On the concept of climate debt: its moral and political value

Abstract

A range of developing countries and international advocacy organisations have argued that wealthy countries, as a result of their greater historical contribution to human-induced climate change, owe a 'climate debt' to poor countries. Critics of this argument have claimed that it is incoherent or morally objectionable. In this essay we clarify the concept of climate debt and assess its value for conceptualising responsibilities associated with global climate change and for guiding international climate negotiations. We conclude that the idea of a climate debt can be coherently formulated, and that while some understandings of the idea of climate debt could lead to morally objectionable conclusions, other accounts would not. However, we argue that climate debt nevertheless provides an unhelpful frame for advancing global justice through international climate negotiations—the only existing means of resolving political conflict over the collective action problems posed by human-induced climate change— due to its retrospective and potentially adversarial emphasis, and to problems of measurement.

Keywords: climate debt; climate; global justice; international climate negotiations

Introduction

Do developed countries, as a result of their greater historical contribution to causing human-induced climate change, owe a 'climate debt' to poor countries? Numerous developing countries and international advocacy organisations have argued that they do. They assert this on the ground that these countries have used more than their fair share of the Earth's ability to absorb the greenhouse gas emissions that cause climate change. The resulting need to reduce emissions globally now constrains the ability of poorer countries to develop. Further, climate change is increasingly generating adverse impacts for poor countries, many of which are particularly vulnerable to a warming climate. This debt

should be repaid, it is argued, through developed countries rapidly reducing their emissions and providing finance to help developing countries adopt low-emissions technologies and adjust to the adverse impacts of climate change. Many others, including senior officials of wealthy countries, on the other hand, have resisted these claims. They have done so principally by means of two arguments: that the idea of a climate debt makes no sense—we will call this *the incoherence argument*; or that employing climate debt as a frame for understanding climate related responsibilities will lead to morally objectionable conclusions—which we refer to as *the implausibility argument*.

Our aim in this essay is to clarify the idea of climate debt and assess its value for conceptualising responsibilities associated with climate change and guiding international climate negotiations. There are various ways in which responsibilities relating to climate change could be distributed. Invoking climate debts is one way of providing a 'frame' for understanding how these responsibilities *should* be distributed. Frames represent 'interpretive storylines that set a specific train of thought in motion, communicating why an issue might be a problem, who or what might be responsible for it, and what should be done about it' (Nisbet 2009, p.15). As such, they provide rationales for particular distributions of responsibilities, and involve distinctive forms of rhetoric. There may often be several possible frames in which complex policy issues can be encapsulated, and incompatibility among frames proposed by different actors may give rise to entrenched conflicts (Fischer 2003). The analysis of conceptual 'frames' for global policy debates is of significance to the broader question of global political justice insofar as such frames structure the interface between the moral arguments in which responsibilities of *distributive* justice are debated and determined, and the political conflicts and authoritative actions through which decisions are taken and executed as matters of *political* justice.

When assessing the value of particular frames, we can distinguish between ethical and political analyses. An ethical analysis of a frame examines whether the premises and line of reasoning it invokes are morally plausible. Political analysis of a frame seeks to determine whether it is likely to be a feasible and desirable means of advancing valuable goals.[1] While political analysis may indicate whether a particular frame is likely to further the interests of the individual party proposing it, here we focus on the question of

whether the frame of climate debt helps to resolve a collective action problem – in this case a fair allocation of responsibilities to address human-induced climate change.

Accordingly, our article proceeds along two tracks. In the first part of the paper, we provide an ethical analysis of climate debt arguments. We begin by giving examples of how the idea of climate debt has been employed recently in discussions of climate policy and identify five core propositions that appear to underlie the use of this framing concept. We explicate each of the propositions and examine whether they are individually or jointly vulnerable to the incoherence or implausibility arguments. Against critics of the idea of climate debt, we shall argue that climate debt is indeed a coherent concept, and that while *some* understandings of this idea could indeed lead to morally objectionable or implausible conclusions, it need not do so. Indeed, the climate debt frame highlights considerations that must be given significant weight in any fair agreement on climate-related responsibilities. In the second part of the paper, we provide a political analysis of climate debt arguments. Against proponents of the idea of climate debt, we argue that it provides a largely unhelpful and potentially counterproductive frame for guiding future international climate negotiations. While this frame may have played a valuable role in giving voice to the claims of some developing countries, we argue that there are alternative frames that are more likely to foster reflective deliberation and eventually cooperation in the form of binding agreements.

The use of climate debt

The theoretical roots of the concept of climate debt can largely be traced back to broader themes such as the global distribution of ecological resources and the allocation of responsibilities for addressing environmental harms. Since the early 1990s, theorists—notably in Latin America but also more broadly—have developed variations on the concept of 'ecological debt' as a way of characterising unsustainable patterns of resource use, encompassing not only climate change but also overuse of other resources such as forests and fisheries.[2] These accounts in turn have built on earlier theorists' characterisations of global environmental issues as involving global commons or common pool resources (Hardin 1968, Ostrom 1990) as well as structuralist accounts of global economic relations (Roberts and Parks 2007, p.165). Climate debt (or carbon debt as it also sometimes called[3]) is ordinarily viewed as a component of a broader ecological

debt.[4] Such debts are commonly conceived as both *intergenerational*—accrued by current people and owed to future generations—and *international*—accrued by the populations of some countries and owed to the populations of other countries. Accounts of climate debt vary in their relative emphasis on each dimension.[5]

Although arguments asserting climate debt are not altogether new to international climate negotiations conducted under the United Nations Framework Convention on Climate Change (UNFCCC), they have recently come into increased currency, particularly since the lead-up to the UNFCCC conference in Copenhagen in 2009. Climate debt arguments have been raised in formal submissions (notably by Bolivia, the most vocal proponent of climate debt in the UNFCCC negotiations), draft negotiating texts, and arguments by activists and non-government organisations[6] seeking to influence the negotiations.

While calls for repayment of climate debt have been highly visible in media reporting of recent climate change negotiations, they have been omitted from resulting agreements, with other principles for allocating responsibilities such as 'comparable effort' or equity gaining far more traction. However, minority discourses often garner significant attention in negotiations due to the consensus-based nature of decision-making under the UNFCCC. Although Bolivia's attempt to block consensus single-handedly at the 2010 Cancún conference was neutralised by a procedural workaround, such tactics may not always be available in future, and it remains important to engage substantively with claims about climate debt.

Core elements of the climate debt idea

While arguments for climate debt vary in some respects, the focus in negotiations has been mainly on international rather than inter-generational aspects of climate debt, and our essay will accordingly focus on arguments for this type of debt.[7] We interpret common arguments for climate debt as having the following features:

A1. Moral responsibilities. Countries that have emitted more than their fair share of the Earth's capacity to safely absorb emissions have moral responsibilities towards low-emitting countries and those vulnerable to the impacts of climate change.

A2. Characterisation of these responsibilities as debts. The stringency of these moral responsibilities is such that they constitute a debt that is claimable as a matter of right by the agents to whom the debt is owed.

A3. The content of the responsibility. A primary factor in calculating the extent of each country's debt is the magnitude of its share of global cumulative emissions since the Industrial Revolution.

A4. Identity of debtors and creditors. The debt is owed specifically by developed countries towards developing countries.

A5. Form of repayment required. Climate debt must be repaid by (i) distributing emissions rights in ways that effectively compensate developing countries for historical overuse and allow developing countries' emissions to rise in order to accommodate their development needs (repayment of 'emissions debt'); and (ii) compensating developing countries for the adverse effects of climate change (repayment of 'adaptation debt').[8]

We discuss these elements in turn, examining as we go whether they involve propositions that are vulnerable to the incoherence or implausibility arguments. We focus primarily on arguments A2 and A3, which we see as representing the core issues that are specifically contested in the context of climate debt, while briefly discussing the other arguments.

Ethical analysis

Threshold issues: causal and moral responsibilities associated with climate change

The first premise of the argument (A1) involves both factual and moral claims. The factual claims are relatively uncontroversial. It is now increasingly accepted that the Earth has a finite capacity over the very long term to absorb emissions (Allen *et al.* 2009). Developed countries[9] have emitted the larger proportion of cumulative emissions since the Industrial Revolution and their per capita emissions are much higher than those of developing countries, even though developing countries' current aggregate annual emissions now exceed those of developed countries, largely due to the rapid growth of populous countries such as China and India (World Bank 2009). There is also

widespread agreement that poorer countries are particularly vulnerable to climate change. Not only do the impacts of climate change affect access to goods such as health protection, food, water and shelter, but constraints on emissions may (in the absence of support for costly low-emitting technologies) have adverse impacts on the livelihoods of poor people (Caney 2006, Caney 2010).

The moral claims in A1 are somewhat more contentious, but some possible theoretical bases for climate debt rely on accounts of responsibilities relating to natural resource use that are very widely held. The idea that the atmosphere is a global commons has been argued for or simply assumed by philosophers and economists of different temperaments and political stripes.[10] Similarly, there is considerable support for the idea that commons—whether conceived as originally owned by humankind in general or as unowned—give rise to certain moral responsibilities relating to fair use (see e.g. Hayward 2006, Vanderheiden 2008). The best-known account of such responsibilities is John Locke's proviso that the use of natural resources be constrained by the requirement to leave 'enough, and as good' for others (Locke 1988 [1690], pp. 288-89). A related and more recent formulation that has gained currency among both researchers and negotiators is that of the equitable distribution of 'ecological space'.[11]

Given the Earth's limited capacity to absorb emissions safely, most people generally accept that global emissions should be subject to *some* criterion of fair use. Variants on Locke's proviso, for example, have been employed by a number of authors in support of arguments for roughly equal per capita allocations of emissions rights (see e.g. Singer 2002, Vanderheiden 2008). Whether fair-use criteria require equality or sufficiency in the allocation of emissions remains subject to dispute (Bovens 2011). But developed countries seem to have used more than their fair share on any plausible understanding of this notion. We conclude that the propositions in A1 are defensible against both the incoherence and implausibility arguments.

Guiltless responsibility, excusable ignorance and the intergenerational objection

One fundamental objection to the idea of climate debt is that even if excessive emissions result in some kind of moral obligation, this falls short of being an obligation of 'debt', as asserted in A2.

This type of argument was made, for example, at the Copenhagen conference by the United States' chief climate negotiator Todd Stern:

> I actually completely reject the notion of a debt or reparations or anything of the like. … Let's just be mindful of the fact for most of the 200 years since the Industrial Revolution, people were blissfully ignorant of the fact that emissions cause the greenhouse effect. It's a relatively recent phenomenon. It's the wrong way to look at this. We absolutely recognize our historical role in putting emissions in the atmosphere that are there now. But the sense of guilt or culpability or reparations, I categorically reject that.[12]

These objections are also typically advanced against premise A3—the claim that responsibility for debt should be apportioned largely according to a country's cumulative emissions. We consider in turn three interconnected objections to climate debt that may be distinguished in Stern's statement.

Guiltless responsibility

The objection from guiltless responsibility asserts that it only makes sense to speak of debt where there is culpability or a responsibility to provide reparations, but it does not follow from the fact that wealthy countries are responsible for having caused emissions that they were *culpable* for having done so. But surely, as Bolivia's ambassador to the United Nations pointed out in his response to Stern's statement, the point of discussing climate debt need not be to assign guilt, but merely *responsibility* for bearing cost (Climate Justice Now 2009).[13] As a general matter, liability for debt does not imply guilt or direct culpability. We can become indebted by bad luck, even when we have acted prudently. Consider, for example, ordinary contractual debts, which are acquired through reciprocal arrangements freely entered into, and are frequently associated with legal obligations. It is true that contractual debtors are thought to be responsible or liable for repaying their debts, but this is quite distinct from responsibility that carries connotations of blameworthiness (although *failure* to service these debts may of course carry such connotations).

So too with respect to non-contractual debts (Martinez-Alier 2002, p.228). While we may speak coherently of non-contractual debts that result from deliberate wrongdoing

(resulting, for example, in a figurative 'debt to society') or negligent harm under tort law, debts may also arise in circumstances involving neither voluntary bargaining nor culpable harm. One such circumstance, which seems particularly pertinent to claims of climate debt, is unjust enrichment. If you receive a mistaken payment, for example, you are by law strictly liable to repay it, even if you were unaware that you were not entitled to it (Birks 2003, pp.6-9). The same applies to cases in which you appropriate (however innocently) that which you are not entitled to appropriate.

The fact that overuse of the earth's emissions absorptive capacity was neither the subject of a contractual resource-sharing arrangement nor clearly the result of a deliberate intent to appropriate that capacity does not provide a convincing objection to the idea that there are climate debts.

Excusable ignorance

The objection from excusable ignorance asserts that because countries were reasonably ignorant of the harmful effects of emissions until relatively recently, they should not be held morally responsible for those emissions or their effects.[14] Since there is no moral responsibility, there is no debt involved.

Although reasonable ignorance may ordinarily be a legitimate defence to claims of negligence in tort law, it may not be sufficient in all circumstances to provide relief from liability to bear cost when damage has occurred. Bolivia's response to the United States' statement suggests some parallels—albeit using examples that do not involve common pool resources—where responsibility for inadvertent harm may arise:

> Admitting responsibility for the climate crisis without taking necessary actions to address it is like someone burning your house and then refusing to pay for it. Even if the fire was not started on purpose, the industrialised countries, through their inaction, have continued to add fuel to the fire. As a result they have used up two thirds of the atmospheric space, depriving us of the necessary space for our development and provoking a climate crisis of huge proportions. … We are not assigning guilt, merely responsibility. As they say in the US, if you break it, you buy it.[15]

Are these analogies and arguments cogent? The second ('shop breakage') example in Bolivia's response is a common example of a strict liability rule. However, it is not particularly apt for thinking about climate debt, since in such cases strict liability is

generally assumed only after the agent is taken to have accepted the terms and conditions of entry analogous to a contractual arrangement.

What about the first ('burning house') analogy? Should the neighbour be held responsible if they unintentionally (and excusably) allow a fire on her property to escape to a neighbouring property? Our willingness to attribute liability to bear cost in such cases will surely depend in some measure upon whether some element of fault (such as recklessness or negligence) can be identified—the more reckless or negligent the conduct, the more it seems appropriate to allocate most or all of the cost to the agent causing harm. But how should we allocate costs in the absence of any fault whatsoever?

As a matter of international law, the answer to this question is not entirely clear. In cases of transboundary pollution, states are not usually held liable for 'harm resulting from risks of which the state concerned was not and could not have been objectively aware' (Birnie *et al.* 2009, p.217). While strict liability may apply to certain instances of harm from ultra-hazardous activities (Kiss and Shelton 2007), it is widely considered that state liability for climate-induced damage would require a failure of due diligence by a state to regulate greenhouse gas emissions (Fauré and Nollkaemper 2007; Voigt 2008).

As a moral matter it is ordinarily preposterous to leave innocent victims to bear the entire cost of accidents that have been caused faultlessly by others.[16] If a fire is started innocently and burns down a house, we are faced with a choice of how distribute the cost of the ensuing harm between these two innocent people and uninvolved third parties (compare Vanderheiden 2011). Cost sharing between those who are causally responsible for the damage, those who suffer its damages, and third parties may be a more appropriate solution, particularly where others have much deeper pockets than the victim (Calabresi 1970). Some have argued on these grounds that the current international law of transboundary harm fails to protect adequately the victims of such harm and thus stands in need of substantial reform (Sachs 2008).

Even if excusable ignorance were to provide exemption from liability for climate debt, states may nevertheless subsequently acquire responsibility for taking on additional cost to address the harm through subsequent acts or inaction undertaken after the country acquired knowledge of the harmful effects of the earlier act. Importantly, we will

attribute greater responsibility to an actor for exacerbating actions (such as adding fuel to a fire, or continuing to emit at unsustainable levels), and for failing to assist those at risk when they could do so at very low cost (Barry and Øverland 2011).

The objection from excusable ignorance would no longer apply once the risks associated with greenhouse gas emissions became widely recognised internationally. For this reason, a number of authors have proposed that liability for emissions could begin at a point such as 1990, when the first report of the Intergovernmental Panel on Climate Change was published (Vanderheiden 2008, p.190). And it could plausibly be argued that liability should begin significantly earlier than this.[17] The argument from excusable ignorance would therefore not show that the idea of climate debt is incoherent or implausible, but only that we should in some circumstances *discount* the amount owing.

The intergenerational objection

The intergenerational objection claims that it is implausible to hold countries responsible now for conduct that was undertaken before anyone living in them was alive. Objections to the intergenerational transmission of debts have a long pedigree (Thompson 2009, p.120). However, while individuals generally do not inherit personal debts from one generation to the next, this is not the case for sovereign debt, which can remain owed by a country over successive generations. *Pacta sunt servanda*, or 'agreements must be kept', is the basic norm that underlies the present treatment of sovereign debt contracts, so that when a sovereign borrower defaults it is treated as being in breach of contract and under obligation to repay the loan (Barry and Tomitova 2007). Unless a creditor decides to 'forgive' (or cancel) a debt, the creditor retains full rights to claim it.

There are good incentive-based reasons to uphold intergenerational responsibilities of this sort. Since intergenerational transmission of sovereign debts facilitates borrowing by boosting lenders' assurance of ultimate repayment, it is ordinarily justified as facilitating a beneficial practice. Intergenerational transmission may also be justified in the case of non-contractual international debts. Intergenerational transmission of non-contractual debts could serve a number of important functions, not least by providing incentives for countries to take a more cautious approach when engaging in activities that may pose long-term risks to the populations of other countries.

This is not to say that the transmission of debts should not in some ways be limited by consideration of the circumstances under which the debt was initially acquired. With respect to contractual sovereign debt, for example, there are precedents for the cancellation of 'odious debt' acquired by illegitimate heads of state (Khalfan *et al.* 2003, Shafter 2007). Non-contractual debts (such as reparative debts) may also be subject to limitation over time, for example as structures of expectation form around resources that were originally appropriated unjustly, or if the background distribution of economic and social resources among agents and victims changes (Waldron 1992).

Insofar as developed countries owe a climate debt to developing countries, it is hard to argue that such debts are odious. Indeed, the great wealth of many developed countries is in large measure dependent on their having made use of the global commons in excess of their fair share. While an uneven global pattern of emissions commenced when the Earth's ability to absorb emissions was plentiful, that capacity is now scarce, making the responsibility to account for the emissions debt of past generations correspondingly greater (compare Waldron 1992, pp.24-25).

One could also argue that current generations should be held responsible for historical emissions because they have *benefited from* those emissions in the form of the higher standards of living produced by industrialisation (Meyer and Roser 2010, p.234). A UNFCCC guide to climate change, for example, referred to industrialised countries' past and current emissions as 'a debt unwittingly incurred for the high standards of living enjoyed by a minority of the world's population' (UNFCCC 2011).

Do agents have responsibilities to service debts that were incurred by them without their knowledge? There are certainly cases in which it seems that they do. Suppose, for example, you discover that something you possess has come to you as a result of wrongdoing, and that you benefit at the expense of those to whom wrongdoing has been done. You learn that a car that your mother gave you as a gift was stolen. What are your responsibilities in this case? In the first instance it seems you have a duty to relinquish the benefits of the wrongdoing and return the property to its rightful owner.[18] But a similar principle seems to apply in cases where direct restitution—giving a discrete and wrongfully appropriate 'thing' back—is not possible.[19] The crucial point, as David

Miller (Miller 2007, p.154) points out, is 'that a claim to inherit must depend on the bequeathers having a valid title to the assets they are bequeathing.'

Some deny that there is a direct link between a unique, identifiable beneficiary and a unique, identifiable victim of unfair resource usage. However, in the case of climate change, both the benefits and costs of climate change have been transferred across generations through individuals' participation in ongoing economic structures (Shue 1999, pp.536-37). While some developing countries have acquired some benefits (and great benefits in some cases) from industrialisation (in the form of technology, physical and human capital, and public goods), it seems hard to argue that they have by and large enjoyed a fair share of them (Shue 1999, p.534).

Identity of debtors and creditors

Proponents of climate debt generally argue that climate debt is owed by 'developed countries' towards 'developing countries' (A4; Bolivia 2009, p.46). This claim may seem to provide a broad-brush approximation of who owes debts to whom based on trends in global emissions, but it is problematic. A range of countries now reasonably argue that the categories of 'developed' and 'developing' countries as defined by the UNFCCC—which have remained largely static since its inception—may not neatly map objective differences in wealth and emissions (Depledge 2009; Pickering *et al.* 2012). Moreover, a number of countries currently classed as developing would likely also have exceeded their fair share or will soon do so (Pan and Chen 2010, p.20). There are also now a large number of wealthy individuals in otherwise low-income countries whose per capita emissions are comparable to average per capita emissions of wealthy countries (Chakravarty *et al.* 2009).

In order to be plausible, climate debt arguments will need to move away from a from a rigid emphasis on developed and developing countries as the only categories of analysis and identify debtors as those individuals or groups that have used more than their fair share of the Earth's emissions absorptive capacity, however fair shares are defined.

Forms of repayment

The distinction between emissions debt and adaptation debt (A5) may provide a useful way of delineating climate-related responsibilities and associated forms of repayment. The specific distinction has not been elaborated, to our knowledge, in academic literature,[20] but other authors have highlighted the distinct ethical responsibilities associated with mitigation and adaptation (Jagers and Duus-Otterström 2008, Vanderheiden 2011).

Climate debt proposals generally place strong emphasis on the idea that emissions debt should be discharged primarily by the reallocation of future emissions rights to offset past overuse. However, once we acknowledge that climate debt could be repaid in more than one currency, we could envisage the possibility of other forms of repayment, provided that they are agreed to and yield equivalent benefits for creditors (compare Caney 2009, p.137). One alternative could be to allocate prospective emissions entitlements on an equal per capita basis, but to compensate for retrospective overuse by imposing additional responsibilities on high-emitting countries for *financing* any reductions needed in other countries to meet their per capita entitlements. Thus financing could address both the retrospective element of emissions debt as well as servicing adaptation debt.

Political analysis

Even if we accept that the idea of climate debt is coherent and morally plausible, this does not mean that it must necessarily be useful for informing climate negotiations. In this section we provide a political analysis of climate debt arguments, and conclude that that their future political value is likely to be quite minimal.

Measurement problems

When compared with harms to poorer countries resulting from other historical acts (such as slavery and colonialism), the prospect of quantifying responsibilities for climate-related harms seems at first glance to be much easier. However, while relatively sound country-level emissions data is available for recent decades, its coverage becomes progressively limited for decades preceding 1990, and there are a number of other methodological choices that add further complexity to the accounting task (Posner and

Weisbach 2010, Höhne *et al.* 2011). As noted above, since the idea of climate debt itself does not necessarily imply debt for all historical emissions, this is not a decisive objection to the application of the concept. However, it does suggest that those arguing in favour of an expansive notion of liability for historical emissions should take into account the very real problems of quantifying pre-1990 emissions, as well as the ethical complexity—for reasons rehearsed above— of allocating responsibility for such emissions. If problems of quantification proved insuperable, there may be other ways of taking a broader notion of historical responsibility into consideration. For example, it could shift the burden of proof onto developed countries to demonstrate why they should not take on a greater share of the costs of adaptation and mitigation than they otherwise would on the basis of their current emissions alone (compare Barry 2005). The problem, however, is that unless reasonably accurate estimates of climate debt can be produced, assertions of climate debt are likely to be interpreted more as aggrieved political rhetoric than as considered policy proposals. As such, these arguments are more likely to undermine reflective deliberation than to foster it, and consequently reduce the prospects for binding agreements on climate-related responsibilities.

Rhetorical emphasis

Climate debt represents one of several possible frames for characterising the responsibilities to address climate change outlined so far in our article. Identifying frames that resonate with others is an important component in the emergence of norms of international cooperation (Finnemore and Sikkink 1998). However, frames may serve a broader range of political purposes by virtue of their rhetorical emphasis. In a related context John Dryzek usefully distinguishes between 'bonding rhetoric', which aims to motivate people who are already similarly disposed, and 'bridging rhetoric' that aims to reach (and persuade) an audience whose dispositions are different (Dryzek 2010). Both forms of rhetoric, Dryzek points out, can have value and can play an important role in public deliberation about political issues (Dryzek 2010, pp. 330-2). Bridging rhetoric is frequently preferable as a means of facilitating reflective deliberation and cooperation. However, bonding rhetoric can help to mobilize dispossessed groups and bring wider public attention to their political concerns. Just which form of rhetoric is of greatest value depends highly on context, and it is also actor-specific: reflective public

deliberation may be best promoted overall if some actors employ bonding rhetoric while others employ bridging rhetoric.

Climate debt is best characterised as a form of bonding rhetoric. It is notable for its adversarial emphasis on dividing the world into debtors and creditors, where the former group is comprised of poorer countries and the latter group richer countries. In this sense, the rhetoric of climate debt is consistent with and expressive of the oppositional tactics used by some of its main advocates, the Latin American ALBA group.[21] At first glimpse the rhetoric of climate debt may seem to exemplify the commonly observed technique of seeking to establish a new norm by grafting it onto an existing one (namely the obligation to repay conventional debts; compare Finnemore and Sikkink 1998, p.908). However, the appeal of the idea to constituencies in developing countries and international advocacy communities arguably derives more from the fact that it inverts the prevailing narrative according to which poorer countries are economically indebted to wealthy ones (compare Simms 2009, p.13).

Regardless of its value as a bonding mechanism, it could be argued that the adversarial approach implied by climate debt has significant value for the broader system of climate governance by holding richer countries to account. Indeed the use of climate debt has likely helped to attract attention to the concerns of countries and civil society groups that typically have little influence in climate negotiations. However, given the nature of the collective action problem involved in addressing climate change, a multilateral framework freely accepted by a consensus or near-consensus of the 194 parties to the UNFCCC is required to address climate change effectively. Overcoming the mistrust that has plagued climate negotiations since their inception will require serious efforts on the part of both developed and developing countries to adopt mutually acceptable frames for collective action. In this context, bridging rhetoric has a greater prospect of facilitating a meaningful and reasonably fair agreement. The bonding rhetoric of climate debt may at best serve to challenge the intransigence of countries that have failed so far to take sufficiently strong action to curb climate change. But it is highly unlikely to provide the foundation for a specific policy framework for allocating responsibilities among countries. At worst the idea of climate debt may be perceived therefore as a mere slogan, in the process tarring the idea of climate justice (which is frequently also voiced by the

same actors) with the same brush. Understandably then, many developing countries (including highly vulnerable small island states) have themselves eschewed the rhetoric of climate debt in favour of other strategies for boosting collective responsibilities to address climate change.

Furthermore, as Stern's statement suggests, many developed countries link the idea of debt with that of reparations, which bears associations with uncomfortable and politically contentious issues such as reparations for slavery and colonial injustices. If the climate debt arguments are sound, then the fact that some countries associate it with other notions of obligation that they reject does not of course justify discarding the concept. But it may make it less feasible to employ this concept in support of a meaningful and reasonably fair agreement on climate-related responsibilities.

Addressing the problem of climate change requires not only taking account of past patterns of emissions, but also working out a fair distribution of rights and responsibilities for the future (Vanderheiden 2011). Developing countries' emissions are growing rapidly, and will eventually exceed those of developed countries even in cumulative terms. Thus some countries that were previous creditors may ultimately become debtors, and vice versa (Botzen *et al.* 2008). The idea of climate debt is capable in principle of representing future as well as present liabilities, and it does not seem to be inherently incompatible with incorporating distributional considerations (including a country's capacity to pay) as well. Nevertheless, use of the term as a frame for characterising climate-related responsibilities poses the risk of overemphasising retrospective liability at the expense of future distributive concerns.

These objections to climate debt as a rhetorical frame are by no means decisive, but they do give us good reason to explore other formulations that could provide a more constructive approach—emphasizing bridging over bonding rhetoric—to framing and distributing responsibilities in a morally defensible manner. Considerations of space preclude a detailed discussion of alternatives, but we note one example briefly. The concept of a global 'carbon budget' is being used increasingly in scientific and policy analysis for quantifying the maximum level of cumulative global emissions that is permissible over time to avoid dangerous climate change.[22] The concept of a carbon

budget may encompass both forward-looking and backward-looking considerations. As such, while the carbon budget concept is compatible with recognition of the existence of climate debt, the former does not depend on positing the latter. Although some of the terminology associated with a budget may appear similar to that of climate debt (e.g. some countries' budgets may be in 'deficit' while others are in 'surplus'), the carbon budget idea does not highlight a divisive two-way relationship between debtors and creditors. Instead, it suggests that all countries participate in a broader common (though of course contentious) enterprise of 'balancing the budget'.

Conclusion

In this essay we have argued that climate debt is a coherent idea that can potentially be used to express a plausible account of moral responsibilities related to climate change provided that its scope is clearly circumscribed. We have also argued, however, that climate debt has at best a limited role to play in negotiations, and that other frames are likely to present more promising means for promoting a reasonably fair distribution of climate change related responsibilities. Given the mistrust among parties currently impeding effective coordinated action on climate change, parties concerned about climate justice may be more likely to present a workable basis for advancing this aim by proposing frames that seek to bridge rather than exacerbate existing divides.

The example of climate debt may yield broader implications for the relationship between theory and policy. The rhetorical elements that accompany the use of certain normative concepts can impact significantly the degree to which arguments invoking them will foster more reflective public deliberation and help resolve collective action problems. For this reason, even if we find that a normative concept may have some plausibility in theory, we need to assess at the very least its feasibility and rhetorical implications before assuming it has merit as a specific device for advancing global justice.

Acknowledgements

Earlier versions of this essay were presented to the Marie Curie Training Course on the Human Dimension of Global Environmental Change (Berlin, 2010), the workshop on

Climate Change and Philosophy at the Victoria University of Wellington, and the Ethics and International Public Policy Reading Group at the Australian National University. The authors would like to thank participants in those seminars for their valuable feedback, and Christian Baatz, Garrett, Cullity, Simon Keller, Holly Lawford-Smith and Hayley Stevenson for helpful advice and comments. We are particularly grateful for extensive written comments on an earlier draft provided by Lucas Kengmana, Terry Macdonald, Miriam Ronzoni, and an anonymous referee. Christian Barry acknowledges support from the Australian Research Council (DP110100175 "Benefitting from Injustice")

Notes on contributors

Christian Barry is Director of the Centre for Moral, Social, and Political Theory in the Research School of the Social Sciences, Australian National University. Jonathan Pickering is a PhD candidate in philosophy in the Research School of the Social Sciences, Australian National University.

Bibliography

Allen, M.R., Frame, D.J., Huntingford, C., Jones, C.D., Lowe, J.A., Meinshausen, M. & Meinshausen, N., 2009. Warming caused by cumulative carbon emissions towards the trillionth tonne. *Nature,* 458, 1163-1166.

Barry, C., 2005. Applying the contribution principle. *Metaphilosophy,* 36 (1-2), 210–227.

Barry, C. & Øverland, G., 2011. On the implications of failing to assist. *Unpublished manuscript.*

Barry, C. & Tomitova, L., 2007. Fairness in sovereign debt. *Ethics & International Affairs,* 21 (S1), 41-79.

Birks, P., 2003. *Unjust enrichment* Oxford, UK: Oxford University Press.

Birnie, P., Boyle, A. & Redgwell, C., 2009. *International law and the environment,* 3rd ed. Oxford: Oxford University Press.

Bolivia, 2009. Commitments for Annex I parties under paragraph 1(b)(i) of the Bali Action Plan: Evaluating developed countries' historical climate debt to developing countries (25 April 2009). Bonn: UNFCCC, 44-51.

Botzen, W.J.W., Gowdy, J.M. & Van Den Bergh, J.C.J.M., 2008. Cumulative CO2 emissions: Shifting international responsibilities for climate debt. *Climate Policy,* 8, 569–576.

Bovens, L., 2011. A Lockean defense of grandfathering emission rights. *In* Arnold, D.G. ed. *The ethics of global climate change.* Cambridge, UK: Cambridge University Press, 124-144.

Calabresi, G., 1970. *The cost of accidents: A legal and economic analysis* New Haven, CT: Yale University Press.

Caney, S., 2006. Cosmopolitan justice, rights and global climate change. *Canadian Journal of Law and Jurisprudence,* 19 (2), 255-278.

Caney, S., 2009. Justice and the distribution of greenhouse gas emissions. *Journal of Global Ethics,* 5 (2), 125-146.

Caney, S., 2010. Climate change, human rights and moral thresholds. *In* Humphreys, S. ed. *Human rights and climate change.* Cambridge: Cambridge University Press, 69-90.

Chakravarty, S., Chikkatur, A., Coninck, H.D., Pacala, S., Socolow, R. & Tavoni, M., 2009. Sharing global CO2 emission reductions among one billion high emitters. *Proceedings of the National Academy of Sciences USA,* 106, 11884–11888 Available from: www.pnas.org/cgi/doi/10.1073/pnas.0905232106.

Climate-Justice.Info, 2010. *World people's conference on climate change and the rights of Mother Earth, Cochabamba, Bolivia (19-20 April 2010): Outcome on climate debt* [online]. http://climate-justice.info/2010/04/world-peoples-conference-outcome-on-climate-debt/ [Accessed 21 December 2011].

Climate Justice Now, 2009. *Bolivia responds to U.S. On climate debt: "If you break it, you buy it."* [online]. http://www.climate-justice-now.org/bolivia-responds-to-us-on-climate-debt-if-you-break-it-you-buy-it/ [Accessed 21 December 2011].

Cranor, C., 1990. Some moral issues in risk assessment. *Ethics* 101 (1), 123–43.

Depledge, J., 2009. The road less travelled: Difficulties in moving between annexes in the climate change regime. *Climate Policy,* 9, 273-287.

Dryzek, J.S., 2010. Rhetoric in democracy: A systemic appreciation. *Political Theory,* 38 (3), 319-339.

Fauré, M.G. & Nollkaemper, A., 2007. International liability as an instrument to prevent and compensate for climate change. *Stanford Journal of International Law,* 43 (123-179).

Finnemore, M. & Sikkink, K., 1998. International norm dynamics and political change. *International Organization,* 52 (4), 887-917.

Fischer, F., 2003. *Reframing public policy* Oxford: Oxford University Press.

Gardiner, S.M., 2001. The real tragedy of the commons. *Philosophy & Public Affairs,* 30 (4), 387-416.

Goodin, R.E. & Barry, C., 2011. Benefitting from other people's wrongdoing. *Unpublished working paper.*

Hardin, G., 1968. The tragedy of the commons. *Science,* 162 (3859), 1243-1248 Available from: http://www.sciencemag.org/content/162/3859/1243.abstract.

Hayward, T., 2006. Global justice and the distribution of natural resources. *Political Studies,* 54 (2), 349–369.

Hayward, T., 2007. Human rights versus emissions rights: Climate justice and the equitable distribution of ecological space. *Ethics & International Affairs,* 21 (4), 431–450 Available from: doi:10.1111/j.1747-7093.2007.00117.x.

Höhne, N., Blum, H., Fuglestvedt, J., Skeie, R., Kurosawa, A., Hu, G., Lowe, J., Gohar, L., Matthews, B., Nioac De Salles, A. & Ellermann, C., 2011. Contributions of individual countries' emissions to climate change and their uncertainty. *Climatic change,* 106 (3), 359-391 Available from: http://dx.doi.org/10.1007/s10584-010-9930-6.

Jagers, S.C. & Duus-Otterström, G., 2008. Dual climate change responsibility: On moral divergences between mitigation and adaptation. *Environmental Politics,* 17 (4), 576-591.

Khalfan, A., King, J. & Thomas, B., 2003. *Advancing the odious debt doctrine.* Centre for International Sustainable Development Law working paper. Montreal: McGill University.

Kiss, A. & Shelton, D.L., 2007. Strict liability in international environmental law. *In* Ndiaye, T.M. & Wolfrum, R. eds. *Law of the sea, environmental law and settlement of disputes: Liber amicorum judge Thomas a. Mensah.* Leiden: Brill Academic Publishers.

Locke, J., 1988 [1690]. *Two treatises of government* Cambridge: Cambridge University Press.

Martinez-Alier, J., 1993. Distributional obstacles to international environmental policy: The failures at Rio and prospects after Rio. *Environmental Values,* 2 (97-124).

Martinez-Alier, J., 2002. *The environmentalism of the poor: A study of ecological conflicts and valuation* Cheltenham, UK; Northhampton, MA: Edward Elgar.

Meyer, L.H. & Roser, D., 2010. Climate justice and historical emissions. *Critical Review of International Social and Political Philosophy,* 13 (1), 229 - 253.

Miller, D., 2007. *National responsibility and global justice* Oxford: Oxford University Press.

Neumayer, E., 2000. In defence of historical accountability for greenhouse gas emissions. *Ecological Economics,* 33 (2), 185-192.

Nisbet, M.C., 2009. Communicating climate change: Why frames matter for public engagement. *Environment: Science and Policy for Sustainable Development,* 51 (2), 12-23 Available from: http://dx.doi.org/10.3200/ENVT.51.2.12-23 [Accessed 2011/12/19].

Nordhaus, W.D., 1994. *Managing the global commons: The economics of climate change* Cambridge, MA: MIT Press.

Ostrom, E., 1990. *Governing the commons: The evolution of institutions for collective action* Cambridge; New York: Cambridge University Press.

Page, E.A., 2007. Intergenerational justice of what: Welfare, resources or capabilities? *Environmental Politics,* 16 (3), 453 – 469.

Pan, J. & Chen, Y., 2010. Carbon budget proposal: A framework for an equitable and sustainable international climate regime. *Social Sciences in China,* 31 (1), 5-34.

Pickering, J., Vanderheiden, S. & Miller, S., 2012. *Why fairness still matters in global climate change negotiations and how a fairer agreement can be reached.* Unpublished working paper.

Posner, E.A. & Weisbach, D., 2010. *Climate change justice* Princeton, NJ: Princeton University Press.

Roberts, J.T. & Parks, B.C., 2007. *A climate of injustice: Global inequality, north-south politics, and climate policy* Cambridge, MA: MIT Press.

Sachs, N., 2008. Beyond the liability wall: Strengthening tort remedies in international environmental law. *UCLA Law Review,* 55 (4), 837-904.

Samuelsohn, D. 2009. No 'pass' for developing countries in next climate treaty, says U.S. Envoy *New York Times*, 9 December 2009.

Shafter, J., 2007. The due diligence model: A new approach to the problem of odious debts. *Ethics & International Affairs,* 20 (1), 49–67.

Shue, H., 1999. Global environment and international inequality. *International Affairs,* 75 (3), 531–545.

Simms, A., 2009. *Ecological debt: Global warming and the wealth of nations,* 2nd ed. London: Pluto Press.

Singer, P., 2002. *One world: The ethics of globalisation* Melbourne: Text.

Smith, K.R., 1991. Allocating responsibility for global warming: The natural debt index. *Ambio* 20 (95-96).

Srinivasan, U.T., Carey, S.P., Hallstein, E., Higgins, P.A., Kerr, A.C., Koteen, L.E., Smith, A.B., Watson, R., Harte, J. & Norgaard, R.B., 2008. The debt of nations and the distribution of ecological impacts from human activities. *Proceedings of the National Academy of Sciences USA,* 105 (5), 1768–1773.

Stevenson, H., 2011. *Representing "the peoples"? Post-neoliberal states in the international climate negotiations* Working Paper 2011/1. Canberra: Centre for Deliberative Democracy and Global Governance, The Australian National University. http://deliberativedemocracy.anu.edu.au/Content/workingpapers/Pdf%20version/STEVENSON%20Hayley%202011-1.pdf.

TERI, 2009. *Right to sustainable development: An ethical approach to climate change*. New Delhi: The Energy and Resources Institute (TERI).

Third World Network, 2009. *Climate debt: A primer.* Briefing Paper 2 (June 2009). http://www.twnside.org.sg/title2/climate/briefings/Bonn03/TWN.BPjune2009.bonn.02.doc.

Thompson, J., 2009. *Intergenerational justice: Rights and responsibilities in an intergenerational polity* New York: Routledge.
UNFCCC, 2011. *Feeling the heat* [online]. United Nations Framework Convention on Climate Change,. Available from: http://unfccc.int/essential_background/feeling_the_heat/items/2905.php [Accessed 8 June 2011].
Vanderheiden, S., 2008. *Atmospheric justice: A political theory of climate change* New York: Oxford University Press.
Vanderheiden, S., 2011. Globalizing responsibility for climate change. *Ethics & International Affairs,* 25 (1), 65-84.
Voigt, C., 2008. State responsibility for climate change damages. *Nordic Journal of International Law,* 77 (1-2), 1-22.
Waldron, J., 1992. Superseding historic injustice. *Ethics,* 103 (1), 4-28.
Walsh, B., 2009. Do rich nations owe poor ones a climate debt? *Time.*
Wbgu, 2009. *Solving the climate dilemma: The budget approach*. Berlin: German Advisory Council on Global Change (WBGU). http://www.wbgu.de/wbgu_sn2009_en.pdf.
World Bank, 2009. *Development and climate change.* World Development Report 2010. Washington, DC: World Bank. http://siteresources.worldbank.org/INTWDR2010/Resources/5287678-1226014527953/WDR10-Full-Text.pdf.

[1] Emphasising the ethical aspects of a particular problem may itself represent a political strategy – as in the case of successful efforts by activists to reframe debt relief for developing countries as a moral and religious issue rather than as a purely economic concern (Roberts and Parks 2007, p.240) – but this is consistent with the distinction between forms of analysis drawn here.

[2] See e.g. Smith 1991, Martinez-Alier 1993, Srinivasan *et al.* 2008, Simms 2009.

[3] Carbon being a component of major greenhouse gases emitted through human activity (including carbon dioxide and methane).

[4] See e.g. Hayward 2006, Page 2007. Simms 2009 uses ecological debt in a narrow sense to refer primarily to climate debt .

[5] Compare Hayward 2006, Botzen *et al.* 2008.

[6] See for example Third World Network 2009, Klein 2009, ClimateDebt.org 2011.

[7] Of course the idea of international climate debt has an intergenerational element, since responsibilities are being attributed to the present populations of developed countries for 'debts' acquired largely by their ancestors.

[8] This distinction has been highlighted in Bolivia (2009) and Climate-justice.info (2010).

[9] While noting some complexities about the precise categorisation of parties to the UNFCCC, for simplicity we will generally use 'developed' countries to refer to parties listed in Annex I of the UNFCCC, and 'developing' countries to refer to non-Annex I parties.

[10] See for example Nordhaus 1994, Gardiner 2001.

[11] See for example Page 2007, Hayward 2007, Bolivia 2009.

[12] Samuelsohn 2009; see also Walsh 2009.

[13] Compare also Shue 1999, p.535 and Vanderheiden 2008, p.174.

[14] This argument is generally extended both to emissions of previous generations and emissions of the present generation before the point at which excusable ignorance no longer applied.

[15] Climate Justice Now 2009.

[16] Not always, because it may well be plausible to allocate cost in this way if the agent who has suffered the damage has very deep pockets and those who non-culpably caused it has very shallow ones.

[17] In morality (if not always in law), the recognition that one's conduct may carry risk of doing severe harm gives one a relatively stringent (though of course defeasible) reason not to engage in it until its effects are further understood, and to compensate victims in case these risks ripen into injuries (Cranor 1990, Barry 2005).

[18] It does not seem important that the person making the bequest was your father—your duty to disgorge the benefit would hold even if it were given to you by a stranger. Nor does it seem to matter whether your father knew or should have known of these abuses. What matters in the first instance is that you've been unjustly enriched (see, e.g. Birks 2003, Smith 1997).

[19] If you discover, for example, that your father's bequest to you upon his death is the result of profits from a mining company that he owns whose extraction practices inflict serious human rights violations on its workers, you should disgorge this benefit. And you should redistribute these gains to those who have been

disadvantaged by the wrongdoing that was materially involved in producing them insofar as this is possible (Cf. Goodin and Barry 2011).

[20] Although Neumayer has proposed a formula for quantifying countries' 'Historical Emission Debt' (Neumayer 2000, p.186).

[21] ALBA translates in full as 'Bolivarian Alliance for the Peoples of Our America'. The main countries negotiating as part of the group in UNFCCC negotiations are Venezuela, Bolivia, Cuba, Ecuador and Nicaragua (Stevenson 2011, p.8).

[22] See for example Allen *et al.* 2009, TERI 2009, WBGU 2009. Another possible frame referred to above is the idea of 'ecological space' (or similar terms such as 'atmospheric space' or 'development space').