanding that the rich bear more burdens and the poor less. But this seems to assume a *static* view of justice, where existing outcome inequalities are taken as authoritative when generating egalitarian claims to a resource. This might be a problem given that many egalitarians instead endorse a *dynamic* view, where an outcome inequality *is not* sufficient to identify an unjust inequality. Specifically, many egalitarians will want to make their views, at least to some extent, responsibility catering and could

therefore claim that an outcome inequality between agents in their overall capacity is just so long as it tracks in the relevant way the different choices they have made.[3]

Adopting a dynamic view opens up the possibility of responsibility weighted general claims. To see this, suppose that an inequality exists between two agents, A and B, where A is significantly better off. On the view I have espoused so far, as a result of this disparity, agent A would have a much smaller claim to a particular resource, and vice versa for the worse off B. But it is possible on the responsibility weighted view that this inequality has arisen from the voluntary choices of the different agents and is as a result unobjectionable from the point of view of egalitarian justice. If the inequality is justified, it is not clear that B has a greater egalitarian claim to the resource on offer.

For this discovery about responsibility weighted general claims to disturb my argument for the APP, then, it would have to be the case that global inequalities over the period of historical emissions can generally be vindicated by the different choices different agents have made. This strikes me as an obviously implausible claim, however, which we need not spend any more time entertaining.[4] To be clear, in rejecting the relevance of responsibility weighted claims for my argument *I am not* rejecting the principle which underpins them. The claim is just that the case for responsibility weighted claims is not a defensible one in our world, even for those egalitarians who do hold that we ought to cater for agent's different choices, and I can thus remain neutral on the question of how responsibility-catering our egalitarianism should in fact be.

As we can see above, though, there are other possible ways in which we might incorporate agency into our account. In the next section I will consider some further challenges to my argument that the APP can serve as a proxy for the Fair Share View of historical responsibility. Some of these will prompt modifications to my position in the form of parameters of responsibility.

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[3] The strand of egalitarianism most associated with responsibility has become known as 'luck egalitarianism'. For important discussions see G. A Cohen, *On the Currency of Egalitarian Justice, and Other Essays in Political Philosophy* (Oxford: Oxford University Press, 2011) ch.1; R. Dworkin, *Sovereign Virtue: The Theory and Practice of Equality* (Cambridge: Harvard university Press, 2000); K. Lippert-Rasmussen, *Luck Egalitarianism* (London: Bloomsbury Academic, 2016). Luck Egalitarians have, however, been criticised for the considerable emphasis they place on personal choice in justifying inequalities. See S. Hurley, *Justice, Luck, and Knowledge* (Harvard: Harvard University Press, 2005); E. Anderson, 'What's the Point of Equality', *Ethics* 109:2 (1999) pp.287-337. For a useful volume on the relationship between responsibility and egalitarian justice see, C. Knight & Z. Stemplowska eds., *Responsibility and Distributive Justice* (Oxford: Oxford University Press, 2011)

[4] Two very notable scholars of global justice do at points indicate sympathy with the view that global inequalities can be traced to national responsibility. See J. Rawls, *The Law of Peoples* (Cambridge: Harvard University Press, 1999) p.108; D. Miller, *National Responsibility and Global Justice* (Oxford: Oxford University Press, 2007) ch.5. I do not think this view would be taken seriously by any global egalitarians, though, and is of course this sort of view that I have been drawing from.

Subsequent sections will then go on to elaborate on the final possibility, Responsibility for Noncompliance.

II. Unfairness and Exceptional Cases

The challenges to my APP that I will consider in this section can be presented as exceptional cases. To start with, consider the following.

> *Green Utopia:* has a high level of relative capacity but has historically produced its energy from sustainable means.[5]

A remark is in order to help clarify the sort of challenge to my argument presented by this case. I want to stipulate that Green Utopia is green for reasons that are unrelated to burden sharing, that is, it did not in response to climate change design and implement a renewable energy regime. I will consider below the sort of moral assessment appropriate for agent's actions in light of knowledge about climate change. Green Utopia just happens to be green; perhaps its citizens had other safety concerns about fossil fuel-based energy or perhaps Green Utopia had bountiful opportunities, as a result of brute geography, to produce cheap renewable energy.

The challenge posed to my argument should be obvious. Although it might generally be true that the APP tracks historical overuse, here we have a case where it clearly does not, where a state has gained a high level of capacity *without* overusing the resource of the global sink capacity. As a result, it might be deemed unfair to ask Green Utopia to bear burdens in proportion to its current ability to pay. How problematic, then, is this case for my argument? Not very. While in principle Green Utopia would present a challenge for my argument – and would prompt a parameter of responsibility to reflect this – in reality no such case exists. Renewable energy technologies, while at his point advanced and affordable, have only been taken up relatively recently. Instead, industrialisation was made possible by fossil fuel-based energy, and there is no country like Green Utopia, possessing both a high relative capacity and a clean environmental record, to buck this trend.

There are some more nuanced examples, though, which I do think pose a challenge for my argument. Consider the following two examples, both of which focus on variations in relative growth rates.

[5] I benefitted from discussing this case with Steve Vanderheiden, to whom I owe its name.

Rapid Growth: State A has previously occupied a relatively low level of capacity but now, as a result of rapid economic growth, occupies a relatively high one.

Recession: State B has previously occupied a relatively high level of capacity but now, as a result of an economic recession, occupies a relatively low level.

The problem here is a kind of temporal unfairness that results when we use *current* ability to pay as a proxy for historical overuse. The APP, remember, tells us what an agent's general claim to a resource is at any one point in time. Those who have had a greater ability to pay will have had smaller claims to the global emissions sink and will have been more likely to have exceeded it, hence why I claimed that the APP will track historical overuse. But of course, relative levels of capacity, as these cases are supposed to show, have not stayed static over time; states have grown, and continue to grow, at different rates. Opting for the current APP as our fundamental principle of burden sharing seems from this vantage somewhat arbitrary: it indexes a state's historical overuse to a relative level of capacity they may have only been occupying for a short time. From the point of view of State A in Rapid Growth this might seem unfair, as they have recently reached a level of capacity that gives them a significantly larger share of the costs of climate change prevention.

This is a much more pertinent set of cases for our thinking about burden sharing than the one presented by Green Utopia. States like China, for example, have recently experienced a period of rapid growth but have pointed to their (per capita) lower historical contribution to emissions as a way of resisting demands for them to bear a relatively large portion of climate burdens. In contrast, some Eurozone states have experienced recent periods of recession and have dropped substantially from a previously high level of relative capacity.

It is important to flag-up one factor which pushes back against the temporal unfairness identified here. As I highlighted in the previous chapter, we know that energy consumption is closely tied to economic growth. If economic growth is energy intensive, we might suspect that rapid economic growth is *very* energy intensive. Thus it might be that *even though* State A in Rapid Growth might have once had a more significant share of the global sink capacity, as a result of its previously low relative capacity, it far exceeded it during this phase of rapid development, pushing its historical responsibility closer to the APP. This will of course ultimately be an empirical question, depending on the relationship between rates of economic growth and emissions.

In any case, I think there is indeed a potential unfairness here given the temporality of the APP which we should want our parameters to be able to rectify. The following parameters can help us get closer to a genuine reflection of historical overuse.

> *Parameter 1a) Recession:* Those states who occupy a currently low level of capacity but have up until recently occupied a relatively high level of capacity should commit more to climate change prevention than the APP would mandate.
>
> *Parameter 1b) Rapid Growth:* Those states who occupy a currently high capacity but have up until recently occupied a relatively low one may permissibly (subject to *Parameter 1 c)*) commit less to climate change prevention than the APP would mandate.

We might have a worry about the second of these parameters, 1b). Climate change mitigation will be tied to an aim, which requires some overall burden to be borne by the international community. Mostly, as we saw in Chapter Three, this aim is framed in terms of a temperature, but there are other ways we could flesh it out.[6] In stating The Exemption, I put forward a minimal constraint for this aim, but I also noted that we should set our sights rather higher than this when specifying the target we should ideally aim for. The worry now is that, if we do not adjust our account accordingly, permitting some agents to contribute less, as Parameter 1b does, risks undermining burden sharing by leaving a shortfall in the net contribution required to achieve our aim. Moreover, this might be an especially live concern given the situation in climate politics, where states have massively under-contributed to burden sharing so far. We might be worried about introducing into this context a parameter which allows a state to potentially reduce their level of contribution.

The baseline from which these parameters are operating matters here. They are, remember, intended to justify departures from the APP, not some current, substantially lower contribution. So it seems unlikely that any state would actually be able to justify a reduction in their contribution by using this parameter, given the paltry commitments to date. Nonetheless we should add a harm avoidance constraint to sure up our theory against this worry.

> *Parameter 1c) The Harm Avoidance Constraint:* Parameters of responsibility cannot be used to justify <u>decreased</u> burdens for a state unless it can be shown that others have made

[6] For example, we might worry that framing the target solely in terms of an average global temperature increase opens the door to concerning forms of geoengineering, such as Solar Radiation Management. Framing the aim in terms of carbon dioxide parts per million in the atmosphere, for example, would not have this implication given it specifically requires for its realisation a reduction in emissions.

contributions in excess of the level demanded by their ability to pay, in order to ensure there is no shortfall in net contribution.[7]

This of course will require some elaborating. In particular, we will need to know what it takes for it to be 'shown that others have made contributions in excess of the level demanded by their ability to pay', given worries we will have about empty promises. I will not pursue that project here, but I do think it is important to insert a harm avoidance constraint (though strictly not a parameter of responsibility) like this one.[8]

III. Responsibility and Noncompliance

In the last section I introduced a number of parameters of responsibility as a way of addressing some concerns about my argument for the APP, specifically about the way in which it produces a temporal unfairness by tying historical responsibility to current levels of capacity. In this section I will seek to incorporate into my account some context-specific forms of conduct which I have mentioned at a number of different points over the course of this project. The animating thought is that something has gone very wrong in the international response to climate change burden sharing which we should want our account of burden sharing to take into account. There has been, as I have indicated already, a stunning lack of concrete action in the international response, and considerable effort has gone into obfuscating the nature of the threat posed by climate change and deceiving the public about its severity. If this much is obvious, the more challenging question is how we describe the nature of this wrong and modify our account in light of it.

Given I have, in the previous chapter and in this one up to now, drawn from global egalitarian accounts of distributive justice, it makes sense to first consider whether these views have the theoretical resources to capture the problematic conduct that I am interested in here. Chris Armstrong, in his recent and important book, has what might initially appear a promising

[7] This harm avoidance constraint is, in turn, constrained by The Exemption; it would be impermissible, that is, for these additional burdens to be made up by those protected by The Exemption.

[8] It worth noting another possible version of this constraint. *Parameter 1d) The Strong Harm Avoidance Constraint:* Parameters of responsibility can only be used to justify additional burdens for states; they cannot be used to justify that an agent bear fewer prevention burdens than those already mandated by the APP. The problem with this constraint, in light of the foregoing discussion, is that it condones unfairness in burden sharing by not addressing *Rapid Growth*. Nonetheless, we might think that the particular context of climate change warrants this stronger version, which would not permit *any* reduction in states contributions, even in cases where pledges match their ability to pay.

way to capture this noncompliance with burden sharing responsibilities.[9] His egalitarian view leaves room for special claims over particular resources, which can temper general egalitarian claims over the total value of natural resources. One type of special claim it seems plausible to endorse, an improvement-based special claim, holds that agents have some rights to the value they have added to a particular resource.[10] As he notes, these sort of claims work in one direction, but acknowledging them opens up another possibility: if you can generate improvement-based special claims over a resource, for example, it seems to follow that you can also gain special responsibilities when you deplete a specific resource.[11] Noncompliance with obligations of climate change burden sharing might seem to represent just such a form of depletion, given that it is the continued overuse of the resource of the global emissions sink.

The problem with this possibility is that the most plausible way agents have depleted a resource in this context is through the overuse of the global emissions sink, which has already been captured by the distributive account I provided in the last chapter. This sort of conduct, so I argued, is best captured by the APP. Thus the egalitarian would need to expand their account of special responsibility in this case if they want to ground any additional duties – the standard argument from depletion does not offer any help. Perhaps they could do so, but I will not frame my arguments in this way. I think we are better off departing from the distributive paradigm offered by cosmopolitan egalitarians, which seems to me to fail to get to grips with the nature of the wrongdoing at stake.

In contrast I want to get at the issue of noncompliance more directly. Recent emissions have been carried out in circumstances that are substantively different to those in which earlier emissions were carried out in. In more recent times, people have not only been emitting in excess of their fair share, they have been doing so in light of knowledge about the magnitude of potential climate change harms and about the role they should be playing in the collective effort to prevent these effects coming about, and I will argue this should significantly change our moral assessment of their actions in a way that our account of burden sharing should be sensitive to.[12]

My departure here from the distributive paradigm is important in light of my discussion in Chapter Two. This is one respect in which my account *is not* an integrationist one as defined by

[9] C. Armstrong, *Justice & Natural Resources: An Egalitarian Theory* (Oxford: Oxford University Press, 2017) p.226-227; see also, C. Armstrong, 'Justice and Attachment to Natural Resources', *Journal of Political Philosophy*, 22:1 (2014) pp.48-65 (esp. pp.51-54)

[10] Though Armstrong is careful to qualify this claim. See Armstrong, *Justice & Natural Resources*, pp.101-111

[11] Ibid, pp.226-229

[12] I am not relying here on states having precise knowledge about the size of their obligations. The point is just that they have known about their general duty to contribute towards mitigation and have mostly fallen outside of any plausible interpretation of that.

Simon Caney.[13] My claim, to be substantiated below, that principles of burden sharing should be sensitive to concerns external to distributive justice is in effect to argue that we would not arrive at the right principles if we moved directly, as Caney thinks we should, from a general account of global and intergenerational justice to a principle of climate justice. Before elaborating on my notion of 'wrongful noncompliance' let me pause briefly to clarify what I do not take myself to be doing when looking at noncompliance.

There are actually a number of aims we might have when thinking about noncompliance, and a few of these in particular have recently attracted philosophical attention. First, some theorists have focused on noncompliance in an effort to reduce the deficit between ideal and nonideal theory. Ideal theory tends to assume full-compliance, which is obviously not a very realistic assumption, even in contexts far more tractable than climate change burden sharing.[14] Motivated by this, theorists often concern themselves with noncompliance in an effort to reduce this dissonance by, for example, building in feasibility constraints or recommending institutional reforms that might increase the likelihood of agents taking up their duties.[15] Second, increasing attention is being given to the issue of slack taking.[16] Here the aim is to work out what happens to an agent's duties when others do not comply – should they pick up the slack and do more than their fair share, or should they only do what they were initially obliged to do, or perhaps even less? These issues are of course both important, but they are not my interest here. Rather, my question concerns what additional responsibilities those who have not complied with their duties *in the specific context of climate change burden sharing* ought to incur. It is to this task which I will now turn.

IV. Wrongful Noncompliance

a. Relevant Features of Noncompliance

To get us started, Darrel Moellendorf will be a useful interlocutor, given the complete responsibility scepticism of his account. His, in my view unsuccessful, argument, remember, is that the APP should guide climate change burden sharing, and he does not include *any* remedial component in his account. What is the problem, then, with this kind of position? In my view, the

[13] S. Caney, 'Just Emissions', *Philosophy & Public Affairs* 40:4 (2012) pp.255-300.
[14] For a notable overview of debates about non-ideal theory see, L. Valentini, 'Ideal vs. Non-Ideal Theory: A Conceptual Map', *Philosophy Compass* 7:9 (2012) pp.654-664. For some criticism of Valentini's proposed typology see, R. Jubb, 'Norms, Evaluations, and Ideal and Nonideal Theory, *Social Philosophy and Policy* 33:1 (2016) pp.393-412
[15] See, for example, S. Caney, 'Climate Change and Non-ideal Theory: Six Ways of Responding to Non-compliance', in C. Heyward & D. Roser Ed. *Climate Justice in a Non-Ideal World* (Oxford: Oxford University Press, 2016) pp.21-43
[16] For discussion, see, for example, D. Miller, 'Taking Up the Slack? Responsibility and Justice in Situations of Partial Compliance', in C. Knight and Z. Stemplowska ed. *Responsibility and Distributive Justice* (Oxford: Oxford University, 2016) pp.230-246

core issue is that to demand only forward-looking burdens seems to do violence to the importance and weight of climate change duties and correlatively does not capture the wrong that occurs when agents do not comply with them. If we want to claim, as we surely do, that our duties toward climate change mitigation are very important, it seems perverse to then hold that nothing happens, an agent's duties do not increase, when they fail to comply with them.[17] What I want to suggest is that some states should stand in line to receive additional burdens on the basis of the wrong of conveying a particularly callous disrespect to the citizens of those states set to be most impacted by climate change. This is additional way in which I will argue recent emissions are problematic: they do not just represent the continuation of the distributive injustice of the overuse of the emissions sink, they also represent a form of relational injustice. The APP only captures the distributive component and will therefore need to be supplemented.

In order to get a sense of the nature of this wrong, consider four features of the recent behaviour of a certain group of states in relation to their obligations of climate justice. Hopefully a more nuanced picture will emerge over the course of the following discussion, but we might crudely describe the group of states that I am interested in as the 'early industrialisers', primarily of Europe and North America.

First, these states have for some time had advanced knowledge about potential magnitude of the effects of climate change. I was not yet born in 1990 when the first Intergovernmental Panel on Climate Change (IPCC) report asserted with certainty that 'emissions resulting from human activity are substantially increasing the concentration of greenhouse gases…These increases will enhance the greenhouse effect, resulting on average in an additional warming of the earth's surface'.[18] Since then predictions about climate change from major international institutions like the IPCC have become increasingly advanced and increasingly alarmed.[19] Its third assessment report, released in 2001, highlights the increased risk of, among other things, flooding, droughts

[17] Christian Barry and Laura Ferracioli level an analogous criticism at Iris Marion Young's forward-looking account of responsibility for remedying structural injustice. See, C. Barry and L. Ferracioli, 'Young on Responsibility and Structural Injustice', *Criminal Justice Ethics* 32:3 (2013) pp.247-257 (esp. p.255.)

[18] Intergovernmental Panel on Climate Change, *Climate Change: The IPCC Scientific Assessment, Report Prepared by Working Group 1*, eds. by J. Houghton, G. Jenkins, J. Ephraums (Cambridge: Cambridge University Press, 1990) p.xi

[19] It is worth noting that some have suggested that the IPCC projections are conservative. See, for example, S. Gardiner, 'Ethics and Global Climate Change', in *Climate Ethics: Essential Readings,* ed. by S. Gardiner, S. Caney, D. Jamieson, H. Shue (Oxford: Oxford University Press, 2010) pp.3-36 (at. pp.5-8). I think these concerns are important, but the IPCC standard seems better for the purpose of assessing states conduct, given its standing as an international authority on this issue.

and topical diseases.[20] Strikingly, it also notes that 'projected climate changes in the 21st century have the potential to lead to future large-scale and possibly irreversible impacts'.[21]

Second, developed states have also had advanced information about where the effects of climate change will disproportionately fall. They have known, specifically, that the severest effects will not fall on them but on disadvantaged parts of the world.[22] Again, this fact is broadcast by the IPCC: 'The impacts of future changes in climate extremes', the Third Assessment Report notes, 'are expected to fall disproportionately on the poor'.[23] This dynamic is often captured under a concern about 'skewed vulnerabilities' and it has elicited the attention of a number of prominent scholars of climate justice.[24] As I outlined in Chapter One, this vulnerability to climate change impacts has both a social and a physical component; it depends both on where you are and the effects that will be felt in that region, as well as the extent to which your infrastructure is resilient against these forces. The poor are significantly more vulnerable on each of these metrics than are the rich: they are geographically set to feel the severest effects and have infrastructures less resilient against them. Moreover, these effects are being felt *now*. In the Afterward to his recent book, Moellendorf, citing from the IPCC, notes that the average global temperature has already increased by 0.74°C and that as a result the North Atlantic is experiencing an increased frequency of tropical cyclones.[25]

Third, in general developed states increased their emissions for a significant period in light of knowledge about climate change. More recently, some have made modest reductions, but others have not. It took the United States, for example, until 2008 to bring its per capita emissions back

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[20] Intergovernmental Panel on Climate Change, *Climate Change 2001: Impacts, Adaptation, and Vulnerability, Contribution of Working Group II to the Third Assessment Report of the Intergovernmental Panel on Climate Change*, eds. by J. McCarthy, O. Canziani, N. Levy, D. Dokken and K. White (Cambridge: Cambridge University Press, 2001) p.6

[21] Ibid.

[22] That is not to say, of course, that developed states will not be affected by climate change, just that disadvantaged parts of the world will experience the severest effects and will experience them first.

[23] IPCC, *Climate Change 2001*, p.6

[24] See, for example, D. Jamieson, *Reason in a Dark Time* (Oxford: Oxford University Press), pp.145-147; S. Gardiner, 'A Perfect Moral Storm: Climate Change, Intergenerational Ethics, and the Problem of Moral Corruption', in *Climate Ethics: Essential Readings,* ed. by S. Gardiner, S. Caney, D. Jamieson, H. Shue (Oxford: Oxford University Press, 2010) pp.87-99 (at. p.90).

[25] D. Moellendorf, *The Moral Challenge of Dangerous Climate Change: Values, Poverty, and Policy* (Cambridge: Cambridge University Press, 2016) p.211

below the level they were at in 1986.[26] Australia's per capita emissions, even though they peaked in 2009, in 2014 *still* remained higher than they were in 1986.[27]

Fourth and finally, emissions reductions, though not insignificant, would not have been unduly costly for rich states to make, so long appropriately spread across their populations. The economics of this point should be familiar from Chapter Three. I used then a quote from Jamieson, which I think expresses the point well: if we were to mitigate now, he notes, 'it would take until 2050 to reach the GDP level that we would otherwise reach until 2049'.[28]

These four simple observations help us see the problematic nature of certain state's behaviour in response to climate change. Rich states have known for decades about the nature and magnitude of the threat; they have also known that its effects will be felt manifest much more severely in poorer parts of the wold with less resilient infrastructures. How have they responded to climate change in light of this knowledge? They have mostly increased their emissions, even though the costs of reducing them and moving toward renewable forms of energy would have been and are entirely manageable.

Shue has done as much as any other in articulating the shape of this wrong, and we can use his work as a platform for developing my parameter. As we know, his distinction between luxury and subsistence emissions is a powerful way of drawing attention of the last of my points, the relative ease of mitigation sacrifice, even if it cannot, as I argued in Chapter Three, ground a comprehensive right to subsistence emissions. But in a number of other places, too, he reflects on the actions of rich states against the backdrop of advanced knowledge about climate change, in a way that relates more directly to the sort of noncompliance I am interested in here. There is, as Catriona McKinnon notes, 'a righteous anger' that simmers beneath Shue's work, which will help us perceive more clearly the nature and extent of this form of wrongdoing.[29]

Often Shue's focus is on how those currently living wrong those in the future. This is of course entirely natural given it is primarily (though, given the global mean temperature increase to date, not exclusively) they who will feel the effects of climate change. He imagines rhetorically the

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[26] In 2014 the US level was 16.491 metric tonnes per capita, compared to France's 4.573. Figures from the World Bank:
<https://data.worldbank.org/indicator/en.atm.co2e.pc?end=2014&start=1960&view=chart&year_high_desc=tr> (accessed Nov 2018)
[27] Word Bank:
<https://data.worldbank.org/indicator/EN.ATM.CO2E.PC?end=2014&locations=AU&start=1985&view=chart&year_high_desc=true> (accessed Nov 2018)
[28] Jamieson, *Reason in a Dark Time*, p. 106.
[29] C. McKinnon, 'Climate Justice in the Endgame for 2°C', *British Journal of Politics and International Relations* (forthcoming)

moral condemnation our actions would merit from the point of view of these future people, who are facing disastrous climate change impacts as a result of insufficient mitigation.

> "If I were a desperate member of… [a] future generation, I think I would be furious at our generation and the short-sighted and self-centred do-nothing-ism of the USA, Australia, Canada and other laggard governments of the twenty-first century…It would be a good thing that one cannot harm one's ancestors, other than trashing their reputations. They might well view us with the contempt that we have for our forbearers who were slave owners or pirates. This is not how I was hoping to be remembered: as a good for nothing great-great grandfather who wallowed in comfort and convenience to such an extent that no viable options remained."[30]

In acting in this way, we are in Shue's view 'betraying' the future who are totally 'at our mercy'[31], 'for the sake of benefits to ourselves that are, even if not forbidden, utterly insignificant'.[32]

I think Shue's concern for his own legacy is misplaced, but it is hard to resist his general claim that our current actions will be looked at by those in the future in incredibly damning terms. But though Shue, in picking up some of the points I introduced above, has helped render stark some important dimensions of the wrong of noncompliance, we do not yet know how it should factor into our thinking about the pattern of burden sharing in particular. It provides a strong reason why we *should* engage in burden sharing – because to avoid wronging the future – and it provides a compelling description of why and how our recent actions, the shunning of these burdens, is wrong – they exploit the powerlessness of future people to inflict potentially grave harm on them for relatively minor benefits. But what difference does this make to the relative level of burdens that we should seek from different agents presently?

b. The Distinctive Wrong of Noncompliance

Notice that Shue's moral anger in the passages I have quoted focuses on three of the four observations that I introduced above. His focus is on the scale of the potential harms in the future, the fact that states have actually increased their emissions over the recent period and that these increases have occurred when reductions would have been so easy. In my view, once we give due attention to the other feature I noted above, the issue of skewed vulnerabilities, we can see why the wrong of noncompliance ought to feature into our thinking about burden sharing specifically. What I want to emphasise here is that there can be an important difference between disregarding

[30] Shue, *Climate Justice*, p.235
[31] Ibid, p.236
[32] Ibid, p.274

the interest of *future people*, in general, for minor present benefits and disregarding the interests of *certain, or certain groups of, future people* for minor present benefit. It seems to me that the fact of skewed vulnerabilities makes the contemporary emissions from a position of high relative advantage communicative of quite a particular and offensive kind of message which, crucially, resonates in the present.[33]

The key is that the early industrialisers have increased their emissions knowing that these actions will not harm them, nor predominantly their own descendants, but rather, by a fluke of geography, the vulnerable descendants of the currently disadvantaged. This will communicate something to the presently disadvantaged who are connected to those most vulnerable to climate change in a range of important ways. As a result of this relation, I think the actions of the early industrialisers are expressive of a particularly callous form of disrespect. There are two ways, we might explain how these actions constitute a form of wrongful disrespect, and in order to understand them better it will be helpful to first elaborate on the relevant ways the current poor are connected to their vulnerable descendants.

One obvious way current members of a state will feel connected to future citizens is through familial ties: people now will care deeply about descendants vulnerable to climate change impacts, given that they will be only a few generations removed. But more generally, present people are connected to their descendants as part of a self-determining political community that persists over time. Being part of a self-determining political community, as we will see in more detail below, is of significant value to individuals. Such membership is important in the way it is constitutive of an individual's identity, for example, allowing them to form, revise and implement plans for their lives against a relatively stable background of meaning and value.[34] This connection to future people as part of a collective, unlike the relation between an individual and their family and friends, does not rely on any close personal ties or interactions; rather, it is borne of participation in collective practices which in various ways structure our lives. I think highlighting this connection between current and future members of a self-determining community helps us see why noncompliance is wrong in a way that has relevance for contemporary burden sharing. Consider now two subtly different characterisations of this wrong.

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[33] The following has been influenced by, T. Hill, 'The Message of Affirmative Action', *Social Philosophy & Policy*, 8:2 (1991) pp.108-130.

[34] For some useful, and contrasting, discussion on the value of Self-Determination see, D. Miller, *Citizenship and National Identity* (Cambridge: Polity Press, 2000) ch.10; C. Armstrong, 'National Self-Determination, Global Equality and Moral Arbitrariness', *Journal of Political Philosophy* 13:3 (2010) pp.313-334 (esp. p.317-319). For a specific discussion, which is very different to mine, on the relation between self-determination and climate change burden sharing see, M. Blomfield, 'Global Common Resources and the Just Distribution of Emissions', *Journal of Political Philosophy* 21:3 (2013) pp.283-304

First, given the ways membership in a political community shapes an individual's self-understandings, I think people will, in at least one specific sense, identify with future members of their community. The sort of identification I mean is not, to be clear, the sort posited by theorists like David Miller, which are supposed to ground strong duties of distributive justice between members of a political community at the expense of outsiders.[35] It is instead what we can call *status identification*: the presently disadvantaged will see themselves as occupying the same status in the eyes of the early industrialisers as their vulnerable descendants with whom they share an ongoing political community. The actions of the early industrialisers, by prioritising their luxury interests over the much more important interests of the future poor, fail to take seriously the latter's status as moral agents. My claim is that, by association, the present poor will see it as an attack on *their* status. Put simply, in the actions of the early industrialisers will convey a disrespect as a result of the status identification between members of an ongoing community.

A second, slightly different way we might capture this wrong is by focusing not on identification per se but instead on the way people's ability to pursue what is important to them now depends on their belief that they are engaging in practices that persist across time. On this view, in order for people to value and take meaning from their lives in the present, they have to have certain beliefs about the future. To the extent that these beliefs are being endangered by the severe effects of climate change associated with failed mitigation, those who are responsible for this failure are setting back interests in the present and not just in the future when these impacts make themselves felt.

The general idea that our projects are to some degree contingent on the existence and flourishing of future people has been powerfully expressed by Samuel Scheffler.[36] He labels this thought 'the afterlife conjecture'.[37] In order to persuade us of its plausibility Scheffler introduces a set of thought experiments which all ask us to imagine that we come to find out that human life ends soon after our own (natural)[38] death. Although he tweaks the details of each case to test the intuitive relevance of different, potentially distorting factors, his core argument is that in each scenario we would find it more difficult, in light of the knowledge that the human species will soon end, to pursue our own projects. These projects would seem rather futile, he claims, and we would be beset by a general feeling of apathy and disillusionment.[39] Moreover, Scheffler wants to claim

[35] See D. Miller, *Citizenship and National Identity*, ch.10
[36] S. Scheffler, *Death & the Afterlife,* (Oxford: Oxford University Press, 2016)
[37] Ibid, p.44
[38] It is important for Scheffler's cases that we die naturally, otherwise we might attribute our negative reactions to the thought of our own premature deaths.
[39] For example, Scheffler, *Death & the Afterlife*, p.40

that this is true of our projects more generally and not just of those, such as medical research, which are explicitly aimed at some goal that is only expected to be achieved in the future. If we indeed find it plausible that these apocalyptic scenarios *would* undermine, or at least inhibit, our ability to pursue our current projects, this proves, according Scheffler, that they rely for their enjoyment on certain beliefs about future people.

I think Scheffler is right to say that the enjoyment of our present projects depends on certain beliefs about these projects over time. The specific dimension of his afterlife conjecture relevant to the present discussion concerns the importance to us of the continuation of *collective* projects and particular *communities* over time. Many people, he observes, have 'projects that are defined in relation to a particular traditions'.[40] These present projects would become less tenable, according to the afterlife conjecture, if we had reason to believe they would cease to exist in the future. Again, Scheffler is clear that he wants to say something quite general here. His point does not only apply to those projects directly concerned with upholding a tradition, like the protection and dissemination of cultural artefacts or art forms; it also includes those which *only make sense* within the framework offered by that particular tradition.[41]

Scheffler thinks our vulnerability to this loss stems from a deep impulse within us to want to 'personalise' our relationship with the future, by which he means that we want to be able to imagine ourselves existing socially in the world after we have died.[42] This can only be achieved, in his view, with reference to a particular community. As he nicely puts it, this imagining is part of a 'unified attempt to defend and extend the coherence and integrity of our selves and our values over time, in the face of the apparently insuperable problems posed by our deaths'.[43] We can see, then, that the pursuit of our current projects depends not only on our belief that the human race will continue to exist after we have died but also on the belief that the *particular* communities that we are part of also survive us. Our current projects have value to us as part of collective traditions and practices which we imagine as persisting over time and which serve to personalise our relationship with the future.

The connection that I highlighted earlier, between the present and future members of a self-determining community, is thus a very important one, fostering the pursuit of a range of contemporary projects that we typically take for granted. It follows from this that threats to the practices, artefacts and members of a self-determining communities in the future are also, to a

[40] Scheffler, *Death & the Afterlife*, p.36
[41] Ibid.
[42] Ibid, pp.29-37
[43] Ibid, p.35

varying extent, threats to the present members abilities to pursue their valuable projects. Climate change of course poses just such a threat. Eighty per cent of the Maldives, for example, is less than a metre above mean sea level, meaning that climate change may make the island largely uninhabitable in the future.[44] In this case, it is no exaggeration to say that climate change poses a threat to the very existence of the collective in the relevant sense. The following, poignant quote from a member of the Maldivian community, reflecting in the threat posed by climate change, seems to me to give plausibility to the dimension of the afterlife conjecture I have been highlighting.

> "When I think about the Maldives disappearing, what really affects me personally is the story of the Maldives that's going to go…Our culture, our musical instruments, all these things that are unique to [the] Maldives are going to go away with the ocean. It's not just the country that's disappearing, it's the story the country has."[45]

The sense of future loss to the collective meaning associated with the Maldives clearly affects this member personally, in a way that is not reducible to a concern about the vulnerability of their own family or friends. Their concern about the 'story' of the Maldives seems to me to invoke the collective traditions and practices that help make sense of the world and their place within it.

In other cases, though, it is less clear that the very *existence* of the entire community is under threat in the way it is for the Maldives. Still, the effects of climate change, as we have seen, will be very severe, threatening vital interests and many collective practices on a large scale. It seems to me that there will be many cases, specifically involving currently disadvantaged states, where the threats to the future community will be such that it affects the viability of the current inhabitants' projects, even if what is being contemplated is less the complete loss of the ability to live collectively in the future and more the challenges that will be associated with maintain a flourishing collective life.

In my view, the status identification and the afterlife accounts capture intuitive ways in which emissions increases from a position of relative advantage wrong certain people in the present, *as well as* those who will actually experience the worse effects of climate change in the future. Both draw attention to different ways the vulnerability of future people, specifically those

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[44] United Nations Development Programme, *Climate Change Adaptation: the Maldives* (online: https://www.adaptation-undp.org/explore/maldives) [accessed: 20/03/2019]

[45] This quote is from an interview recently carried out Africa Bauzà, as part of her PhD research at the University of Reading. I would like to thank her for kindly allowing me to use it here. A. Bauzà Garcia-Arcicollar, *A. Towards Just Climate Futures: Embracing Islanders' Hopes and Losses in the context of Climate-related Migration* (PhD thesis, University of Reading, forthcoming)

who will be born into the generally disadvantaged states set to be hardest hit by climate change, has a special valence to some in the present. Importantly, when the current disadvantaged reflect on the sources of this vulnerability, they will see that it is partly a result of very avoidable actions. They will see that those culpable states were aware of climate change but did nothing about it when they so easily could have. They will understand, moreover, that these states *knew* that their own descendants would be comparably protected from climate change impacts, and so prioritised luxury interests not over their future citizens but over those of disadvantaged states already subject to such indifference from the international community. These actions therefore communicate a particularly egregious message to the current disadvantaged, failing to respect their status as moral agents: our account of burden sharing should recognise the way in which relations have been undermined and, moreover, should contain some measure for trying to repair them.

Before outlining the parameter of responsibility aimed at fulfilling that task, let me make two brief clarifications to the above arguments and also connect them back to the climate justice literature. It is important to reiterate the sort of obligations I take to follow from the connection between contemporary and future citizens of vulnerable states. My claim is not that this connection grounds thick obligations of distributive justice. Such a view would exert a tension with the cosmopolitan egalitarian account that I drew from in the previous chapter. My different claim is that this connection will have implications for the subjective experiences of the present poor in a way that will make the actions of the early industrialisers – emissions increases from a position of relative advantage with knowledge about skewed vulnerabilities – communicative of a form of disrespect. This need not entail that self-determination yields obligations of distributive justice that hold only between members of the same ongoing community.[46]

This might raise a related concern, which presses from the other direction. If we are standing firm on our egalitarian commitments here, might it be that we can partly construe one of my accounts of the wrong of noncompliance, the afterlife account, in distributive terms? The claim would be that if people's interests really are being set back in the present by knowledge about the vulnerabilities of their descendants, then this can be understood in terms of setbacks to their wellbeing.[47] Of course, the set of egalitarian views I drew from in the last chapter held that people should have equal access to wellbeing, and so this loss would elicit the concern of my distributive account. I think this is plausible: the deficits in wellbeing that will be suffered as a result of the

[46] For an account that aims to do exactly this see, A. de-Shalit, *Why Posterity Matters: Environmental policies and future generations* (London: Routledge, 1995)

[47] There is, for example, a growing literature on the implications for a person's wellbeing of their experience of risk that might help us think about this issue. See, for example, A. Baderin & L. Barnes, 'Risk and Self-Respect', *British Journal of Political Science* (2018) pp.1-19.

afterlife conjecture and climate change impacts should be objectionable on our views about distributive justice. In my view, however, this not the only or main reason we should object to the way the current rich are endangering the present projects of the poor. As my argument suggests, I think this wrong is best seen as a relational one, where the actions of the rich are disrespectful to the poor as a result the way their actions fail to take seriously their status as moral agents. There is nothing inconsistent about thinking that the afterlife conjecture in this context has implications for distributive *and* relational justice, but it is the latter that I think warrants a special departure from the APP.

Finally, before moving on, I think drawing attention to the nature of the wrong of noncompliance helps us see another reason why Moellendorf's commitment to APP monism is problematic. In developing his position, he draws heavily from Tim Scanlon's account of the mutual justifiablily of principles.[48] In particular, he thinks that the 'risks and sacrifices of international policy must… in principle be justifiable to each person'.[49] We have seen this commitment in action: in Chapter Four I discussed Moellendorf's 'superficial' justification, which he uses as grounds for his APP. This justification appeals to 'a familiar sense of the reasonableness of acting in good faith' by keeping to prior commitments. So we can see that Moellendorf's account is at heart a relational one; he does not seek to justify burden sharing with recourse to a particular distributive patterns but rather invokes a standard a standard of interpersonal justification which is taken to flow from the inherent dignity of individual people. In light of this standard, it seems to me Moellendorf should be especially condemnatory of noncompliance, given the way these actions fail to treat the current and future poor with the respect demanded by their possession of equal dignity.[50] More pointedly, it seems to me that the current poor would have reasonable grounds to reject an account of burden sharing based solely on the APP, in light of its indifference toward past, present and future noncompliance.

[48] See T. M Scanlon, *What We Owe to Each Other* (London: Harvard University Press, 1998)
[49] Moellendorf, *The Moral Challenge of Dangerous Climate Change,* p.21
[50] As an aside, I think this issue of noncompliance again helps us see the problems inherent in Moellendorf's reliance on a superficial justification in this context. It seems to me to problematically under-describe the issue to claim that from the point of view of burden sharing the core problem with noncompliance is that it violates the norm of good faith in reasonable deliberation.

c. Parameter of Responsibility for Noncompliance

In this section so far I have argued that one wrongful aspect of noncompliance is that it conveys a disrespect to the present poor. But how can we identify this wrongdoing? I propose the following parameter.

> *Parameter 2) Wrongful Noncompliance:* Those states who increased their emissions after 1990+*n* from a position of relative advantage should make contributions to climate change prevention greater than those demanded by their relative ability to pay.

Let me make a few clarificatory remarks about this parameter. The choice of the year 1990+*n* is to allow states a reasonable grace period after the First Assessment Report to adjust their infrastructure plans to begin reducing emissions. It would be unreasonable to expect states to have immediately begun reductions upon learning about climate change, given that some emissions increases would already have been locked in.[51] I think we should interpret *n* strictly, though, based on the expectation that following such an unequivocal statement about the threat of climate change, states would immediately begin to make adjustments to their energy policy, even if this would not amount to an immediate reduction in actual emissions. Even though much of the above argument, especially concerning the afterlife conjecture, applies to individuals, just as in the last chapter, I have simplified matters in my parameter by referring just to states.[52]

Again, this parameter is stated quite generally. The core point is that emissions from a position of relative advantage, in light of advanced knowledge about the severity and location of climate change effects, represents a specific kind of expressive wrongdoing that warrants additional burdens. This is compatible in principle with a number of ways of distinguishing between noncompliers. I think this, as with the interpretation of *n*, is partly a contextual task, but we can easily identify a few potentially relevant considerations. For example, the length of time over which emissions increased would seem a relevant consideration, as would the magnitude of the increase. In addition, the relative level of capacity would seem relevant, as in general the higher a state's capacity, the more emissions will be used to produce luxury goods. Finally, and relatedly, a state's ability to substitute to alternative forms of energy might be relevant here.

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[51] That said, though the First Assessment Report is a landmark study in establishing beyond reasonable doubt the presence of climate change, the problem did not come out of the blue. There were numerous studies before this that, to varying degrees, posited the existence of climate change. For a useful timeline see, Jamieson, *Reason in a Dark Time*, ch.2

[52] I suggested in Chapter Four that this ability to substitute will generally track a state's capacity.

In light of the discussion in Chapter Four about responsibility for climate change, a key point to notice about this parameter is that it *does not* require a direct link between emissions and climate harm. The relevant sort of responsibility here the responsibility for damaging a *relation*. States have damaged their relations with other states through performing certain actions (emissions increases from a position of relative advantage) that are wrong in light of specific knowledge (about climate change and skewed vulnerabilities). The wrongness of these acts does not therefore depend on the exact amount of additional harm caused by emissions.

V. The Deferral of Mitigation Costs

So far I have introduced a number of parameters of responsibility that can justify departures from the APP. Some of these were aimed at potential unfairness produced by my arguments in Chapter Four, while those in the previous section tried to capture certain forms of problematic behaviour that have occurred since knowledge about climate change has become widespread. In this final section, I want to consider how my argument, and in particular the parameters introduced in the last section, interacts with an argument that is gaining currency in debates about burden sharing. There are a number of ways this proposal might be implemented, but the central thought is that although we ought, as a matter of urgent priority, perform the *actions* required for mitigation now, we can permissibly defer at least some of the *costs* of doing so into the future.[53] The argument thus advocates taking the necessary policy measures in the present but asks future people to bear some portion of the burdens. I will assume for the sake of argument that this policy is indeed practicable; my interest concerns its appropriateness in light of what I have said so far. Importantly, this view is often motivated by something like the APP, that is, the specific claim is that future people ought to bear some of the costs of mitigation on the grounds that they will, according to standard economic analysis anyway, be better off than we are.[54] Perhaps this poses a challenge to my argument that we should make current states' ability to pay the baseline for burden sharing – if we are rallying behind the APP, ought we not to follow this logic through and ask those genuinely more able, those future people, to bear the costs of mitigation?

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[53] John Broome's statement of this view is probably the most well-known. See J. Broome, *Climate Matters: Ethics in a Warming World* (New York: Norton & Company, 2012) ch.3. For a more extensive list of references to this view see fn.84 in Chapter One.

[54] Caney's view is a good example of an APP-based argument for the deferral of costs. See S. Caney, 'Climate change, intergenerational equity and the social discount rate', *Politics, Philosophy & Economics* 13:4 (2014) pp.320-342, (esp. pp. 330-ff).

The first thing to emphasise here is that my argument in the last chapter showed that we can have different reasons for endorsing the APP. As I said above, in my view the APP has two main virtues, and this can give us different options when thinking about the deferral of costs argument. If we are attracted to the APP on independent grounds – we just think it generally plausible to ask those who have more to contribute more to collective burden sharing – then we might be quite open to this argument about transferring the costs of mitigation across time. But if we are using the APP as a proxy for historical responsibility for climate change, which I have suggested we can, then we will naturally weight the APP in a way that burdens those who are currently living. It is these people, along with their ancestors, who have overused the global sink capacity.

We might, then, resist the conclusion that the deferral of cost argument is an implication of the APP if we are using it as a way of capturing the importance of historical responsibility. I think *Parameter 2)* exerts an even stronger pressure against the argument from deferral of costs. My argument for that parameter, remember, was that in addition to exposing (mostly) future people to the risks of massive harm, the recent emissions of already advantaged states conveys a disrespect to current members of disadvantaged states who are connected to them in various ways. As an acknowledgement of the damage to the relation between states, I suggested that the perpetrating states ought to make contributions to burden sharing greater than their ability to pay. This would begin to repair the damaged relationship; albeit a rather small gesture, it would at least be a step in the right direction toward just relations.

These obligations too seem tied to the present. They are obligations that hold between different agents who exist now, as a result of recent behaviour that has undermined a relation that should exist between them. The recent emissions of rich states have failed to treat the current poor with the respect that their equal moral status demands, and I have argued that those transgressing states are obligated to bear costs on this basis. To avoid these costs by deferring them to future people would fail to recognise the extent to which their actions have damaged, and continue to damage, these relations.

There is an important caveat to insert here. My primary concern in outlining *parameter 2)* was of course one relating to the relation between currently rich, high emitting states and the currently disadvantaged states who are particularly vulnerable to the impact of climate change. I have suggested that additional burdens can be demanded of some states on the basis of a concern for this relation. But there are other possible ways in which those culpable rich states might try

and address the damaging message their contemporary increases in emissions have conveyed. Thus we can imagine someone making a proposal along the following lines.

It might be pointed out, first, that the central rationale of the deferral of cost argument, or the APP version of it at least, is to free up finance for present people by asking the (allegedly) richer future to pay. But this says nothing of what we are to do with this finance which would otherwise go toward climate change mitigation. What we could do instead, it might be suggested, is engage in more direct redistribution to the disadvantaged states in question. This would seem doubly beneficial for those states, for their contribution to mitigation would not change but they would also be set to receive additional benefits from the savings made on mitigation by the rich.

I am open to this suggestion in principle, but there are a number of points we should note about it. First, it is very unlikely that a state would make this proposal, and even less likely that it would make good on it. The possibility that we should be more alive to is that rich states shifting costs into the future as a way of freeing up investment to pursue their own short-term goals. Relatedly, it should be emphasised again that I am articulating a special set of duties that arise in the context of climate change burden sharing on the basis of how some agents have behaved toward others. These additional obligations are not general duties of global distributive justice, but nor do they encroach on them. My account is compatible with substantial redistributive obligations of global justice – indeed, as should be obvious from the cosmopolitan arguments I have canvassed in this chapter and the last, I am sympathetic to such obligations – and the worry I have with regard to this revised justification for the deferral of costs argument, is that even if, against all likelihood, the savings from mitigation policy were channelled to the disadvantaged, these benefits would take be framed as exhausting sate's international obligations.

In this section I have provided some reasons to be sceptical about the argument for the deferral of mitigation costs. This view is often associated with the APP, and so is an important one for me to consider. I have argued that the argument for the deferral of costs is constrained to the extent that we are using the APP as a proxy for historical responsibility. I also suggested that this proposal is in tension with *parameter 2b)*. I should stress, though, that there is rather more to be said about this issue, and I do not think my position is incompatible with any such deferral of costs. The reasons I have given here warn us to be sceptical about the degree to which this argument can reduce burdens for current agents.

VI. Conclusion

This chapter has set out a number of parameters of responsibility for justifying departures from the APP. I began by showing that there are actually a few different ways in which we might incorporate responsibility into my argument. I argued that the possibility of responsibility weighted general claims, in our world, does not give us fairness-based reasons to depart from the APP. In certain exceptional cases, though, my argument for the APP does seem unfair on certain states. So long as we guard against a potentially harmful shortfall in the net contribution to burden sharing (P1c), these cases can motive such departures, and I identified two parameters of responsibility (P1a and P1b) to guide this evaluation. I then turned to the issue of noncompliance. My argument was that there are certain forms of noncompliance that embody a distinctively relational form of wrongdoing. Noncompliance from a position of relative advantage conveys a disrespect to the citizens of those disadvantaged states set to be hit hardest by climate change. When thinking about how to divide the burdens of climate change policy between contemporary agents, those who have perpetrated this wrong should take a greater share of the burdens than they otherwise would have. I used my final parameter (P2) helping us identify this wrong.

Discussion of these parameters completed the substantive components of my account. The APP should be our fundamental principle of burden sharing, but the three parameters I have identified can justify departures in some cases. With this in hand, I finally considered how my capacity-based account interacts with the argument for the deferral of mitigation costs. The way I have used capacity as a way of getting at the historical overuse of the global sink capacity, along with the departures from it that I have justified in this chapter, will make my account less open to this form of cost sharing than we might expect. I think is worth emphasising in conclusion that my parameters of responsibility are not proposed as exhaustive, nor as a final say on the issues discussed. I have left room, for example, for different views about how we should differentiate between agents that violate parameter 2), wrongful noncompliance.

Conclusion

This thesis has provided an account of climate change burden sharing. From the outset, I have tried to stress the importance and novelty of the challenge posed by climate change to theories of distributive justice. In particular, the potential magnitude of the costs involved, if allowed to fall on the wrong people, makes our duties toward burden sharing very important ones. But articulating these duties in a satisfactory way is complicated, not least given climate change seems to place us in complex relations with people remote in space and time and seems to cut across a number of other issues of global justice. As a platform for my own account of burden sharing, Chapter One attempted to bring some clarity to the issue by pursuing two main tasks. First, I provided a rough taxonomy of the different sorts of costs associated with climate change, on both the impact and prevention side. Second, I provided a survey of how political philosophers have suggested we approach questions about the distribution of these costs. From this discussion I focused in on a number of persistent problems; given the importance of these issues, I claimed that an account of burden sharing which addressed each of them would be more plausible than one that did not. This yielded a natural structure for my dissertation, as I could dedicate a chapter to addressing each of these points.

In this vein, Chapter Two considered what role, if any, a principle that governs the use of the global emissions sink directly ought to have in our account. The view often known as Emissions Egalitarianism (EE), which holds that moral agents have equal claims to this resource, has been one of the most popular in the field. Following Caney, however, I argued that we ought to reject this principle, which is under-motivated and does not flow from any recognisable theory of distributive justice. Endorsing Caney's argument against EE seemed to come with some strings attached, however, as in his view we are compelled to adopt a methodological architecture he calls 'integrationism'. But while the negative side of Caney's integrationist critique is forceful, I developed my own argument against his positive claim, on the grounds that it slips from a definitional claim about distributive justice to a methodological one which relies on a range of undefended substantive commitments. Instead of adopting an integrationist methodology I concluded that only substantive argument will do the trick. I added, finally, that even the practice-independent theorist of distributive justice - who would likely be sympathetic to the substantive commitments I claimed were built into integrationism - need not embrace integrationism. I argued

they could resist it by denying that the principles of climate change burden sharing ought to function as principles expressing only first order commitments about distributive justice.

I took up, in Chapter Three, the closely related issue of how climate change burden sharing should relate to poverty alleviation. Here we are faced with a very stark problem: climate change mitigation requires us to rapidly reduce emissions but at the same time the very poorest globally require urgent access to cheap energy, which is often provided from fossil fuels. This would not be a problem if only developed states had fulfilled their obligations of climate justice and made renewable energy technologies available to those states; as it is, given they have not, I argued that this is the site of an increasingly acute tension between the harm avoidance and the burden sharing dimensions of climate justice. In response to this tension I articulated the first positive principle in my account, The Exemption. This principle guards some minimal threshold against both the costs of climate change prevention and impacts. I established the principle by rejecting the leading alternative in the literature and by defending it against a set of recent criticisms of its disposition toward harm avoidance.

The Exemption told us about who should not pay for climate change prevention, but this left the important question of who should. Chapters four and five addressed this question by providing an account of how we ought to balance the considerations of capacity and historical responsibility. I argued, first, that the argument from historical responsibility has to take a certain form in this context. Given the complex nature of climate change harm, any account of responsibility which relies on the relation between disaggregated emissions and the impacts of climate change is, I argued, destined to fail. There is a popular argument for responsibility which ties obligations to an agents' proportional contribution to net emissions which seems to do exactly this and which should therefore be rejected. Instead I argued we should adopt another conception of responsibility, the Fair Share View, which grounds historical responsibility in the overuse of the global sink capacity. But when we consider accounts of distributive justice likely to ground substantial claims over this resource, we find, surprisingly, that we are pointed back toward the ability to pay principle (APP). Given this discovery about the argument from historical responsibility, and given the independent plausibility of the APP, I concluded Chapter Four by suggesting that this principle should be the dominant one in our thinking about climate change burden sharing.

There might nonetheless by certain cases when we can depart from the APP, and I investigated these in Chapter Five. I argued that departures are permissible, first, to account for different historical growth rates. These growth rates have important implications for how accurately the APP tracks historical overuse. I also introduced The Harm Avoidance Constraint to guard against a harmful shortfall in net burden sharing. Second, and more importantly, I argued that we ought to allow departures from the APP in order to capture the distinctive wrong of noncompliance. I claimed that the distributive injustice that I focused on in Chapter Four does not appropriately capture this form of agency. More specifically, I argued that noncompliance is expressive of a particularly pernicious form of disrespect to the present members of the disadvantaged states set to feel the severest effects of climate change. The increases in emissions from a position of relative advantage, which have been widespread over the past few decades, sends an offensive message of disrespect to those currently living in disadvantaged states. I outlined two subtly different ways we might specify this wrong.

On the first, which I called the status identification account, I claimed that the poor will identify with future members of their self-determining community. As a result of this identification, they will view an attack on the interests of the future poor as also an attack on them. The second, the afterlife account, highlights the way in which the interests of the current poor themselves rely on certain beliefs about future members of their community. Here it is not the identification of the current poor with the future poor which is morally relevant, but rather the fact that the former's projects partly rely for their meaning and value on the continuation over time of the collective frameworks that make them possible in the first place. On both accounts, what causes offence is the fact that these troubling future vulnerabilities are partly the result of actions in recent history which are entirely avoidable and which have been carried out in the context of advanced knowledge about climate change and the location of its effects. Our account of burden sharing, I argued, should be sensitive to this wrong, and so the APP should bend in light of it.

Each chapter, then, made a novel intervention into the debate about climate change burden sharing. Overall I articulated a capacity-based account of climate change burden sharing which is sensitive to some specific context-specific forms of agency. Stated formally, the positive components of my account are as follows.

The Exemption: Agent A is exempt from bearing any of the costs of climate change impacts or climate change policy because their capacity is below threshold x.

The Ability to Pay Principle: Above threshold x, those who have greater ability to pay for climate change policy should bear a greater portion of the overall burden.

Departures from the APP can by justified by the following parameters:

Parameter 1a) Recession: Those states who occupy a currently low level of capacity but have up until recently occupied a relatively high level of capacity should commit more to climate change prevention than the APP would mandate.

Parameter 1b) Rapid Growth: Those states who occupy a currently high capacity but have up until recently occupied a relatively low one may permissibly (subject to *Parameter 1 c)*) commit less to climate change prevention than the APP would mandate.

Parameter 2) Wrongful Noncompliance: Those states who increased their emissions subsequent 1990 from a position of relative advantage should make contributions to climate change prevention greater than those demanded by their relative ability to pay.

These departures are subject to:

Parameter 1c) The Harm Avoidance Constraint: Parameters of responsibility cannot be used to justify decreased burdens for a state unless it can be shown that others have made contributions in excess of the level demanded by their ability to pay, in order to ensure there is no shortfall in net contribution.

In addition to these principles, there are a number of questions that are raised by my account which are ripe for further study. One feature of climate change burden sharing that loomed large in the thesis was the widespread noncompliance of developed states with their obligations of burden sharing. It is this feature that is propelling the increasing tension between harm avoidance and burden sharing, discussed in Chapter Three, which has elevated the importance of The Exemption in our thinking about climate justice. Moreover, as I tried to show in Chapter Five, noncompliance is particularly egregious in this context, given the relative ease with which the

relevant duties could be taken up and the magnitude and location of the costs that will be incurred if they are not. I think two questions emerge from what I have said about noncompliance that would prompt particularly interesting future research projects.

First, given the extent to which noncompliance is contributing to harm in this case, it seems important to ask about what forms of political resistance would be permissible when aimed at reducing it. Those in disadvantaged states who require subsistence emissions are, after all, being forced innocently to contribute to potentially very significant harm as a result of the noncompliance of others. It seems at first glance there would be quite a wide range of permissible actions which they could carry out to try and address this problem. For example, we might think there are grounds for those states, or individuals and collectives within them, to violate international intellectual property rights and patent laws in order to facilitate their transition to renewable energy technologies. We might also ask what actions are permissible for those in the currently culpable developed states – what can they do to work against the wrong being committed by their state? Theorising resistance and climate change noncompliance, then, is one natural project which would follow from the arguments I have provided.

Second, I think the parameter of responsibility I articulated for noncompliance should be supplemented. As I indicated in Chapter Five, one area of burden sharing where a state-based approach to agency looks problematic is here, in relation to noncompliance. The influence of corporations and powerful individuals can be, and has been, incredibly significant in stymying action on climate change, and given their role in perpetuating the wrong of noncompliance I think we should attempt to articulate a parameter which burdens them directly. Although I think this would be very important, it would also be very challenging. For one thing, we would want to have a clear sense of how any additional parameter would interact with the original one targeting developed states. We would also have to tackle a set of questions concerning corporate moral agency. Nonetheless, if we take, as we should, the realities of climate politics seriously, it seems these challenges ought to be taken up.

In general my account has tried to render more precise plausible convictions about climate justice, following through on their theoretical implications, even if they might seem surprising at first. My arguments in Chapter Four, for example, revealed that people have settled too quickly on an intuition about historical responsibility, without thinking through its compatibility with the views about distributive justice most likely to generate substantial claims to the global emissions

sink. Being more thorough in our theorising in this way will, in my view, help us see more clearly the ways climate change is interwoven with the economic structures that shape our lives.

I have also devoted special attention to elucidating the ways the altered normative structure of climate change burden sharing has important repercussions for our theoretical conclusions. Chapters three and five took up this issue most directly. In Chapter Three I showed that our current circumstance demands a reworking of one of our most fundamental convictions about climate justice, the commitment to protecting subsistence emissions. Relatedly, Chapter Five argued for a move away from orienting burden sharing as largely a response to the problem of climate change, towards seeing it as an unjust practice that done further damage to the already fractured relations between the advantaged and disadvantaged globally. The chapters of this thesis have addressed the enduring problems of climate justice, which are often treated as topics for debate in their own right, and as a result I hope the project has moved the literature forward in a number of different areas.

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