Introduction: climate justice

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It has been well documented that the kind of dangerous climate change with which we are faced is likely to produce major harms for the planet and those who live on it. The increased spread of disease, incidence of extreme weather events, sea-level rise, disruption to agriculture and so on are just some of the very significant harms that are likely to be caused by anthropogenic climate change. Ethics plays a crucial role in our understanding of the problem of climate change through determining how good or bad the effects of climate change are, identifying harms, establishing how severe these harms are and by comparing them to other harms. A related question to how we evaluate the harms of climate change is how we fairly distribute the right to emit, trade, offset and measure greenhouse gases (GHGs). One of the reasons that these issues are important is because of the potential for causing further harm by imposing unfair distributive arrangements as part of any climate agreement. A distribution that placed a large part of the burden of climate mitigation on the already disadvantaged, for instance, would increase the impact of harms and threaten to further exacerbate their disadvantage. Settling these questions involves engagement with broader theories of justice especially distributive principles, the procedures that accompany them, as well as the broader goals of climate justice.

These two aspects of climate change justice – consideration of the kinds of harms and the justice or otherwise of how those harms are shared – underscore why we need a normative framework that allows us to assess the dangers that we face as well as one that allows us to create a just distribution of the costs of action to prevent dangerous climate change. This is a challenge to which moral and political philosophy has a great deal to contribute. The chapters in this collection tackle many of these issues in new and interesting ways. Before discussing them, I will provide a brief discussion of some of the issues that frame an account of climate justice. In particular, how we ought to view the kinds of principles that ought to regulate the distribution of rights to emit greenhouse gases, which in many ways frames the current discussion of climate justice.

Allocating burdens

The burden created by the threat of dangerous climate change can take different forms ranging from the division of the remaining emissions, the costs of mitigation and adaptation including opportunities foregone, and compensating those who have been wrongly harmed. The most contentious issue for the climate debate to date has been how to allocate the remaining emission rights. At issue is what principle or combination of distributive principles should be used to decide on how to divide the costs of action to prevent dangerous climate change. Along with the science concerning the likely effects of different degrees of warming, these justice-based principles would ideally form part of the framework for any distribution of climate costs. At work in the debate are several different kinds of distributive principles: fault-based, benefit, equality and ability principles. Fault-based principles, often called 'historical responsibility', 'polluter pays', 'harm', 'contribution' or simply 'fairness' principles, require that the costs of action to mitigate or adapt to climate change should fall proportionally on those who have played the greatest role in contributing to those harms or risk of harms. What each version shares is the thought that there is a causal link between past actions that have contributed to some kind of harm and the liability to bear some of the costs of that harm.[1] In terms of the 'carbon budget' debate, the claim is that those countries who are causing or have caused a harm have a prima facie reason to shoulder the cost of addressing the effects of that harm, or, in the case of claims to emit in the future, to have their current or past emissions counted against any fair distribution.[2] One reason why this approach is relevant is because the total anthropogenic emissions have largely been emitted before the science of climate change was widely known.[3] While fault-based principles also apply to emissions that have been emitted in the very recent past and for those that are being emitted now, for convenience I will use historical emissions primarily to refer to emissions prior to the widespread dissemination of scientific knowledge of climate change.

The most drastic outcome of this position is that states guilty of large historical emissions would assume strict liability for all the costs associated with the harm to which they have contributed. One of the difficulties for fault-based principles that argue for strict liability is that often the form of the

[1] For discussion see: A. Gosseries, 'Historical emissions and free-riding', *Ethical Perspectives*, 11/1 (2004), 36–60; L. H Meyer, 'Compensating wrongless historical emissions of greenhouse gases', *Ethical Perspectives*, 11/1 (2004), 20–35; E. Neumayer, 'In defence of historical accountability for greenhouse gas emissions', *Ecological Economics*, 33 (2000), 185–92.

[2] The carbon budget is the amount of GHGs that we can emit before we risk dangerous climate change and we have already emitted more than half of it. M. Meinshausen *et al.* 'Greenhouse-gas emission targets for limiting global warming to 2 degrees C', *Nature*, 458 (2009), 1158–62.

[3] A. Grubler and N. Nakicenovic, 'International burden sharing in greenhouse gas reduction', *Institute for Applied Systems Analysis* (Laxenburg, Austria, June 1994), pp. 15–16.

principle is best suited to individuals and not parties. While it is easier to assign liability to a person living today who made a decision in the past as they are the same person, the situation of states is different. The question is whether states should inherit the consequences of actions of those in the distant past. What we might call 'weak link' problems beset applying fault-based principles to states and historical emissions. For strict liability to apply we ought to be confident that the state has the characteristics that allow duties to be transmitted where current and future members can be liable for the actions of past members. There are several versions of such problems. There are problems of 'broken transmission'. For instance, given that in many cases those who caused emissions in the past are long dead, we need a further argument concerning how the costs of their actions ought to be assigned. Second, there may be problems of what we might call 'legitimate repudiation'. For example, where the elite of a previous generation took on exorbitant amounts of debt to fund a lifestyle available only to them, the next generation has a plausible case for claiming that they are not the ones who ought to pay for this debt. In the case of climate change, current generations may argue that they should not have to sacrifice now as a result of the emissions debts of their forebears where these have not produced a lasting or well-distributed gain. A third issue arises when some in the state may have good reasons not to be bound by the state's actions. If an individual did not consent to the polluting policies and made significant efforts to mitigate his own behaviour (and perhaps the behaviour of others), then there may be 'exonerating circumstances'. Given that the bulk of the emissions that have caused today's climate change were emitted before people could reasonably be expected to have known about the effects of what they were doing, it is at least plausible to argue that responsibility might be reduced or even cancelled where there was 'reasonable ignorance'. All these kinds of cases raise questions about whether the link between the state and the citizen is strong enough to translate a state's past contributions to harms into current duties to ameliorate those harms.

Beneficiary principle

The contrast between the quality of life of a person in a developed country and that of someone in an undeveloped country is large, and caused in part by greater economic development with its associated GHG emissions. The fact that some countries have benefitted – even unwittingly – from this industrialisation and its associated emissions is an alternative source of duties to apportion some of the costs of climate change. The beneficiary principle, as it is often called, has different forms and applications. But the general idea is that if an agent benefits from an injustice that also causes harm to another agent or agents, the agent who has benefitted has a duty to compensate those harmed to the value of the benefit gained. Benefitting in this sense is different from

cases where the beneficiary is an accessory to a harm, that is, where they are involved in the actions that helped bring about a harm.[4] In the case of climate change (and taking countries as the relevant actors), the beneficiary principle has an obvious application in relation to understanding the generation of duties to combat climate change. Countries whose recent prosperity is built on the benefits of emission intensive industrialisation have benefitted unjustly from access to unrestricted emissions even though they may have been ignorant of the effects. Unlike fault-based principles, the beneficiary principle standardly refers to cases where the beneficiary is not part of the causal chain that caused the harm in the first place. Moreover, the benefits here in question are more than the fruits of a lucky error in someone's favour. It is central to the principle that the benefits accrue innocently (the beneficiary did not cause the harm) but also as a result of an injustice or wrongdoing.

Whether we find the use of the beneficiary principle more or less compelling will depend in part on how much of a role it plays in allocating duties to pay the costs of climate change. The strongest use of the principle would be to say that it was the only principle that mattered for the distribution of costs. Yet most of its proponents use the principle in conjunction with fault-based or ability-based principles. Caney, for instance, uses benefitting to augment the ability principle, employing it to help cover the allocation of those emissions that the ability principle doesn't address (what he usefully calls the 'Remainder').[5] This seems also to be the most common application of the principle as part of a broader approach, which can include fault-based principles.

Nonetheless, even where the beneficiary principle is combined with other principles there are issues that must be addressed. Leaving practical issues aside, the problems that persist for many different versions of the beneficiary pays principle concern to what I call 'proportionality'. Let me give some examples.

The first concerns what to say in relation to countries that have accrued a benefit as a result of emissions but since lost that benefit or a proportion of it. For example, take the problem of what Ed Page calls 'Rich Then, Poor Now', where a state has benefitted from the unjust use of emissions but has since squandered or lost the benefit.[6] In a variant of this problem, a country may have benefitted but those benefits went to only a few, as can occur in countries afflicted by the so called 'resource curse'. Second, imagine that a country had

[4] E. Page, 'Give it up for climate change: a defence of the beneficiary pays principle', *International Theory*, 4 (2012), 300–30; R. Goodin and C. Barry, 'Benefitting from the wrong doing of others', *Journal of Applied Philosophy*, 31/2 (2014), 363–76; Gosseries, 'Historical emissions and free-riding'.

[5] S. Caney, 'Climate change and the duties of the advantaged', *Critical Review of International Social and Political Philosophy*, 13/1 (2010), 203–28.

[6] E. Page, 'Climatic justice and the fair distribution of atmospheric burdens: a conjunctive account', *Monist*, 94/3 (2011), 412–32.

benefitted enormously from its emissions intensive industrialisation. Suppose further that there were several other countries in a similar situation. If the climate harms that have resulted from this benefit only cost a proportion of the benefit to fix, say 50 per cent, what should be done with the remainder of the benefit? Some argue that the beneficiary principle requires the beneficiary to relinquish all of the benefit where it was gained unjustly.[7] Others argue that this needs further argument. A similar and more likely scenario is that the costs of the harm exceed the benefit.

Ability to pay

The ability to pay principle is often invoked as a way of dealing with those emissions that cannot be easily accounted for, such as distant historical emissions from the long dead, without inflicting major sacrifices on those who cannot afford it. Roughly stated the principle is that those who are able to alleviate or mitigate harm ought to do so, even if they are not themselves responsible for that harm. In the case of climate change, this may mean that wealthy states would pay (or pay more of) the costs of climate mitigation and perhaps adaptation. Its appeal is that it allocates costs to those who can most afford to bear them, and spares burdening the poor with a cost that they would struggle to afford.[8] The rate at which countries pay can be proportional in that the super wealthy pay more than the merely wealthy and so on.

However, the appeal of this principle is likely to be less where it is the sole principle that regulates the distribution of emissions rights or mitigation costs. For instance, one objection is that the ability to pay principle does not take into account morally relevant considerations such as those causal links represented by fault-based principles. This seems true in the case of current or very recent emissions, but less so for those emissions from the distant past. If the ability to pay principle was to count as the only principle this would be a serious objection.[9] Similarly, some might argue that the wealthy are simply entitled to their wealth and the fact that this means the poor have extra burdens is not an injustice, though it might be bad in obvious ways. A response to this objection is to ask what would be the case if one were not to adopt an ability to pay principle in this context. If the wealthy were to assert that it is not their fault and

[7] Goodin and Barry, 'Benefitting from the wrong doing of others'. For a contrary view see D. Butt, 'A doctrine quite new and altogether untenable: defending the beneficiary pays principle', *Journal of Applied Philosophy*, 31/4 (2014), 336–48.

[8] For discussions see D. Miller, 'Global justice and climate change: how responsibilities should be distributed', *The Tanner Lectures on Human Values*, Tsinghua University, Beijing, 24–5 March (2008); H. Shue, 'Global environment and international inequality', *International Affairs*, 75/3 (2003), 531–45. Peter Singer's approach in P. Singer, 'Famine, affluence and morality', *Philosophy and Public Affairs*, 1/1 (1972) 229–43 is also closely related.

[9] See Caney 'Climate change and the duties of the advantaged'.

hence they should not pay, then the same is true for the poor, and they will be seriously disadvantaged by having to bear the burden. Unless all parties decide that business as usual is the best option, then someone will have to pay for mitigation and adaptation costs and it seems unfair if the poor assume that burden instead of the rich.

A second response to the objection that we should not ignore fault is to combine the ability to pay with some consideration of how wealth was gained. If, for instance, the wealthy have gained their wealth in ways that might diminish their entitlement, say in ways that are no longer acceptable such as colonialism, then their claim of entitlement is plausibly weaker. So too where the wealth has been gained through imposing externalities on others even if they are innocent, as is the case with dirty industrialisation.[10] In each case the claim to entitlement is less than it would otherwise be. This strategy does raise the question of how much the ability to pay principle overlaps with either the benefit or fault principles. If historical considerations alter or determine how wealth is allocated by, in this case, inquiring how the wealth was caused, then this seems to strengthen the scope and relevance of backward looking principles in climate burden allocations.

Equal per capita

One suggestion for how to avoid at least some of the uncertainty associated with the three principles above is to limit the contribution that a country can make via a fixed quantity principle, such as strict equality. Along these lines the Equal Per Capita (EPC) approach has been suggested, especially in relation to emissions budget, as one way of distributing burdens. While it is not a stand-alone principle, it draws on egalitarianism and has been widely supported.[11] The EPC approach simply divides the amount of GHGs that we can emit by the number of people in the world (usually adjusted to reflect a population baseline year), which gives us a figure of how many tonnes of GHG equivalent gases we could each emit as a baseline for allocating emissions entitlements. The justification for the EPC appeals to some fundamental intuitions. For instance, Baer argues that everyone has a prima facie claim to a share of the Earth's resources because it is a kind of global commons.[12] As Singer writes, 'Why

[10] See *op. cit.*

[11] P. Baer, 'Equity, greenhouse gas emissions, and global common resources', in S. Schneider *et al.* (eds.), *Climate Change Policy: a Survey* (Washington DC: Island Press, 2002), p. 401. See also: T. Athanasiou and P. Baer, *Dead Heat: Global Justice and Global Warming* (New York: Seven Stories Press, 2002), p. 28. A. Meyer, *Contraction and Convergence: the Global Solution to Climate Change* (Dartington, UK: Green Books, 2000); J. Moss, *Reassessing Egalitarianism* (London: Palgrave McMillan, 2014), ch. 4.

[12] Baer, 'Equity, greenhouse gas emissions, and global common resources', p. 401. See also Athanasiou and Baer, *Dead Heat: Global Justice and Global Warming*.

should anyone have a greater claim to part of the atmospheric sink than any other?'[13] While departures from EPC could be justified, each person has an equal prima facie claim to available world resources.[14] Others such as Pogge claim that people maintain a 'minority stake' in global resources.[15]

Yet, the difficulties for the EPC approach also stem from its lack of flexibility and scope. As Caney and Bell have noted, it fixates on one small dimension of environmental justice – the ability to emit – and applies the principle of equality to this dimension alone, whereas what we should be interested in is whether we have equal access to a whole package of goods.[16] For instance, just as we do not have a separate distributive principle for the allocation of iron ore or rare earths, we should not have a separate one for emissions. Emissions gain their importance from the contribution they make to other goods, and it is those goods to which we should apply a principle of equality. This is what we might call the *scope* objection. In addition, if we consider mitigation more broadly as both reducing GHG emissions and utilising GHG sinks, then it would seem we should have a distributive principle that encompasses both of these elements and not just emissions. Similarly, if person A emits the same amount as person B, but they also promote or contribute to the transfer of green energy technology, then this contribution to mitigation should also be part of the equation. This we might call the *incomplete response* objection.

Each of the approaches to how we ought to divide the costs of responding to climate change faces difficulties. Some of those difficulties can be mitigated when the principles are combined. This seems necessary in order to capture the complexity of the situation where we have past emitters, current beneficiaries, or parties as well as clearly culpable current emitters and non-climate related factors such as extreme poverty.

A just procedure

While getting the right principles to regulate the distribution of goods such as emission rights is crucial, so too is the correct procedure for arriving at the principles. There are two broad methods for arriving at treaties. The conventional wisdom is that only a process that is fully inclusive and fair to all parties will ensure that a treaty on climate change has legitimacy. Therefore states and the people whom they represent have to be involved in deciding these issues. This 'universal method' of treaty construction is exemplified in one way by the United Nations Framework Convention on Climate Change

[13] P. Singer, *One World* (Melbourne: Text Publishing, 2002), p. 39.
[14] C. Beitz *Political Theory and International Relations* (Princeton University Press 1979), p. 141.
[15] T. Pogge, 'An egalitarian law of peoples', *Philosophy and Public Affairs*, 23/3 (1994), 195–224, p. 200.
[16] S. Caney, 'Just emissions', *Philosophy and Public Affairs*, 40/4 (2013), 255–300.

(UNFCCC). Its characteristics are near universal agreement among parties, a low level of demands (with the possibility of increased demands in the future), a consensus-based approach, weak enforcement of agreements and a process that attempts to deepen the commitments of parties as it proceeds. In contrast to the universal approach the 'club method' begins with relatively deep commitments among fewer states and then expands the treaty by allowing other states to join. A treaty such as the General Agreement on Tariffs and Trade (GATT) is an example of this model.

Thomas Christiano's chapter questions this endorsement of the universal method. Christiano notes that for a process of creating international law to be legitimate, it must involve state consent, but that when the agreement concerns the pursuit of morally mandatory aims such as alleviating global poverty or climate change, there must be further constraints on the reasons given for withholding consent. Where states employ reasons that are, for example, irrational, unscrupulous or morally self-defeating in not consenting to the pursuit of morally mandatory aims, it is acceptable for other states to pressure them to do so. Thus the club method may offer acceptable advantages over the universal method (which to date has not been very effective), and opens up possibilities such as multi-state agreements on GHG reductions. One problem for this method is that the states that are part of the initial agreement necessarily have more say in the details of the agreement. Christiano notes that this leads to a kind of path dependence. Yet one response that he develops in the chapter is that this does not necessarily violate the demand of having an equal say in an agreement. Parties to an agreement may have different levels of input depending on what is at stake for them.

Establishing the right process whereby decisions are made on measures to combat climate change is also important in relation to specific measures. For example, procedural issues are central for any proposal for geoengineering the planet through solar radiation management, via cloud whitening or injecting particles into the stratosphere, and carbon dioxide removal through enhanced carbon sinks. There are many reasons why people have raised concerns about geoengineering, including that it is 'playing God' with the planet, or that it derails other attempts at mitigation such as the transition to renewable energy. Yet as Megan Blomfield points out, certain kinds of geoengineering techniques such as ocean fertilisation or solar radiation management are of concern because of their potential global effects, their uneven distribution and the general uncertainty surrounding their impact. She argues that such features demand a 'governance first' rather than a research first approach.

Blomfield claims that the current uncertainty that surrounds geoengineering could even have some normative value. Just as Rawls's original position was supposed to produce a fairer outcome because the parties would be uncertain about how the costs and benefits of various rules would affect them, so too with

uncertainty regarding geoengineering. Parties may be more likely to agree on fair rules for how to govern research where they are uncertain on their position in the distribution of costs and benefits. The uncertainty that we currently have regarding geoengineering might then help produce a fairer agreement. Given the uncertainty parties may seek to design governance mechanisms that, for instance, offer special protections for the disadvantaged.

Carbon budgets

We saw above that the EPC approach to dividing the world's remaining carbon budget draws part of its appeal from the idea that no one has any greater claim to the atmosphere's sequestering capacity. A common response to this position is to claim that it does not make sense to insist on equal shares of this good in particular, and that we should also consider a country's carbon budget in light of their efforts to reduce their emissions in other ways, such as developing renewable energy technologies. However, Chris Armstrong argues that there remain questions over ownership rights of terrestrial sinks like forests that may undermine the justification for the EPC position itself. Armstrong considers, and ultimately rejects, three bases for claims of ownership by particular groups. The first is attachment. A community who controls a rainforest may be very attached to it in the sense that their identities are bound up with access to it. Such a reason to exercise control over a terrestrial sink may not trump all other reasons or even equate to full control, but it might provide a *pro tanto* reason to prioritise their claims. Similarly, communities may claim that access to particular sinks is necessary for self-determination. Again this claim would need to be qualified according to how much of the resource and what degree of control is required to enable self-determination. The third type of claim stems from a party's efforts to improve a sink, which might draw on desert or responsibility-catering arguments. However, Armstrong claims that a better basis for the argument that states ought to get credit in some cases for terrestrial sinks is the sacrifices that are incurred by keeping sinks as opposed to using them for other purposes related to economic development.

The question of how to allocate the costs of climate change and in particular the remaining carbon budget is also complicated by another kind of issue. States are said to be responsible for the emissions they produce within their own territory and by extension for any harms that they may cause. However, the emissions that are produced from products that they export, such as coal, are the responsibility of the importing states. The same formula applies to determining a state's carbon budget. Yet there is an argument to suggest that this straightforward formula for allocating responsibility is too simple. For instance, consider other commodities such as uranium, tobacco or medical waste. In the case of uranium, if one state

exported it to another state knowing full well that the state was unstable and likely not to keep the fuel from falling into the hands of rogue military groups, or failed to maintain adequate safety standards, we would apportion some of the responsibility for the resulting harms to the exporting state. What all of the cases above have in common is that they involve goods that cause harm in a morally significant and blameworthy way. Similarly, Moss argues that we should apply the harm principle to the export of commodities such as coal, gas or other fossil fuels. If this is the case, then countries ought to assume some responsibility for the harm caused by their exports of fossil fuels.

If these claims that harms from fossil fuel emissions are the moral responsibility of exporting countries are correct, it has potentially dramatic consequences for how we apportion the costs of climate change as well as how we determine a country's carbon budget. While exporting countries may not have full responsibility for the harms that their exports cause, they plausibly have some. Similarly, accepting responsibility in this way may lead to a revision of a state's carbon budget.

Carbon trading

The discussion of whether there might be parallels between the responsibility that states accept in relation to commodities such as medical waste and their responsibility for fossil fuels also raises the question of whether we should permit the trading of emission quotas at all. As Axel Gosseries notes, where this trading is tied to a cap that keeps the world on track to avoid dangerous climate change, it has several potential advantages. First, it offers a degree of flexibility in how countries can respond to climate change. This will be advantageous where one country has difficulty decarbonising its economy or requires more time to do so. Trading also potentially allows emissions reductions to occur where they are cheapest, creating efficiency. Emissions trading also allows the creation of a market that provides information on how hard it is to meet reduction goals which can be used by regulators to adjust the cap if need be.

However, critics object to emissions trading on several grounds. One of the best known objections is that it grants states the legal right to do wrong. In response, Gosseries argues that buyers of permits are buying the right to do something that is not wrongful because of the corresponding duty to reduce emissions by an equivalent amount that others agree to. Gosseries considers four other objections to trading emission rights, including: whether sellers should get paid for what they should do anyway, whether buyers and sellers lose track of the wrongness of emissions when trading, whether buyers are distanced too much from reduction efforts by paying in cash rather than in kind,