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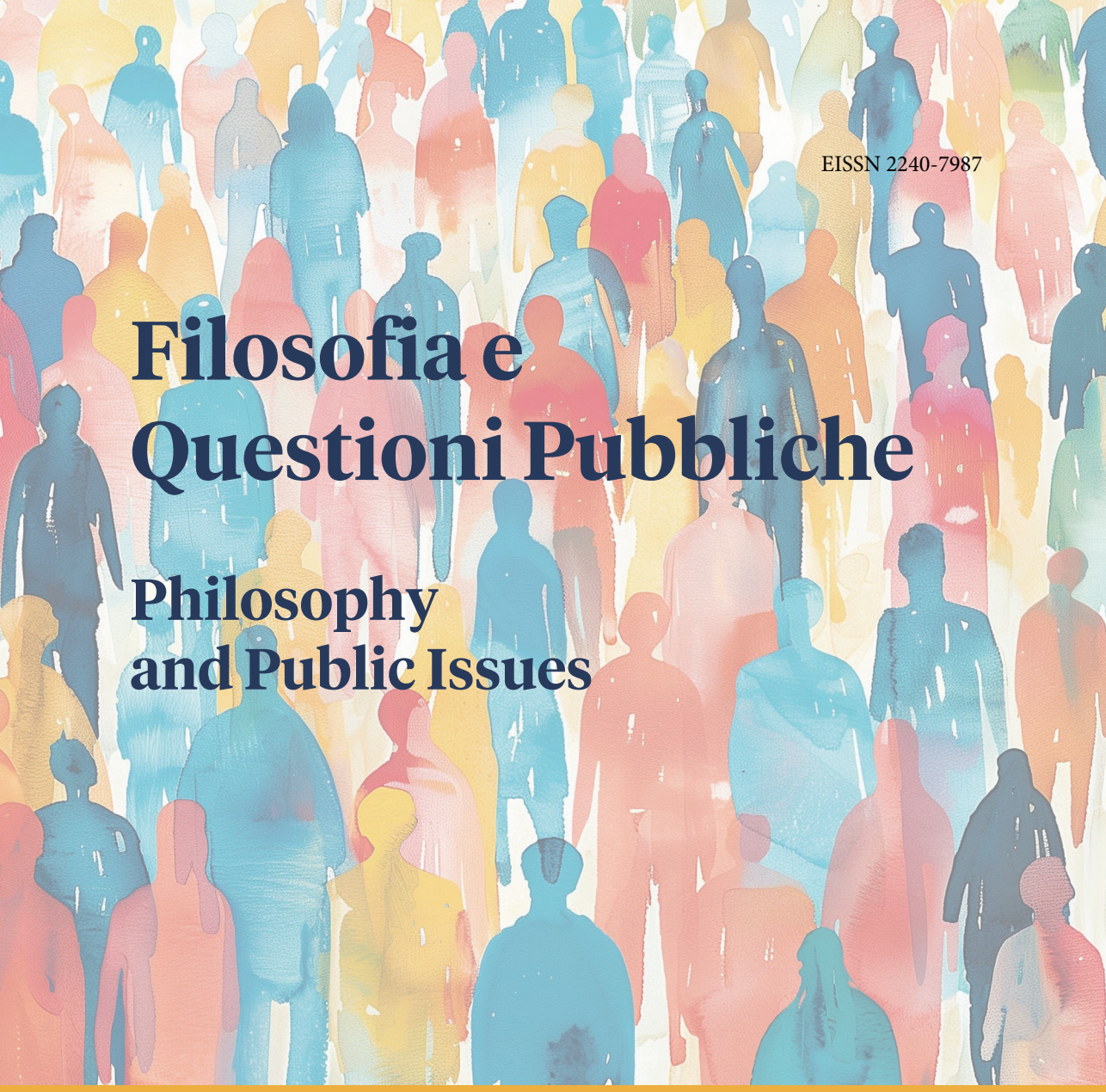

Filosofia e Questioni Pubbliche

Philosophy and Public Issues

1/2024

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Index-Summary

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pag.

Editors' Note

We are delighted to introduce the new series of *Filosofia e Questioni Pubbliche/Philosophy and Public Issues* FQP/PPI. The journal was founded in 1995 by Sebastiano Maffettone to present to the Italian academic public the major issues and problems dominating the international debate in political, social and moral philosophy. Over the years, the Journal has become a reference for Italian scholars interested in normative theory, from different philosophical perspectives and traditions including both analytical and continental. In 2010, the journal underwent an important transition: an open-access online version of the Journal was launched publishing articles in English. For more than a decade, the Journal's international reputation has been growing. This success was due in large part to the centrality of the "Book symposium": thematic issues devoted entirely to a book discussion and original research articles, which cover different discussions on the same topic. For more than a decade, FQP/PPI has hosted discussions of ground-breaking works, involving contributions from some of the most prominent voices in political and moral philosophy.

We are honoured to serve as Editors of this new series and thankful the new publisher, Giappichelli, for all their hard work these past few months. The goal of the new series is to continue to expand the potential of the Journal while still following a path that made FQP/PPI a renowned outlet in Italy and abroad. The Journal aims to keep contributing to the public discussion about the most pressing political issues, about social and political institutions, and about the intersections between politics and morality, concerning both the domestic and international spheres and with a strong interest in normative theorizing. Due to the positive results achieved in the last decade, we will continue to host book symposia, however, they will no longer play a central role in single issues. We are in fact launching two new sections, namely the "Special section" and one titled "Contemporary debates in political philosophy." This addition is aimed at mixing in single-issue original articles, subjected to a rigorous peer-review process (double anonymity), with special sections edited by guests (also subjected to single anonymous peer-review).

In particular, the new "Contemporary debates in political philosophy" section is designed to provide a broader scope to the discussion of relevant topics in the current academic debate. Contributions from different areas of political, moral, legal and social philosophy will appear in this section. Areas of interest include but are not limited to democratic theory, multiculturalism, religions and liberalism, migration, gender equality, racial injustice, structural injustice, epistemic injustice, intersectionality, demographic changes and justice, human rights, global distributive justice, climate justice, new trends in just war theory, and transitional justice. From an editorial viewpoint, emphasis will be placed on the breadth of topics, openness to multiple perspectives, as well as originality and analytic rigor.

The Journal has been endowed with an outstanding Scientific Board and a remarkable International Advisory Board, which brings together some of the most eminent scholars in the field of political philosophy in the world. We thank all the colleagues who enthusiastically agreed to invest their energy and time in this new editorial path. We are confident that with their support FQP/PPI will continue to grow in terms of scientific rigor, quality and originality, but also it will further develop an inclusive attitude towards philosophical approaches and orientations. We would like to use this occasion to thank the brilliant post-docs and doctoral students who are members of the new Executive Board, for their help in smoothing this transition. In welcoming the new members of the Boards, we would also like to thank the previous editorial boards' members and editors – we are especially grateful to Ingrid Salvatore and Gianfranco Pellegrino – for their work over the years. Needless to say, special thanks are owed to Sebastiano Maffettone for his efforts in founding and directing the Journal, but mostly for being a guide and inspiration to several generations of younger scholars. Luckily, Sebastiano Maffettone will continue to contribute to it, as a member of the Editorial Board and Founding Editor. Finally, we would like to thank LUISS G. Carli University for its support to the Journal over the years.

Valentina Gentile, Editor/Direttore Scientifico

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Book Symposia

Symposium on *The Pivotal Generation: Why We Have a Moral Responsibility to Slow Climate Change Right Now* (Princeton University Press, 2021)

The Pivotal Generation: Why We Have a Moral Responsibility to Slow Climate Change Right Now A Précis

Henry Shue*

A sense of responsibility depends on an understanding of connection. Our inherited 'phenomenology of agency' (Samuel Scheffler) portrays our primary effects as the local effects of individual actions. People in the contemporary world are, however, in important respects causally connected across far more space and time. Both cause and effect involve large numbers around the world and across the centuries, backward and forward in time. As Faulkner's character said, "The past is never dead – it is not even past." And the future is not unborn – it is not even future – for we are shaping it now. Climate change is an especially dramatic and supremely important instance of trans-national and trans-generational connection and consequent responsibility. The next one or two decades will determine whether climate change, which already includes lock-ins of dangerous effects, will surge into disastrous effects. This makes the people alive today the pivotal generation in human history.

In order to understand the extent of the responsibility of the people of a particular nation for climate change, it is essential to see what proportion of the total cumulative atmospheric concentration of CO_2 has been produced by that nation. This is particularly important because nations have engaged in what this book calls 'sovereign externalization' by retaining most of the benefits of industrialization while dumping the costs of dealing with its environmental effects. like climate change, upon the people of all nations and all times. We also need to appreciate that the mitigation measures that we must indeed take to bring climate change under control will negatively affect the poorest people of the world unless we actively work to prevent such harms.

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Most important, we need to understand that the present time is in fact the last chance to prevent business-as-usual on our part from locking future generations into dangers that are greater than ours, without any determined limit, and perhaps able to generate cascades of positive feedbacks. We live at the date-of-last-opportunity.

At the practical level almost all scenarios for imposing reasonable limits on further climate change assume carbon dioxide removal (CDR). Its being theoretically possible to extract CO_2 from the atmosphere may appear to mean that the present time is not in fact the date-of-last-opportunity, and so that it is safe for the present generation to settle for less than maximum mitigation. This appearance is deceptive. Two of the reasons are that a choice of less than maximum mitigation now coercively transfers costs and risks forward to future generations and that even reversible emissions 'overshoots' can, until they are in fact reversed, cause permanent changes like the irreversible melting of ice sheets that drive sea-level to destructive heights. The actual business plans of major fossil fuel companies, as distinguished from their greenwashing PR releases, call for a 'final harvest' of extraction and sale of carbon fuel that is the opposite of the requirements of the Paris Agreement, with many companies aiming to be the last one standing. The planned increases are enabled by loans from banks and hedge funds and encouraged by corrupt and compliant governments. It is urgent that people democratically re-take control of as many governments as they can and use political power to block, not facilitate, this threatening climactic surge of carbon emissions.

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Giving It Our All? Demandingness in the Pivotal Generation*

Elizabeth Cripps**

Abstract

Henry Shue makes a powerful case for the 'active many' within the current generation to act urgently and 'robustly' on climate change. This is because the climate burdens born by future generations – heavy enough in any case – will be heavier still if we don't; the threats are potentially unlimited; and harms could escalate, creating a 'Hothouse Earth'. He also argues that this generation is uniquely positioned in having the last chance to avoid disaster, and that this reinforces the moral demands on us.

This paper contends that, rather than Shue's 'active many' and 'ruthless few', current generations are composed of a ruthless few, an apathetic many, and an active few. His important book leaves unresolved how much can be expected of members of the third group, in the face of obstruction by the first and inaction by the second. Must they devote their entire lives to pursuing collective climate action, setting all else aside, because they are members of the last generation who can avoid catastrophe?

Shue's arguments, I suggest, imply a very demanding individual duty to promote collective action on climate change, but leave it open whether there is an extremely or super-extremely demanding one.

I. The pivotal generation

Shue gives three overlapping reasons why it is morally crucial that our generation acts 'robustly' on climate change (12). The climate burdens born

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by future generations (biophysical and socio-political) are likely be much heavier than ours *whatever we do* – and will be worse still if we don't act urgently now. The threats are potentially unlimited in the sense that, as things currently stand, climate change could go to the maximum of what humanity can do the environment. If tipping points are passed, harms could escalate, triggering more such tipping points and ultimately creating a disastrous 'Hothouse Earth' (13-26).

This may seem unfair on this generation. However, Shue argues that this cannot be used as a reason for inaction, because historical challenges *cannot* generally be redistributed. 'For better or worse,' he says, 'you live at the time where you live. You confront what you confront.' (11) He compares us with those who faced the Nazis in the 1940s: it was that generation's bad luck that it bore that burden, but it could not be shared with others, unless by allowing the Nazis to gain and keep power.

For Shue, the key point is that we are uniquely placed to avert disaster.

> In an important battle, one should do one's fair share every day, but if one could somehow know that the decisive day had arrived, and the outcome would be decided on this day, any ordinary person would think, I believe, that one should give even more on this day just because it was the last chance to win. Why? It is difficult to grasp any further reason, and perhaps any will be "one thought too many." We may be at argumentative rock-bottom and have already specified the best reason: this is the last chance to avoid irretrievable loss (82). [1]

This is a powerful appeal, although I think it must work in combination with existing arguments, rather than independently of them. Such 'now or never' reasoning is intuitively strongest when the cataclysmic disaster will fall on those who are opposing it. (A kind of 'win or go down fighting' mentality.) This isn't necessarily the case for many of those in modern day US. If there were no other reason to help the needy, or avert collective harm, the fact that this was the last opportunity to do so would be neither here nor there.

Shue also offers three supplementary thoughts. Firstly, countless past sacrifices hang in the balance. Will they be sweetened by ultimate victory, or lead nowhere? One might object that most current people have sacrificed nothing at all for climate justice, but this misunderstands Shue's point. The 'struggles' in question are those involved in building the 'economically adequate, reason-

[1] He is quoting Bernard Williams (1981).

ably humane, culturally rich and technologically advanced societies' whose central institutions are threatened by climate change (83).

Secondly, hope must be kept alive for future generations. This is impossible once the last chance has been missed. Thirdly, some of the value we assign to our pursuits depends on our confidence that others 'will value what we value' after we are gone. This motivates us to maintain the conditions for human life as more than a mere daily struggle to stay alive (86). [2] Shue also notes the power of legacy – 'It is a good thing for all the rest of us who have followed that the generation of the 1940s rose fully to the occasion and we remember them proudly' (11) – but this is not necessarily intended as a defence of the moral duty to act.

As an appeal to the current generation taken collectively – especially that in the US, on whom Shue focuses – the argument is compelling. [3] Our institutions, especially governments of wealthy states, ignore even minimal considerations of justice. If they continue as they are, they are – in the kind of language from which Shue does not shy – morally bankrupt.

Shue distinguishes between an 'active many' and a 'ruthless few' (130). Certainly, his argument applies forcefully, *at a collective level*, to the many who could change this generation's legacy between them: those who live above the baseline themselves but are not deliberately maintaining the power and political dominance of big oil, gas, and coal. That is, they are not corrupt politicians or fossil fuel bosses, and run neither the big banks who finance fossil fuel projects nor the insurance companies who insure them (128-130). Nor are they bosses at giant meat and dairy firms, also accountable for great harm (Lazarus, McDermid, and Jacquet 2021).

Put another way, this works as a moral call to the 89 per cent in the US who are not actively 'dismissive' of climate change: to change the political landscape and prompt decisive action. [4] This taps into a long running thread in climate ethics: the shared duty to organize to create just institutions, or reform existing unjust ones (Shue 1980; Cripps 2013, 2020, 2021; Caney 2014).

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[2] This borrows from Samuel Scheffler (2013) and Hannah Arendt (1954).

[3] Note, however, that basic justice, as well as fairness, would put radically different burdens on different groups *within* that generation.

[4] Shue discusses this in Chapter Five. The figure is from an ongoing study of attitudes. 'The dismissive believe global warming is not happening, human-caused, or a threat, and most endorse conspiracy theories (e.g., "global warming is a hoax").' (Yale Program on Climate Change Communication 2023).

However – and this is my key distinction – the 'many' are not yet Shue's 'active many'. Instead, as well as his 'ruthless few' we have an active few – concerned, motivated and, sometimes, already taking on vast personal cost – and an apathetic many.

Only 29 per cent of Americans are 'Alarmed' – 'convinced global warming is happening, human caused, an urgent threat, and… strongly support climate policies' – and even within these 'most… do not know what they or others can do to solve the problem.' (Yale Program on Climate Change Communication 2023) In the year to April 2021, 16 per cent of US adults had donated money to an organization tackling climate change, 10 per cent had contacted elected officials to call for climate action, 10 per cent had volunteered around climate change, and 6 per cent attended a climate protest or rally. Only 24 per cent had done at least one of these (Tyson, Kennedy, and Funk 2021, 14).

What can be expected of the active few? They face the triple challenge of convincing others to care, working with them to force the actively corrupt to change, *and* then being part of the actual work of mitigation and adaptation. Must they devote their whole lives to this, setting all else aside, at least until sufficient others are on board for the costs to each to go down?

This question is important, and only partially resolved by Shue's book. The rest of this paper will explore it.

II. 'How much should *I* do?'

Individual duties to promote climate action have been widely defended (Cripps 2013, 2020, 2021; Maltais 2013). Going further, we should each arguably consider just institutions an 'ultimate aim', because we cannot live our own lives at peace with the ongoing need to redress suffering and injustice (Belic 2022; Cripps 2013, 169-196). However, that does not tell us how much each of us must do to bring such institutions about.

Let's say that our moral duties are *minimally demanding* if they require only trivial changes (using a keep cup, signing online petitions, etc.) and *moderately demanding* if they require more than trivial changes but stop short of what might broadly be called 'significant' costs (perhaps being temporarily unable to exercise a central human interest, for example breaking one's leg or suffering a career setback). Call these duties *very demanding* if they require more than significant costs but don't jeopardise fundamental interests, such as the ability to form and live by one's own plan of life, altogether. Call them *extremely demanding* if they require giving up some fundamental interests but

stop short of undermining basic needs such as health, life, or shelter, and *super-extremely demanding* if individuals must give up their basic needs.

In the context of duties of beneficence, it is widely argued that each of us is entitled to *some* time, money, and emotional energy for our own life projects and those who are dear to us. This may be grounded in the ultimate value of flourishing individual human lives and the need for personal partiality to sustain some *im*partially valuable 'life enhancing goods', such as friendship, personal achievement, or participation in one's community (Cullity 2004, 129-147; Wolf 1982; Lichtenberg 2014; Scheffler 1994). In other words, contrary to the most stringent consequentialist principles (Singer 1972), we need not keep on aiding the suffering until we are equally badly off ourselves; our duties are not extremely demanding and very possibly not even very demanding. In practice, duties of beneficence are rarely regarded as more than significantly demanding and are rarely *fulfilled* as though they were more than trivially so.

Now consider climate justice duties as negative duties. As a generation, especially as a rich state like the UK or US, we are killing people through climate change. Applying the no-harm principle as it is standardly (and legally) applied to individuals, the question of demandingness is quickly resolved. I must *not* do serious avoidable harm to others, even if it is extremely costly not to. However, the situation here is more nuanced: as individuals, we do not do these terrible harms directly, and we cannot end them individually. Rather, each of us is complicit in shared or structural harms and can only try to promote an end to them. From an individual perspective, our carbon emissions may help to harm, or run the risk of triggering significant harm, or do harm spread in tiny amounts across a huge number of victims, but this does not necessarily trigger the strong no-harm principle (Lichtenberg 2010; Cripps 2016; Fragniere 2018).

Accordingly, in the climate ethics literature, demandingness thresholds tend to be lower: closer or even equivalent to those in beneficence cases. [5] Some propose (at least) trivially demanding duties; others moderately demanding ones; less frequently, very demanding duties are indicated (Cripps 2013; Fragniere 2018; Baatz 2014). [6]

[5] There are some notable exceptions. Broome (2012) equates having a carbon footprint with violating the non-harm principle. Thus, his model could make very high demands on individuals, which he avoids by appeal to offsetting.

[6] An advocate for more demanding duties in general is Berkey (2016), to whom I will return.

A third case for decisive action on climate change is grounded in parents' duties to their own children (Cripps 2017; Gheaus 2016; Read 2021; Cripps 2023). Given that at least some parent-child duties are often taken to be more demanding than duties to 'distant strangers', and that legitimate partiality would pull *towards* rather than against climate action, this seems to increase the demandingness of individual promotional duties. However, recent philosophical work on parent-child duties has generally left space for parents to live their own lives and pursue other central goals (Brighouse and Swift 2014; Clayton 2006).

I suggest that Shue lends support to the view that these duties, on all three arguments, are at least very demanding. However, it remains up for debate whether they are extremely or super extremely so.

III. The costs to the active few

Before we examine this in detail, consider one factor which might pull against the demandingness of climate justice duties. Shue has rejected appeals to unfairness across generations on the basis that 'we are where we are', but this leaves open the question of unfairness across those who *could* now act, when many don't. It has been argued that individual sacrifices can be 'capped' at what they would be if everyone fulfilled duties of beneficence (Murphy 2000). On equivalent reasoning, the active few could permissibly limit their efforts to what they would have to do if *all* were acting fairly on climate change.

This can be set aside. Firstly, because human rights considerations trump appeals to fairness between comfortably-off duty bearers (Cripps 2013; Roser and Hohl 2011). Secondly, on the basis that the maximum effort we owe as individuals to other suffering individuals does not change because of the presence of other agents: it's just the content of the action that shifts, including attempting to *in*crease compliance (Karnein 2014). From this perspective, being the only ones willing to act is on a par, demandingness-wise, with being the only ones who can act.

However, neither of these rebuttals amount to conclusive grounds for extremely or even very demanding duties. They merely set aside one way of limiting them, leaving open the question of *how much*, in general, we owe to suffering others or those whom we are complicit in harming. Moreover, there is an important difference between Shue's argument at a generational level, and as applied to the active few.

In talking of 'giving it one's all' or 'maximum effort', and making comparisons with war, Shue seems to imply extremely or super-extremely demanding climate justice duties. However, his argument is as compelling as it is at the collective level partly because the 'maximum required' need *not* be extremely demanding, if borne by those who have benefited most from past industrialisation. It may not even be very demanding. According to the Intergovernmental Panel on Climate Change (IPCC 2022), the economic cost of keeping temperature increases below 2°C is small compared to the economic benefits of doing so.[7] On broader measures of achievement, our lives could be *better* if we lived in more active, 'greener' societies, with more plant-based diets, less reliance on consumption and more on meaningful paths to contentment, such as our relationships with each other and with non-humans (IPCC 2018, 714; Sheldrake, Amos, and Reiss 2019; Helliwell et al. 2020).

The political challenges of bringing about change despite the 'ruthless few' (130) are greater. However, they need not be overwhelming if everyone in the potentially active many cooperated to remove oil-funded politicians from power, divest from fossil fuel companies and big meat and dairy, abandon or reform corporations funding or insuring fossil fuels, and bring about a *just* transition to the kind of society described above. Even if they all 'at least vote[d] Green', this would be a seismic shift (Maltais 2013). Note, however, that the period of change could still impose significant (if temporary) inconveniences.

In other words, at the level of the wider collective, *if* the urgency of the situation is taken seriously by all, the question of demandingness, if not exactly moot, is less salient. This is not the case for the active few – or the individual – in the face of the ruthless few and the apathetic many.

Some involvement in climate action and some 'green' lifestyle changes can boost both physical and mental health, but the costs of ongoing campaigning can be enormous – and, in the face of apathy and intractability, potentially limitless. Two hundred land and environmental defenders were murdered in 2021 (Global Witness 2022). Even in the global north, activists risk arrest and even imprisonment, especially given newly draconian UK protest laws (Taylor 2022). They face abuse on media and social media and emotional and physical

[7] There are two provisos: 'Models that incorporate the economic damages from climate change find that the global cost of limiting warming to 2°C over the 21st century is lower than the global economic benefits of reducing warming, unless: (i) climate damages are towards the low end of the range; or, (ii) future damages are discounted at high rates (medium confidence).' (IPCC 2022, 37).

burnout, quite apart from the indirect costs in time, money, and emotional energy. (To return to Shue's WWII analogy, an alternative comparison is not with the allies fighting the Nazis, but with German civilians facing the choice of complicity or sacrifice.)

Moreover, this is not a short, sharp push for victory. Shue uses the analogy of a boxer with one last round to win or lose a career-determining fight, on which many others' sacrifices also hang (83-85). But boxing rounds last only a few minutes. In wars, battles might last hours, days, weeks, or months. The next *decade* might be considered a 'last battle' for climate action. [8]

This has a practical implication: given the dangers of burnout, 'giving our all' over the longer term might *require* preserving some space for oneself, in the short term, to retain the capacity for action. There are also, potentially, moral implications. For individuals within the active few, making this last push amounts to committing to this goal for a significant proportion of their lives, day to day, year on year, with serious consequences for other central relationships, interests, and ambitions.

Going further, one might ask what goals and relationships individuals can legitimately take on, if these might later limit the time and resources available for climate action (Cordelli 2018). Must younger people's whole life plans not only *be compatible with* but *centre exclusively around* climate action? [9] Shue's arguments push us in this direction, but how far do they go?

IV. Individual demandingness in the last chance saloon [10]

This section will indicate why Shue's arguments favour a more strongly demanding set of individual climate justice duties than have hitherto been accepted, but do not conclusively show them to be extremely or super-extremely demanding.

If this is the last chance to avert irretrievable loss, further force is added to a compelling recent argument for moral duties being much more demanding than most of us think (Berkey 2016). This says that we can be 'moderate about

[8] This is somewhat misleading, as things can still be made comparatively better or much worse even after initial net zero targets are missed, in terms of mitigation and adaptation. However, it draws attention to the crucial point that net zero must be achieved by 2050, and a 45 per cent cut made on 2010 levels by 2030, to remain below 1.5ºC of warming (7; IPCC 2018).

[9] Thank you to Simon Hope for clarification on this point.

[10] I borrow this phrase, in this context, from McKinnon (2011).

principles' whilst taking a comparatively strong line on actual demandingness. We can believe that the right moral principles require individuals to give some weight to impartial moral considerations, notably the equal moral worth of all human lives, but do not oblige them always to weigh everyone's interests equally – *and* that duties to 'distant strangers' are significantly more demanding than commonsense morality suggests. In fact, the argument goes, greater demandingness follows from any claim to take seriously both the moral equality of humans and the huge extent of suffering in the world.

If this is the last chance to prevent climate catastrophe, the argument gains further force. Can I *really* believe that others' lives are as valuable as mine if I don't devote a large proportion of my (ample) resources to a last opportunity to save so very many of them, from such terrible harm?

This is further reinforced by the reminder that climate disaster is not merely a failure of beneficence but a fundamental injustice: a terrible shared or structural harm, falling fastest and hardest on those who have done least to cause it (marginalised communities and the global south as well, of course, as future generations). Whatever can be expected of each of us, as we ride along on a truck rendered dangerously unsteerable by the luggage we have piled onto it, this increases as that truck rushes closer to a group of children. Equally, framing climate duties as duties to save our *own* children from serious harm, Shue's 'rock bottom' reason is pertinent. Whatever else being a 'good parent' means, it plausibly requires doing all one can at the last possible point at which our children can be spared serious loss.

Now consider Shue's additional factors, starting with the choice we face between vindicating others' past sacrifices, and letting them go for nothing. This, perhaps, makes *more* sense at the level of the active few, given the very real sacrifices of climate and environmental activists. The importance of hope is also well documented in activism: hope earned by sustained action, rather than vested passively in others (Stoknes 2015; Cripps 2023). What meaning is there in a life lived knowingly on the sidelines of the battle that will determine the destiny of humankind? And of whom will future generations be proud: the climate complicit, or those who took on real costs, to make a stand?

These indicate that moral demandingness in the last chance saloon is not only greater than most of us consider it to be, but greater than it would be if this were *not* the last point at which disaster could be averted. Do they render individual climate justice duties extremely or super-extremely demanding? Perhaps, but at least two considerations give grounds for hesitation.

Firstly, as well as their own central projects and interests, individuals in the active few have other *moral* obligations, including special duties to loved

ones. These could set some limit to the demandingness of climate justice duties. As discussed, simultaneously recognising the massive threat to 'distant strangers' and the moral equality of humans limits the moral scope for such displays of partiality. But does it require leaving no space at all? That would be quite some bullet to bite.

Even when climate justice duties are couched as special duties to one's own children, the problem is not entirely evaded. How far does attempting to protect your child from very great harm at age fifty justify depriving her of the time and care she needs now, or of the resources needed to secure her a minimally flourishing future in other ways? Biting *this* bullet, the hard-line conclusion would seem to be that young people must not have children, because their immediate needs could not be allowed to pull against the all-out push for climate action. However, even if this were so (which would be troubling, to put it mildly), it would not resolve the dilemma for those who are already parents or have other caring responsibilities.

The second consideration relates to chance of success. As a generation, we could undoubtedly avert climate disaster. The non-dismissive many could very likely do so. It is less clear what the active few will achieve in the face of entrenched political opposition and the apathy of the majority.

Shue acknowledges a possible objection to his 'last chance requires peak effort' argument. Far from leading to victory, fighting longer often mores throwing more and more away in a vain effort. His response is:

> The problem is commonly this false premise, but not a fallacious inference. It is indeed sometimes the case that, *if* by fighting a little longer one can turn it around and win, it *will* have all been worthwhile. The question is whether the if-condition will turn out to be true…. [The fighter] simply needs to make his premise true. Maximum effort could indeed pay off. It seems similarly reasonable to expect the generation alive at the date-of-last opportunity to prevent a disaster to do all they can, lest all previous efforts come to nothing, provided only that the further effort is not reliably known to be futile (84).

However, this has greatest intuitive force not only where the sacrifice is not enormous (as discussed above), but also where the action *is* comparatively likely to succeed.

There is also a significant gap between being not being certain of the hopelessness of one's efforts and being very likely to be able to make the conditional true. The active few are somewhere in that hinterland. Their efforts are absolutely *not* 'reliably known to be futile': activism, in various forms, has been shown to influence public opinion and policy (Fisher and Nasrin 2020;

Xie and Newell 2019; Chenoweth and Stephan 2012). We might also compare the climate justice movement with those of comparable magnitude in the past – the campaign to end slavery, the suffragettes, civil rights movements – and the progress that they ultimately made. However, numbers matter, and vested interests are deeply entrenched; even youth activist leader Greta Thunberg has said publicly that climate strikes have 'achieved nothing' (Harvey 2019).

This might influence demandingness. This is not an appeal to fairness, as rejected above. It is about whether the probability of achieving a morally urgent end can legitimately influence the extent to which other morally valuable ends must be sacrificed in its pursuit. If I must give up everything in pursuit of *any* chance to save many others, no matter how small, can the principle on which I act acknowledge that I have a life of my own to lead and that this, too, has moral weight? To clarify, the claim is not that chances of success *are* minimal in the climate case, even for the active few. It is, rather, that they are significantly less than they would be for Shue's 'active many', and that acknowledging the legitimate importance to them of their own lives and projects might require taking this into account.

Supplementing this point, an argument above could be caveated. Yes, we almost certainly place some value on how future generations see us – and on there *being* future generations to continue our way of life. Yes, this could motivate us to protect those future persons – and not to be complicit in harming them. But would it require the active few to become the minority who had a truly terrible life in trying and failing to avert future disaster?

I offer no answers here; I am trying to highlight a question still open and in urgent need of an answer. In this pivotal generation, must the active few take the plunge (drawing on Shue's analogies and the actual experience of what individuals give up in wars) and sacrifice everything else of value in their lives in promoting climate action? Or can they permissibly retain *some* space to sustain the relationships and core aims they already have, and forge new ones?

None of this undermines Shue's much-needed call to arms to the many who are apathetic about climate change. His excellent book also strongly reinforces the view that most people – even those who think they care – are not doing anything like what they should. But the dilemma remains for those who are already taking on great costs, and need to know if they must do even more.

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Being Pivotal: History, Fairness, and Political Action

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Abstract

In this article, we critically engage with Henry Shue's insightful book *The Pivotal Generation*. We will focus predominantly on the book's first two chapters as well as the final chapter, in which Shue justifies the claim that we are the pivotal generation and relates it to discussions of (historical) responsibility. More concretely, we engage in his arguments about the 'illusions of separations', his arguments on (historical) responsibility, as well as the struggle for political progress, which Shue turns to in the final chapter of the book.

I. Introduction

The global mean temperature is currently 1.2°C above pre-industrialized times. The IPCC indicates we will reach 1.5°C between 2032 and 2050.[1] We are also far from doing enough to transition from fossil fuel energy. Who is "we"? According to Henry Shue's latest book, in which he addresses mainly

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[1] IPCC, Summary for Policymakers. In *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty* (Cambridge: Cambridge University Press, 2018), 3-24.

US-Citizens, it is our generation, the *pivotal generation.* Shue's work on climate justice is both groundbreaking and insightful. He has inspired a generation of philosophers and political theorists to take up research in climate justice. His latest book is no exception. The overarching aim of this book is to make the case that fighting the climate crisis is no longer a problem of the future (if it ever really was!) but very much a present crisis. As such, combatting climate change has become a *generational task* of utmost importance. Shue sets out to assess a) why we, as the current living (but especially US citizens), are the pivotal generation, and b) why we have a moral responsibility to start urgent and necessary actions now. In doing so, the focus lies on presenting converging moral reasons for actions. Indeed, the book is a call for urgent and meaningful action.

In our comments, we will focus predominantly on the book's first two chapters as well as the final chapter, in which Shue justifies the claim that we are the pivotal generation and relates it to discussions of (historical) responsibility. Section II discusses the role of the "illusions of separation" within the book's setting. More precisely, we are interested a) in the normative implications of the idea of overcoming the separation between past, present, and future and b) in how it affects Shue's forward-looking account of responsibility. When we consider questions of climate justice, what does it mean that the past and future are "present" right now? Can this make sense of the differentiated (historical) vulnerability concerning climate change? Section III then extends the discussion of responsibility more directly to the three arguments with respect to historical responsibility and the present. Section IV addresses a different set of questions. Shue's book can be separated into two parts. The first one reaches over four chapters and seems to be dealing with questions of generational responsibility and failure, while the final chapter deals with the struggle for political progress. Here, we raise some questions regarding taking generations as the central focus in light of Shue's political analysis.

II. The Illusions of Separation

The book's first chapter aims to establish why we are the pivotal generation and how the past and future are very much present right now. Shue begins this chapter with a call for the current generation to understand themselves as the pivotal generation. Since the time frame for action is narrow, tackling climate change has become the current generation's central task. However, when we think about responsibility, Shue argues, the partitioning of time in past,

present, and future undermines our responsibility. He contends that the sequential partitioning of time suggests that the past is secluded, and the future is yet to be born. This is, the analysis goes, misleading with respect to our responsibilities for three reasons. First, previous generations have left us with a fossil fuel energy regime that now drives climate change. Second, the generation that is currently alive is the first "to understand the essential dynamics of our planet's climate; consequently, we have become aware of humanity's unintended subversion of its own environment through its uninformed past choices of energy sources." [2] Third, we have overwhelming evidence that things will become worse if we do not act now. This is the context in which we act and "the context that makes us pivotal." [3] Therefore, both past and future are present – a diagnosis we need to grapple with. In short, the historical contingency of our place in time matters because it shapes our social circumstances in relation to our responsibility. Our actions similarly shape the social circumstances of future generations, but given the time left, we – that is, all those living right now – should understand ourselves as the pivotal generation that needs to fight climate change.

Is there perhaps more to Shue's claim about the illusions of separation other than that it ought to convince "us" to act decisively? In this section, we are concerned with the implications of this claim. What does the "illusions of separations" claim normatively entail, if anything, in light of the historically differentiated struggle for climate justice? We worry that Shue does not offer a complete normative account of what it means to be the pivotal generation and thus risks ignoring the historical struggle marginalized groups have engaged in with respect to the fossil fuel energy system.

To develop this line of thought, it is instructive to understand how the "illusions of separations" inform Shue's three arguments for historical responsibility in chapter two. Shue discusses one pure fairness argument and two wrongful imposition arguments – all three arguments share the idea that historical responsibility permeates the present. We will discuss them in more detail in the next section. Here, we want to point out how the illusions of separations affect these three arguments in a way that might show how Shue's argumentation misses something crucial.

The pure fairness argument holds that our responsibility is not based on fault but on fairness. Hence, it is a question of *distributive rather than retribu-*

[2] Henry Shue, *The Pivotal Generation: Why We Have a Moral Responsibility to Slow Climate Change Right Now* (Princeton: Princeton University Press, 2021), p. 5.

[3] *Ibid*.

tive justice. However, even though there is no blame involved, we still must take the meaningful connection between past, present, and future seriously: since our countries created the global energy regime, we ought to take up responsibility, without necessarily assuming any blame, for the harm it creates. It is important to note that although the fairness argument works by analogy to an individualized notion of agency, it refers to "one's nation's proportional share of costs." [4] The two wrongful imposition arguments for historical responsibility take the nation-state as their main agent more directly. The arguments concern the phenomenon of sovereign externalization – states imposing the costs of their own energy regimes on everyone while refusing to fund the transition out of the energy regime. The first variation then considers imposing wrongful harm on others. In a nutshell, we are violating human rights of people living now by burning coal, and we are violating future generations' human right to physical security. The second variation focuses on taking unfair advantage. Emitters claim ownership of so many benefits from emitting greenhouse gases (GHGs) in the past, but they arbitrarily renounce any accountability for the emissions.

We have two concerns about the implications of the illusions of separation argument and the conceptions of responsibility. First, we worry that the three arguments for historical responsibility ignore how differentiated vulnerabilities historically arose with respect to the fossil fuel energy system. Second, we wonder what the argument against separating past, present, and future *normatively* entails. It seems that either Shue's account ignores the historically different struggles against and the vulnerabilities to the fossil fuel energy system, or he does not adequately clarify his notion of membership in the pivotal generation in light of differentiated historical struggles and the urgency for collective action right now. We address these two points in order.

Consider the first point. The pure fairness argument entails an account of collective responsibility that is reducible to individual citizens: nation-state X has historically done Y, so this implies that each citizen of that state should assume some forward-looking responsibility based on their nation's past. As Shue writes, "Individuals are accountable for the bad results as well as the good results of their own nation's energy history. If a share in the national wealth generated belongs to them, the corresponding position of climate damage generated belongs to them too." [5] Because this argument pertains to the

[4] *Ibid*., p. 45.

[5] *Ibid*., p. 42.

relationship between individuals and nations, it seems to lose something normatively relevant by not including or highlighting the different historical constraints that different social groups within the nation state have faced concerning their nation's contribution to the fossil fuel regime. The pure fairness argument seems to suggest that there is *one common version of the nation's past that citizens inherit*; for instance, all citizens of the US co-created an unjust energy regime. But the crucial point is that the good and bad results of fossil fuel extraction and combustion have also historically been unevenly distributed within national communities.

Even though the catastrophic consequences of GHG emissions might not have always been obvious, fossil fuel energy production has always produced injustice.[6] Some social groups' past is one of the ongoing struggles against the injustices that result from the energy structure even though their nation-state has co-created the energy regime. Scholars from diverse fields suggest that within the US – although this is not limited to the US – the differentiated vulnerabilities to the immediate consequences of fossil fuel energy are entrenched in deeper structural injustices.[7] Hence, some marginalized groups are already more vulnerable to climate-induced catastrophes. Take, for instance, the uneven consequences of Hurricane Katrina in the US.[8] The upshot is that some people are vulnerable not as a matter of historical contingency but as a result of wrongful marginalization. The pure fairness argument, then, overlooks the historical struggle of various social groups in favor of a purely forward-looking account of responsibility based on the illusions of separation. Disabusing ourselves of the illusions of separation should not cause us to neglect how past differences permeate the injustices of the present.

The two wrongful imposition arguments also do not address the differential relationship that different social groups have to the energy regime. Instead,

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[6] See Noel Healy et al., "Embodied Energy Injustices: Unveiling and Politicizing the Transboundary Harms of Fossil Fuel Extractivism and Fossil Fuel Supply Chains", *Energy Research & Social Science 48* (2019), pp. 219-234.

[7] See, for instance, Kyle Powys Whyte, "Is It Colonial DéJà Vu? Indigenous Peoples and Climate Injustice." In *Humanities for the Environment: Integrating Knowledges, Forging New Constellations of Practice*, edited by Joni Adamson and Michael Davis (London: Routledge, 2017), 88-114; Peter Newell, "Race, Class and the Global Politics of Environmental Inequality", *Global Environmental Politics* 5, no. 3 (2005), pp. 70-94; Lukas Sparenborg, "'Power Concedes Nothing Without A Demand': The Structural Injustice of Climate Change", *Critical Review for International Social and Political Philosophy* (2022), pp. 1-24.

[8] Iris M. Young, "Katrina: Too Much Blame, Not Enough Responsibility", *Dissent* 53, no. 1 (2006), pp. 41-46.

they focus directly on the nation state. This is common in the climate justice literature, and so Shue positions his argument within the framework of existing debates. Shue's discussion of the three different arguments for responsibility aims to substantiate the claim that we are indeed the pivotal generation and that the separation between past, present, and future is misleading in the climate case as both past and future are present right now. However, it matters *how the past (and the future) are perceived in the present*. If the differentiated struggles against and the vulnerabilities to the fossil fuel energy regime within the nation state matter in terms of responsibility, the connection between his conceptions of responsibility and "illusions of separations" is insufficiently differentiated.

This leads to our second point. It seems that to fully justify the purely forward-looking account of the responsibilities of the US and its citizens, Shue needs to be more explicit about the normative implications of his "illusions of separations" argument. For instance, Alasia Nuti's work on historical-structural injustice focuses on how certain types of historical injustices can be understood as de-temporalized, which would render the distinction between past and present normatively insignificant. [9] One interesting implication arising from Nuti's discussion is that we should distinguish between different social groups and their relations to an unjust history. Understanding the links between an (unjust) past and the reproduction of injustice in the present is important for responding adequately to injustice. Of course, Nuti's aim is very different from Shue's. Nonetheless, Nuti grapples with something that is important for Shue's illusions of separations argument: To what extent do our forward-looking responsibilities have to be sensitive to past injustice and differentiated vulnerabilities arising from the fossil fuel energy system? How do they play a role in understanding ourselves as the pivotal generation? Should we understand ourselves as continuing the struggles of previous generations in light of future ones?

However, it remains unclear whether Shue wants to say something about this at all. Does he reject the claim that historically differentiated struggles affect our forward-looking responsibility, or does he simply choose not to address the matter in his discussions of the illusions of responsibility? To make his account work, however, Shue needs to provide a more substantial vision of what it is to be part of the pivotal generations apart from the historical contingency that we live in a time in which our knowledge about the crisis and the narrow timeframe makes us pivotal. How should or can different social groups with very different historical relations to the history of fossil fuels come to-

[9] Alasia Nuti, *Injustice and the Reproduction of History: Structural Inequalities, Gender and Redress* (Cambridge: Cambridge University Press, 2019), chapter 2.

gether and take responsibility for being pivotal? We contend that the account should tackle the differentiated unjust past more directly and not be based on a generalized notion of one past.

In this section, we have taken up a matter that we think Shue should have been attentive to when discussing the ramifications of the past for the present. Present differential vulnerabilities are the result of past injustices. In the next section, we focus narrowly on Shue's arguments for historical responsibility.

III. (Historical) Responsibility

Moral arguments in defense of policy, such as the imperative to act to mitigate climate change or the reasons for assigning responsibility for climate change, can serve several purposes. One is justification, to convince those unconvinced of a conclusion by means of taking them from premises that they accept to a conclusion that they do not yet, but should, accept. Another purpose is explanation, to clarify the rational basis of a conviction to those who are already convinced of it. A third purpose is refutation, to make apparent the error of a position offered by another person. Refutation is not necessarily distinct from justification or explanation. If the addressee of refutation is the person who has stated the position or those who agree with it, then refutation is justification. If one is addressing those who disagree, possibly even oneself, the effort in refuting is to explain the conviction that rejects the position discussed. In chapter two, Shue aims to refute a claim made by the United States "that past national emissions are not the basis for a present national responsibility for dealing with climate change that those past emissions are now causing." [10] To be clear, the claim that the chapter aims to refute is not that there is no "present responsibility for dealing with climate change." Rather, it is "that past national emissions are not the basis" for the responsibility.

In most of the book, Shue's concerns are forward-looking. As he mentions, "far more attention is given to the presence of the future than to the presence of the past." [11] But in the first chapter, as we saw in the previous section, Shue explains that the programmatic conviction of his book is to reject the illusions of temporal separation in the case of climate change, the basis of "the sharp division of time into past, present, and future," which "has been desperately

[10] Shue, *The Pivotal Generation*, p. 31.

[11] *Ibid*, p. 30.

misleading and has, most importantly, hidden from view the extent of the responsibility of those of us living now."[12] Hence, chapter two should not be read simply as an effort to refute the claim of the US that it has no historical responsibility. The arguments have a programmatic purpose, to justify a central thesis of the book that "the narrowing of our consciousness of time smooths the way to divorcing ourselves from the responsibility for developments in the past and the future with which our lives are in fact deeply intertwined."[13] The arguments in chapter two then offer a kind of rational therapy for a diagnosis of false consciousness in which we fail to see ourselves as connected to the misdeeds of the past. "In the climate case, it is not that we face the facts but then deny our responsibility. It is that the realities are obscured from view by the partitioning of time, and so questions of responsibility toward the past and future do not arise naturally."[14]

Once we understand the programmatic aim of the arguments of the chapter, the stakes seem higher. If the arguments fail to succeed, it is not simply that the US position on historical responsibility has not been refuted but that the rational therapy disabusing us of our false time-consciousness has been unsuccessful. Regarding the responsibility of wealthy countries, there are other good ways to make the argument. If these were to succeed, perhaps the diagnosis is not all that dramatic anyway. Indeed, by the final chapter of the book, Shue seems to have left the conceptual problems of time-consciousness and analysis of generational duties behind and entered into the bruising intra-generational world of politics in pursuit of material interest. But we skip ahead – we turn first to an analysis of Shue's attempt to refute the US's disavowal of historical responsibility.

Shue calls his first argument *Pure Fairness*.[15] The argument employs an analogy to four travelers with trunks crossing a desert. In order to make the trip, they require a camel to carry their trunks. Three load up the camel with their trunks, but when the fourth does so, the camel collapses. Everybody could have been expected to know that the camel had a carrying capacity, but the exact limit was unknown and discoverable only after the fourth traveler attempted to place a trunk on the poor creature's back.[16] Shue aims to show that the responsibility for the problem can accrue to all four travelers regard-

[12] *Ibid*., p. 3.

[13] *Ibid*.

[14] *Ibid*.

[15] *Ibid*., p. 38.

[16] *Ibid*.,

less of fault. "The first three travelers committed no crime, are without fault and do not deserve any punishment. If they take responsibility jointly with the fourth traveler for making some satisfactory arrangement to deal with all four trunks, they are not confessing that they are villains in the story. They are simply acknowledging that they too are fully and irrevocably part of the explanation of the outcome."[17] It would be unfair, Shue rightly concludes, for the fourth traveler to bear a disproportionate burden in providing alternative transit for the group.[18] From this, Shue draws the following conclusion: "The camel story suggests that every nation whose earlier generation contributed to the problem should contribute to the solution in proportions to their contribution to the problem."[19]

Shue's argument seems to be the following:

1. When people agree to use a camel to carry goods, knowing full well that there is some upper limit to what the camel can carry, and they overload the camel, making it impossible to transport the goods, fairness demands that they are responsible for a solution in proportion to their contribution.
2. Countries' use of fossil fuels in the 19th and 20th century is relevantly similar.
3. Therefore, fairness requires that countries solve the problem of climate change in proportion to their contribution.

Now we imagine the travelers saying to each other, "We have found only a single camel; let us load all four trunks on this camel." The intuition about responsibility rests heavily on the cooperative enterprise. Premise one seems to rest on something like the following plausible principle of fairness:

> When agents cooperate to solve a problem experienced by each, and the cooperation creates a barrier (whose possibility was foreseeable), which frustrates the pursuit of the solution, fairness requires that each agent contributes to overcoming the barrier in proportion to the creation of the barrier.

In the argument, the travelers are the analogs to states, and the problem of crossing the desert is analogous to mitigating climate change. But the analogy is strained. If a principle of fairness has a role in the camel case, it is because the four travelers *agreed* to use the camel together; they were cooperating to

[17] *Ibid*., pp. 39-40.

[18] *Ibid*., p. 40.

[19] *Ibid*., p. 41.

get across the desert. Importantly, however, there is no analog to such cooperation in the use of fossil fuels in the pursuit of national development. A second difference is that in the example, the travelers could reasonably foresee that there was some upper limit to the weight that that camel could carry. They simply did not know that it was limited to three trunks. Countries at the end of the 19th and 20th century, however, could not be expected to have such foresight. Relative to the available evidence, the circumstances are very different.

To summarize, there are two dissimilarities between the camel case and the history of climate change:

1. Countries in the process of developing and using fossil fuels were not generally cooperating to solve a problem experienced by each; there was no common agreement to use fossil fuels to industrialize or to seek prosperity. On the contrary, the nineteenth and twentieth centuries are marked by national competition, war, imperialism, and conquest.
2. These same countries could not have reasonably foreseen the limit to their use of fossil fuels imposed by climate change.

The first of these dissimilarities seems especially relevant. Take cooperation out of the picture, and there is no correspondingly plausible principle.

Consider a different analogy. Several homeowners coincidentally decide to paint their houses. Their individual uncoordinated purchases deplete local paint supplies. None of the homeowners is able to complete their project, nor are others who decided subsequently that they also wanted to paint their houses. (Inclusion of the effect of the initial purchase on subsequent would-be painters adds the element of externality, absent in the camel case but relevant to climate change. In this way, the example bears a stronger analogy to the case of national development by means of fossil fuels.) It would be implausible to conclude that paint purchasers are responsible in proportion to their prior purchases to replenish the local stocks of paint. The principle of fairness that applies in the case of the camel simply does not apply here.

The implausibility of appealing to fairness in the paint case and in the case of national development by means of fossil fuels is made more apparent once the principle of fairness that would be required to make the case is stated explicitly. The principle would have to be something like the following:

> When agents work independently to solve a problem experienced by each, and the sum of the activities creates a barrier that frustrates the pursuit of the solution, fairness requires each agent to contribute to overcoming the barrier in proportion to the creation of the barrier.

This principle is, however, implausible. Although the first principle is plausible because fairness applies to cooperation in a way that makes burden-sharing seem reasonable, this is not the case when applied to agents working independently. In this case, fairness might require constraints on competition, but it does not require burden sharing.

Shue's second argument is one of two that he calls *Wrongful Imposition Arguments*.[20] It concerns wrongful harms in the form of human rights violations. Shue takes the externalities of fossil fuel extraction, transport, refining, and burning to cause human rights violations, and he argues for the assignment of responsibility on the basis of the extent of historical involvement in those activities. His argument can be made explicit as follows:

1. For over a century, the extraction, transport, refining, and burning of fossil fuels by countries has resulted in the externality of carcinogenic pollution, which poses a threat to health and physical security and is, therefore, a violation of the right to physical security.
2. When one is violating rights, especially basic rights, one's duty is to stop completely as soon as possible and to bear whatever costs are involved.
3. Therefore, polluting countries have had and continue to have a duty to stop burning fossil fuels as soon as possible.

Importantly, Shue asserts one qualification to the conclusion. "When there are no affordable alternatives to fossil fuels, there may have been a period in which an excuse of necessity applied to the infliction of the harms they caused."[21]

We begin by considering the argument without the qualification. The argument does not address the full consequences of burning fossil fuels. It is not the case that only negative externalities have been produced. The consequences have also included huge reductions in poverty and dramatic gains in human development as measured by UNHD Index. In the case of China, the improvements have been world-historical. For the purposes of assessing Shue's argument, it is important that in terms of subsistence and security improvements, these constitute impressive human rights gains. It is remarkable then that the argument only states the negative externalities, as if fossil fuel use has not also resulted in important human rights benefits to hundreds of millions of people living in poverty.[22]

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[20] *Ibid*., p. 43.

[21] *Ibid*., p. 47.

[22] See the problem of Mixed Results in Darrel Moellendorf, *Mobilizing Hope: Climate Change and Global Poverty* (Oxford: Oxford University Press, 2022), p. 62.

Shue implicitly acknowledges the mixed results of the use of fossil fuels in the qualification. But taking these mixed results seriously requires more than a minor qualification to the argument. First of all, during the 20th century, fossil fuels were considerably cheaper than alternatives. This explains why many developing states chose coal. Employment of more costly alternatives would have had the predictable result of slowing human development gains, prolonging poverty, and maintaining conditions that violate human rights. Shue asserts that "when one is violating rights, especially basic rights, one's duty is to stop entirely as soon as possible."[23] Plausibly, this applies to the most highly human-developed states at the end of the 20th and beginning of the 21st centuries. But for many developing countries forgoing the use of fossil fuels would have also produced human rights violations in the form of poverty prolongation. The moral relevance of these circumstances would be better captured not by assigning responsibility on the basis of fossil usage but rather on the basis of the capacity or ability of parties to take on burdens without damaging human development prospects.[24] But that would be to change the moral principle and direction of focus completely.

Shue's final argument for historical responsibility is the second Wrong Imposition Argument. It offers a possible answer to the problem of mixed results. Shue admits that "inevitably, to some extent, most of humanity has benefited to some degree from the industrial societies…."[25] But he claims that for those who received such net benefits, the process of generating them has been contemptuous of "their dignity and disrespectful of their autonomy" because "they have not consented" to the trade-offs and are "defenseless" in relation to the harms.[26] The argument is stated more clearly in the following form:

1. When some countries impose negative externalities on people in other countries, even if the costs are accompanied by positive externalities, resulting in a net positive outcome for these people, the policy is contemptuous of the dignity and autonomy of the people in other countries.
2. The burning of fossil fuels imposes such negative externalities.
3. Therefore, burning fossil fuels is contemptuous of human dignity and autonomy.

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[23] Shue, *Pivotal Generation*, p. 42.

[24] Moellendorf, *Mobilizing Hope*, p. 86.

[25] Shue, *Pivotal Generation*, p. 48.

[26] *Ibid*.

The first premise makes a claim that is deontological in character. Even if a policy that externalizes costs provides net benefits to people, it is wrong because contemptuous. Shue claims that "it would still be unacceptable simply to force a particular package of costs and benefits upon people who were unable to decide for themselves whether to agree to it."[27] We might call that an "anti-externalities principle." The principle is plausible to the extent that consent to the receipt of benefits and harms is a matter of basic respect. But the plausibility of the anti-externalities principle is questionable in light of the *ought-implies-can* requirement. In social life, at a sufficient scale, not every policy can be subject to a vote. And even if such an extensive scheme of voting were possible, the effects of following the will of the majority could result in an externality for the minority. It seems impossible then to stop the imposition of all externalities. If it is not possible, perhaps the best that can be done is to internalize them where the costs of positive externalities would not be too high for doing so. Although prohibiting the imposition of externalities may be possible in simpler societies where consensus is achievable, it seems unfit as a moral principle at the scale of modern society where effects are extended in time and place. Moreover, internalizing externalities can be seen as a matter of fairness fully consistent with the deontological aims to respect the dignity of persons.

Contrary to Shue's aim, the arguments in chapter two for the continuing presence of the past in the form of moral obligations on the present generation seem insufficiently plausible to provide rational therapy against a form of putative false consciousness in which we fail to see ourselves as connected to the misdeeds of the past. This is a blow to the programmatic aims of Shue's book but not to his basic practical conclusions. For it is also not the case that the past must be present in the way Shue claims in order to offer a justification for assigning heavier burdens to the US than to, say, sub-Saharan African countries. The fact that the US, and other highly human-developed states, can take on significant burdens without damaging their human development status or prospects surely deserves notice and could form the basis of an argument for responsibility on the basis of capacity.

In the final chapter, Shue is less concerned with intergenerational considerations than with intra-generational ones. We turn next to this politically important discussion.

[27] *Ibid*., p. 48.

IV. Generational Responsibility *or* Political Struggle?

In the book's final chapter, Shue switches gears: from laying out an account of moral responsibility to understanding the importance and character of a political struggle. The preceding chapters are largely devoted to answering who is responsible and why. The last chapter, in contrast, is devoted to developing a political program for climate justice. In other words, while it seems that in chapters one to four, Shue seems to be mostly concerned with the problem of generational responsibility, the final chapter deals with the politics of ending fossil fuels.

This is an important shift, and it is instructive to highlight how Shue begins this chapter: "We face a fierce battle – not everyone is on the same side, by any means. The most unrelenting opponents of progress toward a net zero carbon world are fossil fuel interests and their dedicated and entrenched allies in government and banking. We must no longer accept their deceptions, diversions, and detours."[28] He also gestures at what he thinks is the way ahead: "The struggle against them requires a broad mobilization of citizen energy: citizens joining and building social movements to replace the political and economic practices and structures that are blocking action on the climate."[29] Shue then understands the political struggle against fossil fuel interests as an additional layer to the responsibilities we have, according to his previous analysis. "We now must defend our own health and safety and protect the basic rights of the people of future generations against the fossil fuel interests in addition to fulfilling our own original responsibilities."[30] One way to understand the final chapter is that the presence of powerful fossil fuel interests not only produces unjust harms, but risks delaying and undercutting our efforts to discharge our forward-looking responsibilities. This reading is supported by Shue's attention to the "deceptive delay" fossil fuel interests are engaging in when planning the "final harvest."[31] As Shue recently reiterated, this delay is a new form of denial.[32]

Shue seems to suggest that the last chapter responds to the question of how we – as the pivotal generation – should understand "the battlefield," our oppo-

[28] *Ibid*., pp. 117-118.

[29] Ibid., p. 118.

[30] *Ibid*., p. 119.

[31] Ibid., p. 124.

[32] Henry Shue, "Unseen Emergency: Delay as the new denial", *WIREs Climate Change* 14, no. 1 (2022), pp. 1-6.

nents, and their tactics. Additionally, the chapter supports the idea that we need mass mobilization to win this battle. This is certainly helpful, but it is unclear how this analysis builds upon the arguments of the previous chapters, which urge overcoming the separation between past, present, and future in order to accept generational responsibilities for climate action.

We agree that mass mobilization against fossil fuel interests is desperately needed and probably the most urgent task in combating climate change. Given that fossil fuel interests are deeply entrenched in the political and economic structures, as Shue rightly points out, there is an urgent need to analyze the actual political struggle to achieve climate justice. This relates to our previous critique: Building mass participation to oppose the fossil fuel industry will probably require acknowledging the historically differential impact that the fossil fuel industry has had on different social groups.

Even in this most political of chapters, in which Shue identifies the fossil fuel industry as the enemy of humanity, he still seems to implicate a moral failing on the part of the rest of us. "[O]ur inattention and passivity have allowed fossil fuel interests to dominate energy policy and energy politics for a century."[33] If we take this seriously, then a central task is to grapple with our passivity and inattention. This, however, seems to divert attention away from the agency of the fossil fuel industry, which seeks to protecting its profits even at the cost of condemning much of humanity to misery and suffering. Such a diversion of attention is morally unsatisfactory. For one, it suggests that recognizing our place in time and the moral task assigned to us should be enough to bridge the interests and experiences of different social groups to build up the political power needed to fight fossil fuel interests. Building and sustaining broad-based political coalitions is incredibly difficult. If the past (and thus the present) is intertwined with the marginalization of some to the uneven advantage of others, this history will have to be recognized. It will not do to claim that we have all been inattentive. What is more, theorists can learn something from strategists of mass movements, including those who have organized the recent upsurge in climate activism. It is important to assess which strategies have proven effective and justifiable. Additionally, there are important moral questions that the movement will have to confront. After all, the aim is not merely a transition to renewable energy but a just one. Mulvaney and Newell warn that the transition to renewable energy is indeed a political struggle that needs to be attentive to the underlying structures of power in or-

[33] Shue, *Pivotal Generation*, p. 135.

der to avoid an energy system that is renewable but nonetheless unjust. [34]

We find Shue's turn towards the politics of climate change and the immense and dangerous power of the fossil fuel industry entirely appropriate. Our concern, however, is that the weight of the arguments of the rest of the book seems both to downplay this importance and do not prepare Shue well to develop important moral and strategic analyses relevant to building a movement for a just transition.

V. Conclusion

In this article, we have articulated three main points of critique: First, the "illusions of separations"-argument seem either to neglect the historically different struggles of marginalized groups *or* to lack a more nuanced account of what the argument against the partitioning of time normatively entails the pivotal generation. Second, we cast serious doubt on his three arguments for the (historical) responsibility of the pivotal generation. These two points pull Shue in different directions, but they are also connected. Any more convincing account of historical responsibility will have to distinguish the different relationship of social groups to fossil fuels within states. But even doing that will not repair the three arguments that Shue makes, and hence his programmatic aim to repair time consciousness is in trouble. Third, Shue's attention to the political dynamics of fighting fossil fuel interests is deeply important but neither connected to, nor even well served by, the previous arguments on generational responsibility.

Just as Shue's groundbreaking and extensive work on climate justice has inspired a generation of scholars to take up these matters, perhaps the political turn that the last chapter of his book represents will inspire future theorists to take up the deeply important moral and strategic questions of building a mass movement for a just transition.

[34] Peter Newell and Dustin Mulvaney, "The political economy of the 'just transition,'" *The Geographical Journal* 179, no. 2 (2017), pp. 132-140.

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Being Pivotal for Carbon Dioxide Removal*

Hanna Schübel**

Abstract

According to Henry Shue, everyone alive today is part of the 'pivotal generation', meaning that they have a special responsibility to mitigate climate change. One way to mitigate climate change is through carbon dioxide removal (CDR) technologies. CDR technologies include a range of measures, from afforestation to filtering carbon dioxide from the ambient air. What role CDR should play in climate policy is Shue's main concern in chapter 4 of *The Pivotal Generation: Why We Have a Moral Responsibility to Slow Climate Change Right Now* and the focus of my commentary. I begin by presenting Shue's account of CDR. To define the role CDR should play in climate policy, Shue distinguishes three purposes of CDR: CDR that enhances mitigation efforts; CDR that remedies inadequate past mitigation; and CDR that is undertaken to 'rescue' the stranded assets of fossil fuel companies. Shue provides arguments for why we should prioritise enhancement CDR over remedial CDR, and dismisses asset-rescue CDR.

The purpose of CDR is essential to our ethical inquiry and to answering the question of how CDR should be undertaken. But our generation is not only pivotal in determining how CDR is done. It is also pivotal in deciding whether CDR is undertaken at all. The moral challenges of CDR must be taken seriously and at the same time the urgency of mitigating climate change may demand that CDR be implemented. The urgency of mitigating climate change provides a rationale for implementing CDR as well as theorizing the non-ideal circumstances of the current situation. This is subject of part 2 of my commentary. This consideration leads me to argue, in part 3, that 'asset-rescue CDR' needs to be included in our ethical discussion of CDR. Unlike Shue, I argue that we need to morally examine the case of CDR being undertaken by agents to save their assets. This is especially pressing for corporations from the oil and gas industry. In part 4, I argue that this requires a more nuanced understanding of the moral agency of corporations within the pivotal generation. Instead of dissolving the responsibilities of separate agents into the responsibility of one generation, we should differentiate the responsibilities for carbon removal. I then draw my conclusions.

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Summary: Introduction. – 1. A Second Chance on Climate Change. – 2. Being Pivotal for Carbon Dioxide Removal. – 2.a. Pivotal for how CDR is undertaken. – 2.b. Pivotal for CDR being undertaken. – 3. Asset-rescue CDR. – 4. Corporations and the Pivotal Generation. – Conclusion. – Works Cited.

Introduction

Why do we have a moral responsibility to slow climate change right now? In his latest book, *The Pivotal Generation: Why We Have a Moral Responsibility to Slow Climate Change Right Now* (2021), Henry Shue provides appealing reasoning based on a synthesis of empirical facts and moral arguments to answer this question. In the climate ethics debate, the question of our moral responsibilities has been in the spotlight. However, at least two aspects of this question are new.

First, we speak about slowing climate change. This is different from stopping or preventing climate change. But how do we slow climate change? One of the answers, though by no means an alternative to reducing emissions, is the removal of emissions from the atmosphere with carbon dioxide removal (CDR) technologies. CDR includes a range of technologies from afforestation and reforestation programs to the construction of facilities that capture CO_2 from the ambient air and allow the captured carbon to be sequestered and stored (carbon capture and storage, CCS). The use of CDR technologies will be necessary if the targets defined in the Paris Agreement are to be reached (Shue 2021, p. 92).[1] For Shue, CDR is a central element of climate change policies, and one that should be more extensively discussed because its implementation is necessary and because of its moral implications.[2]

Second, slowing climate change right now emphasizes the urgency of acting *right now*. The responsibility arises from a particular temporal position: we are the pivotal generation, as Shue argues.[3] It is this situation that makes

[1] In the following, citations with page numbers only refer to Henry Shue *The Pivotal Generation: Why We Have a Moral Responsibility to Slow Climate Change Right Now*, Princeton University Press, 2021.

[2] The term 'CDR technologies' would be more accurate than 'CDR' and emphasize that this is an approach that combines several technologies. However, to avoid confusion, I will use Shue's terminology of 'CDR' as an approach to climate change mitigation.

[3] 'We can be the "greatest generation" for the climate struggle or the miserably self-preoccupied and easily manipulated ones who failed to rise to the occasion and whom future

our generation pivotal: previous generations have implemented an infrastructure that causes climate change, but we now know how climate change is created and what we have to do to influence it for the better, and we 'may also be the last to be in a position to act before we exacerbate some major threats' (p. 6). Given the knowledge we have and the moment of time in which we find ourselves, there is still room to act before the window closes: 'we still have the opportunity to act just in time' (p. 2).

While there is much to be said for the numerous contributions of the book, in the following I focus on the claims and assumptions Shue makes in his discussion of CDR. I primarily discuss chapter four. In what follows, I present what I understand to be Shue's main claim about CDR (section 1). I then lay out my argument of what it could mean for our generation to be pivotal for carbon removal (section 2). Contrary to Shue, I argue that 'asset-rescue CDR' needs to be included in our ethical discussion of CDR (section 3). This then requires a more nuanced understanding of the moral responsibility of corporations that links with the idea of a pivotal generation (section 4). Then, I draw my conclusions.

1. A Second Chance on Climate Change

In chapter four of *The pivotal generation*, Shue considers whether CDR offers a second chance to mitigate climate change. How CDR is treated in the climate ethics literature has shifted over the past few years. Originally, concerns about CDR were discussed together with solar radiation management (SRM) under the umbrella of geoengineering (Gardiner 2010; Preston 2013; Heyward 2014). However, accompanied by changes in the terminology of the IPCC, CDR is now discussed within the context of climate change mitigation and net zero emission targets (McLaren et al. 2019; Lenzi 2021; Armstrong and McLaren 2022). Shue was one of the first to explore the topic of CDR and the moral challenges it poses (Shue 2014, 2015, 2017a, 2017b, 2018, 2019) and he has repeatedly pointed to the danger that CDR technologies could be used as an excuse to slow efforts of emission reductions. This, Shue argues, leads to a problematic distribution of the risks of climate change because it overburdens future generations and overall increases the risk of dangerous climate change.

generations will recall, if at all, with contempt. … So those of us alive now are the pivotal generation in human history for the fate of our planet's liveability' (p. 2).

Shue seeks to identify the 'proper role' for CDR in policy on climate change (p. 100). He proposes classifying CDR technologies according to their purpose: '(1) enhancing current mitigation [enhancement CDR], (2) remedying insufficient past mitigation [remedial CDR], and (3) rescuing fossil-fuel companies' stranded assets [asset-rescue CDR]' (p. 95). He notes that asset-rescue CDR 'is in the interest of no one except those whose wealth is tied up in reserves of, and infrastructure for, coal, oil, and natural gas' (p. 95) and that he will not discuss this matter further (I will comment on this in section 3). Instead, the chapter criticizes the idea that removing CO_2 from the atmosphere could be viewed as a 'second chance' to slow climate change. Shue points out what is wrong with the idea that emissions that are not mitigated today can be removed by CDR later. He provides three arguments to make the case 'against complacency now, grounded in hoped-for remedial CDR later' (p. 98).

The first reason is that CDR may not be up to the challenge: for now, too little has been invested in CDR and the associated infrastructure, and after this weak start, it is not clear that CDR can be scaled up to the extent it would have to be (p. 98). According to Shue, '[i]t is misguided simply to dream that however lackadaisical and underfunded our efforts at controlling climate change continue to be, future generations can simply repair everything later with CDR' (p. 103). Importantly, delaying mitigation efforts increases the challenge for future people to address climate change (p. 103).

The second reason is the implications of CDR, especially remedial CDR, for the distribution of risks between generations. It may interfere with decisions on how much mitigation is undertaken. Shue argues that 'current half-hearted and half-baked mitigation' (p. 103) is deeply objectionable. His two main theses are

> '(1) that, in general, all decisions in the past about the degree of ambition for emissions mitigation are unavoidably also decisions about how to distribute risk across generations; and (2) that, more specifically, the less ambitious the mitigation is, the more inherently objectionable the resulting intergenerational risk distribution is' (p. 103).

The third reason why remedial CDR and overshooting targets on the promise of CDR is morally unacceptable is, according to Shue, because these changes may well be irreversible, and even if changes are only temporary, they may have permanent effects (p. 111).

It follows from Shue's argument that CDR should be undertaken to enhance our mitigation efforts, not remedy the problem later. Hence, CDR does

not provide us with a second chance to solve the climate crisis. [4]

However, more needs to be done to define the 'proper role' of CDR. Investigating why CDR is undertaken is surely relevant for the normative assessment of CDR and policies promoting CDR. But I am not convinced that the moral implications of the three purposes of CDR that Shue conceptualizes are as 'radically different' as he claims (p. 95). What makes both enhancement CDR and remedial CDR problematic or permissible are the policies that accompany them. Remedial CDR is not morally problematic in itself, and as Shue admits, we do not want to object to remedial CDR as such because it is 'a good thing at some scale' (p. 97). Remedial CDR is needed once emissions are strongly mitigated and carbon needs to be removed from the atmosphere to stabilize or lower global temperatures. Whether and for what purposes we deem pursuing CDR permissible or not may depend on how far from an ideal scenario we set our assumptions about global emissions decreasing in the next decades.

2. Being Pivotal for Carbon Dioxide Removal

If Shue is right and we have a moral responsibility to slow climate change right now, and our generation is pivotal for doing so, what does this entail for CDR? What does it mean for our generation to be pivotal for CDR? Being pivotal means changing fundamental social structures and physical processes that 'shape which possibilities are and are not open, at least initially, to the people who follow us in multiple future generations' (p. 115). This includes not only infrastructure and technology but also the concentration of carbon in the atmosphere. Given current and past levels of emissions, there is by now necessary to start CDR in order to meet climate targets (p. 92). Hence, being pivotal for carbon removal has two aspects: to shape how CDR is implemented and to ensure that it is undertaken in the first place.

2.a. Pivotal for how CDR is undertaken

The moral permissibility of CDR depends in part on how technologies are implemented. Citing the IPCC, Shue notes 'substantial concerns about adverse side-effects on environmental and social sustainability' (p. 99). Several ele-

[4] The problems of framing of CDR and solar radiation management as a 'Plan B' are also investigated by Gardiner and Fragnière 2016.

ments could make the implementation of CDR unjust, and not only in comparison to the scenario in which CDR would not have been necessary. Implementing CDR may create new structural injustices and contribute to existing ones.

Take the example of the CDR technology known as bioenergy with carbon capture and storage (BECCS). BECCS is the CDR technology most widely assumed in climate modelling and climate mitigation policies. However, the vast quantities of land it requires make it impossible to scale up (p. 101). Besides these restrictions on feasibility, the burdens of BECCS may be distributed unjustly: burdens are over proportionally imposed on countries of the Global South, regardless of low historical emissions in these countries; and where BECCS is implemented, some social groups are more prone to be dispossessed and to suffering food insecurity. Not only are the burdens of BECCS are likely to be distributed unjustly but also its benefits. Conditions of land acquisition play an important role in whether corporations can permissibly offer BECCS (Blomfield 2021). If the land that is used for BECCS was 'grabbed' and the community displaced, we can contest whether the corporation using BECCS on this land is entitled to these benefits. Further, BECCS depends on the availability of CCS, where carbon is stored in geological formations. There are large similarities in technology and infrastructure between oil extraction and carbon sequestration and storage (Hastings and Smith 2020). Many corporations potentially benefitting from CDR carry high historical responsibilities, especially companies from the oil and gas industry situated in countries of the Global North (Lenzi et al. 2023).

Importantly, '[w]hether this environmental colonialism happens depends on which future path of political economy is now chosen by societies' (Shue 2019, p. 259). We are pivotal in the sense that we know the malfunctioning of our market mechanisms and the limits of policymaking. The choices we make will influence what happens in the future, particularly in terms of how CDR is implemented and justice in the CDR market. This points to the importance of setting up and scaling up CDR in a way that does not foster existing unjust structures, as well as our responsibility to do so. Structural injustices can be perpetuated over a long time in a pattern that needs to be avoided (Ackerly 2018) and need to be considered in policy aiming for climate justice (Sardo 2020). We should not encourage more lock-in effects and structural injustices as we scale up a technology that will operate within old structures.

Governing CDR can be key not only to addressing climate change but also to making climate action more just. To achieve this, there is a need to transform the structures in which CDR takes place. This includes both the econom-

ic context, including regulation, price regulation, and incentives, and the implementation context: ecological footprint of facilities, legal protection of people on the land, working conditions, and so forth. The injustices that may be perpetrated when implementing CDR are among the reasons for Shue's appeal to mitigation measures over CDR. Hence, being pivotal for CDR implies responsibility for determining the conditions under which CDR is implemented and scaled up.

2.b. Pivotal for CDR being undertaken

Besides being pivotal for how CDR is to be undertaken, our generation seems to be key in ensuring that CDR is undertaken, if we take the claim seriously that CDR is required to reach climate targets such as the ones set in the Paris Agreement. Yet, Shue details arguments why we should prioritize enhancement CDR over remedial CDR. He seems more concerned with the danger of CDR undermining emission reduction efforts (the danger of a 'moral hazard') than with the urgency of implementing CDR.

This focus on the danger of a moral hazard can be criticized. First, the moral hazard phrasing assumes that CDR and emission reductions can be treated as substitutes (Heyward 2019). Yet, as Shue outlines in his discussion, this is not actually the case – we cannot and should not try to treat CDR as being identical to emission reductions. Second, there is little evidence that CDR actually weakens efforts to reduce emissions (Heyward 2019). Given the availability and advantages of renewable energies and the shortcomings of the fossil energy system, it seems hard to believe that it is the promise of CDR that keeps global emissions rising. So far, global emissions are still rising for several reasons. It would be presumptuous to assume that the promise of CDR is the major reason behind this. As Shue notes, we consider how to govern CDR under the premise that 'decades of failure to control emissions have made overshoot of most reasonable carbon budgets impossible to prevent at this late date' (p. 100). Given the current lack of policies for enhancement CDR, we may have to discuss cases where neither emission reduction nor enhancement CDR is undertaken and the implications this may have for CDR overall. It seems unjust to future generations not to scale up CDR because one deemed the danger of undermining emission reduction too high.

Although Shue indicates that CDR is needed, I think the need for our generation to start removing CO_2 is not being treated with the urgency it deserves. If our generation is pivotal in mitigating climate change, this must include investment and policies for more CDR. The fact that this has been overlooked

by policy makers has been noted by both modellers and ethicists. If we are indeed the pivotal generation to mitigate climate change, we should compare efforts to mitigate climate change including emission reductions and all kinds of CDR with an absence of such efforts. Instead, what is compared most often are emission reductions and carbon removal. Even if investments into enhancement CDR are used to justify weak emission reduction efforts, the lack of these efforts in the past still requires that we undertake CDR. Hence, we may have to encourage CDR even if some of its implications are morally objectionable.

This resembles Gardiner's 'arm the future' argument (2010): we should pursue ways of geoengineering as they are a lesser evil than unmitigated climate change. But much about CDR differs from the technologies Gardiner considers, especially because CDR technologies has been assumed in all climate pathways that might reach the 1.5°C target and that have informed climate policy in recent years. In this light, undertaking CDR more seems like fulfilling a promise rather than a cheap way out of the dilemma. Of course, emissions have to be reduced. This is not to be questioned by anyone serious about climate change mitigation. But being the pivotal generation, we may also have the responsibility to remove carbon and make carbon removal possible for future generations.

A key aspect of our discussion is the non-compliance with moral imperatives, such as those Shue has been proclaiming for thirty years. If agents had met their climate responsibilities and reduced emissions, there would be no (or only very little) need for CDR. In that sense, CDR is always remedial. Considering these aspects acknowledges that answering the question of how CDR should be governed requires non-ideal theorizing. What shapes the starting point of our discussion is the partial compliance of agents in the past and present, feasibility constraints, and the aim of the theory's aim to be transitional (Valentini 2012). We need to theorize non-compliance with the moral responsibility to reduce emissions and thus may make remedial CDR a moral requirement. We need to theorize feasibility constraints in scaling up CDR in addition to problems of non-compliance of major players of the oil and gas industry, which means including asset-rescue CDR in the ethical discussion. Finally, we should work out to what extent CDR is a transitional solution or part of the final solution to climate change. To what extent CDR is supportive of a transformation towards renewable energies or lower energy consumption overall is far from clear.

Shue points to these challenges, but I think we can take the analysis further. Importantly, Shue excludes asset-rescue CDR from his discussion (p. 95) and

notes that self-interested motivations are not interesting for our philosophical discussion (p. 7). I think that to determine how our generation should handle the challenge of being pivotal in a morally justified manner, we must know how to theorize self-interest and potential non-compliance with the promises of CDR. In the following, I expand on the need to discuss asset-rescue CDR (section 3). This then leads me to discuss the moral responsibility of corporations within the pivotal generation (section 4).

3. Asset-rescue CDR

The sharp contrast Shue suggests between the various purposes of CDR and the fact that he explicitly excludes asset-rescue CDR from his discussions motivate my critique of Shue's account. When speaking about the third purpose of CDR, Shue quickly dismisses the discussion on undertaking CDR with the purpose of rescuing fossil-fuel companies' assets, which would otherwise be stranded. He argues that

> Asset-rescue CDR is in the interest of no one except those whose wealth is tied up in reserves of, and infrastructure for, coal, oil, and natural gas, which at present still includes, besides the companies themselves, socially important players like large pension fund that persist in clinging to stock in the companies. Pension funds ought to divest these holdings rapidly for reasons of both self-interest since fossil-fuel corporations are headed into decline, and morality, rather than expecting anyone other than the executives and owners of the companies to support asset-rescue CDR, which I will discuss no further. (p. 95)

Asset-rescue CDR and the interplay of self-interest and morality requires more philosophical investigation than Shue accredits it because implementing CDR for the purpose of rescuing sinking assets may be the main driver of CDR developments, with consequent deep entanglements of the morality of CDR with further justice implications for the market for carbon removal. Consistency with the idea that our generation is pivotal to slowing climate change requires that we consider asset-rescue CDR.

Trying to rescue assets currently motivates many corporations to identify net zero targets and invest in CDR, especially if the assumption is that fossil fuel corporations will be declining (p. 95). A corporation may benefit from investing in CDR because this will allow it to reach net zero CO_2 emissions while still pursuing some emitting activities. Many corporations have already

committed themselves to reaching net zero emissions and thereby more or less explicitly committed themselves to removing carbon (Day et al. 2022).

There seem to be clear moral reasons why CDR should not be undertaken merely to save assets. The most pressing reason may be ineffectiveness: if agents are no longer able to conduct their businesses because they create too many emissions, they may invest in CDR to continue these emitting activities and, hence, rescue their assets. In this case, CDR is used to justify forgoing the efforts of emission reductions. Importantly, the commitments to using CDR go beyond the estimates about how much carbon can be removed in a sustainable manner (Reid et al. 2020). The limited extent to which CDR measures such as BECCS can be sustainable creates a tension between demand and the sustainable supply of BECCS, raising the challenges of governing BECCS (Honegger et al. 2022) and organizing such a market (Schübel 2022).

The implications of asset-rescue CDR are probably most relevant to corporations in the oil and gas industry. This is clearly problematic when such corporations seek to save their 'natural assets', the oil and gas that is still in the ground and that could still be extracted and sold. Shue warns of the danger of a 'final harvest' that fossil-fuel companies are gathering today, moving as many fossils as possible to make money while they still can (p. 125). Using CDR to justify this is clearly impermissible.

However, our perspective on asset-rescue CDR may shift if we consider the role these assets can play for scaling-up CDR. Again, this is most relevant to corporations in the oil and gas industry. These corporations have the knowledge and capital to undertake CCS at large scale. This is due to similarities in the technology and the locations owned by these corporations (Hastings and Smith 2020). The fact that corporations from the oil and gas industry are leading the expansion of CCS in this emerging market raise questions of justice (Moss 2020). The fact that they bear heavy historical responsibilities for their emissions and contribution to climate change makes it morally problematic for them to benefit from carbon removal activities. If they are the only agents able to undertake the measures needed to prevent dangerous climate change, this poses a moral dilemma (Lenzi et al. 2023): these corporations are in this position because they have created the dangerous situation in which we find ourselves. It would be morally impermissible to let them benefit from the injustice they have created.

The idea of giving incentives for carbon removal to firms in the fossil fuel and gas industry stands in contrast to the idea of adopting political measures before shaping economic incentive structures, which Shue adopts from Matto Mildenberger (p. 130). Against solar radiation management (SRM) as a re-

sponse to climate change, the concern has been raised that big projects like this may in the end will be pursued to not have to face sunk costs and institutions that promote this setting (Gardiner 2010, p. 6). A similar concern is surely justified for large-scale CDR that relies heavily on infrastructure owned by a few powerful corporations.

Yet, if we are the pivotal generation for global climate change, there may be good moral reasons to overlook these justice implications of CDR and instead incentivize carbon majors to invest in and implement CDR technologies. One may argue that whether CDR is implemented to enhance mitigation efforts or to rescue assets of fossil fuel corporations is subordinate to the main aim of mitigating climate change. The 'bleak outlook for a policy of mitigation only and the potentially catastrophic risks of relying too heavily or asking too much of NETs [CDR]' (Callies and Moellendorf 2021, p. 144) may even justify SRM in future climate policy. If that is the case, the current lack of ambitious emission reduction policies surely justifies CDR even if it is undertaken to rescue assets.

Implementing CDR to rescue assets is essentially a self-interested reason. When discussing reasons for slowing climate change, Shue notes that 'the philosophically uninteresting reasons are self-interested, and there are tons of those' (p. 7). I do not disagree that other reasons seem more philosophically interesting to discuss than pure self-interest. However, if we aim to describe our moral responsibilities in the current, clearly non-ideal setting of climate policy, we cannot dismiss such self-interested reasons. Nor, in the case of CDR, should we exclude this motivation from our moral theorizing about CDR and its governance. Following this idea, we need to take a closer look at the climate responsibilities of corporations.

4. Corporations and the Pivotal Generation

As I argued in section 2, our current generation is pivotal for CDR being implemented and the conditions how this is done. In section 3, I argued that asset-rescue CDR needs to be included in the ethical discussion on CDR. This leaves open the important question of the role of corporations in the pivotal generation. How are we to deal with corporations and their moral agency as part of the pivotal generation?

Shue's conception of 'us' against 'them', them being leading corporations of the fossil fuel and gas industry and other global players, conflicts with his conception of 'our' moral responsibility as the pivotal generation. Throughout

the book, the 'us' changes between contexts: in a discussion of intergenerational justice, Shue focuses on 'us' as one pivotal generation. Everyone alive today is part of this generation (p. 2). But turning to the question of intragenerational justice, 'we' have to stand up against 'them': banks and corporations of the fossil fuel and gas industry are our 'powerful enemies'. This leads me to critique Shue's idea of the pivotal generation in two ways.

First, splitting our generation between 'the active many' and 'the ruthless few' (p. 130) while tempting, is difficult maintain. Shue demonstrates the problematic behaviour of oil and gas companies (p. 124-128) and argues that 'the fundamental strategy of the fossil-fuel interests always involves deceiving the general public' (p. 124). At the same time, he stresses the importance of the decisions they take. We may go ahead and hold these corporations morally responsible for their contribution to climate change. Shue has famously argued that moral agents may have a responsibility to 'clean up [their] mess' (Shue 2017b, p. 593). This idea is appealing in the case of carbon removal. We could pin down the historical emissions of corporations and ask them to do the respective amount of CDR. This may define their moral responsibilities for CDR and even indicate the extent to which corporations may benefit from CDR (Lenzi et al. 2023).

Yet, there is an important link between states and oil corporations: many of the corporations in the oil and gas industry are state-owned. In '2018, nearly 60% of production of oil and 50% of production of gas came from state-controlled oil companies (Shue, p. 122). If corporations are state-owned, we may be more willing to agree to the statement 'the enemy is us' (p. 135). It also means that the enemy's activities may be part of a more widely shared interest. For example, it is in the interest of a state that its corporations deliver revenue and supply energy. It is not only fossil fuel companies and corporations generally whose assets are stranded as mitigation policies are implemented: the investors involved include states, communities, companies, families, individuals, societies, and industries, because basically everyone is involved in the fossil-fuel system. As Shue admits, 'this crucial fact about state-ownership is often overlooked by climate activists' (p. 122). This calls for defining the role of corporations within the pivotal generation more clearly. And it questions the split Shue makes himself between 'the active many' and 'the ruthless few'.

My second critique of Shue's concept of the pivotal generation is that using 'we' to refer to 'everyone who lives today' overlooks the power dynamics between agents. In the face of wealth accumulating and being preserved in infrastructure, the connections between powerful agents in the past, present, and

future seem the most tangible. For example, it is important not to overlook the power dynamics that individuals possess as a result of their societal positions. Doing so means failing in two ways: First, one may fail to attribute stronger responsibilities to those agents who are in a pivotal position. What climate responsibilities fall on corporations, given their potential of being decisive in the energy transition or for scaling up CDR? Do individuals not bear responsibilities by their involvement in corporations from the fossil fuel and gas industry, especially if we acknowledge the huge power these corporations hold over climate change mitigation? After all, the individuals who steer these corporations also belong to the 'we' of 'the pivotal generation'. The responsibility to slow climate change falls on these individuals as well. Second, one may fail by holding agents responsible who are not in fact responsible. Individuals who do not have power are not pivotal, and it seems to be morally problematic to hold them accountable for choices they did not make. Instead, they most likely will carry the burdens of whatever decisions the truly pivotal make. This begs the question of whether 'the pivotal generation' with regards to climate policies as conceptualized by Shue is first and foremost comprised of individuals in western industrialized states, and first and foremost those who have a right to vote.

Conclusion

In *The Pivotal Generation,* Henry Shue argues that being the pivotal generation, our tasks are to slow climate change and to do so right now. He puts CDR at the centre of the discussion on climate policymaking, stressing that the various purposes for undertaking CDR may influence our ethical judgement of them.

I have argued that when we theorize about the ethics of CDR and our decision making about undertaking CDR, we should include the factors that constitute the non-ideal situation in which we find ourselves. If we are interested in the philosophical underpinnings of climate policy on CDR, the questions surrounding the inclusion of feasibility constraints, self-interest, and non-compliance in normative theories need to be answered. Being the pivotal generation for CDR requires us to establish a system that does not create more injustices than it seeks to eradicate. Including asset-rescue CDR and an account of moral responsibility for corporations seems to be key to arriving at an understanding of what 'our' current role is in CDR developments. This goes beyond discussing differences in the moral implications of enhancement CDR and remedial CDR, and instead theorize on asset rescue CDR.

If we implement CDR without thinking about the right way to do it, we

will be contributing to the suffering and injustices that is the main motivation for tackling climate change. At the same time, failing to undertake CDR in the face of these challenges would mean waiving our chance of being pivotal for mitigating climate change. Shue uses the image that humanity has set the house on fire, but there is still time to ensure it does not all go up in flames. He uses the image of horses galloping out of the barn where we have left the door open, but there is still time to close the door and save the few that are still inside. This is the point of CDR: it is to ameliorate a situation that is not ideal.

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Is It Morally Justifiable To Pass on Part of the Costs of Pivotal Climate Action to Future Generations?

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Abstract

In *The Pivotal Generation* (2021), Henry Shue provides compelling normative reasons for members of the present generation to take pivotal climate action: the last remaining hopes that global warming will not spiral out of control lie with them. In this article, I address the question of whether the present generation should bear both the implementation responsibility and the economic costs of pivotal climate action alone. The latter question is particularly relevant because, as several authors have pointed out, the structure of global financial markets would allow the present generation to take full responsibility for implementing decisive climate measures while shifting some of the associated economic costs to future generations. I address the issue on both an ideal and a non-ideal level. First, there are no tangible signs that the present generation is ready to take on pivotal action on climate change – CO_2 emissions have reached a new historic peak in 2023, investment in fossil fuel extraction continues, and climate finance targets have so far been missed. Is it morally permissible for the present generation to break the deadlock (for which it is directly responsible) by shifting some of the costs of pivotal climate action onto future generations? Second, what (if any) are the normative reasons why the present generation should refrain from doing so, from the standpoint of ideal theory? I will argue that some form of intergenerational cost shifting with respect to energy transformation is morally justifiable at both the ideal and non-ideal levels.

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1. Introduction

Henry Shue's *The Pivotal Generation: Why We Have a Moral Responsibility to Slow Climate Change Right Now* (Princeton University Press, 2021) is a wonderful, clear, timely and sharp treatise on climate justice. It has the great merit, I think, of being both scientifically rigorous and accessible to a wide audience. Given the state of the climate crisis and the fact that global greenhouse gas (GHG) emissions show no concrete signs of abatement, I believe it is a work that everyone should read. The book is based on an empirical assumption and a main normative thesis. The assumption concerns the climate role of the present generation – that is, all people alive today, especially those in a position to contribute to mitigation strategies, both collectively and individually. Whether we like it or not, people today are in a unique historical position, which Shue calls "pivotal". They can push global warming over the critical threshold of 1.5°C above pre-industrial levels and even beyond within a few decades simply by continuing on a business-as-usual (BAU) path, or they can instead bring GHG emissions to a peak within a few years and then begin to reduce them sharply, thereby keeping climate change within tolerable risk limits (IPCC 2022, pp. 21-22; UNEP 2022, pp. 26-37). Of course, between the two trajectories, one perhaps too pessimistic and the other too optimistic, there are many intermediate, perhaps more probable ones (IEA 2023). What is important, however, is that if the present generation continues on the BAU trajectory, the negative consequences for both human and natural systems will be irreversible.

The thesis of Shue's book, then, is that there are compelling normative reasons why the present generation, in deciding how to play its pivotal role, should aim for a trajectory as close as possible to early peak and rapid decline (EPRD), regardless of the net costs to present people. The present generation has done nothing to become pivotal in human history. It has inherited both a fossil-fuel based energy system and a level of atmospheric CO_2 concentration that cannot be raised any further on pain of irreparable climate damage – although, it should be stressed, the present generation is guilty of inertia with respect to the current energy system, aggravated by the awareness of the climate devastation we have witnessed in recent years. Yet, as Shue argues: "For better, or for worse, you live at the time when you live. You confront what you confront" (p. 21). There are three main reasons, according to Shue, why the pivotal position of the present generation gives rise to extraordinary intergenerational responsibilities (pp. 5-27).

First, the BAU trajectory would impose a greater burden on future gener-

ations than the EPRD trajectory would impose on the present generation. BAU is therefore unfair from an intergenerational perspective. Second, climate change is currently unchecked, despite the ambitious intentions and commitments of the international community. Standing by and watching the climate crisis worsen is, at the very least, disrespectful to future generations. Third, to ensure a decent life for humanity, global warming must be halted before it reaches a series of tipping points, i.e. irreversible changes in the climate system.

In a recent study, David I. Armstrong McKay et al. (2022) identify 16 major climate tipping points and state that once we pass the 1.5°C warming threshold (above pre-industrial levels), as many as 5 tipping points become possible to cross and 4 of them become even likely (mainly related to ice melting, permafrost thawing and coral reef die-off). Given its historical position, the present generation is the only one that can prevent most tipping points from being crossed. Some examples are the following: the melting of glaciers and sea ice to the level where ultimate melting is inevitable; the deforestation of the Amazon rainforest beyond the point where trees can no longer recover from drought stress and human threats, leading to the creation of savannahs; the weakening of global ocean circulation patterns, which could mean, for example that water no longer flows fluently from the North Atlantic to the South Atlantic – due to excessive freshwater inflow into the North Atlantic from both rainfall and melting glaciers, which make the water lighter and thus prevent it from sinking (see McSweeney 2020). Moreover, tipping points become even more dangerous when they add up to a "cascade of positive feedbacks" (p. 24): for example, Arctic sea ice loss could inject a level of freshwater into the North Atlantic that could weaken the Atlantic Meridional Overturning Circulation, which in turn could modify the West African monsoon, leading to droughts in the Sahel (Lenton et al. 2019, p. 594).

The pivotal generation argument defended by Shue is not consequentialist, but rather based on a general concern for intergenerational fairness. Accordingly, Shue argues that the pivotal responsibility is not shared equally among members of the present generation of equal ability to pay. Those who enjoy the benefits of unequal past emissions must now bear more of the costs of addressing and preventing climate damage, as well as of mobilising the necessary investment in decarbonisation. In the second chapter of the book, Shue offers two main justifications for why historical emissions matter for pivotal responsibility, reworking somewhat classical arguments in his philosophy (pp. 36-57). First, arguments of pure distributive justice (without implication of guilt): historical polluters have appropriated a large share of the global carbon

budget compatible with a morally acceptable mitigation target (e.g. between 1.5°C and 2°C). Fairness requires that the heirs of historical polluters bear a greater climate burden than others. Second, "sovereign externalization": historical polluters have overwhelmingly (if not exclusively, in some cases) appropriated the benefits of GHG emissions and externalised the costs to other countries; moreover, sovereign externalization is exacerbated by the fact that it has widened global inequality "in a morally unacceptable way" (p. 50). Accordingly, those who have inherited the benefits of sovereign externalization should bear a greater share of the climate burden.

My article will focus on the future-oriented aspects of Shue's thesis. I believe that the pivotal generation argument is compelling; indeed, we could say that, net of metaphysical obstacles (the non-identity problem) and ontological complications (inconsequentialism), most ethical theories converge on the view that members of the present generation have a duty to implement a rapid transition to a sustainable energy regime. However, the question I want to address is whether it is permissible for the present generation to pass on some of the costs of pivotal climate action to future generations.

There are two ways of approaching the issue of "intergenerational cost shifting" (Rendall 2011, p. 892). The first way is not ideal. Pivotal action is costly, and it is quite likely that there will be net losers in the present – even if it were theoretically possible to distribute the benefits of green economic opportunities (jobs, investment, etc.) equitably among members of the present generation so as to protect those who are worse off, the risks that this will not happen are high (whether due to political/administrative complexity, corruption, lobbies or simply bad luck). Assuming, therefore, that the present generation will not soon find the political impetus necessary for a rapid and effective transition, can climate risks justify shifting the economic costs of the energy transition to one or more subsequent generations? The assumption, of course, is that as the number of generations bearing the costs of the energy transition increases, the burden on the present generation (as well as on each subsequent generation) decreases – thus increasing the chances of the present generation breaking the transition logjam. The second way of approaching the issue of intergenerational cost shifting is more ideal [1]. Is the pivotal generation argument sufficient to justify that the responsibility for implementation and the economic costs of pivotal climate action cannot be separated and must therefore fall exclusively on the present generation?

[1] On the difference between ideal and non-ideal theory see Valentini 2012.

I will defend the view that intergenerational cost shifting is morally justifiable at both the ideal and the non-ideal level. The article will focus exclusively on how to fairly allocate the economic costs of pivotal climate action, so two assumptions from Shue's book will be taken as given. First, the present generation has a moral obligation to implement a rapid energy transition because of its pivotal position. Second, some countries have a duty to contribute more to the transition than others – I would also add that some individuals have a greater responsibility than others, based on the book's appendix on carbon inequality (pp. 139-141). Accordingly, I distinguish between the implementation responsibility and the economic cost allocation of the energy transition. Implementation responsibility refers to the duty to put in place the policies needed to steadily reform the global energy regime in a sustainable direction. The economic costs of the energy transition include both the resources needed for green investments (renewable energy technologies and infrastructure, negative emission solutions, adaptation measures, etc.) and the money needed to protect the losers of ambitious energy policies (e.g. consumers, workers, investors, etc.).

2. Cost shifting in the energy transition and non-ideal theory

Regrettably, CO_2 emissions show no sign of slowing. In 2023, a new annual record of 36.8 $GtCO_2$ was reached (Global Carbon Project 2023) – an annual rate that, if sustained, would push global warming above the critical 1.5°C threshold (with a 50% probability) in less than 10 years (IPCC 2022, p. 5). At the same time, global investment in renewable energy falls far short of what is needed to achieve the goal of carbon neutrality by mid-century. In fact, according to the International Renewable Energy Agency – IRENA (2022), staying on track to meet the 1.5°C goal will require an annual investment of USD 5.7 trillion between now and 2030, which is almost three times what the world is currently investing in clean energy, according to the International Energy Agency – IEA (2022), i.e. USD 1.4 trillion in 2022. Then there is the huge problem of stranded assets. According to the IPCC (2022, p. 28), the (discounted) economic value of the fossil fuels (and associated infrastructure) that need to be kept in the ground to limit global warming to below 2°C is between USD 1 and 4 trillion between 2015 and 2050, and even higher for the 1.5°C target. Beyond green marketing campaigns and rhetoric, oil companies show no concrete signs of willing to give up these profits (Li et al. 2022). According to a report by Global Witness and Oil Change International (2022), the

world's ten largest oil companies plan to invest around USD 1.4 trillion in fossil fuel development and exploration by 2040. In other words, oil companies are betting against the EPRD trajectory. According to recent estimates by the Climate Accountability Institute, twenty oil companies are responsible for a third of energy-related CO_2 and methane emissions since 1965 (see Taylor and Watts 2019).

Finally, it is worth noting the utter failure of the international community to meet the commitment made at COP15 in Copenhagen (2009) to mobilise USD 100 billion per year from 2020 for mitigation and adaptation in developing countries. The decision on a New Collective Quantified Goal (NCQG) on climate finance has been postponed until 2024 (Chandrasekhar et al. 2023), and while it is true that an agreement was reached at COP28 in Dubai (2023) to operationalise a loss and damage fund, this is only on a voluntary basis. Given the geopolitical instability caused by the war in Ukraine, with its obvious economic repercussions, and the aftermath of the Covid-19 pandemic, to which many countries have responded by going into debt, there is little cause for optimism on the climate transition front.

Taking into account both the urgent need for climate action, as highlighted by Shue in his recent book, and the above circumstances, a pragmatic move could be to boost the energy transition by allowing the present generation to pass on some of the transition costs to future generations – even though this were an intergenerational injustice, it could be preferable to BAU for future generations. Of course, much depends on how much of the cost of EPRD needs to be shifted from the present generation to the future in order to motivate the present generation to make a sudden shift from BAU to EPRD. The most pessimistic assumption is that the present generation will only switch from BAU to EPRD if the cost of EPRD for the present generation is not higher than the cost of BAU. If we embrace this pessimistic assumption, then we should ask: is there a mitigation strategy X that is less costly than BAU for future generations, with no net cost to the present generation compared to BAU? This amounts to asking whether, in a diachronic perspective, there is a strategy X that is Pareto superior to continuing with BAU.

As is well known, John Broome and Duncan Foley (2016, 2022) develop an argument called "efficiency without sacrifice" (Broome 2018; see also Foley 2009), which could support a positive answer to the above question. Inevitably, the current generation passes things on to future generations, especially long-term investments. It would be impossible to make a list, but we can mention infrastructure, museums, scientific know-how, architectural works... and of course climate change mitigation. The composition of these intergenera-

tional transfers is highly inefficient, argue Broome and Foley. Future generations would be interested in receiving more climate change mitigation and less conventional investment. Why not give future generations what we think they might want? After all, all the current generation has to do is change the composition of intergenerational investment, while keeping the overall cost roughly the same.

A relatively simple way to do this, according to Brome and Foley (2016, 2022), is to issue international bonds to fight the climate crisis. Debt financing would have the obvious effect of providing new funds for the climate transition, but it would also raise interest rates by increasing the demand for financial capital. Higher interest rates, in turn, would reduce conventional investment, as the latter would require a higher rate of return to be profitable (borrowing becomes more expensive). The so-called crowding-out effect (of conventional investments) triggered by the issuance of climate bonds would lead to the final effect sought by Broome and Foley, namely the rearrangement of intergenerational investments: more money for climate protection, less money for conventional investments. According to the two authors, this reallocation would represent a Pareto improvement over the BAU strategy, as future generations would be better off without the present generation losing anything – again, the present generation would reshuffle intergenerational investments without increasing the amount (see also Sachs 2015).

Broome and Foley (2016, pp. 165-169; 2022, pp. 11-12) evidently develop the proposal further, also arguing that a "World Climate Bank" should be tasked with issuing long-term climate bonds. The World Climate Bank would function as an international mutual bank to which individual countries contribute capital (for example, through regular payments linked to carbon revenues generated by domestic carbon pricing policies, or even through a global carbon tax) and from which they also borrow. Given the nature of the World Climate Bank, its credibility in paying regular interest on bonds maturing far into the future would be significant. This would further contribute to the crowding out of private conventional investments, as climate bonds could become the preferred option for investors seeking regular returns at low risk.

The argument that there can be efficiency without sacrifice (EWS), at least on the part of the present generation, has been challenged on several fronts in both philosophical and economic literature. Simon Caney (2014, pp. 131-134), for example, raises the pertinent objection that not all welfare losses incurred by the present generation as a result of ambitious climate mitigation can be compensated with money, e.g. by lowering taxes or providing subsidies. Jobs, for example, have both an economic and an identity/emotional dimension.

Climate bonds can cushion workers more or less directly linked to fossil industries from the first form of loss, e.g. by providing them with financial cover, but not necessarily from the second, e.g. by providing them with alternative employment that is equally meaningful to them. Rob Lawlor (2016), in turn, raises several economic objections to Broome and Foley's arguments. I will briefly address the two that I consider most relevant. First, not all the behavioural sacrifices that EPRD imposes on the current generation can be compensated for by more public spending and/or higher wages. For example, suppose you work abroad and are used to flying back to see your family every month. Current GHG emissions from aviation are incompatible with EPRD, so at some point it would be necessary either to tax flights heavily or to limit them through some regulation. In either case, the number of times you visit your family in a year would have to be greatly reduced. What amount of money (if any) could compensate you for this loss? It is not unlikely that the monetary compensation you would receive through EWS is less than the amount (if any) you would be willing to accept for limiting your flights (Lawlor 2016, p. 355). Second, borrowing money for climate change mitigation represents an opportunity cost because it reduces the scope for deficit spending for other purposes that are important to the present generation – for example, welfare, education, health care, and so on (Lawlor 2016, p. 359).

Another proposal recently put forward by Matthew Rendall (2021), which could go in the direction of EWS, is to make one or more countries "vanguard actors" in the energy transition. These countries would have to borrow money exclusively on the international market and then invest it in advanced research into mitigation technologies that could be used immediately by all. One advantage of Rendall's proposal over Broome and Foley's is that it does not require a broad global agreement – the vanguard country could, in theory, act unilaterally. Moreover, Rendall's proposal features an important difference from other narrow (or even unilateral) strategies in which one or more countries issue national bonds to finance the energy transition. The vanguard country borrows only on the international market, so it does not drive domestic capital away from conventional investments. This can be seen as an advantage, given the concerns about the crowding-out effect that have been raised on several fronts, for example by critics of Broome and Foley. Clearly, the foreign borrowing in Rendall's proposal shifts the burden of the energy transition primarily to future taxpayers in the vanguard country. This could raise obvious problems of global fairness from an intergenerational perspective. But Rendall's solution to this potential objection is straightforward: the citizens of the vanguard country would have to repay the climate debt, yes, but

in return they would end up with a cutting-edge industrial and research system. According to Rendall, the economic benefits of this would be roughly sufficient to compensate future citizens of the vanguard country for the increased debt burden they will inherit.

There are, of course, many empirical issues involved in the proposal of the vanguard actor(s). First, it would be necessary to have a precise idea of how much the vanguard actor(s) would need to borrow on the international market in order to unleash the technological advances necessary to give the energy transition the decisive boost (Rendall ends up identifying only Switzerland as the ideal vanguard actor, suggesting that this would be enough). There is a serious risk that the economic sacrifices made by the vanguard country will outweigh the indirect benefits of these investments. This uncertainty undermines, at the very least, the political feasibility of the proposal. The citizens of the vanguard country may feel, however mistakenly, that they are sacrificing themselves for the collective global interest. And this would of course be even more difficult to accept if the vanguard country had a relatively low historical record of GHG emissions. Second, it is equally unclear whether simple technological investments will suffice to achieve the energy transformation we need. It is well known that investments in green technologies and energy efficiency are only one part of the public policy mix for the climate transition. Another essential component, which Shue also emphasises in his book (pp. 65-66), is carbon pricing. In the absence of carbon pricing, improvements in energy efficiency are likely to have less impact than expected due to the so-called rebound effect: the average cost of using an appliance goes down due to energy efficiency, so I use it more than before, or I increase consumption of other appliances due to the money saved on the first one (see Brockway et al. 2021). Moreover, even if green technologies are available and profitable, they may be slow to be adopted, for example because of organisational and bureaucratic barriers (see DeCanio 1998), so it is necessary to reduce the price of the polluting alternative by adding the social costs of these options to the private ones. Should these dynamics converge, as seems likely, even non-vanguard countries would face significant burdens, at least in relation to the implementation of carbon pricing policies. Finally, there is also the question of time and urgency, especially in relation to climate tipping points, which, as mentioned, is well highlighted in Shue's book (pp. 23-26). It is not clear how long it will take for technology investments in the vanguard country to translate into actual GHG emission reductions. [2]

[2] Another interesting contribution on this topic was made by Aaron Maltais (2015), who, however, seems to be critical of the possibility of intergenerational cost shifting through deficit

In short, the present generation does not seem willing to abandon the BAU trajectory to follow the EPRD trajectory if the bulk of the costs of EPRD fall on its members. However, we can assume that there is an intergenerational cost-sharing strategy for EPRD that could motivate the present generation to pursue EPRD. Still, we do not know what is the minimum share of EPRD costs that needs to be passed on to future generations in order to persuade the present generation to follow the EPRD trajectory. The most pessimistic hypothesis is that the present generation would pursue EPRD only if this trajectory did not entail any overall costs for its members compared to the BAU trajectory. Some authors believe that such a strategy is possible (EWS), others doubt it. If we accept the doubts about EWS as valid, we can still assume that there is a mitigation strategy X that is both cheaper for the present generation than pursuing EPRD at full cost, and less burdensome than BAU for future generations: EPRD paid for only partly by future generations (hereafter EPRD-(p)FG).

There are, of course, different versions of EPRD-(p)FG, depending on which part of the cost of EPRD you decide to make future generations pay for, e.g. by reducing conventional investment. The big empirical question is which EPRD-(p)FG strategy will break the current political deadlock: i.e. what share of the costs of EPRD should be passed on to future generations in order to induce the present generation to implement EPRD. It is difficult to give a precise answer, and I am obviously not in a position to do so. Even economists, I think, could only make rough predictions. In short, there is probably an EPRD-(p)FG strategy that meets minimum feasibility requirements, but we cannot identify it with certainty.

Under these circumstances, the following question becomes central: why not pursue EWS, even knowing that it might turn into EPRD-(p)FG? This would mean that future generations would be expected to provide most of the funding for the EPRD (e.g. by reallocating intergenerational investments),

spending, mainly for pragmatic reasons, partly similar to those put forward by Lawlor (2016). The present generation is already resorting to deficit spending for various reasons. If a country massively issues climate bonds, the risk of default increases, interest rates on the debt rise and deficit spending becomes more expensive. In short, a country that borrows for climate will find it harder to borrow for other things that are essential in the present, such as education, healthcare, defence, and so on (of course, Broome and Foley's World Climate Bank proposal, 2016, should greatly ease these concerns). Maltais then discusses possible strategies by which the present generation can commit future generations to mitigating climate change. The reason why I do not discuss such proposals in the article is that they seem at odds with the urgency of the present generation's pivotal climate action that Shue invokes.

with the understanding that some indirect costs of this move might also fall on present people. For example, some workers in fossil industries might not be fully compensated for the intangible losses associated with the disappearance of their jobs; some reduction in consumption may still be unavoidable for the present generation; there may no longer be room for deficit spending on other non-climate needs; and so on. If Broome, Foley, Rendall and others are empirically correct, so much the better. It would mean that there is a mitigation strategy X that is Pareto superior to BAU. If, instead, they were wrong, the present generation would have to bear some costs compared to BAU, but EPRD would be triggered in the meantime.

It might be objected that if the present generation has to bear some unavoidable costs of EPRD, it would be better to ask future generations only for the funds necessary to cover the part of costs that the present generation does not want to cover, rather than trying to chase EWS and then eventually facing costs that have to be absorbed. I think there are three arguments that could be made against this objection. Firstly, even if the attempt to implement EWS were to prove unsuccessful (in terms of lack of sacrifice), it would have the advantage of giving a decisive boost to the energy transition. Second, we do not have a clear answer to the empirical question of how much of the cost of the EPRD should be passed on to future generations in order to motivate the present generation to take pivotal climate action. Third, as pointed out by critics of EWS and recalled above, the indirect costs that could fall on the present generation if EPRD were pursued entirely through deficit spending would be of two types: monetary and non-monetary. The non-monetary costs would be mainly due to the loss of the identity dimension of fossil fuel jobs and behavioural sacrifices. As we have seen, these costs are, at least in part, inevitable, regardless of who pays for EPRD. The monetary costs, in turn, would be mainly a consequence of the increase in public debt (e.g. crowding out of other investments, mainly due to rising interest rates) and the difficulty of financing other expenditures (such as welfare) through deficit spending. The monetary burden could be alleviated, at least for the most vulnerable members of the present generation, in a number of ways. The easiest of these is undoubtedly to increase the tax burden on the wealthiest members of the present generation.

It could still be argued that if the total cost (for the present generation plus future generations) of EPRD-(p)FG is higher than the cost of EPRD fully financed by the present generation (EPRD-PG), then EPRD-(p)FG is cost inefficient. This is possible, but if EPRD-PG is still politically infeasible, this should not make us worry too much about the inefficiency of EPRD-(p)FG

compared to EPRD-PG. This is because I believe that in the current state of the climate crisis we should choose the most efficient strategy among those that are minimally feasible.

In short, in *The Pivotal Generation*, H. Shue argues that the present generation has a moral obligation to implement an EPRD-like emissions trajectory and bear the full costs. Unfortunately, the present generation seems unwilling to fulfil this moral obligation. This is a major problem, given the risks associated with passing critical tipping points in the Earth's systems that would occur with emissions trajectories less ambitious than the EPRD. Some authors, notably Broome and Foley, argue that the present generation could implement EPRD at zero cost to itself, i.e. by shifting all costs to future generations through a rebalancing of intergenerational investments. This cost-shifting strategy would be unfair, at least according to those who propose it, but it would still be preferable to the status quo: the present generation loses nothing, and future generations are better off (EWS). Other authors have raised serious doubts about whether it is possible for the present generation to pass on the full cost of EPRD to future generations. It is, of course, impossible to address this purely empirical dispute about EWS in this paper. However, I have argued that even if the doubts about EWS are well-founded (and some net costs of EPRD will inevitably fall on the present generation), the present generation has sufficient reasons to attempt intergenerational cost shifting, provided that this could break the climate deadlock and contribute to implementing an effective and rapid transition.

This non-ideal argument can be summarised as follows.

1) Regardless of how the costs are shared, it is necessary to implement EPRD as soon as possible in order to avoid passing dangerous tipping points in the climate system beyond which there is no turning back.

2) Justice demands that the present generation implements EPRD and bears the full costs.

3) There is empirical evidence that the present generation, after several years of attempts and advocacy by some, has not been able to reach an agreement among its members for a rapid implementation of EPRD at full cost, i.e. EPRD-PG.

4) It is not beyond the realms of possibility that continued insistence on EPRD-PG will produce results, but it is legitimate to think that this is very unlikely – given the level of EPRD costs, the problem of stranded assets, and so on.

5) Given the urgency of implementing EPRD and the risks associated with a possible failure of EPRD-PG, we have reached a point in the climate crisis

where the best thing the present generation can do, in the interest of future generations, is to move away from EPRD-PG towards a transition strategy that includes an intergenerational sharing of the costs of EPRD, i.e. EPRD-(p)FG.

3. Cost shifting in the energy transition and ideal theory

So far, we have taken it for granted that the present generation must bear both the responsibility for implementation and the economic costs of the energy transition. We have seen that the present generation is failing in its duty, and we have questioned what this implies on a non-ideal level. In this section I would like to approach the problem from a different ideal angle. Are we sure that the current generation should bear both the implementation responsibility and the economic costs of the energy transition? And if so, why? In *The Pivotal Generation*, Shue clearly recognises the importance of this question. In his own words:

> "The heart of one implicit complaint seems to be that it is somehow unfair to the current generation that the challenges we face are so much greater than what one might think is ´the average burden for the average generation´– it's altogether too much to ask" (p. 10).

However, Shue is quick to dismiss this possible objection, writing immediately afterwards: "That, however, is an oddly ahistorical way of thinking, a bit like asking why I couldn't have been born into some other, pleasanter century" (p. 10). The comparison Shue makes in support of this argument is powerful. A generation of people born in the first two decades of the 20th century faced the Nazi army in the 1940s. This has allowed all of us today to live free from the Nazi yoke. Does it make sense to ask whether the sacrifice of the generation of the 1910s and 1920s was fair, given that no subsequent generation has had to face a similar problem? No, says Shue, because the generation of the 1910s and 1920s was the only one able to stop the Nazi threat before there was no free country left to oppose it. Shue also adds that questions of fairness between generations, such as the one just described, cannot be asked in the same way as those between individuals. Again quoting Shue:

> "Decades and centuries are not standardized, and we have no reason to expect the challenges they bring to be comparable. While reasonable sacrifices by indi-

viduals certainly have some limit, that limit seems to have nothing to do with any notion of standard generational burdens, a notion that could only be made to seem plausible by ignoring historical context. A complaint that burdens are unfair makes sense only if those burdens could be redistributed and thereby made fairer, but most large-scale historical challenges cannot be postponed, rescheduled for a more convenient time, or subdivided among different generations" (p. 11).

Shue's response to a possible objection of intergenerational unfairness regarding the pivotal responsibilities of certain generations seems to focus on pragmatic obstacles. It might have been fair if members of the 1910s and 1920s generations had not had to liberate Europe solely by their own means (and in many cases their own lives), but there was obviously no way of sharing the burden of liberation with people not yet born. This is true in many cases, but less so, as we saw in the previous section, for the energy transition. The latter is primarily a matter of raising both production and consumption costs by making people internalise the social cost of emissions-producing activities, and of catalysing public and private capital towards green investments. The nature of today's global financial markets makes it possible to involve future individuals in a scheme of intergenerational sharing of the burden of freeing humanity from the fossil energy regime. As we saw in the previous section, we cannot say with certainty what part of the economic costs is transferable to future generations, but some of them may well be. The question then arises as to whether the economic costs of the energy transition should fall on the present generation alone, given that there are alternatives that involve the active participation of future generations.

A possible objection to the intergenerational shift of the energy transition costs could be that future generations have not been consulted on the matter (see Rendall 2021, p. 978). However, Shue's remarks about the moral obligations of the present generation come to the fore: like it or not, each generation was born when it was born, and it must shoulder the responsibilities that come with it. Why should the same not apply to future generations? If being a member of the pivotal generation entails unique moral responsibilities, why should it not be the same for the generation following the pivotal generation, and the one after that, and the one after that, and so on?

Moreover, I believe that the crucial argument in favour of intergenerational cost shifting lies precisely in the uniqueness of the pivotal climate action required of the present generation, which Shue emphasises repeatedly in his recent book. Pivotal climate action consists of two parallel actions. The first is to stop externalising the social costs of emissions-generating activities onto

the global community, especially its future members. The simplest way to do this is to introduce a carbon price that is as close as possible to the social cost of CO_2; whoever emits a tonne of CO_2 also pays for the marginal climate damage that tonne of CO_2 causes (see Heath 2021: 149-181). The second is to create the infrastructural, technological and social conditions for humanity to transition to a global energy regime based on renewable sources in less than 30 years. The two components of pivotal climate action are obviously linked, since forcing people to internalise the social cost of CO_2 creates strong incentives, both static and dynamic, to shift from polluting to green technologies. However, they are not equivalent, as a simple carbon price calibrated to the social cost of CO_2 is not necessarily sufficient to transform the energy system fast enough to keep global warming within acceptable limits (Stern et al. 2022) – we have seen that it will also require global investment on an unprecedented scale. We can define the obligations to take the first pivotal action as ordinary climate duties, and the obligations to take the second pivotal action as extraordinary climate duties.

Ordinary climate duties are those that each generation has to meet in full, regardless of what other generations have done or will do. This is primarily for the very intuitive reason that it would be unfair to appropriate most of the benefits of an activity and then pass on most of the costs to those who receive a significantly smaller share of the benefits. Extraordinary duties, on the other hand, are contingent. They are transformative actions that need to be taken at specific historical moments in order to preserve the generation chain.

The economic costs of complying with ordinary climate duties cannot be shifted from the present generation to future generations, for the same reason that ordinary climate duties cannot be breached by the present generation externalising the social costs of its own emissions onto the future: this would impose an unfair distribution of the costs and benefits of emissions-producing actions between people in different temporal positions. Conversely, if the current generation were to bear all the economic costs of fulfilling extraordinary climate duties, a number of unjustified positive externalities would flow to future generations. The latter would benefit from the pivotal climate action of the present generation without bearing any direct costs. Of course, there is nothing morally wrong with imposing a positive externality if no one objects, but this does not necessarily imply that the present generation ought to exempt future generations from the costs of creating the conditions for a sustainable future (see also Corvino 2024).

A simple example may help to illustrate this, using the familiar metaphor

of the intergenerational ship: it "sail [s] unidirectionally from port to port in an endless ocean. The ship periodically makes port, at which time some board and others disembark" (Vrousalis 2016, p. 49). The crews taking turns on the ship are supposed to be comparable to the generations taking turns on Earth (see also Fritsch 2018). Fairness demands that each crew leaves the ship to the next crew in no worse condition than it was received from the previous crew. We might call this the standard duty of maintenance, and it implies that any damage or deterioration must be fully compensated for by the crew that caused it. The easiest way to do this is to invest time and resources in repairing the ship, e.g. by using the crew's free time and taking money from the crew's common fund – how each crew decides about individual contributions to the common fund, and whether those individuals who cause more damage should contribute more, is not a central issue here. If each crew fulfils the standard duty of maintenance, the ship will be in as good condition after each crew change as it was when it started.

Suppose, however, that several crews fail to meet their standard duty of maintenance. The members of the current crew, C_n, find themselves on a much worse ship than the first crew. Should C_n comply with the standard duty of maintenance even if the previous crews did not? In other words, should C_n bear the cost of the wear and tear it has caused, bearing in mind also that, if C_n complies with the standard duty of care, the next crew, C_{n+1}, will be the first to inherit, after a long time, a ship in no worse condition than the one inherited by the previous crew? The answer, I believe, must be positive, because the standard duty of care strictly concerns the relationship between C_n and C_{n+1}: if C_n breaches the duty, it passes on negative externalities to C_{n+1}, and this is unfair. The fact that C_n suffers negative externalities caused by previous crews is not a good reason to take advantage of C_{n+1}.

Now consider an alternative scenario in which the ship's condition is so bad that there is reason to believe that it will soon be unable to continue its voyage. All routine maintenance is inadequate, and the current crew must undertake a radical refurbishment of the ship. Taking up Shue's arguments, we could say that C_n have done nothing wrong to find themselves in the position they occupy in the crew chain, but it is precisely this position that imposes extraordinary duties on C_n: if they do not stop over to refurbish the ship, they may not be able to carry it all the way to the point where C_{n+1} is scheduled to embark, the ship would then be lost forever. If C_n were to take over the refit duties, subsequent crews would be safe for a long time.

Imagine that the members of C_n start to argue. Some want to make a long stopover in a port to refurbish the ship, others do not – we call them

the altruistic and selfish crew members respectively. Refurbishing the ship not only takes time, but also requires the investment of a large portion of the C_n common fund, which is normally used to finance the crew's consumption. The selfish crew members have a more or less explicit desire to use the ship as long as possible, knowing that they will probably be able to make a voyage not much shorter than the one to which they are entitled. So suppose the altruistic members make the following proposal to the opposing faction.

> "We will ask for a long-term loan from the inhabitants of the port where we will stop. The loan will cover a large part of the cost of renovating the ship, and will be repaid (with interest) by subsequent crews when they dock at the port during their voyage. We will ask for as long a loan as the people in the port are willing to give, and we will make sure that the share of the economic cost of the refurbishment borne by the current crew is less than that borne by subsequent crews, to compensate ourselves for the time and effort we put into the restoration of the ship".

Is this proposal unfair? If the current crew C_n bears the full cost of the refurbishment, C_{n+1} will enjoy the benefits without sharing the cost. Of course, such benefits must be measured against the current state of the ship, for which neither C_n nor C_{n+1} are responsible. The same reasoning that applies to negative externalities, i.e. no costs without benefits, should also apply to positive externalities, i.e. no benefits without costs. This means, in my view, that the proposal is fair.

A strong objection to shifting part of the cost of refurbishment to the next crew is that it would be a case of what S. Gardiner (2017) calls "intergenerational extortion". The dictionary definition of extortion is "using violence, threats, intimidation, or pressure from one's authority to force someone to hand over money (or something else of value) or do something they don't want to do" (Dictionary, n.d.). Applying Gardiner's argument to the present case, we could say that the intimidating power that the current crew can exert over subsequent crews is that they can dispose of the ship as they please without any higher authority being able to punish them. This intimidating power could turn into a threat if the self-interested members of the crew express their unwillingness to bear the costs necessary to deliver the ship into the hands of the next crew. Once the members of C_n reveal their preferences regarding the management of the ship, the status quo becomes very negative for C_{n+1}: since the altruistic members of C_n do not have the power to unilater-

ally decide to stop at the port to refurbish the ship in the interest of C_{n+1}, the chances of C_{n+1} being left without a ship are very high. Shifting part of the cost of the refit to subsequent crews, just to persuade the self-interested crew members to make a long stop in port, may be a Pareto improvement over the unfair status quo, but it would still be a morally problematic move. In Gardiner's own words:

> "Extortion sometimes delivers results. For the extortionist, it often brings wealth and power. For its victims, acceding to extortion sometimes achieves something valuable (e.g. ransoms are costly, but maybe you get your daughter back) […] Nevertheless, even here the ethical issues reemerge" (Gardiner 2017, p. 375) [3].

One possible response to the above objection is that there is no extortion with respect to the costs of refurbishment, because we are talking about transformation costs, not internalisation costs. Asking the current crew to bear all the transformation costs would expose subsequent crews to positive externalities, and there is no good ethical reason why this should be the case. I believe it is possible to arrive at a distribution of transformation costs that passes a test of reasonable rejection by subsequent crews, and this might be enough to dispel any concerns about extortion. [4]

In a classic case of extortion, the victim may prefer to comply with the threat because it is preferable to seeing the threat carried out. For example, if A points a gun at B and tells B that A will not shoot B if B pays *n* coins, it is very likely that B will pay *n* rather than be shot; in other words, we could say that paying *n* is Pareto superior to being shot – A gets what they want and B saves their life. However, the blackmailer's "offer" is always wrong in that it starts from a baseline that is reasonably rejectable by the victim: B can say that A's threat violates several of B's basic rights (not to be endangered, not to be held against one's will, and so on), while A has no reasonable argument to

[3] See also a recent paper in which Gardiner (2023) takes a critical stance on the idea of a "World Climate Bank" (Broome and Foley 2016, 2022), arguing that such proposals risk both undermining the foundations of intergenerational ethics and exposing future generations to the risk of endless extortion by the present generation. Accordingly, he argues that it would be preferable to discuss a "Climate Justice World Bank", guided by principles of intergenerational ethics rather than the self-interest of the present generation.

[4] For a thorough account of the notion of reasonable rejectability, see Scanlon (1998). However, the use I make of this notion in these last lines of the article is rather basic, and it does not presume to be a fully-fledged form of moral contractualism.

justify pointing the gun at B – any argument A puts forward, e.g. that A needs money for urgent reasons, is defeated by B's argument that their negative rights should be respected.

On the contrary, the division of the refurbishment costs between the crews could pass the test of reasonable rejection, provided that two conditions are met. First, the refurbishment costs passed on to C_{n+1} must not exceed the costs passed on to each of the crews to which the refurbishment costs can be passed on. Second, the refurbishment costs passed on to C_{n+1} must be less than the benefits that C_{n+1} derives from the refurbishment. Provided these two conditions are met, cost sharing between crews makes the refurbishment beneficial to C_{n+1} without making C_{n+1} worse off than other crews with whom the costs can be shared. The only argument that C_{n+1} could make against cost shifting by C_n is that C_{n+1} is entitled to benefit from C_n's transformation effort without bearing any of the costs – or at least less of the costs than any other crew. This, however, would reasonably be rejected by C_n as a violation of the moral equality of crews.

By the same token, the allocation of energy transformation costs can pass a test of reasonable rejection such as the one just described, provided the same two conditions are met. First, the distribution of transformation costs must not disadvantage any future generation relative to either other future generations or the present generation. Second, the benefit-cost balance of the transformation must be positive for each generation. The latter criterion is easily met, given the known and unknown risks to which future generations would be more exposed than the present generation in a scenario of runaway climate change (see Stern et al. 2022).

Conclusions

In that article I made two main arguments. First, the urgency of the climate crisis and the risk that current energy policies will push us past a series of critical tipping points already this decade, on the one hand, and the inertia of the present generation, on the other, force us to consider non-ideal strategies that imply shifting the economic costs of the energy transition to future generations. This is not only because it would be an efficient move compared to the status quo, as some authors often argue, but also because it could be the last resort to avoid the collapse of various human and natural systems. Second, when thinking about energy transition policies, we need to consider both ordinary and extraordinary climate duties. Ordinary climate duties are those that

each generation faces, regardless of what other generations have done or will do – for example, internalising the social cost of CO_2 emissions. Extraordinary climate duties, on the other hand, are those that fall on one or more generations for purely contingent reasons, and that require a transformative effort with widespread benefits in the future. If the costs of implementing extraordinary climate duties can be shared among the different generations that will reap the benefits, it is fair to do so. The present generation, I have argued, can proceed unilaterally in this direction as long as the package of costs and benefits it imposes on future generations is not reasonably rejectable by any future generation.

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Who has a moral responsibility to slow climate change?

Säde Hormio*

That we still have the opportunity to act just in time makes us here and now the most important generation of humans to have lived with regard to the conditions of life on this planet for us and all the other species. We can be the "greatest generation" for the climate struggle or the miserably self-preoccupied and easily manipulated ones who failed to rise to the occasion and whom future generations will recall, if at all, with contempt.

Shue 2021, p. 2

Abstract

The current humans are the first ones to recognise that action is required on climate change, but the urgency makes us also possibly the last generation to be able to act before major threats are aggravated. I applaud the general message of an urgent call for action in Shue's book but find that the brushstrokes used for identifying those responsible are a little too broad. The reason for this is twofold. Firstly, it is questionable as to how many of us really know enough about the risks we are leaving future generations with. Secondly, discussion in terms of generations underplays the big differences between the responsibility of different groups of actors within them.

1. Introduction

Henry Shue's latest book, *The Pivotal Generation: Why We Have a Moral*

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Responsibility to Slow Climate Change Right Now, is an excellent read, both clear and comprehensive. It is written in a way that makes it accessible to philosophers and non-philosophers alike. The book argues persuasively that the people alive today must take immediate and drastic action to tackle climate change, as the current decade will be crucial for determining how severe the impacts will become. Shue warns how a sharp division into past, present, and future is misleading when it comes to climate change and can obfuscate the extent of the responsibility that the current generations bear. For us to acknowledge our responsibility, we must recognise how deeply intertwined our lives are with both the past and the future. One of these innate deep connections between generations is the extensive time period that carbon emissions can continue to contribute to climate change, for dozens of centuries.

The current generations have been bequeathed an energy system that relies on fossil fuels and that continues to add greenhouse gases to the atmosphere. For over two centuries now, the planet has been getting warmer as an unintended side effect of industrialisation. We are the first humans to understand the dynamics of the Earth's climate and how human actions cause anthropogenic climate change. With the rapidly advanced scientific knowledge, it has become apparent that there is a need to quickly transition to a different energy regime. Shue points out that this knowledge has made us the first humans to recognise that action is required, but the urgency of the problem also makes us possibly the last to still be able to act before certain major threats are aggravated. With many irreversible climate change impacts, the date-of-last-opportunity to take action to prevent them might be very soon. According to Shue (2021, p. 6), "This gives us an awesome responsibility. Humans have accidentally set our own house on fire, and if we do not douse the flames while they are no more extensive than they are now, it may not be possible ever to extinguish them". That is why we alive now are the pivotal generation.

Although a sense of urgency runs through the book and the seriousness of the situation is made very clear, Shue steers away from fearmongering. He does not think that human extinction is around the corner, but underlines that we cannot rule out such threats until we stop feeding the beast. Unless we cap emissions at a relatively safe level and transform our infrastructure to net zero, we will keep on increasing risks to future people by "adding continuously to the mushrooming danger" (p. 23). The book stresses that the possibility of passing several tipping points adds to the urgency and the risks because when positive feedback mechanisms are triggered, climate change accelerates. These positive feedbacks can feed into each other, such as when warming seawater melts even more ice, with the possibility of a cascade of feedbacks if

enough tipping points are passed. Such changes are irreversible and could themselves become further positive feedbacks. Shue (pp. 24-25) warns that it is "*likely* that the near future is the last chance to avoid passing significant tipping points and entirely *possible* that the near future is the last chance to avoid provoking a cascade of tipping points" (emphasis in original).

While I applaud the general message of Shue's book, I find that the brushstrokes he uses when identifying those responsible are a little too broad. The reason for this is twofold. Firstly, it is questionable as to how many of us really know enough about the risks we are leaving future generations with. Secondly, discussion in terms of generations underplays the big differences between the responsibility of different groups of actors within them. In what follows, I will elaborate on these points. I should note from the outset, however, that although I think that these are important issues, I find them to be points of clarification in an impressive and ambitious book on why our actions have such significance and why objections to urgent, large-scale climate action are misplaced.

2. Who knows?

While previous generations produced avoidable greenhouse gas emissions ignorant of their impact on the climate, the situation is different today. Shue (p. 113) writes that if we choose less ambitious mitigation now, it is "more heartless and relentlessly self-preoccupied" in comparison to previous generations. I agree that from the viewpoint of scientific knowledge, humankind is in a fundamentally different position now than before climate science emerged (or scientific consensus was reached). However, I am not convinced that enough people are aware of the challenges ahead in sufficient detail to frame it this starkly as yet, especially when it comes to the relationship between risk and uncertainty around climate change impacts.

First of all, there are still large discrepancies between public understanding of climate change and what those specialising in the subject (in one way or another) know. Many philosophers writing on climate ethics (e.g. Bell 2011; Caney 2010; Singer 2002) have argued that since sometime in the 1990s, ignorance has not excused individuals for not taking action on climate change. This is a category mistake according to Vanderheiden (2016, p. 307), as it conflates "expectations for individual persons with no specialized training in climate science or professional commitment to environmental protection with states, with their collective capacity to process information and role responsi-

bility to track environmental threats". This assessment seems right, as human-induced climate change became known as a threat among climate scientists, politicians, and policymakers much earlier than it did among the general public. Overall, such role-occupiers within institutions have completely different capacities to process new and emerging evidence compared to the average person. Even now, many of the terms commonly used in communicating climate science, such as 'mitigation' or 'tipping points', can still be either unfamiliar to non-specialists, or perceived as unnecessarily complex (Bruine de Bruin, Rabinovich, Weber et al. 2021). [1]

That said, these days the epistemic situation is vastly different from even a few decades ago. Most people are at least aware that there exists such a thing as climate change, irrespective of whether they believe the science or understand the terminology. Still, the framing of heartlessness seems to presuppose an awareness that is not yet present among the public when it comes to making value choices intentionally in relation to intergenerational risks. As Shue himself notes, we are not used to encountering time lags that can last over millennia when it comes to cause and effect.

This brings me to my second point: the actual risks that we are bequeathing future generations are only starting to be appreciated in popular culture, and there still seems to be inadequate awareness of their structure. For example, the correct definition of tipping points is unfamiliar to many, and most people do not seem to realise that carbon dioxide remains in the atmosphere for centuries (Bruine de Bruin, Rabinovich, Weber et al. 2021). If you do not know what the risks are, or what their structure is, you cannot make decisions based on them.

Now, Shue's book does an excellent job of explaining the structure of intergenerational climate risks in a way that is easy to understand. He points out that the burdens and dangers that future generations will face are very likely greater than ours in both quantity and seriousness. Furthermore, these aggravated dangers are not capped at some level, but are currently unlimited and multiplying, until we reach net zero emissions. [2] Most alarmingly, if we don't act decisively soon, climate change may pass critical tipping points, beyond which we cannot undo the damage caused. In short, with time, climate risks

[1] The study was conducted in the USA.

[2] Shue (2021, p. 19) does not claim that the Earth's climate will change to an infinite degree: when using 'unlimited', he refers to human-caused climate change, meaning that currently there is nothing that "stands in the way of anthropogenic climate change becoming maximum anthropogenic climate change".

will expand in number, increase in severity, and can feed upon each other. This all means that our decisions about the scale of ambition of mitigation at the present time are at the same time decisions about how to distribute risks and burdens across multiple future generations. If we don't act now, the risks to future generations will be greater and burdens more serious. The socio-political situation can become more dysfunctional as climate change impacts worsen, and can lead to massive migration and social conflicts. Biophysically, the more cumulative the carbon, the greater the climate change. In addition, climate change can also feed on itself through positive feedback mechanisms. Such risks need to be brought into public discussion more frequently.

The position in which humans find themselves today in regard to climate science raises the question of what kind of ignorance about climate change is culpable at the individual level. I will apply distinctions from the epistemology of ignorance to distinguish between different ways of being ignorant about the risks that our actions and omissions pose to future generations. If you lack access to relevant background knowledge or concepts, leading to an inability to entertain or grasp the relevant proposition, you are in a state of *complete ignorance* (Peels 2018).[3] Humans living through the Industrial Revolution were completely ignorant about climate change because the concepts required to grasp the phenomena, such as a 'greenhouse gas', were not yet around at that time. This kind of ignorance excuses one from culpability: complete ignorance is not subject to blame, as it is outside the control of the agent.[4] However, if you have simply not bothered to find out, things are different. Even if you lack the relevant background knowledge and concepts to be able to grasp *p*, but

[3] Peels (2018) defines *complete ignorance* as follows: *S* has never considered a true proposition *p* and would not believe *p*, and could not even grasp *p*.

[4] The same goes for cognitive limitations, both permanent and temporary. Even the world's cleverest toddler would not be able to grasp the propositions necessary to form a belief about climate science due to the way the cognitive capacities of humans develop over time. Toddlers are thus completely ignorant about climate science due to (temporary) cognitive limitations. In comparison to complete ignorance, *unconsidered ignorance* dissolves as soon as one considers *p* (Peels 2018). Due to the complicated nature of the phenomena involved in climate change, I think that unconsidered ignorance is probably relevant only to climate scientists in some limited instances. I will also set aside the category of *undecided ignorance* (*S* has adopted no doxastic attitude towards *p*, while *p* is true), as Peels (2018) limits it to cases where the person has not had a chance to consider something properly, due to being distracted or tired, for example. Being ignorant of climate change in this way would be rare today in affluent countries at least. We are regularly confronted with news about climate change, so we get multiple opportunities to consider and think about the issue during our lifetimes, even if we are distracted and tired or otherwise pushed for time.

could have developed your capacities in such a way that you would have become able to grasp the proposition, you are not completely ignorant. Rather, you are ignorant due to your own choice. This kind of ignorance can be subject to blame, especially if you *should* have found out more about climate risks due to your position or role. In order to be excused for your ignorance, it must not be due to laziness, or some deliberate choice not to find out.

While the advancement of climate science has made the epistemic situation of current generations very different from past ones, ignorance is rarely on the all-or-nothing scale. Instead, many can be sceptical or dismissive of some of the warnings or implications of the scientific findings, while not rejecting the concept of anthropogenic climate change wholesale. I find that Peels's (2010) categories of *disbelieving ignorance* (*S* disbelieves *p*, while *p* is true) and *suspending ignorance* (*S* suspends judgement on *p*, while *p* is true) offer the most interesting cases in terms of culpability when applied to climate science. In the climate change context, those who are in a state of disbelieving ignorance could be conceptualised as climate deniers. Denialists are committed to denying anthropogenic climate change in a way that is insensitive to evidence. An example of disbelieving ignorance would be to believe that the underlying cause of climate change is not human activity but something else, like sunspots. In comparison, being in a state of suspending ignorance about climate change is a less severe form of denialism, as you remain agnostic about the issue, rather than disbelieving it. Responsibility for such ignorance is something that I will return to in section four.

3. The 'we' in the pivotal generation

The book is intended primarily for US citizens to help them think through their responsibility to confront climate change, although Shue writes that many of the arguments also apply to people in other affluent states. The responsibility discussion of the pivotal generation is thus delineated to encompass citizens of affluent states from the around eight billion humans currently alive, with the focus on "individuals and governments in wealthy nations like the United States whose wealth is heavily derived from industrial activities and from lifestyles that are driven by the combustion of fossil fuels" (Shue 2021, p. 118). In other words, those whose past and present emissions drive climate change. However, this is still an unhelpfully large group.

When it comes to climate change, the intergenerational choice situation is inherently unfair. Those alive get to make choices that affect the risks for fu-

ture generations. Hence, it makes sense to discuss the responsibilities of generations. However, I find that the book would be even stronger as a call for action if there was more differentiation between groups in terms of responsibility. In particular, I believe that the argument would benefit from a clear distinction between what can be demanded of different sub-groups within the pivotal generation, most notably policymakers and others who are in powerful positions on the one hand, and the general public on the other. In relation to this, there seems to be some tension in the narrative when it comes to identifying the 'we' who have a moral responsibility to push for urgent and radical mitigation action. More specifically, the use of 'we' seems to refer to different groups in Chapters 4 and 5, without specification about who is included in these groups from the pivotal generation.

Chapter 4 focuses on past failures to confront climate change and the tendency to postpone solutions in accordance with the thinking that problems can be fixed later. The total accumulation of atmospheric carbon dioxide is already so high that harmful effects can no longer be avoided. Crucially, however, how bad these effects will become is due to the mitigation choices that are being made now. Still, if the damage done could be reversed with new technological innovations sometime in the future, those alive would be at least partially off the hook because that possibility would reduce the responsibility to act now. Shue rejects such thinking and makes a strong case for taking mitigation action now by pointing out that even if carbon dioxide removal (CDR) technologies could be scaled up quickly – and that is a big 'if' in terms of both feasibility and affordability – failing to reduce emissions now still poses risks to future generations.

The main reason for this is that the accumulated emissions might cause the climate to exceed tipping points before the carbon is removed from the atmosphere. Therefore, even if humans manage to come up with the technology for truly large-scale carbon removal, the failure to reduce emissions might already have locked us on a path of certain irreversible changes which make the Earth's climate less hospitable to humans. As Shue (p. 111) writes: "*Temporary changes can produce permanent effects*" (emphasis in original). It is dangerous to lull ourselves into thinking that we can forgo urgent and significant mitigation action now because we might come up with technology to achieve carbon removal on a large scale. Thereby (p. 90), "the stringency and urgency of action now ought to remain unaffected by any hopes and dreams of a later 'fix'". Yet many opportunities to act have already been squandered and decades lost. Some CDR will in any case be required in a portfolio of climate actions to enhance mitigation efforts and to remedy insufficient past action,

but Shue's point is that it cannot be used as an excuse for less ambitious emission reductions now.

The above argument concerns acceptable risks in making current climate policy choices. I suggest that due to the differences in understanding the risks (whether this is actual knowledge, or knowledge that the individuals arguably should have acquired by now by virtue of their roles), the 'we' in Chapter 4 should be limited to a smaller group than all the (globally affluent) members of the pivotal generation. For example, Shue (p. 95) himself notes that the high degree of dependency on CDR in the IPCC scenarios where warming is stabilised below 2°C by 2100 "is not widely appreciated by the general public". More precisely, my suggestion is that the 'we' here seems to refer to the policymakers and other powerful people who really should know better by now, like the leaders and PR teams at fossil fuel companies that still peddle half-truths and misleading information to confuse public debate, allowing for coal, oil, and natural gas to remain the dominant energy sources.

In contrast, in Chapter 5, the 'we' is much wider. Here the 'we' is positioned to have a forward-looking responsibility to challenge and take on the powerful minority through "a broad mobilization of citizen energy" (p. 118). The blame is placed squarely on "the ruthless few" (p. 134) with a lot of power and vested interest in fossil fuels. I take it that this is the main message for readers: citizens of affluent countries have a forward-looking responsibility to build social movements to get rid of and replace the structures and practices blocking meaningful action, whether they are economic or political.

I find that clearly separating different sub-groups within the 'we' of the pivotal generation would further underscore this call for action. To be fair, in some parts of Chapter 4, Shue signals that a smaller group is indeed what he has in mind, for example when discussing the "quarter of a century of political failure and corporate deceit and greed" (p. 91). He also makes reference at the very beginning of the book (p. 2) to both the "callous and corrupt political leaders who have largely wasted the last three decades" and "the executives in the fossil-fuel industry who have deceived and tricked the public and corrupted our politics". However, the overall responsibility framework is still presented in terms of the whole generation, for example in the way that Shue (p. 106) writes that "the current generation" has to choose between more and less ambitious mitigation, or how it was "our political failure" (p. 92) to deal with climate change when there was still more time. I agree with Shue that if you understand the situation and choose to defer burdens to the future, you are being heartless, as well as either very selfish or spineless. But I want to narrow

down the group who bear the political failure to deal with climate change during the past decades. To this end, I found it particularly vital that the book acknowledges how misinformation and power deals have obstructed meaningful action on climate, an issue that I turn to next.

4. The ruthless few

> *We face a fierce battle—not everyone is on the same side, by any means. The most unrelenting opponents of progress toward a net zero carbon world are fossil-fuel interests and their dedicated and entrenched allies in government and banking. We must no longer tolerate their deceptions, diversions, and detours.*
> Shue 2021, pp. 117-118

The Pivotal Generation not only focuses on states and their citizens, but also pays attention to other important actors, most notably fossil-fuel firms, and the way that the costs of pollution have been externalised to society. [5] According to Shue (p. 65), "politicians have given fossil-fuel corporations by far the biggest free ride from respect for the environment of any firms in human history—plus tax breaks!". Concerned citizens could pressure politicians to take action to make fossil fuels gradually more expensive through measures such as introducing carbon taxes, cap-and-dividend policies, or reducing the massive subsidies that fossil fuels currently enjoy. To avoid pricing the poorest out of energy markets, this must be accompanied by policies to support green energy globally. Importantly, Shue (p. 43) notes that the boundaries between states and corporations are sometimes blurry because the largest fossil fuel corporations are state-owned and, in this respect, part of the sovereign state: "Saudi Aramco's policies are policies of the Saudi state, just as Gazprom's policies are policies of the Russian state, and Sinopec's are policies of the Chinese state". Shue (p. 16) also notes how fossil-fuel interests have exercised outside control on the legislative branch of the US federal government, among others. "Bringing climate change under control will require tough political fights against ruthless, mendacious, and entrenched combinations of economic and political power" (p. 118).

The book acknowledges how the fossil majors have deceived the public for decades about the effects of their products. As Shue (p. 119) writes, "they understood long before most other people did" that fossil fuels progressively un-

[5] Shue also mentions other collective actors that should take action, such as pension funds that ought to divest their fossil-fuel holdings.

dermine climate stability, but violated the minimal negative duty not to harm others "by systemically lying about how harmful the use of their products is, by viciously attacking scientists who have told the general public the truth", and by failing to invest in measures that would have made their products safer, like carbon capture and storage. The importance of such procedures was understood by the fossil fuel companies through their own scientists earlier than many other actors understood it. It is this failure to take mitigation action in the light of the evidence that they had that makes the failure of the companies especially grievous.

Fossil-fuel companies also engaged in misinformation campaigns and lobbying to delay regulation and meaningful mitigation action around climate change. What began as a non-partisan concern requiring urgent attention was manipulated into a divisive and polarising subject through cynical campaigns. The aim of the lobbying efforts was not to discredit climate science wholesale, but to create an illusion that there were wide disagreements about the causes and effects among climate scientists (Oreskes and Conway 2010). I have argued elsewhere that through engaging in such actions, fossil-fuel companies like ExxonMobil have generated compensation responsibilities for the harm caused (Hormio 2017). What I want to discuss here is how these activities affect the responsibility for individual ignorance around climate science.

If a scientific debate on a certain issue is ongoing, it is rational as a layperson to take a neutral position about whether a proposition on either side of the debate is true or false. Recall how section two discussed different types of ignorance. Climate deniers are in a state of disbelieving ignorance about the need for urgent and large-scale action, and the human cause of the changes. I wrote that suspending ignorance about climate change is a less severe form of denialism, as you remain agnostic about the issue, rather than disbelieve it. People who suspend their judgement on climate change could be conceptualised as sceptics, rather than denialists. Still, this is arguably enough to delay the urgent mitigation action required and suffices for the purposes of the fossil fuel lobby, even if the scepticism is only partial, for example around the urgency and scale of the action.

If the degree of someone's belief in a falsehood has been deliberately increased by another party, much of the responsibility for the ensuing ignorance falls on that party. Fallis (2016) has argued that in moral terms, making people ignorant intentionally is equivalent to deceiving them. Moral agents should be able to make choices, so creating false beliefs manipulates their autonomy. In deliberately manufacturing doubt, Fallis writes that the goal is to make people suspend their judgement through conflicting evidence. Thus the misleading or

false information that citizens have been given regarding climate change has made them, at least in part, unwitting instruments in the delaying tactics of the fossil fuel industry. Had they not been subjected to misinformation, they could have perhaps voted for a different candidate or supported different policies in relation to fossil fuels in their professional and private lives.

I should note a caveat: lack of knowledge or deficiencies in comprehending the science are not the main causes of climate denialism. Barring climate scientists themselves, research has revealed that those with the highest technical reasoning capacity and degree of science literacy tend to disagree the most on human-induced climate change (Kahan et al. 2012). In general, we cherry-pick evidence according to the biases and views that are prominent within our social groups.[6] Still, it is these tendencies that the fossil-fuel lobby has latched on to, polarising an issue that was originally supported by Republicans and Democrats alike in the US context.[7] Someday, sceptics and denialists might be confronted with the stark reality of the situation. If this happens, they will not only abhor the dire risks they have contributed to for their children, grandchildren, and the people who come after, but they may also feel deceived. Deceived by those with power and vested economic interests, deceived by the ideological lies propagated by the right-wing media, and deceived by those that they trusted to lead them in times of social unrest. I believe that they are warranted to hold their deceivers accountable.

Fossil-fuel firms that have engaged in misinformation on climate change bear significant responsibility for the historical delays and the polarising public debate in some countries. Shue (2021, p. 135) writes that "our passivity and inattention have allowed fossil-fuel interests to dominate energy policy and energy politics for a century". I believe that the case should be stated more strongly than this: it has not been our passive failure to pay attention, but rather a deliberate tactic by fossil-fuel companies and others with vested interests to direct our attention elsewhere.

[6] In the US, research suggests that the dissemination of scientific information increases concern about climate change only among Democrats, while it does not affect the views of Republicans (Carmichael, Brulle and Huxster 2017).

[7] To promote constructive and informed public deliberations, we should aim to use culturally diverse credible communicators, and utilise "information-framing techniques that invest policy solutions with resonances congenial to diverse groups" (Kahan et al. 2012).

5. Concluding remarks

The burden that different actors within our generation face is great, but it is not unfair, even when it is not based on responsibility for past harmful actions, but purely forward-looking considerations. Different times in history bring their own challenges, and big threats must be confronted there and then. The choices made now set the scene for future people.

I can wholeheartedly recommend the book to anyone interested in climate change responsibility. It makes many other important contributions to the debate, many of which I have not discussed, such as a convincing consistency argument about the fairness of climate action at the state level. Shue wisely states that only empirically embedded philosophy can be practical: purely conceptual arguments alone cannot specify what the right action is in the world. The book does an admirable job throughout of linking philosophical arguments to the real world. [8]

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The relational dimension of climate action*

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Abstract

Henry Shue's *The Pivotal Generation* reminds us that our duty to do something about climate change is based on a set of very basic duties: a duty to not to impose terrible risks on others and a duty to stop doing so once you find that your actions have this effect and counteract the relevant risks. Furthermore, it alerts us that as we – the currently living – are the last generation that can do so, we have a particular responsibility to prevent climate crisis. Importantly, it also illustrates that whatever we do, we must do it together: everyone in this current generation is called on to do their bit and our first and most important task is to create the political environment where effective climate change is possible. In this commentary I briefly set out Shue's argument and then expand on what achieving the task that Shue sets for us requires given the principles that motivate his account. In particular, I argue that achieving this task requires more than switching to low energy settings and voting green every couple of years: rather it requires keeping the task (Preventing climate crisis) and its fundamental moral justification (Don't wrong others) in mind in all the different relationships that we have with all the people complicit, driving, opposing and/or suffering from climate change. Samuel Pufendorf's principle of sociability – in tandem with the additional insights by Cara Nine's interpretation of it – offers a way to understand our responsibility as a genuinely political one. The task is not to address a once off problem, but rather to create a social world that allows us to live together peacefully and sustainably while acknowledging that we are moral equals at the same time as we are interdependent social beings who often find themselves in unequal power relationships. The focus on sociability thereby offers us additional insights as to how we can and should work together to prevent climate crises. Overall, the commentary shows the important contribution that Shue's book makes and builds on it with a special focus on how we should engage with each other in a way that is just both in terms of the ambitions of climate justice and the requirements of treating each other as responsible agents in the world.

* Commentary on Henry Shue's The Pivotal Generation.

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1. What this commentary does

In his *The Pivotal Generation* Henry Shue said everything that needs saying in the kind of book he presents about our – this current generation's – moral responsibility to slow climate change right now and he says it extremely well. That is not a particular promising start to a commentary, but there you are. In this commentary I argue nonetheless that there is an important dimension that needs to be considered in more detail to achieve the goals set out by Shue with respect to the values emphasised by Shue. As I show in the first part of the commentary, Shue's normative framework leads him to the conclusion that everyone with the means to do so ought to engage in the political activism needed to address the climate crisis. This requires changing our social institutions to facilitate a sustainable way of life for everyone by averting further climate crisis and by adequately managing the harms that we can no longer prevent. An important part of this activism must be to tackle the influence of the powerful lobbying against effective climate action.[1] The book focuses on defending the idea that this has to happen *now*. In the second part of the commentary, I argue that to do this, we need to take the dimension of human relationships more seriously than much of the climate justice literature currently does. This is not merely a matter of increasing the feasibility of achieving the goals set out by climate justice. Rather including the relational dimension into considerations of justice itself is a direct implication of Shue's approach as the activism it demands of us requires paying attention to the relationships that connect the relevant agents. Relationships shaped by domination, exploitation or other abuses of power are not only objectionable in their own right, but also impede the kind of climate responsibility advocated by Shue.

[1] While Shue focuses on counteracting the powerful interests of the fossil fuel industry and its allies, a recent discussion on the findings of 2023 Economic Report of the President in the podcast *The Daily* emphasised the need for revising policies where incentives currently lead in the entirely wrong direction for other reasons. See Barbaro, Pieto and Johnson 2023.

2. What the book does

Shue makes a moral argument why we ought to limit climate change (to 1,5°C or maximally 2°C) relying on the following claims widely accepted in climate science: Climate change beyond 2°C has a great chance of leading not only to irreversible losses but also to mechanisms that could let the entire climatic system spin out of control (tipping points, runaway climate change).[2] Unlimited climate change poses terrible risks for future generations. Shue combines these uncontroversial scientific facts with the following widely shared moral commitments: First,

> If any human duty is unconditional, it is the duty to preserve the fundamental conditions, including the physical preconditions, of human society by avoiding dangerous threats to those conditions.[3]

One must not create terrible risks for others if one can avoid it. It is also plausible to augment this uncontroversial negative duty with a positive duty that is also fairly uncontroversial: Anyone who can prevent a terrible risk for others at a comparably small cost for themselves, ought to do so.[4]

Second, if one has caused a situation that leads to a terrible risk for others one should use all possible means to minimise that risk. This idea is linked to the more foundational requirement to take responsibility when violating the rights of others.

> When one is violating rights, especially basic rights, one's duty is to stop entirely as soon as possible, bearing oneself whatever costs are involved.[5]

The assumption here is that imposing certain risks on others can constitute a violation of their rights.[6] The conclusion from combining these claims is that nearly everyone today has strong moral reasons to combat climate change.

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[2] The most recent IPPC reporting suggests that previous reports underestimated the effects of climate change and that we really should not go beyond 1.5°C. See IPCC 2023, esp. B2.

[3] Shue 2021, 17.

[4] See e.g. Shue 2021, 23. This is also the principle illustrated by the famous example of saving a child from a pond in Singer 1972.

[5] Shue 2021, 47.

[6] This idea is very intuitive when we think of playing Russian roulette with an involuntary participant or driving under the influence but becomes more controversial when we consider

Furthermore, people in the industrialised world have particularly strong reasons. They have both contributed most to and benefitted most from the greenhouse gas emissions and land-use changes at the root of the problem.[7] Given the size of their impact, changing their extremely carbon intensive ways of living and production is one key element of any solution to the problems. Generally, and at least in part due to the profits from a fossil fuelled economy, industrialised states also tend to have more financial, technological, research, and other resources to actually do something about climate change.[8] Finally, the industrialised world holds considerable power in the current international regime, politically, economically and often also militarily and this once more gives us reason to attribute more responsibility to them as compared to more powerless agents. There also are additional prudential reasons for reducing our reliance on fossil fuel and thus slowing climate change – once more applying to everyone – relating e.g. to better air quality and other benefits of a healthy natural environment and – as become apparent even more clearly since the publication of the book – reducing our dependence on gas and oil rich states with more than questionable politics and human rights records.

Apart from this general argument, Shue further argues that this generation (all people living today) have a special responsibility to tackle climate change. In the context of climate change, there are several tipping points that lead to irreversible losses and drastically increase the risk that climate change poses for future generations. Unfortunately, we can only know for sure when exactly

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the risk imposition involved every time a fallible human being operates dangerous machinery. The precise line as to when a risk imposition might cross the line to being unreasonable and constituting a rights violation might be difficult to draw. However, it seems plausible to assume that given the massive threats to extremely basic rights involved in climate change as well as the many ways in which such risks can be ameliorated if not prevented, at least some ways of contributing to climate change could well be seen as cases where the risk imposition amounts to a rights violation.

[7] The climate justice literature is full of detailed discussions of the best understanding and defence of these ideas often called the 'polluter/contributor pays principle' and the 'beneficiary pays principle'. While there are many theoretical considerations relevant for determining the precise scope and power of these normative principles, their basic thrust is enough to establish that states in the industrialised world have a prima facie responsibility to do something about climate change and that this responsibility is shared by the citizens making up these states.

[8] The so-called ‚ability to pay principle' claims that the capacity to do something about a problem in itself creates a certain responsibility to do so, independent of any backward-looking responsibility or benefits. Again, the scope and strength of the idea are open for discussion, but it seems uncontroversial that this consideration – where it applies – at the very least strengthens responsibilities grounded in other considerations.

we reach a tipping point once we have already passed it. As mentioned before one of the normative cornerstones of this book is the claim that one must not create terrible risks for others if one can avoid it. It follows that if one does not know for sure whether this is the date-of-last-opportunity, that is, the last chance to avoid runaway climate change which imposes terrible risks, one ought to counteract it too early rather than too late given the risk of irreversible losses etc. [9] When deciding when to act one must also consider that preparing to act in itself might involve time (reaction time).

Scientists tell us that we have many very good reasons to think that the next few years are the date-of-last-opportunity. Even if we were wrong, acting too early is much preferable to acting too late – prudentially as well as morally. It might seem unfortunate that our generation is called to tackle this difficult task but given that we have very good reasons to fear that the date-of-last-opportunity is here, there is no way to re-allocate the task and thus this is not a matter of unfairness. [10]

Shue dismisses the hope that negative emissions/carbon capture technologies can buy us time. [11] Carbon capture technologies currently are not yet fit for purpose, they are too expensive and too small scale, and where they might be scaled up, they currently have extremely problematic side effects. Hoping that better carbon capture technologies are developed in time to compensate for not de-carbonising now means taking a gamble where we are to expect some benefits while risking terrible losses for future generations. Gambling for one's benefit where considerable risks – including threats to basic rights – fall on someone else (who has not agreed to bearing them) is immoral. [12] Again, while this principle has radical implications in this case, it seems very uncontroversial from the point of common-sense morality.

Carbon capture will be needed to account for the overshoot that most likely is unavoidable, that is, it is very likely that GHG levels will be temporarily at a level that is unsustainable, but carbon capture can help to bring them back

[9] See Shue 2021, 77 ff.

[10] See Shue 2021, 11.

[11] See Shue 2021, Chapter 4.

[12] The moral evaluation would be different where our aim was not to secure some benefits but to prevent another impeding disaster (e.g. economic collapse, famine etc.). Sometimes rapid decarbonisation is painted in these colours but there currently are sufficient resources available in the world to decarbonise without such disastrous side effects. However, the situation will get worse as increasing climate damages eat up resources and the time available for transition becomes shorter. The real problem is the current distribution of the relevant resources.

down to a less dangerous level. However, Shue reminds us that while we might be able to ensure that the climate balances out at an acceptable temperature even in an overshoot event, the risk that tipping points are crossed and irreversible damages occur cannot be prevented other than by mitigation now.

With regard to what exactly we ought to do, Shue argues that political action is needed first and foremost as individual action is worthwhile but completely insufficient. We must use our individual consumer power (where we have any) but even exposing climate sinners and calling for boycotts is necessary collective and thus one form of political activism that we are called upon to engage with. Generally, everyone able to do so (i.e. living in a democratic country) must use the political means at their disposal to be a climate activist within their sphere of influence.

With regard to the precise kind of policy change needed, Shue only gives a couple of examples: End all subsidies for fossil fuels. Ensure transparency regarding the climate impact and real costs of all proposed (and existing) technologies, production methods, infrastructure projects etc. Support research and development of alternative energy sources as well as means to save energy. Ensure these actions not only for the national context but also for the international realm. In particular, ensure that developing nations can leap-frog the carbon economy and do not have to invest into doomed fossil fuel industries and infrastructures now because they cannot afford the latest alternative energy technologies and infrastructure. Be ambitious about emission targets and stick to them.

Shue identifies two key obstacles that explain why political approaches to climate action so far have been far from sufficient even where the general population is not generally opposed to them. On the one hand, he is criticising the practice of nation states – and particularly the US – of internalising the gains of a fossil fuelled development and economy while externalising the associated problems and costs.[13] On the other hand, he highlights how much powerful fossil fuel lobbies have distorted the debate and prevented and delayed needed climate actions. He presents information showing that key economic agents (namely the fossil fuel industry as well as other powerful economic agents directly benefitting from it) have for decades manipulated the public and prevented and stalled (through misinformation and effective lobbying) any effective climate protections. In many places, influential politicians seem to be bought by the fossil fuel industry given how strongly they support the interests of this industry against most reasonable interpretations of the

[13] See Shue 2021, esp. 41f.

common good. He thus adds that to effectively tackle climate change (and to restore democratic decision making), politicians in the pay of fossil fuel interests must be voted out. For this to happen, there needs to be pressure through social movements demanding transparency of political processes – generally and particularly with regard to campaign financing – as well as effective action on climate change.

3. What the book does not do

A book offering a climate action plan would have to offer more detail on all those proposals. Just as a book focusing on theories of climate justice would offer more detail on the precise reasoning behind and amongst the moral reasons presented here. Given that the aim of the book is to alert the general public in Western states, especially in the US, of their responsibilities and to present them with clear and persuasive reasoning, neither extension is necessary or even helpful here. Part of Shue's project is to warn his readers of the dangers of our democracies being undermined by influential players supporting the global fossil fuel industry (and the authoritarian states who have large stakes in it). Any solution must thus focus on restoring a properly democratic approach: first of all, by citizens demanding more transparency, but also allowing as well as demanding that citizens take their part in shaping and supporting climate policy seriously. This must involve alerting them to their moral duties – as Shue's clear and basic moral theorising in this book does – but it cannot go too far in working out a philosophical account of exactly what ought to happen, because while there are clear lines – which Shue points out – there also are a different ways to realise these goals – which have different advantages and disadvantages and are more or less suitable in any particular jurisdiction. There is also reasonable disagreement on why exactly one course of action is morally better than another. Morally as well as politically, when we demand people to take responsibility, consistency requires giving them the space to use their own agency and participate in deciding how to best realise the goals in question.

4. Spelling out the relational angle of climate activism

According to the powerful arguments of *The Pivotal Generation* our responsibility to tackle the challenge of climate change is first and foremost a

political responsibility. This is based in the insight that while our actions as individuals matter somewhat, it is our political action that needs to create the social, political, and economic frameworks within which our individual agency can be effective. Shue's key moral principles extremely simplified here as "Do not harm", "Help if you can", and "Where you cause harm, stop right now and then try to set things right" are all aimed at each and every individual agent. Simple enough, but in the face of the climate crisis they leave us helpless. In many cases we cannot help causing harm, our ability to help is extremely limited, and we can neither fully stop being part of the problem nor can we do much about setting things right. Thus – and generally when faced with huge problems to which we as individuals contribute in some ways (often involuntarily, sometimes even unconsciously) – we know that the responsibility to fix the problem cannot possibly be ours as individuals. This is as true of contributing to exploitation in sweat shops through purchasing affordable fashion items as it is of contributing to climate change while taking the car to work to also drop off the kids at school and collect the shopping on the way home. What we can do has little impact and (sometimes considerable) costs for us. There are too many structural issues: from the way our society shapes work and family life and the expectations on motherhood and how you are to be dressed in a professional context, over the way the very infrastructure of our towns is set up, all the way to how the globalised economic system creates situations where smart business choices are extremely wasteful in terms of resources. [14]

In the face of all this and the scope of all the interconnected issues, we feel powerless, and rightly so. Where we are powerless, we cannot really be blamed for helplessly doing our part upholding this problematic system. Nonetheless as Iris Marion Young's theory skilfully demonstrates, this does not absolve us from responsibility altogether. [15] She argues that because we are connected to the problematic system in multiple ways, we have a responsibility to do our bit to change it for the better. [16] Depending on our situation, our ability to affect at least some change and thus our responsibility to do so is smaller or greater. This is where what Simon Caney calls the "pow-

[14] For a recent newspaper debate on this as well as the false (or at least incomplete) promises of companies to act sustainably, see e.g. Maiwald and Materla 2023.

[15] See Young 2006 and Young 2011. For an explanation and further development of the idea, also see McKeown 2024.

[16] The remedial forward-looking responsibility at stake here is not based on the kind of backwards looking moral responsibility that grounds liability and/or incurs blameworthiness.

er/responsibility" principle [17] comes in and plays a big role: we all have different roles and thus different opportunities to play a part in reshaping the current systems that are clearly not fit for purpose right now.

These insights of Young and Caney (and many others working in this sphere) do not really add additional moral principles, but rather are extensions and interpretations of the very basic norms that Shue identifies as the foundation of his argument. After all, much of moral philosophy argues about how we should interpret the scope and precise content of not-harming, helping, and taking responsibility for harms we caused. In his interpretation of what follows from the basic principles applied in the context of being the last generation able to prevent climate crises, Shue suggests that where we have consumer power, we have responsibilities as consumers, but more importantly we have responsibilities as citizens. The real question is what this responsibility entails. The power-responsibility principle alerts us that the degree of responsibility is likely to vary between different citizens with different opportunities. But that still does not explain how exactly we should understand political responsibility – different understandings of political philosophy offer more or less demanding conceptions of the rights, duties, and virtues of citizens. Shue's main focus is on the US and other Western democracies, so it seems that we can narrow down the relevant conceptions to conceptions of democratic citizenship, but that still leaves considerable room for profound and reasonable disagreement. It also sits at odds with the otherwise very general account of duties that otherwise apply to every currently living human being – clearly differentiated by the power-responsibility principle – but otherwise no one is excluded/excused from this general responsibility.

In the following, I suggest that Samuel Pufendorf's principle of sociability, [18] in the extended interpretation offered by Cara Nine, offers an account of political responsibility that provides useful guidance here. [19] On the one hand, it is general enough to offer guidance independent of different regime types and thus does not exclude/absolve some people of responsibility for reasons other than those directly based in the power/responsibility principle. On the other hand, it offers a foundation for the demand to tackle the climate crises (as well as all our other social and political problems) in a collective, social, and ultimately political manner that goes beyond the reasoning, that we simply

[17] See Caney 2014, 141.

[18] See Pufendorf 1994 [1672], Book 2, Chapter 3, esp. Section 15, 152.

[19] See Nine 2022, Chapter 2.2.

cannot do it alone. This in turn opens up the sphere of relational justice which – as I will argue – helps to open up seeing additional ways in which we can contribute to an adequate response to the climate crises and thus helps us to fill in some of the gaps between Shue's explanations of what needs to happen and our individual lack ability to make it happen.

First a very brief account of the features of Nine's interpretation of Pufendorf's principle that I consider helpful here. Like Hobbes Pufendorf takes the key principle of natural law to direct us to do what it takes to secure peace. However, unlike Hobbes Pufendorf understands peace not merely as the absence of conflict but as establishing the foundations for peaceful cooperation. And he has a moralised understanding of peace demanding that real peace must involve the arrangements necessary to live in peaceful coexistence with others under conditions that respect the natural sociability of persons.[20] Nine highlights two features of this account which she uses as the theoretical foundation for her theory on the moral principles that ought to guide us when we are living together in the sense of sharing territories. The first is the commitment to treating all people as moral equals in the very basic sense of recognising that all of us are to be considered as ends in themselves. People might matter to us in different degrees, but no one must ever be treated as if they were irrelevant, because ultimately all of us fundamentally matter. The second aspect of Pufendorf's approach, that Nine highlights and which I also commandeer for my argument, is the importance of really consider people as *social beings*.[21]

While others can be threats to our well-being – as Hobbes certainly emphasises – they also are preconditions for human life: at some levels human life is unavoidable social and for most people socialising is not merely a precondition for their initial existence and growing up, but also a need without which they would never fully flourish.[22] Pufendorf and Nine spell out what follows from this for the design of social and political institutions – for Nine in the specific context of sharing territory.[23] Nine's account and re-interpretation of

[20] See Pufendorf 1994 [1672], discussed in Nine 2022, 32f.

[21] See Nine 2022, 33f.

[22] In emphasising this in this particular way, Nine's interpretation of Pufendorf links his initial ideas with key insights from feminist critiques of the social contract tradition and takes up the emphasis that social circumstances very much shape people's ability to act and way they do. See Nine 2022, 31.

[23] It would also certainly be worthwhile to explore what this requires of the institutions we devise and/or use to address the climate crisis, however I chose a different focus for this paper.

Pufendorf's conception of what it takes to take the idea of people as social beings seriously is influenced by contemporary feminist views on relational autonomy. It thus highlights the ways in which gender, race, and other characteristics are currently still linked to unjust inequalities in social status which in turn impact on our possibilities to develop and exercise our agency. We are interconnected in various social ways, and it is not only the material dependencies such as those between parents and child, employer and employee, but also sexist, racist etc. prejudices that lead to power inequalities. Achieving social institutions that really fulfil the demand of taking seriously that people are to be understood as social equals while being interrelated in all sorts of unequal ways, thus demands paying attention to and finding ways to address and reduce power inequalities and most importantly ensure the protection of the basic requirements of agency.[24] The principle of sociability thus requires paying attention to the prerequisites for each and everyone to act as their own being in the context of our interconnected lives. In this paper – I take a quick and preliminary look at what the principle of sociability demands for climate action. That is, what we need to consider when we are working together on the task to prevent climate crisis.

As Nine shows the principle of sociability requires setting up institutions in such a way that they are sustainable and thus able to secure people's well-being in the long run. It is all too easy to see how climate change leads to conflict (over water and other resources, due to migration movements, due to creating wholescale desperation etc.), so securing peace in the current world must involve climate action. But my focus here is not on the *why* of climate action but the *how*. How should the commitment to considering people as equals as well as as social beings influence how we engage with each other in terms of climate action?

This is the dimension where I want to dig in a little deeper. What is the social dimension of climate action? What does it mean to integrate climate action into one's (social) live? I propose that we need to keep the importance and wide-ranging opportunities of climate action in mind when relating to others and in particular to those who are linked to the issue in one way or another. So, how are we to relate to each other with regard to climate issues? To those who we perceive as abusing their power to keep the fossil fuel system going and competitive? To those who are standing in the way of climate action? To those who only care about the well-being of those closest to them and

[24] For a summary of these requirements inspired by Brock 2009 and Nussbaum 2001, see Nine 2022, 37

do not mind if that comes at great expense for others? To those who are the most vulnerable in our midst and for whom the transition costs to a green economy pose a real challenge? To those who are most vulnerable in absolute terms but who are at a distance to us physically, temporally, and emotionally? To those who arrive at our shores because it becomes more and more difficult to make a decent living in their water-deprived or flooded homelands? To those whose homelands are doomed to become uninhabitable in the foreseeable future? To those who in the face of all this despair and give up even trying to change anything? To those who gripe and spread their despair even further?

Most of us encounter all of these people, though some of the most vulnerable ones only through the distance of a television screen and reports about their actions or their suffering. Whether we meet them in person or not we are all connected to all these people, and we have impact on them through our acts and omissions just as they have an impact on us. Obviously, there is not much equality in all this. Some people have huge impact on the lives of others, while the plight of others seen on a screen often only leads to a fleeting moment of discomfort.

Again, different agents in different positions and roles, can make a considerable difference for the better. In the domestic sphere, people could call for and governments could set up citizen's assemblies to facilitate informed dialogue with and among a representative section of the population and listen to and act on the concerns and recommendations that emerge.[25] Critical journalists can shed light on any unsound political action. Citizens and opposition politicians can work to hold those responsible accountable. Those with influential voices can make impactful appeals by getting people to pay attention and to demand and push for change themselves. Those with the skill can develop clear and powerful arguments why we really ought to do so. As Shue's book does. While engineers can develop the relevant technologies that make saving energy easier (and cheaper) and find alternative ways to provide for our needs, social scientists can research and recommend what policy options might be most effective both environmentally and socially. All researchers could work harder to communicate their findings better to the broad public. Those who understand the interactions between climate policies, social policies, migration policies etc. can set up taskforces to bring all the relevant voices together to develop holistic proposals. Those who have ideas how to make

[25] For illustration, see Devaney, Brereton, Torney, Coleman, Boussalis and Coan 2020 who offer an analysis of the deliberative process as well as the emerging themes of the Irish citizen's assembly on climate change (2016-2018).

local changes can inspire others by showing what is possible and what difference it makes. Those who have a large audience as well as the necessary skill for it can collect and promote these stories of hope and thus spread the inspiration as well as the ideas further.[26] Those who shape institutions can implement climate action and sustainability within the sphere of their organisations.[27] Those who have an otherwise good relationship with the uncle denying the scientific facts of climate change, can try to have that conversation…[28] Long story short: Each of us can take inspiration and hope from small success stories and aim to replicate them. Some of us even have the means to scale them up.

The added value of including the principle of sociability in the account of how we ought to respond to being the last generation that can do something about the climate crisis is that it not only offers us additional insights into *what* it is that we ought to do, but also *how* we ought to relate to one another in doing so. As mentioned, Pufendorf's account emphasises that when designing suitable social institutions for us to live together peacefully in the long run, we need to take seriously that we are moral equals as well as interdependent social beings. Nine's additions – informed by feminist critiques – alert us to additional ways of how inequalities in dependency as well as discrimination and implicit biases are obstacles to creating the kind of institutions that Pufendorf's principle proposes. One can thus see that the principle of sociability, one the one hand, offers an account of what it is we ought to achieve, namely, institutions that respond appropriately to our interdependency and thus encourage and enable people to avoid harming each other, helping each other where they can, and trying to set things right where they caused harm. On the other hand, it demands that we respect each other as equals and thus do not exclude, do not exploit, and do not patronize others.

This is a common thread underlying the list of demands I suggested above of how people should approach each other, listen to one another, work together, inspire and motivate one another, as well as call each other out when interacting with each other in the sphere of climate action: people ought to treat each other respectfully. This certainly is the imperative flowing from Pufen-

[26] Examples could be the podcasts of former Irish President Mary Robinson (*Mothers of Invention* with Maeve Higgins and Thimali Kodikara) or former Labour Leader Ed Miliband (*Reasons to be Cheerful* with Geoff Lloyd)

[27] For an analysis of what for examples universities can do, see Gallagher-Cooke 2023.

[28] For some advice on how to conduct that kind of conversation, listen e.g. to *Ghosting the Planet* (Mothers of Invention, series 2, episode 2).

dorf's principle of sociability – we need to work to live together peacefully while respecting the basic moral equality of all of us. When determining what exactly respect demands here there are more and less demanding interpretations. The most basic and uncontroversial account is easiest defined by its opposite: not exclusive, not condescending, not dismissive, not arrogant, etc. and aimed at a sustainable future for all.[29] Furthermore, it seems plausible to assume that where people are excluded, intimidated, submissive, or angry about constantly being talked down to, the right kind of conversations are less likely to happen and less likely to be fruitful. This offers additional prudential reasons for respectful relations.

When shifting the focus from how we can stop climate crisis to how can we create (and sustain) the kind of social institutions that are fit to resolve it, we are once more back on the many little actions of many little people that might (or might not) be enough to shift events and make a real change for the better.[30] The potential for unblocking people's opportunities to take action on their climate responsibilities, find creative and powerful contributions, and demanding the political and social accountability needed, offers reasons to make sure that our social situations are set up in a way to foster healthy relationships. Social institutions shape our interaction just as well as our interactions shape our institutions. In any case, it seems likely that societies ripe with unjust forms of relationships like domination, exploitation, etc. seem an unhelpful background for effective climate action.

Given how much division and distrust shapes many current societies also in the Western world, considering this dimension is somewhat depressing. It could also demotivate people further for adding yet another extremely difficult task (in addition to fixing wider themes of global and intergenerational injustice) as precondition for really achieving climate justice. However, I would like to promote the opposite idea, considering this dimension should give us hope because each and every one of us can do something about this dimension. As my yoga teacher loves to say, hope is a muscle that needs to be exercised. One of the obstacles to climate action is the help- and hopelessness in view of the sheer size of the challenges we face. However, as compared with other possible actions working on the relational side of things allows us to see

[29] For an account of what it takes to integrate these lessons from the relational perspective into a liberal account of justice, see e.g. Schemmel 2021.

[30] For an in-depth discussion of the why and how of mobilising hope in the face of climate crisis, see Moellendorf 2022.

some results comparatively quickly and that can spur us on to take the next step and the next.

Tackling all the problematic social dynamics currently hampering climate actions is a big task. There is no easy fix and no one can do this on their own. But everyone can do something and where we do, we are likely to strengthen our democratic institutions in ways that make a lot more political action possible. At the same time, where society is mobilised, the opportunities for individuals pushing through interests that are contrary to the common good diminishes. Mobilised people are more likely to pay attention and demand accountability and thus less likely to let leaders get away with catering to lobbies or even being corrupt. There sometimes is concern that democratic systems due to their slower decision making and in particular due to the short-term thinking of voters and their representatives might be disadvantaged in terms of urgent climate action when compared to authoritarian regimes who could – if they so chose – make bold changes and set radical transition in motion with less opposition.[31] The flip side is that where such countries do not choose to make the effort or push in the wrong direction, there is little opposition for that either.

In my interpretation Pufendorf's principle of sociability gives us reasons to choose democratic over authoritarian regimes since such regimes are more in line with the demand of respecting people's basic moral equality. If it were empirically shown that authoritarian regimes had a much better track-record to protect genuine social peace sustainably, this would be a consideration for authoritarianism and might even outweigh the consideration just mentioned. However, it is doubtful, that this case could be made in the current circumstances. Nor is there any indication that those efforts by fossil fuel interests that Shue calls out as undermining both climate action and democracy are aimed at a lofty goal like social peace rather than individual profit. Adding the principle of sociability to the considerations guiding us in approaching climate crises thus leads to the same recommendations that Shue sets out while adding a bit more guidance as to what and how we as individuals ought to do in view of the insight that our responsibility is a political one.

[31] See e.g. Ellis 2016 for a discussion of the challenges and opportunities that democracy poses for climate action.

5. Conclusion

Henry Shue's *The Pivotal Generation* reminds us that our duty to do something about climate change is based on a very basic duty to do right by each other or at the very least not to do wrong by one another. Furthermore, it alerts us that as we – the currently living – are the last generation that can do so, we have a particular responsibility to prevent climate crisis. Importantly, it also illustrates that whatever we do, we must do it together: everyone in this current generation is called on to do their bit and our first and most important task is to create the political environment where effective climate change is possible. Achieving this task requires more than switching to low energy settings and voting green every couple of years: rather it requires keeping the task (Preventing climate crisis) and its fundamental moral justification in (Don't wrong others) in mind in all the different relationships that we have with all the people complicit, driving, opposing and/or suffering from climate change. Pufendorf's principle of sociability – in tandem with the additional insights by Nine's account – offers a way to understand our responsibility as a genuinely political one. The task is not to address a once off problem, but rather to create a social world that allows us to live together peacefully and sustainably while acknowledging that we are moral equals at the same time as we are interdependent social beings who often find themselves in unequal power relationships. The focus on sociability thereby offers us additional insights as to how we can and should work together to prevent climate crises.

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A Reply to Commentators

Henry Shue*

Abstract

The discussants have insightfully pursued a number of important issues, including the following: how demanding the urgent duties to slow climate change are; the role of fairness in explaining the historical responsibility of the nations with the greatest cumulative emissions; the extent to which corporate self-interest can be mobilized to support carbon dioxide removal; the extent to which the current (pivotal) generation ought itself to bear the costs of action to protect future generations, as well as to take the actions necessary to bring about an early peak and rapid decline in emissions; and the diversity of the possible bearers of various climate duties that is obscured by my promiscuous use of 'we'. I have tried to respond in ways that will carry the discussions forward for people who have read the book.

The discussants have provided a rich feast of valuable additions to any small contributions I may have made. Different comments concentrate on different chapters, providing a wide range of discussion and covering a variety of issues. My responses are not quite random, but they are certainly selective and partial. In the case of each of my responses, more could be said. On many of the discussants' points I could only agree and welcome their insights. I am immensely grateful to them for having devoted the time and energy to taking my efforts so seriously.

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One tactical decision that I have had to make is whether to write these responses for people who have read the book or for people who have not read the book. I have done the former because doing the latter would have required a great deal of repetition where my excellent commentators are trying to make progress. I have followed their lead and tried, where I can, to carry the arguments forward into new ground, occasionally giving references in square brackets to the original arguments in the book for those who have not read them.

1. The Demandingness of Climate Duties

Elizabeth Cripps has composed a brilliant, balanced, and nuanced essay on the important and exceedingly difficult issue of the demandingness of climate duties that I would be proud to have written myself. An important positive suggestion that she makes is that imagination and ingenuity can be preferable to tears and sweat. One's contribution to slowing climate change ought not to be measured by how much it hurts the contributor but by how much it helps the beneficiaries. "Give until it hurts" is poor advice compared to "give until – and in such a way that – it does significant good". Decreasing the misery of the beneficiaries of one's actions, not increasing the misery of a duty-bearing agent, is after all the point.

Cripps makes and mobilizes an important distinction that I did not make between the potential "active many" that I optimistically invoke in chapter 5 and the actual "apathetic many" who need to be provoked and inspired. And she joins the consensus among my discussants, which I discuss later, that I settle for too many unspecified 'we's, noting that the current generation is "cross-cut with different divides".

I find Cripps' arguments persuasive, including in what they indicate about the limits of what I have shown in the book. She takes the issue of the demandingness of the urgent duties well beyond the point at which I left it, and I do not yet see how to take the argument further than the considerable distance she has taken it. I know of no equally good overview of any length of the facets of demandingness, and I can only recommend careful reading and consideration of this one by Cripps.

2. Historical Responsibility [chap. 2]

I am pleased that one of the three foci of the comment by Lukas Sparenborg and Darrel Moellendorf is a careful critique of each of my three arguments for historical responsibility, that is, responsibility based on extent of contribution to causing climate change. While I largely agree with their other two critiques of different aspects of the book, I would like to defend these particular three arguments. Historical responsibility is important practically because it is, I think, a solid explanation of why the rich industrialized nations ought to be spending far more to assist the developing nations with climate change; and it is important theoretically, as Sparenborg and Moellendorf note, because it is a prime example of what I claim is the contemporary presence of the past.

The first of my arguments, the Pure Fairness argument [36 – 42], rests on an analogy with four travellers who attempt to share a single camel by each loading one trunk onto the camel, only to find that the addition of the fourth trunk breaks the camel's back. I note that while the camel's back does not break until the fourth trunk is added, it is the total weight of all four trunks that causes the break-down; and I therefore suggest that the fair allocation of the responsibility for dealing with the break-down is for the responsibility to be shared by all four travellers in proportion to their contribution to causing it. The travellers are intended to be roughly analogous to different nations, and the trunks are meant to be analogous to their respective cumulative carbon emissions, with the break-down being climate change.

Sparenborg and Moellendorf say that two respects in which national emissions are not analogous to the camel story are (1) that in using fossil fuel to industrialize nations were not cooperating with each other or acting on the basis of an agreement and (2) the possibility of climate change resulting from combustion of fossil fuel was not predictable as was a possibility of breaking a camel's back from overloading it. These two differences are said to undermine the analogy. Beginning with the second point, I agree that for early industrializers climate change was quite unpredictable, while anyone loading a camel should know that too heavy a load would lead to disaster. But this possible difference does not arise in the analogy. Since their trunks might break the camel's back, the travellers could have foreseen this and could have agreed in advance on the principle of fairness that would guide them if the break-down occurred. But the foresight and the advance agreement on a principle are not part of my story. The travellers realize that they need a principle of fairness to guide the division of responsibility for the break-down only after the break-

down occurs. So the analogy between the story and climate change holds up on this point.

And turning to the first point, we find that the analogy still holds in the respect that matters. The four travellers did agree (out of necessity) to share the one available camel, and the early industrializing nations did not agree to use fossil fuels as energy. But then the travellers confronted a problem that they could have foreseen but did not – a problem for which they had made no provision. After the problem had arisen, they realized that it would be best if they cooperated in dealing with it. They then faced the question: what would be fair terms on which to cooperate in dealing with this unexpected but unavoidable problem? This is exactly analogous to nations who had unknowingly been creating the problem of climate change eventually realizing that they need to cooperate to deal with it and confronting the question of fair terms on which to cooperate. I suggest that in both cases the most natural and intuitively appealing principle is: allocate responsibility for dealing with the problem in proportion to contributions to the problem. This amounts to every parent's standby: clean up your own [portion of the] mess. The carbon-emitting nations may not have been cooperating during their respective industrializations, but they now face a shared problem to which they have contributed jointly but not equally and which can best be solved cooperatively. These seem fair terms on which to cooperate.

The first argument concerning how responsibility for action on climate change should be allocated is called the 'Pure Fairness' argument because it does not involve any claim that anyone has done anything wrong. The second and third arguments are called 'Wrongful Imposition' arguments because they do each contend that a wrong has been done – a different wrong in each of the two cases [45 – 46]. The second argument highlights rights violations imposed [47], and the third focuses on ordinary costs imposed [47 – 54].

The method of imposition is the process I call 'sovereign externalization' [43 – 45]. In international affairs as practiced according to its current rules, each nation retains for itself as many of the benefits of the activities conducted by enterprises based in its territory as possible, but allows the damage from the activities to disperse throughout the planet without any compensation for those damaged. Often the dirtiest activities, like mining and other extraction, are conducted physically within the territory of other nations. This dispersal of damage is most strikingly true of the global climate change caused by national industrialization: most of the benefits of the industrialization of each nation are retained by that nation to be enjoyed themselves or sold to others for profit, but the carbon emissions that are produced scatter and accumulate in the

planet's atmosphere where they threaten everyone including those who receive little or no actual benefit from the process.

Sparenborg and Moellendorf primarily emphasize that the activities in question have had positive as well as negative results. (They also note that poor countries as well as rich ones have used fossil fuel in order to develop and thereby have also contributed [less] to climate change, which I do not deny or criticize.) My point is that the relation of the positive results they mention to the original activities like industrialization is usually different from the relation to the original activities of the negative results like climate change. Only the negative results constitute externalization in the relevant sense because only they are imposed by the way the international system now operates.

For example, I might observe that the production of steel in the US generates carbon emissions that contribute to sea-level rise for Bangladesh. If an air-polluting factory in Ohio was damaging forests in Pennsylvania by means of acid rain, US domestic rules now require the factory to stop contributing to acid rain. In contrast, the rules of the international system do not require the US to stop causing Bangladesh to lose land to the sea and to suffer greater storm surges (or to provide compensation). The sea-level rise in Bangladesh is a sovereign externality that the rules of the international system permit the US to impose on Bangladesh. Sparenborg and Moellendorf might point out that another result of the US steel manufacturing is that cars can be made and sold to countries that do not manufacture cars, including Bangladesh. This is a potential benefit that was possible only because of the emissions of the steel factory (in the past; steel manufacture can now be greener). So one might contend that the option of owning a car is a 'positive externality' that needs to be taken into account along with the negative externality of sea-level rise and all the other negative components of climate change.

However, the car is not an externality in the same sense as the seal-level rise, because its arrival in Bangladesh is not imposed or guaranteed by the rules of the international system when steel is produced. If Bangladeshis want cars from the US, they must buy them. But they are incurring sea-level rise willy-nilly when steel plants emit carbon dioxide, and the international rules require no compensation. The uncompensated sea-level rise is guaranteed; the cars are not. It is true that industrialization in the now-rich countries has created opportunities for poor countries in the form of products they could purchase if they happened to have the money. But cars for Bangladesh are not an effect inherently imposed by the physical activity of manufacturing steel, plus

the rules of the international system. Uncompensated sea-level rise is. The cars are a potential benefit but not a positive externality.

3. Mobilizing Self-interest?, I: Asset-rescue Carbon Dioxide Removal [chap. 4]

Hanna Schűbel's comment explores, among other issues, the morally central question of the extent to which self-interest can be mobilized for the good end of immediately slowing climate change in the increasingly important policy case of carbon dioxide removal [CDR]. Clever policy-makers who are not purely self-interested can sometimes see how to establish incentive structures that will lead agents who are purely self-interested to achieve morally valuable goals while aiming only at their own advancement. (The Inflation Reduction Act is attempting to accomplish this with "carrots" for self-interested entrepreneurs.) She observes that I classify CDR according to its purpose: "(1) enhancing current mitigation [enhancement CDR], (2) remedying insufficient past mitigation [remedial CDR], and (3) rescuing fossil-fuel companies' stranded assets [asset-rescue CDR]". Then she reports my assertion that asset-rescue CDR "is in the interest of no one except those whose wealth is tied up in reserves of, and infrastructure for, coal, oil, and natural gas" [95]. Schűbel is correct that this total dismissal of asset-rescue CDR is too quick.

No one concerned about climate change is likely to want to help fossil fuel companies climb out of any holes of stranded assets that they persist in digging for themselves. However, I was there ignoring the possibility of designing policies that can harness the self-interest of the fossil fuel companies in order to produce results that are in the interest of the rest of us. In contrast, Schűbel proposes: "Asset-rescue CDR and the interplay of self-interest and morality requires more philosophical investigation than Shue accredits it because implementing CDR for the purpose of rescuing sinking assets may be the main driver of CDR developments". This could in principle come about. CDR urgently needs investment in research and development (R&D), since the fossil fuel companies have so far largely ignored its importance and waited for the R&D to be provided to them at public expense. And the fossil fuel corporations certainly have sufficient capital. What needs to be examined – at greater depth than can be done here – is how in practice this mobilization of corporate interest for the public good could work in this case.

On the evidence so far it is overwhelmingly clear that the fossil fuel companies have been doing absolutely nothing other than what they take (correctly

or incorrectly) to be in their own interest, making only cosmetic gestures toward the requirements for slowing the destabilization of our climate and racing to extract as much more gas and oil as they can (Stockholm Environment Institute, et al. 2023). I do not see any evidence that, as Schűbel suggests, "trying to rescue assets currently motivates many corporations to ... invest in CDR," if her reference is to fossil fuel corporations. On the contrary, the most severe threat to the climate currently is the continuing insistence of fossil fuel corporations on exploring and preparing to extract more and more oil and gas. The companies' claims to be committed to "net zero 2050" are a smokescreen to hide what they are actually doing. For example, Urgewald's Global Oil & Gas Exit List (GOGEL) recently concluded: "In the midst of the climate crisis, 96% of the 700 upstream companies on GOGEL are still exploring or developing new oil and gas fields. And 1,023 companies are planning new LNG terminals, pipelines or gas-fired power plants. ... 539 companies are preparing to bring 230 billion barrels of oil equivalent (bboe) of untapped oil and gas resources into production. ... The 7 companies with the largest short-term expansion plans are Saudi Aramco (16.8 bboe), QatarEnergy (16.5 bboe), Gazprom (10.7 bboe), Petrobras (9.6 bboe), ADNOC (9.0 bboe), TotalEnergies (8.0 bboe) and ExxonMobil (7.9 bboe). These 7 companies are responsible for one-third of global short-term oil and gas expansion" (Urgewald 2023). What could make it in the self-interest of these fossil fuel corporations to invest in CDR to protect the value of the assets they already control?

One necessary condition is for it to cease to be in their self-interest to continue their reckless pursuit of extraction to acquire additional assets. They will not be seriously interested in rescuing potentially stranded current assets as long as they can keep adding new assets at will. The worst five of the seven with the most climate-destructive short-term plans are national corporations, operated by governments. The only way I can see to stop their aggressive extraction is for other governments to refuse to import their oil and gas, which obviously requires having sufficient non-carbon energy as a replacement. Additional extraction by the other two, TotalEnergies and ExxonMobil, which are investor-owned, could be controlled by, respectively, the French and U.S. governments. In all cases it would require ambitious and stringent state regulation on behalf of the climate to make investment in CDR in the self-interest of the corporations. As far as I can see, such state action is likely only if demanded by aroused and mobilized citizens vigorously participating in political action.

4. Mobilizing Self-interest?, II: Compensating the Present

In his stimulating and carefully argued comment, Fausto Corvino, like Elizabeth Cripps, explicitly accepts my main thesis that some tasks are so urgent that they must be implemented immediately by people alive now. Employing the acronym EPRD for the helpful concept of an early peak and rapid decline in greenhouse gas emissions, he observes: "in short, in *The Pivotal Generation*, H. Shue argues that the present generation has a moral duty to implement an EPRD-like emission trajectory and bear the full costs." Strictly speaking, I largely left aside the important question of which generation bears which costs in order to emphasize which generation must implement the urgent actions, but it is natural for Corvino to take my silence to mean that the current, pivotal generation ought both to act and to bear the costs of action. And I was in fact assuming that people alive now ought to bear as much of the costs as necessary in order to implement the urgent tasks that must not be deferred any longer after decades of irresponsible delays.

Corvino is right, however, to raise the general issue of which costs people now must bear in order to implement the urgent tasks now and to raise in particular the issue whether reducing present costs by shifting at least some of them to future generations, who will benefit from the execution of the crucial tasks, might increase willingness to act immediately. This important issue of shifting costs of climate actions to the future generations who will benefit from the actions was perceptively introduced in a path-breaking article by Matthew Rendall (2011). Corvino briefly documents the accurate empirical claim that "oil companies are betting against the EPRD trajectory" and suggests "a pragmatic move could be to boost the energy transition by allowing the present generation to pass on some of the transition costs to future generations – even though this were an intergenerational injustice, it could be preferable to BAU [business-as-usual] for future generations." This is an assertion about the non-ideal situation in which we actually find ourselves. In the second half of his comment he argues that even in ideal theory this would not in fact be unjust.

In a working paper readily available online Stephen Gardiner has presented what I take to be a devastating critique of the claim, the most well-known proponent of which is John Broome, that shifting costs forward to future generations could actually be just (Gardiner 2023). So I will stick to Corvino's argument that at a non-ideal – that is, the real – level it might be a justified pragmatic move to shift some or all costs of the climate transition forward. I agree with Corvino that "even though this [shift of transition costs to future

generations] were an intergenerational injustice, it could be preferable to BAU for future generations." That is, if the choice were between allowing climate change to continue to worsen rapidly as it is now and saddling future generations with unjustly shifted costs, it would be far better for them for us to inflict on them the costs rather than the uncontrolled climate change that will result from business-as-usual. The costs would be able to be managed one way or another; the worsening climate might or might not, depending on, among other things, how many tipping points had meanwhile been passed. However, this is a less significant judgement than it may appear to be precisely because, as Gardiner emphasizes, BAU is highly likely to lead to catastrophe, and almost anything is preferable to catastrophe.

To deal adequately with the non-ideal question, it is necessary to be much more concrete (as non-ideal reasoning always requires). Which are the primary agents who are blocking the urgent actions needed to end greenhouse gas emissions, and is there actually a way to reduce the costs for these specific agents sufficiently to motivate them to stop blocking and sabotaging the necessary actions? Unfortunately, I believe that the answer is no, which is of course an empirical claim. This is a case in which what sounds good in the abstract has no empirical embodiment.

Corvino is correct to focus on the "oil companies," if construed broadly to include all the fossil fuel interests still aggressively marketing gas and coal as well as oil (Grasso 2022) – and, I would add, the banks and equity funds enabling their defiance of the need for EPRD by supplying them with project loans and general underwriting for expanded extraction (Shue 2024) – and the politicians serving fossil fuels interests by, for example, continuing to provide trillions in subsidies annually for additional production and refusing to price carbon emissions (Parry, Black and Vernon 2021). Climate change will not stop worsening unless consumption of fossil fuels experiences an early peak and a rapid decline. Crucial oil companies, by contrast, have a business model based on pouring capital into exploration for and development of additional reserves of oil and gas to be marketed for consumption, with only tiny token investments in non-carbon energy sources that they can exaggerate as supposed evidence that they are committed to the Paris Agreement. Investor-owned ExxonMobil, the largest US oil company, for example, recently sank the enormous sum of $60 billion into the purchase of Pioneer Natural Resources, the largest firm engaged in fracking oil and gas in the Permian Basin of Texas and New Mexico, instantly doubling ExxonMobil's fossil fuel production in the Permian, rather than moving available capital into renewables (Smyth, Chu, and McCormick 2023). Similarly Chevron, the second largest

US oil company, has now invested almost as much of its capital into vastly expanding its capacity to extract and market additional oil and gas (Krauss and Reed 2023). Meanwhile firms like ExxonMobil and Chevron spend enormous sums on professional green-washing by leading public relations firms designed to deceive the public into believing they are actually committed to stop worsening climate change (Drugmand 2023; Hiltzik 2022; Sengupta 2022).

State-owned Saudi Aramco, the world's largest oil company, does not bother to try to hide its climate-destructive behavior. It "is doubling down. The state-owned giant that already produces about 10 per cent of the world's oil is boosting its maximum production capacity from 12mn barrels a day to 13mn b/d by 2027 and aiming to increase its gas production by more than 50 per cent by 2030. Aramco has also invested in petrochemicals production and hydrogen projects. Ultimately, the world's biggest crude producer is betting that it can continue to do what it does best: pump oil for decades to come and gain even more market power as other producers cut back" (Wilson 2023).

The most powerful agents blocking and undermining action to slow climate change, then, are ruthless firms like ExxonMobil and Chevron, who buy political support with campaign contributions, and Saudi Aramco, which is itself run by oil-friendly politicians. To slow climate change society must rapidly bring the expansion of fossil fuel use to a halt – early peak – and quickly bring it to an extremely low level – rapid decline. In contrast, these agents are investing most of their abundant capital in acquiring additional sources of fossil fuel in order to expand their sales of oil and gas. The thought behind cost-shifting to future generations is that recalcitrant agents could be more amenable to cooperating with the climate transition if the switch from resisting to cooperating was Pareto optimal for them – if their firms would be no less profitable if they stopped aggressively and deceptively marketing oil and gas. The obvious way for them to have accomplished this themselves would have been for them to have invested their capital in profitable non-carbon energy (or other products not reliant on oil and gas) – to have done what some of them falsely claim that they are already doing: transform from oil and gas companies to energy companies based on non-carbon energy. But this is precisely what they are adamantly refusing to do on their own.

Would it make sense for those of us trying to prevent them from further undermining the climate to make cooperating with the climate transition Pareto optimal for them, since they have refused to try to do it for themselves? The only model that comes to mind, given the perversely greedy attitudes of the primary obstacles to climate action, is the morally profoundly distasteful one of the British government's method of ending the ownership of slaves: slave-

owners were financially compensated for their loss of property (Centre for the Study of the Legacies of British Slavery 2023). How could one enable fossil fuel companies to maintain their current levels of profit while selling less, not more, oil and gas? One way would be to compensate them for the oil and gas owned but not extracted – compensate them for their stranded assets. (It would be utterly outrageous for firms to continue flagrantly adding fossil fuel assets, as ExxonMobil and Chevron now are, and then to expect compensation also for the assets added in full knowledge that the assets must not be used.) And who is going to compensate Saudi Aramco for abandoning its business model?

This strikes me as a moral *reductio ad absurdum*. Would society really compensate agents who are greedily and perversely persisting in behaviour that is undermining the physical pre-conditions of civilized society?! Far better for decent people to rise up against the politicians who are now failing to act against such socially malign agents and replace them with decent and independent people who will pass legislation to prohibit activity like continued extensive extraction that undermines the global climate. The self-interest of the specific destructive agents who are perversely blocking climate action does not deserve to be respected, much less indulged.

5. The Promiscuous 'We'

The strongest consensus among my discussants, by far, is that I am, in short, sloppy in my use of 'we', although they usually phrase the criticism more kindly. Sparenborg and Moellendorf ask simply, "Who is 'we'?" and rightly call for more differentiation. I can only plead guilty to having frequently left the reference of 'we' dangling, and the commentators constructively introduce a number of useful distinctions, of different kinds, that I should have made. Säde Hormio touches on the nearest thing I have for an excuse in saying "discussion in terms of generations underplays the big differences between the responsibility of different groups of actors within them". I was focusing on relations across generations, and especially of course the unique responsibility of us who are alive now before climate change has surged completely out of control, and to a lesser extent relations across nations, and gave short shrift to distinctions within any one society. This is an extremely lame excuse, however, because a writer's first duty is to be as clear as possible, and a number of the distinctions emphasized by various commentators are needed for full clarity.

Most often my 'we' refers to people like myself: well-paid or well-pensioned in one of the richer nations, living amongst plenty and privilege. Anyone paid more than US$140,000 in 2019 was in the top 1% of the human population in income (Oxfam 2023). And in some contexts, as I indicate in the Preface, I mean specifically us well-off Americans, although the reasons for our responsibility are general and in fact apply in varying degrees to many other well-off people across the world, who I hope will see the applicability to themselves. And of course the reasons do not apply to all Americans – not, for example, impoverished Black Americans, many the descendants of slaves, living in Louisiana's "Cancer Alley", the region plagued for decades by the oil and gas industries' refineries, petrochemical plants, and other carcinogen-spewing facilities along the bank of the Mississippi River (Younes 2023). Many of the same greedy fossil fuel interests who perpetuate Cancer Alley also perpetuate the rising carbon emissions that cause climate change, displaying in both cases contempt for the welfare of ordinary people.

Drawing on Vanderheiden, Hormio suggests that "the argument would benefit from a clear distinction between what can be demanded of different sub-groups within the pivotal generation, most notably policy-makers and others who are in powerful positions on the one hand, and the general public on the other". And sometimes, as the example of Louisiana's Cancer Alley illustrates, it is further valuable to distinguish "different social groups with very different historical relations to the history of fossil fuels," as Sparenborg and Moellendorf stress. Hormio underlines the importance of different degrees of ignorance about the dynamics of climate change and the "special responsibility" of policy-makers who either have or ought to have "special knowledge" that the general public lacks. Hanna Schűbel highlights the distinction between the general public and corporate leaders. In chapter 5 I briefly emphasize that the corporate leaders in the fossil fuel industry and the policy-makers are often working together against the general public, with the corporate leaders promoting delay and foot-dragging on climate action by the policy-makers through campaign contributions and constant lobbying, and promoting uncertainty and confusion among the general public through green-washing their own activities and down-playing our threatening situation.

Alexa Zellentin draws attention to the difference between an individual's acting as a consumer and acting as a citizen, the distinction influentially introduced into environmental philosophy by Mark Sagoff in *The Economy of the Earth* (2007). An ordinary individual can accomplish only so much by reducing her own carbon footprint – that is, reducing her consumption – but as individuals from Rachel Carson to Greta Thunberg have demonstrated, one can

sometimes accomplish a great deal as an active citizen inspiring social movements for change, the type of political action I recommend in chapter 5. On the other hand, the richest individuals, whose consumption and carbon emissions are far above average and whom Oxfam terms "the polluter elite" (Oxfam 2023), could of course accomplish far more than normal consumers can by becoming conscientious consumers, or, if not, by being taxed appropriately (Wallace and Welton 2023), as noted in the Appendix to *The Pivotal Generation*.

The call for a richer analysis of the historically different struggles by subsets of society and the variations in their roles in, and responsibilities for, climate change by Sparenborg and Moellendorf and others is not a merely academic call for more refined research, but a practical requirement arising from my diagnosis of climate change as fundamentally a political and social problem. "How," they ask, "should or can different social groups with very different historical relations to the history of fossil fuels come together to take responsibility for being pivotal?" I agree that if a social movement to slow climate change is to be built, it would be helpful for this question to be answered, although I probably do not have the intellectual resources to answer it. My chapter 5 is relatively superficial and meant more as a call for analysis than as an analysis itself.

Zellentin agrees with them, and me, that the problem is at heart political and social: "whatever we do, we must do it together ... our first and most important task is to create the political environment where effective climate change is possible. ... The task is not to address a once off problem, but rather to create a social world that allows us to live together peacefully and sustainably while acknowledging that we are moral equals at the same time as we are interdependent social beings who often find themselves in unequal power relationships." She recommends drawing upon a rich conception of 'sociability' recently developed by Cara Nine in *Sharing Territories: Overlapping Self-Determination and Resource Rights* (2022). In light of the urgency of action to slow climate change, critical questions include how much, if any, institutional change is necessary before effective climate action is possible and to what extent, if any, can better social relationships be built through effective climate action. These are not answers that I think I know.

One hopeful practical possibility is the building of at least temporary coalitions of climate activists with people some of whom may be apathetic about climate change as such but are ready to fight for other things that they do care about and that are in fact threatened by the fossil fuel regime, as many fundamental interests are. The Atlantic Coast Pipeline [ACP], which

would have transported completely unneeded fracked methane gas from West Virginia through the Appalachian Mountains to Virginia, was defeated by such a coalition. Some people objected to the pointless despoliation of the George Washington National Forest by the laying of the pipes, some farmers were furious about highly productive farmland being seized by eminent domain to bury pipes, some Black citizens were defending themselves against the pollution from a pumping station planned to be located – in a classic act of environmental injustice in the form of racial discrimination – near a Virginia town built after the Civil War by freed slaves, some people were concerned about climate change and the dangerous myth that there is time for gas (a fossil fuel) to serve as a 'bridge' away from fossil fuel, and others cared about two or more, or all, these things. Separately and together they brought so many lawsuits and caused so many delays that the harassed utility companies finally gave up. Maintaining the fossil fuel regime threatens so many human interests that coalition-building should generally be feasible. In the case of the ACP some of the opposition was highly principled and some was purely self-interested. Combined it was politically effective for as long as it needed to be.

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Invisible Harm to Distant Future People: A Reflection on Long-term Climate Change Effect

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Abstract

On a business-as-usual policy, it seems inevitable that people in the distant future will live in a world with a more harmful climate. But can we really harm distant future people? If so, to what extent can we harm them? Derek Parfit's non-identity problem (1984) has been taken by other scholars, such as David Boonin (2014), to support the idea that, as long as distant future people's lives are still worth living (though harsh), they cannot be harmed *generally* since shutting down our business-as-usual would eliminate their very existence in the future. John Nolt (2018) counterargues that they can still be harmed if some of the consequences of our business-as-usual makes them worse off, although they benefit in general. In this paper I aim to show how these contemporary theories fail to fully account for the harm we may do to distant future people. Their mere focus on the concreteness of harm has missed something morally relevant. To address this, I argue that "endangering someone" also counts towards "harm", since it causes the reasonable expectation of injury or death occurring, practically boosts the process of making people worse off, and negatively impacts the victim's interest not to be endangered. Therefore, distant future people will start to be "invisibly" harmed once they are exposed to reasonably expectable worse-off situations, such as climate change, energy shortage, and environmental degradation in the future, before actual consequences occur.

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Introduction

This paper starts with the question regarding long-term climate justice: it seems inevitable that on a business-as-usual policy people in the distant future will live in a world with a more harmful climate, but can we really harm distant future people? If so, to what extent can we harm them? Derek Parfit's non-identity problem (1984) has been taken by other scholars, such as David Boonin (2014), to support the idea that, as long as distant future people's lives are still worth living (though harsh), they cannot be harmed generally by our business-as-usual since shutting it down would eliminate their very existence in the future. Conversely, John Nolt (2018) develops another principle in conceptualizing harm: by identifying the distinctive consequences our business-as-usual brings, we see that we can still harm distant future people even if our business-as-usual benefits them in general.

In this paper I aim to show how these contemporary theories concerning long-term climate justice fail to fully account for the harm we may do to distant future people. Their mere focus on the concreteness of harm have missed something morally relevant. To fix this I intend to more accurately assess the scale of harm we will cause to distant future people, by broadening the definition of harm to accommodate more borderline cases where people are exposed to risks and could reasonably be expected to be worse off. That being so, distant future people will start to be harmed once they are exposed to reasonably expectable worse-off situations, such as the reasonable expectation of climate change, energy shortage, and environmental degradation in the future. Thus, I propose an added criterion in conceptualizing harm: not only can we harm distant future people in terms of producing the solid, destructive consequences of injury, illness, and death, but also "invisibly" harm them even when no concrete consequence is present yet. So, my goal is to argue that "endangering someone" also counts towards "harm", since it causes the reasonable expectation of injury or death occurring, practically boosts the process of making people worse off, and negatively impacts the victim's interest not to be put in such danger.

My discussion proceeds as follows: first, in section 1, I introduce the difference-making feature of harm and explain how David Boonin's non-identity argument utilizes it to support that distant future people cannot be harmed. In section 2, I explain how John Nolt argues against the non-identity argument under his new principle of harm. In section 3, I focus on examining and refuting both Boonin's and Nolt's principles, and introduce my own criterion to identity the "invisible harm" that has been overlooked by these alternatives. In

section 4, I contrast these existing principles of harm by drawing diagrams. Finally, in section 5, I apply my new criterion of harm to highlight the invisible harm we can do to distant future people.

1. Difference-making principle and non-identity problem

Most people share the intuition that they are harmed only if it makes a difference. Typically, a harm can occur in a variety of situations: it can be as a light as a bite of mosquito, or as severe as a car accident. But people would barely take a mosquito bite as a "harm", since it is too negligible to make a difference, apart from producing an ignorable amount of itch; a serious car accident, conversely, would possibly hurt or even kill a person and deprive them of the experiences and enjoyments are that valuable in the future, which makes a huge difference to their life. So, the latter type of harm with a considerable, negative difference-making feature, is what we usually refer to when we talk about "harm".

Ben Bradley (2009), who endorses a hedonistic theory of well-being that sees pleasure as intrinsically good and suffering as intrinsically bad, adopts the difference-making feature in explaining the value of an event when discussing the evil of death: [1]

> **DMP (*Difference Making Principle*)**: The value of event E, for person S, at world w, relative to similarity relation R = the intrinsic value of w for S, minus the intrinsic value for S of the most R-similar world to w where E does not occur (Bradley 2009, 50).

To put it more simply, under the hedonistic theory of well-being, DMP entails that something bad or harmful for people lies in its making them worse off than they would have been otherwise. So, to determine the badness of an event, we should look at how well things actually go for the person and compare that with how well they would have gone had that event not happened. Here is an example to illustrate the difference-making feature of an event:

[1] Bradley (2009) thoroughly defends a hedonistic theory of well-being in the face of common objections and uses it as the foundation of discussing different types of harm.

The Young Pedestrian: a young man, aged twenty, absentmindedly steps off the curb into the path of a bus and is instantly and painlessly killed at t1. During the autopsy, it is discovered that he had a hitherto silent cerebral aneurysm that would inevitably have burst within a week if he had not been hit by the bus. And the bursting of the aneurysm would certainly have been fatal (McMahan 2002, 117).

Advocates of DMP would argue that the Young Pedestrian's death at t1 is not very bad since he would have died within a week anyway from a burst aneurysm; since his death at t1 does not deprive his of much good life compared with the possible world where the death at t1 does not occur, the Young Pedestrian's death at t1 does not make much difference to him. Therefore, the death at t1 is not very bad for the Young Pedestrian in virtue of its difference-making feature.

Correspondingly, Bradley later on extends the difference-making feature to the principle of "harm":

DMPH (*Difference Making Principle of Harm*): something is bad for a person iff it harms her; an event harms a person iff it makes things go worse for that person than they would have gone otherwise (Bradley 2009, 65). [2]

Both DMP and DMPH are not non-debatable, however, as a purely consequentialist view. DMP and DMPH are faced with the exact same set of challenges from anti-consequentialists as consequentialists are, in terms of their mere aggregation criterion: they can neither account for the seriousness of any prima facie harm that will be offset in the long run, nor identify any wrongful acts that lack such difference-making features. Bradley then discusses a hard case for DMP and DMPH:

Rape: A woman is raped, becomes pregnant, and ends up raising the child ... . The woman's life is better, due to the value of her relationship with her child, than it would have been if she had not been raped, even taking into account the trauma of the rape (Woodward 1986, 809–11).

Neither DMP nor DMPH can account for prima facie harm in cases like this since they merely focus on the overall assessment of harm. They cannot

[2] Since Bradley holds a hedonistic view of well-being, by "worse" or "better" he is comparing the pain and pleasure one experiences with those they would have experienced otherwise.

account for the loss of the woman who was raped, since she has been even better off in the long run because of the rape; nor can they recognize the wrong action of the rapist, due to their disregard of his bad intentions and evil character. Nevertheless, by reducing "harm" to the countable utilities, advocates of DMP or DMPH avoid the complexity of introducing the concept about moral culpabilities.

Those who touch on the "non-identity problem" in regard to whether distant future people can be harmed, however, seem able to utilize the difference-making feature of harm.

Derek Parfit (1984), who first formally identified and discussed the "non-identity problem", noted that under different-number choices, different numbers of different individuals will have existed depending on the choices we make: for example, deciding whether or not to have a child, or the number of children we decide to have (Parfit 1984, 356). So, the policies that aim to benefit specific people in the distant future may be self-defeating, in that they may ensure that such people will not exist. That is, since different-individual choices result in different people being born in the future, efforts to avoid harming specific future people may cause them never to exist.

For instance, suppose as a community, we must choose whether to deplete or conserve certain kinds of resources. In order to avoid worsening the life condition for distant future people, population D, we all decide to live under conservation instead of depletion and change a variety of life plans accordingly. Let us also suppose that population D will not be born if we choose to live under conservation, as another group of people, population E, will be born instead because different-individual choices result in different people. That is, although conservation is chosen initially in order to benefit population D (by preventing them from ending up in a worse life condition), population D will not exist at all if that decision were made. Hence, as long as their lives are still worth-living (though harsh), population D living in a degraded world will not be worse off than they will be if they have never been born. So according to Parfit, depletion will not make population D worse off as long as their life is still somehow worth-living, therefore depletion is not worse (Parfit 1984, 363).

In general, the presence of the non-identity problem presupposes the person-affecting intuition that an act can only be bad (or wrong, or harmful) if it is bad for someone, or an act can only be bad if it is bad for some existing or future person (Roberts, 2015). So, if an action or policy does not affect any particular persons, then it cannot be bad for anyone. In other words, if a person otherwise would not have existed in the counterfactual world where the bad did not occur, it is not bad for them. According to Roberts and Wasserman

(2009), a consequentialist person-affecting view seems to suggest that an act is wrong if, by that act, "the agent creates less well-being for some person for whom the agent could have created more wellbeing, where well-being itself is taken to be whatever it is that makes life so precious to the one who lives" (Roberts and Wasserman 2009, XIV). We can see that the point of this (narrow) person-affecting view is not only a counterfactual comparison of well-being levels, but also how a difference is made for the same *particular* person.

Then, it follows that since depletion does not make particular persons worse off, as they will not have existed otherwise (and thus end up with zero well-being levels), depletion is not wrong. This unintuitive conclusion leads to a great challenge: although it seems like a strong reason not to do certain things that doing so will make people worse off in the future, it is difficult to explain why certain actions of that sort are wrong if we cannot appeal to the worse-off situations they bring to future people who would not otherwise exist if we acted in other ways. This is one of the main reasons why the non-identity problem has been a knotty one for so long.

This non-identity problem has also provoked many other philosophers' thoughts on conceptualizing "harm", among which David Boonin (2014) is the most prominent. Similar to Parfit's non-identity problem, the gist of his "non-identity argument" is that having a different energy policy would affect people's lives, which as a result would change the timing of conception of children in that society, so different people will be born in the future if a different energy policy was chosen. It follows that a non-depletive energy policy that is meant to benefit certain people in the future will cause them never to exist, which is even worse than that they live in a harsh but still worth-living life. Since our usual notion of harm requires counterfactual comparison, that is, to harm people is to make them worse off than they otherwise would have been, it is impossible for a depletive policy to harm distant future people as they will not be worse off than otherwise (i.e. it will not be worse for the same particular persons to live a harsh but worth-living life than to never be born) (Boonin 2014, 27).

Apparently, one of the premises that Boonin's non-identity argument relies on is also the difference-making feature of harm: people are harmed only if they are worse off than they would have been otherwise. Since otherwise they would have not existed, which is presumed to be the worst situation, their worth-living life (though harsh) does not make them worse off. Following a consequentialist view, although our choosing depletion may create a world that is less good than it might have been, distant future people's total quality of life is not worse. Hence, future people would not be harmed.

Even though DMP and DMPH both support Boonin's non-identity argument, however, they are not found convincing enough to reasonably account for the harm to distant future people. On this front I will discuss a counterexample from John Nolt where people are not worse off but genuinely harmed.

2. An objection against DMPH in harming distant future people

Based on the previously mentioned hedonistic framework of well-being, John Nolt (2018) discusses the cumulative long-term harms of anthropogenic climate change in his paper, *Long-term Climate Justice*, which stresses the fact that future people can be harmed in the long run by carbon emission if we continue with business as usual. He specifically refutes the non-identity argument that denies the potential harms we would bring to future people, in order to introduce the concept of justice in climate change. Nolt summarizes the non-identity argument in terms of carbon emission and climate change as follows:

1) Under business-as-usual, distant future people will not be worse off than they would have been otherwise (since otherwise they never would have existed);
2) People are harmed by an action or policy only if it makes them worse off than they would have been otherwise;
3) So, distant future people will not be harmed by business-as-usual (Nolt 2018, 4).

In contrary to the non-identity argument, Nolt argues that people will be harmed by business-as-usual by denying premise 2. First off, he gives a counterexample to premise 2:

> *Lucky Beth*: Imagine that we are living in 2150. Two people, Al and Beth, have just been killed at the same young age by a hurricane induced or intensified by our greenhouse gas emissions. Al would have been born even if people back in the early 21st century had followed policies that would have prevented that hurricane, but Beth would not. Given premise 2, the 21st century emissions that harmed Al did not harm Beth, because they were necessary for her existence and her life was worth living. Yet Beth's birth and the hurricane were distinct consequences of the emissions. Beth *did* exist, and that made her just as vulnerable to the further effects of those emissions as Al was. CO_2 emissions harmed both her and Al in the same mundane comparative sense; one consequence (the hurricane or its intensification) made both worse off than they would have been without it. Therefore, be-

cause people in the 21st century knew better and failed to reduce emissions or alleviate their harmful effects, they harmed both Al and Beth in the same morally culpable way (Nolt 2018, 4-5).

Neither DMPH nor premise 2 is able to identify the absolutely visible harm in this case. Thus, premise 2 of the non-identity argument is false. Therefore, the false premise makes the argument unsound, namely, the conclusion that distant future people will not be harmed by our continued business-as-usual can be false.

Nolt thinks the problem with DMPH or premise 2 is that they do not allow for the fact that the same action or policy may have (and often does) multiple consequences: some harmful, some beneficial, some neither. An action may both harm and benefit the same person, maybe even making them better off overall. But the benefit does not eliminate the harm. Hence, he offers a more accurate account of harm, which I call Distinctive Difference Making Principle of Harm:

> **DDMPH (*Distinctive Difference Making Principle of Harm*)**: people are harmed by an action or policy only if *some consequence of it* makes them worse off than they would have been *without that consequence* (Nolt 2018, 5).

Since "only if" (which equals "then") implies a necessary condition, I will negate this conditional and rephrase it as follows: if none of the consequences of an action makes people worse off, then people are not harmed. This is actually to stress a minimal requirement of harming people: for people to be harmed by an action, there must be at least some consequence of it that makes them worse off.

So, applying DDMPH can also account for the possibility of harm in the rape case that Bradley discusses, since the rape case absolutely hits the minimal threshold of harm. The woman who is raped becomes pregnant and ends up raising the child, has a better life, due to the value of her relationship with her child, than it would have been if she had not been raped, even taking into account the trauma of the rape. According to Bradley, DMPH cannot account for the harm involved in the rape since the woman is not overall worse off due to the rape. However, DDMPH can easily demonstrate that the woman *can* be harmed by pointing out the fact that the woman was raped, traumatized at the moment of being raped, although she has been better off in the long run; in other words, there is at least one of its consequences makes the woman worse off than she would have been without that consequence. Hence, the woman can be harmed according to DDMPH.

Nolt's criterion of harm, therefore, could more fully illustrate the harm in the rape, and like cases. Compared with DDMPH, DMPH seems less capable of identifying "harm", or reasonably construing "harm". Due to DMPH's weakness, the conclusion of the non-identity argument does not hold anymore. So it is not the case that distant future people will not be harmed by business-as-usual; rather, it is still possible that they can be harmed.

Admittedly, people would care more about the differences a harmful instance makes to their life, so they tend to forgive and let go of the pain that will have been offset in the long run. Nevertheless, both the harm and the positive effects are real and that the harm is irreversible regardless of the positive effects – especially since the positive effects were not intended by the wrong-doer(s).

DDMPH, which refutes the difference-making feature of harm, therefore has done a great job in more properly accounting for the cases where harm is involved. I would argue, however, that there is another type of harm that DDMPH fails to exemplify.

3. An objection to DDMPH in conceptualizing harm

Given the discussion above, both DMPH and DDMPH embrace a hedonistic theory of well-being and claim "worse-off" situations are essential for something to be a harm. DDMPH entails that people are harmed by an action or policy only if some consequence of it makes them worse off than they would have been without that consequence. I want to raise an objection to DDMPH, however, by illustrating a situation where a harm can still exist in the absence of any concrete consequences that make people worse off.

> *The Auto-insurance Hacker*: As a new driver, you purchased an auto-insurance covering a whole year for your car in one sitting. During the twelve-month period, you had been driving every day but luckily never got into any car accidents. When the insurance was going to expire, you suddenly found that your insurance account had been hacked at the very beginning of the year by a hacker, who infiltrated the system and canceled your insurance, taking all the refund away. Since your insurance was canceled at the beginning of the year, you and your car had actually not been covered by the auto-insurance for the whole year at all. However, since you had not got into any car accidents and never really needed the auto-insurance, and the money you spent on it would have been taken by the insurance company anyway even without the hacker, so you were not worse off by any consequence of the hacker hacking your account than otherwise.

Hence, according to Nolt's criterion of harm, you were not harmed because none of the consequences of the hacker's action made you worse off than you would have been otherwise. But it does not seem odd to say that you were, because the hacker's canceling your insurance and stealing your money has imposed great risks on you and your car for one whole year; that is, the hacker's action could reasonably be expected to make you worse off without any compensation. Presumably, this intuition of harm at least comes from two things: 1) first, the hacker did perform a concrete action, which was putting you in great danger, even in the absence of actual consequences; 2) second, you seem to have an interest in not being put in danger which was somehow set back by what the hacker did.

So, based on this intuition, I argue that "putting someone in danger" can constitute a harm, if harm can also be understood as a setback to one's interests when it could have been avoided otherwise. For instance, Joel Feinberg (1987) claims that, at least in a nonnormative sense (which implies no right or wrong), harm can be understood as a setback to one's interests.

To conceptualize harm in this way then requires us to shift the focus from hedonic well-being, which is associated with solely pleasure and pain, to desire satisfaction, which is another essential candidate to account for well-being. This is because, when claiming that someone has an interest in something, we usually mean that he has a "desire" or "preference" for something. For example, that one has an interest in survival means that he has a desire or preference for survival. Likewise, that one has an interest in not being put in danger means that he has a desire or preference for not being put in danger. Hence, if one is put in danger when it could have been avoided, his well-being is negatively impacted in that his interest to not be put in danger is set back, and therefore he can still be harmed even in the absence of actual consequences.

Claire Finkelstein (2003) discusses a similar view of Risk Harm, which presupposes "minimizing one's risk exposure is an element of an agent's basic welfare" and takes the imposition of risk as a setback to one's legitimate interests (Finkelstein 2003, 966). On those grounds, Finkelstein argues that one's inflicting a risk of harm on another damages that interest, lowers the victim's baseline welfare, and thus Risk Harm is a form of harm that is independent of outcome harm (Finkelstein 2003, 966).[3] She further clarifies that one can still

[3] As a legal scholar, Finkelstein proposes the Risk Harm view to serves as the foundation for her legal view that harm is at least a necessary condition for liability in tort law, and thus it would not be incoherent for the law to mandate compensation or punishment for mere risk infliction. But in my project, I do not intend to argue for compensation or punishment for putting

have interests in something even if he does not desire that thing, just like it is possible for a person to have an interest in finishing his education even if he has no desire to do so (Finkelstein 2003, 972). This response-independent feature of interests can defend my proposal as well: what a genuine interest entails is not one's *actual* desire or preference for what he has an interest in, but that he would have had a desire or preference if he was fully informed. [4]

For instance, in the Auto-Insurance Hacker example, you may not have an actual desire or preference for not being put in danger if you are not aware of such danger, but you would have had this desire or preference if you were fully informed of your situation. Thus, you are still harmed in the sense that your interest in not being put in danger is set back. This helps us understand that one's interests can be impacted in the absence of actual responses, and thus the agent can still be harmed even if his hedonic well-being is not negatively impacted.

Although Finkelstein and I both embrace an interest-based view of harm, there is a major difference between our views. Finkelstein's Risk Harm proposal indicates that any unwanted risks could constitute a harm, if "minimizing one's risk exposure is an element of an agent's basic welfare" (Finkelstein 2003, 966). This would lead to a counterintuitive implication that almost everything in daily life, such as eating, will "harm" people as there is always a risk of choking no matter how carefully they eat or how small the risk is. However, my approach restricts harm to things that pose at least a *serious* risk of making people worse off – that is, those that are *reasonably expected* to make people worse off. This constriction will help avoid counting unnecessary, trivial risks towards harm.

So, in alignment with the format of those aforementioned principles of harm that involve hedonic well-being, I introduce another criterion of harm to account for the harm done by the Auto-Insurance Hacker:

> **PDMPH (*Potential Difference Making Principle of Harm*)**: People are harmed by an action or policy only if some consequence of it could reasonably be expected to make them worse off than they would have been without that consequence.

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someone in danger, but offer a general exploration of how one can be harmed by risk imposition.

[4] When discussing an ideal desire theory of well-being, T.M Scanlon (1996) once mentions that *informed* desires are ones that are based on a full understanding of the nature of their objects and do not depend on any errors of reasonings. Similarly, my claims of the agent being "informed" can be also understood as the agent's fully understanding of the nature of the situation depending on no errors of reasonings.

By PDMPH I want to emphasize the harm of "putting someone in danger" that could reasonably be expected to make people worse off and extend the conception of "harm" to accommodate those situations where people are subject to great risks of being worse off. I try to explain the interest-based harm as a coherent idea under the traditional hedonistic well-being framework: if the interest-based harm is still ultimately associated with the negative impact on the victim's hedonic well-being, as PDMPH suggests, then this principle will help account for various intuitions about harm we have in cases like The Auto-insurance Hacker. By this move I am also lowering the minimal threshold for conceptualizing harm as in DDMPH, so even when none of an action's consequences makes people worse off, they can still be "harmed" in the sense that their interests in not being put in danger are set back and thus are so vulnerable to the reasonably expected worse-off situation.

Furthermore, when I highlight those actions or policies that could *reasonably be expected* to make people worse off, I refer to those that are all-things-consideredly harmful and close enough to make people worse off, and the consequence is also at least severe. For example, when the Auto-insurance Hacker took all the auto-insurance money away from your account and you were unaware of the risks for the whole year, their action could reasonably be expected to make you suffer without any compensation once a car accident had ever happened, and the potential consequence could have been severe. To illustrate, here is another case that helps clarify what it is that could reasonably be expected to make people worse off:

> *The Lucky Passager*: A lady arrived at the airport to catch a flight. She successfully boarded the plane after security check. A reckless repairman, however, forgot to remove a very crucial part of the plane during the maintenance, which would severely impact the aircraft operation and directly cause an air crash. The plane took off after all preparations were made but none of the staff was aware of the hidden trouble. However, when the plane started to bump due to some turbulence, that crucial part of the machine just magically fell off (extremely low chance)! So, the plane went back to normal, and all people's lives including the lady's, were saved from a potential air crash.

According to Nolt's criterion, since no actual consequence of the repairman's negligence made people worse off, people in the airplane were not harmed. But in fact they were, because of the fact that reckless repairman' negligence put them all into a life-threatening situation which they were so vulnerable to and hence set back their interests in not being put in such danger. In other words, his reckless behavior subjected those innocent people ex-

tremely close to an extreme worse-off situation—losing their lives, and thus is exactly one of those actions that could "reasonably be expected" to make people worse off.

Someone would push back on this claim and say that "putting them in danger" is only a necessary condition for causing a solid harm, thus it should not count towards harm. This is a reasonable concern. An action, however, becomes closer to a solid harm as the risk increases; if it reaches a point where it could reasonably be expected to make people worse off, it should no longer be underestimated as a non-harm even if the anticipated consequence was avoided for some accidental reason, because people's interests in not being put in such great danger has been practically set back. The harm here, therefore, manifests itself in the form of hurting people's interests.

Moreover, in like cases, the degree to which an action is harmful should not be underestimated either, because the action that could reasonably be expected to make people worse off, and the accidental factor that prevents people from being worse off, are two *distinct* events. For example, in the Lucky Passenger case, the reckless repairman and the crucial part magically falling off are two distinct events, so the former did not *cause* the latter to happen, that is, it was not the former but the latter that avoided the worse-off situation. So, the former event is not less harmful simply because of the presence of the latter event, and we should not assess the harmfulness of the repairman's action by bundling two events together.

Adriana Placani (2017) mentioned something similar in her argument that the risks somehow set back one's interest. In Placani's mode, she assumes that moral agents are bearers of interests in dignity, since agents are understood as connected to other agents and the world they inhabit and they have a rightful place in the world regarding this relationship to the world. So, when someone acts in a way that denies an agent's moral standing in the world, then that agent's relationship with the world will be changed for the worse and their moral status (i.e. their interest in dignity) will therefore be undermined. Hence the harmfulness of risk exposures can be established when the risks constitute a denial of the moral status of agents, and set back agents' interest in dignity. For example, if John grabs Jane with the intention of raping her, then the act of grabbing her is harmful because it violates Jane's interest in dignity (i.e. the interest not to be made the target of sexual assault) and treats her without due respect (Placani 2017, 86-88).

Placani's idea of harmfulness partially coincides with what I have in mind. The only difference is that instead of claiming an interest in *dignity*, which concerns one's moral status, I would rather claim that those potential victims

have an interest in not being endangered or exposed to risks (similar to their interests in not being physically or mentally injured), in alignment with the axiological sense of harm that I have been discussing throughout this paper. So, when risks are imposed on people, their interests in not being put in danger are negatively impacted, and thus they are harmed. Again, people do not need to be aware of the fact that their interests were impacted in order to be harmed, just like a person would still be harmed when twenty dollars were stolen from him even if he had totally forgot about that money, as he would have had the desire or preference for not being stolen from if he was fully informed. Similarly, the risks can just be harmful independent of people's responses.

Placani, however, also emphasizes that the risk imposer's intention matters most in constituting such a harm (Placani 2017, 86). Whereas, since risks objectively exist, I do not intend to incorporate "intention" into my version of conceptualizing harm, and the harm in question can be totally separated from whoever brings the risks and their moral culpabilities.

Another essential feature of PDMPH I want to stress is that the harmfulness should be attributed to the most salient difference maker, or the most effective contributor to a harm occurring, as opposed to any random factor in the causal chain of it. For example, assuming a young girl walking into a high-crime area alone at midnight is dangerous, since some consequence of it could reasonably be expected to make her worse off. According to PDMPH it seems that the girl is "harmed" by her walking into the high-crime area. Her walking into the high-crime area, however, is not the most salient difference maker, or the most effective contributor in causing that potential worse-off situation. Rather, the most salient difference maker should be the factors that make this area such a high-crime area, so the harmfulness should be attributed to the high-crime making features, as opposed to any other random necessary conditions.

Admittedly there could be too many difference makers associated with the high-crime area being harmful. We can instead suppose that there is a school shooter holding a gun, walking around the campus, and randomly shooting anywhere when he feels like; even though he ends up shooting nobody since he fails to, he still puts everyone in the campus in danger by doing so. Then the only relevant difference maker in this case is the shooter's shooting behavior. Other people showing up on campus as a routine, conversely, would not be taken as a difference maker in contributing to their potential worse-off situation. So the harmfulness of the school shooter case should be attributed to the shooter's behavior only.

All in all, I want to reiterate the three essential aspects of PDMPH that I have been emphasizing the whole time. To harm in the sense of PDMPH, an action needs to meet the following necessary conditions:

1) The action itself must be the *most salient difference maker* in causing a worse-off situation;

2) The worse-off situation that the action brings about, could *reasonably be expected* to happen;

3) The potential worse-off situation must be *at least severe*.

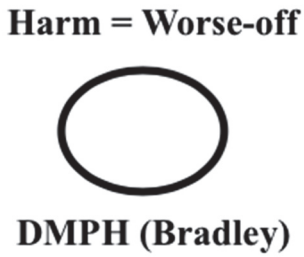
To conclude, in this section I extend the conception of harm to a gray area, where people are put in danger but not practically harmed in the usual sense. I emphasize the harmfulness of being exposed to risks to account for some borderline cases where a harm is almost done to a person while they luckily avoided the harm for some reason. I think, "putting someone in danger" is also a type of harm, regardless of its actual consequence, not only because they could have suffered severely in the most similar possible world (which could reasonably be expected to have happened), but also because their interests (in not being put in danger that could reasonably be expected to make them worse off) are set back, though sometimes unnoticed. "Putting someone in danger" is not only unethical, but also objectively harmful. Therefore, the invisible difference-making feature of a harmful action should not have been overlooked.

4. Identifying the invisible harm: maximumly exposing the harm in the shadow

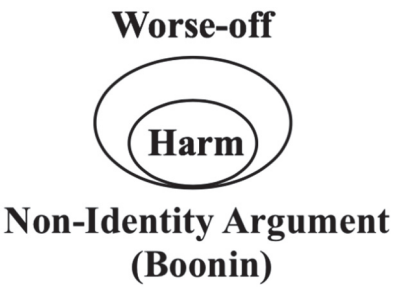
So far I have talked about multiple different accounts of harm, as well as the tensions among them. Bradley highlights the importance of difference-making features that constitute a harm, namely, DMPH addresses harm in virtue of the difference-making feature in an action or policy; the difference it makes is calculated under the consequentialist aggregation criterion. Boonin takes advantage of the difference-making principle in constructing his non-identity argument, to argue that future people cannot be harmed since they would not have existed if we ever changed the current policy. John Nolt, however, contradicts Boonin's non-identity argument by refuting the difference-making principle he adopts, and arguing that future people can still be harmed, with respect to DDMPH. I, lastly, reject DDMPH by offering another type of harm, PDMPH, to account for some borderline cases where people can be harmed in the absence of any concrete consequences.

Hereby I will summarize the mindsets in which different principles conceptualize "harm" respectively:

DMPH (*Difference Making Principle of Harm*): asserts that something is bad for a person iff it harms her; an event harms a person iff it makes things go worse for that person than they would have gone otherwise. So advocates of DMPH claims the domain of "harm" equals to "worse-off"[5]. They overlap as follows:



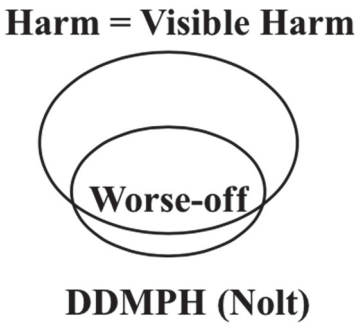
Likewise, Boonin's non-identity argument takes people's "worse-off" as a necessary condition for constituting a harm, though not sufficient, so the diagram could be like this:



The discrepancy between those two domains represents the situations where people are worse off but not harmed (e.g. people's natural aging), and all kinds of harm must involve "worse-off", as indicated by its necessary condition.

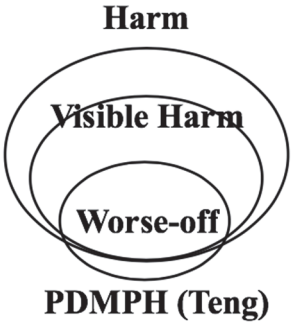
DDMPH (*Distinctive Difference Making Principle of Harm*) entails that people are harmed by an action or policy only if some consequence of it makes them worse off than they would have been without that consequence, so the concept of "harm" expands beyond the territory of "worse-off" and indicates that there are instances where people are harmed but not worse-off. However, since it only identifies the harm that actually makes a difference, under DDMPH the domain of "harm" is equal to "visible harm", and overlaps with "worse-off" to some extent as follows.

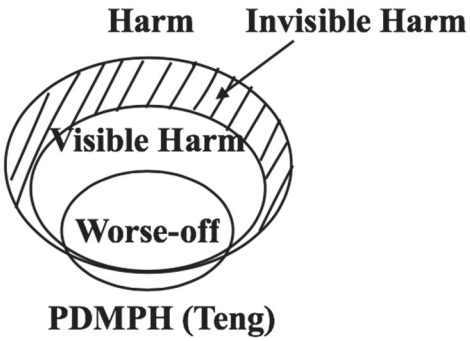
[5] All the "worse-offs" in the following diagrams represent one's being *in general* worse off due to an action or event.



The discrepancy between those two domains in the upper part represents the situations where people are harmed but not overall worse off.

PDMPH (*Potential Difference Making Principle of Harm*) claims that people are harmed by an action or policy only if some consequence of it could reasonably be expected to make them worse off than they would have been without that consequence. So, the domain of "harm" is larger than "visible harm"; the domain of harm including "visible harm" overlaps with that of "worse-off" to some extent.





The discrepancy between the "worse-off" and "visible harm" indicates the situations where people are visibly harmed but not worse off, while the discrepancy between "harm", "visible harm" and "worse-off" represents the situations where people are harmed but neither visibly harmed nor worse off. This shaded area is what I call "invisible harm", which represents the instances where people could reasonably be expected to be worse off and have their interests in not being put in such danger set back.

My aim in bringing up PDMPH is to identify the conception of "invisible harm", which has been overlooked by both DMPH and DDMPH. One thing worth noticing is that, by "invisible harm", I do not mean the type of harm that is merely physically invisible, such as the mental suffering, anxiety or fear. This is because under the consequentialist view, mental suffering, anxiety or fear can be translated into utilities, which are easily accountable in virtue of its quantity. So the mental suffering does not count towards the invisible harm I want to describe with PDMPH. Rather, when I discuss "invisible harm", I refer to the situations where an action or event could reasonably be expected to make people worse off, as I have explained in section 3.

Then, we look back to identity the invisible harm occurred in the Rape case, under PDMPH: the woman who is raped becomes pregnant and ends up raising the child, has a better life, due to the value of her relationship with her child, than it would have been if she had not been raped, even taking into account the trauma of the rape. DMPH cannot account for the harm (visible harm) in this case since it only cares about the overall outcome; DDMPH can account for the visible harm by pointing out that at least one consequence of the rape makes the woman worse off than she would have been otherwise.

PDMPH, however, can identify the "invisible harm" apart from the visible harm involved in the rape: the rape is bad, not just because of the woman's suffering at the moment of being raped or her being traumatized, but also for the rape itself could *reasonably be expected* to cause the woman suffer in the long term. Of course, the reality was that the woman got pregnant, raised the child, so her life was better off, but in the most similar counterfactual world the woman could have been suffering more due to the physical pain and trauma of rape. In other words, the woman's luckily having a child who has a good relationship with her, and her efforts in getting over the trauma were not brought by the rape itself, but multiple accidental factors; her being raped and her recovery through the child are two distinct events, so her benefiting from the rape should not be attributed to the rape, which was reasonably expected to

have made the woman worse off. So, her interests in not being put in such danger were negative impacted, thus she was also harmed. So, the aggregated harm I identity with PDMPH in the rape case is more complete than the other alternatives, even though the worse-off situation was somehow compensated with other accidental factors.

5. Extending PDMPH to long-term climate change effect: a dire conclusion

We can also identify the "invisible harm" overlooked in the Lucky Beth's case: Beth would have been born but would be killed later in 2150 by a hurricane induced or intensified by our greenhouse gas emissions as we continue the business-as-usual in the early 21st century; however, she would not have been born if we did not continue with business-as-usual. So, advocates of DMPH would think that Beth was not harmed because the business-as-usual did not make her worse off overall (otherwise she would not have existed); DDMPH would indicate that Beth was still harmed because she would be killed anyway by the business-as-usual we continued with. By identifying the "invisible harm", PDMPH is able to further expand the harm to Beth. On this front, I want to provide a new (though not uncontroversial) perspective from PDMPH, to account for the invisible harm done by continuing our business-as-usual.

There are two distinct consequences of our business-as-usual in the early 21st century:

1) It *directly* causes a large amount of greenhouse gas emissions, which will stay in the atmosphere and *directly* induce or intensify a hurricane that kills people (including Beth) in 2150.

2) It *directly* benefits people near the early 21st century, and *indirectly* brings Beth to existence in 2150 (since there are many other accidental factors in giving Beth to birth). According to DDMPH, although Beth suffers death from the greenhouse gas emissions (coming with our business-as-usual), she benefits from our business-as-usual by being born.

It has been mentioned above that the harmfulness should be attributed to the most salient difference maker in causing a potential worse-off situation, as opposed to any random factor in the casual chain. Likewise, if the same logic is applied to a potential better-off situation, the benefits should also be attributed to the most salient difference maker in causing such a potential

better-off situation, as opposed to any random factor in the casual chain. For instance, I would not mainly attribute my being born to my mother's watching a movie about family affection on the day she made the decision to have a baby (me). That is, I do not benefit from that movie as much as it looks like, even though that movie is probably a necessary condition for my existence.

So under PDMPH, Beth does not benefit from our business-as-usual as much as DDMPH claims, since her birth is not directly caused by business-as-usual, but a long, complicated causal chain constituted by multiple other accidental factors; in other words, we currently continue business-as-usual mainly for benefitting people near the early 21st century, while indirectly benefitting distant future people (by bringing them into existence) is merely a side effect of it; so, our business-as-usual is *not the most salient difference maker* in the reasonable expectation of her being brought to existence in 2150, even though it is a necessary condition.

In contrary, the greenhouse gas emissions directly caused by our business-as-usual, is the most salient difference maker in the reasonable expectation of Beth and other people being killed at the some point in the future; besides, the greenhouse gas emissions accumulated in the atmosphere has put Beth and other people in 2150 in danger before it eventually killed them through an induced or intensified hurricane. So, apart from the actual consequence that they were killed, their having been put in danger by the fatal hidden trouble that greenhouse gas emission brought about, is the "invisible harm" I want to identify; in other words, at the moment when the greenhouse gas emissions accumulated to a degree where it became at least severe, it had already started harming people invisibly since it could reasonably be expected to kill people in 2150 or make them worse off, even before it caused any concrete consequences.

Hence, in total, Beth neither benefited from our business-as-usual to the degree it looked like, nor was harmed as little as we thought. The gap between the totalized harm identified by DDMPH and by PDMPH respectively, therefore, is the invisible harm.

To further illustrate the invisible harm, let us look the following examples: suppose that there is another man, named Carl, who would have been born as we continue business-as-usual, but would be killed by an acute heart attack on the exact same day and at the exact same moment when people were killed by the hurricane induced by greenhouse gas emissions in 2150; he would have been killed by the hurricane if he was not killed by the acute heart attack. According to DMPH and DDMPH, Carl was not harmed because none

of the hurricane's consequences made him worse off than he would have been otherwise. But given PDMPH, he was invisibly harmed, since the hurricane initially was meant to kill him if he did not suffer from heart attack; the hurricane that was induced by our greenhouse emissions could reasonably be expected to directly kill Carl and thus set back his interests in not being put in danger, even though he eventually escaped it by being killed by the acute heart attack.

Suppose that another guy, named Daniel, who would also have been born as we continue business-as-usual, and would also encounter the fatal hurricane in 2150. However, he would luckily avoid the tragedy by accidentally traveling to another region, which was located on the border of the area that was attacked by the hurricane. DMPH and DDMPH would not think that Daniel was harmed, since he was not worse off; conversely, PDMPH would still think that Daniel was invisibly harmed, because he could reasonably be expected to be killed (if he had not accidentally traveled to another region) and thus set back his interests in not being put in danger. His luckily going out of town does not eliminate the invisible harm he could have suffered.

Therefore, given all the discussions above, I want to stress that people can still be invisibly harmed by our greenhouse gas emissions apart from visible consequences. Their avoiding the visible harm by accidental factors, cannot excuse the invisible harm we do to them. I would like to emphasize the point I have stressed in the Rape case again: the assessment of an action or policy's harmfulness should be separated from the actual consequence, but instead focus on the reasonably expected worse-off situations people might suffer, as their interests not to be put in danger are negatively impacted. Our doing good to distant future people should not be overstated, because it is probably one side effect of our business-as-usual, which is meant to mainly benefit people near the early 21st century, as opposed to people in the distant future; our doing harm to distant future people should not be underestimated either, since not causing actual worse-off consequence to them does not exculpate us from sowing the seeds of future disasters.

In conclusion, both DDMPH and PDMPH could argue against DMPH, by giving more accurate criteria of harm; the non-identity argument, therefore, is defeated, and distant future people can still be harmed as we continue business-as-usual. But by adopting PDMPH we definitely lead to another dire conclusion: if we conceptualize the invisible harm with PDMPH, there is a large amount of harm we can do to distant future people through carbon emissions, which used to be overlooked. Therefore, as the troublemaker of future

climate change and potential disasters, you are probably more troublemaking than you thought.

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Climate Finance, Justice, and Political Realism: Shue versus Broome and Foley

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Abstract

Extraordinarily high levels of funding, together with action on many other fronts, are needed for achieving the goals of the Paris Agreement. According to John Broome and Duncan Foley, global decarbonization requires that fossil fuel assets be bought up, which requires establishing a new international financial institution, a World Climate Bank (WCB). However, as I argue here, important political and economic realities, including those on which Henry Shue rightly bases his moral arguments for political action to address climate change, support my case against the Broome-Foley proposal (BFP) and in favor of a crucially different financial institution, a World Climate Bank for Mitigation, Adaptation, and Resilience (WCB-MAR). Like the bank described in the BFP, a WCB-MAR would function together with a carbon price so as to draw investors' money away from the brown economy by selling World Climate Bonds; however, unlike the bank described in the BFP, a WCB-MAR would use its revenues only for climate change mitigation, adaptation, and resilience, not for buying up fossil fuel assets. A bank of this new type, if properly designed and implemented, could play a significant role in facilitating decarbonization of the global economy and achievement of the Paris Agreement's goals.

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1. Introduction

Achieving the goals of the Paris Agreement is widely considered impossible unless greenhouse gas (GHG) emissions are reduced globally to net zero by 2050, and this latter goal cannot be achieved without rapid reduction of global GHG emissions by 2030 (Oxford Net Zero, UN). Extraordinarily high levels of funding, together with action on many other fronts, are needed for achieving these goals (Khosla et al). Total global climate finance over the decade from 2011 to 2021 amounted to USD 4.8 trillion; however, recently estimated annual needs through 2030 are at least $8.1 trillion, and rise from 2031 to 2050 to over $10 trillion per year (Buchner et al, CPI Webinar, Naran et al). Enabling developing countries to transition to low-carbon and climate-resilient economies while meeting development goals requires at least $6.9 trillion per year until 2050 (OECD 2018). Total climate finance mobilized and provided in 2021 for developing countries by developed countries was $89.6 billion (OECD 2023). The climate finance gap has been growing; while finance flows toward both mitigation and adaptation have been increasing, the rate of increase has been too slow (Khanna et al).

Topics of current debates about climate finance include possible sources of the required additional funds, how to mobilize them, and possible financing mechanisms. Experts have been variously advocating carbon pricing, new forms of tax, private initiatives, and public-private partnerships. As regards public initiatives, lack of political will is not the only problem: international as well as domestic public institutions currently lack the capacities necessary for raising and providing adequate levels of funding. Private actors' contributions are not increasing fast enough, especially given the public sector's capacity constraints (Lopez-Claros, Broome et al, Chancel et al).

John Broome and Duncan Foley advocate establishment of a new international financial institution, a World Climate Bank (WCB), arguing that it is one of the necessary means of facilitating global decarbonization. Together with a price on carbon, the bank's World Climate Bonds could significantly influence the global bond market so as to reduce investments in fossil-fuel extraction and the rest of the brown economy, by drawing money toward green-economy projects (Broome & Foley 2016, 2022). Authoritative commentators, including Augusto Lopez-Claros and Gustaf Arrhenius, have praised the Broome-Foley proposal (BFP), describing it as innovative and interesting. [1]

[1] Both Arrhenius and Lopez-Claros were engaged by the Global Challenges Foundation to provide commentary on the BFP; Arrhenius did so in writing (see below: Works Cited: Arrhenius), Lopez-Claros did so in a podcast (see below: Works Cited: Broome et al).

Broome has presented the BFP to large audiences at major universities in several different countries.

Here I argue that the BFP is vulnerable to both pragmatic and moral objections. Broome and Foley argue that decarbonizing the world economy must include buying up fossil fuel assets, because the politically powerful fossil fuel interest groups, which have for decades obstructed efforts to publicize and mitigate anthropogenic climate change, will cease their obstruction if and only if paid "ransom." Below I summarize the BFP's central economic argument and challenge this proposal's political and (quasi-)moral arguments.[2] In doing so, I draw from work by Henry Shue including his recent book, *The Pivotal Generation: Why We Have a Moral Responsibility to Slow Climate Change Right Now* (2022), here cited as "TPG."

I object to the BFP's proposal to funnel money to the owners of fossil fuel assets, including wealthy and powerful corporate executives and heads of petro-states.[3] I argue that doing so would be unnecessary, counterproductive, and morally objectionable (partly due to being both unnecessary and counterproductive). Apart from arguing that most of the funds of the WCB proposed by Broome and Foley would, at least during its initial years of operation, be used to provide financial compensation to owners of fossil fuel assets for loss of market value, I do not challenge the BFP's central economic argument. Others have done so: J. Paul Kelleher and Broome himself have published critical analyses of it, both of which point out a significant problem, which Broome then addresses (Kelleher 2015, Broome 2018).[4]

For over a decade, Broome and Foley have asserted that moral arguments are of limited practical value for clearing the logjams impeding climate policy progress, and that there is no realistic alternative to the policy approach they advocate, *efficiency without sacrifice*, and the type of WCB that it would require. However, one of the BFP's crucial premises (namely, that it is a realis-

[2] In a different article (Bernstein 2024), I present a critical analysis of the BFP that differs from, but is consistent with, the analysis provided herein. In two other articles (Bernstein 2016 and 2019), I undertake some of the tasks necessary for evaluating the BFP from the perspectives of liberals, cosmopolitans, and realists.

[3] Broome and Foley do not specify the full range of possible recipients; I think it is important to do so, noting that climate-relevant policies in developed countries are influenced both overtly and covertly by foreign fossil fuel interests. As regards such influence, see below: Works Cited: Aidt et al.

[4] Although I am not an economist, I have discussed the BFP extensively with several professors holding the PhD degree in economics (in particular, Daniel Karney, J. Paul Kelleher, and John Broome, to all of whom I am grateful).

tic proposal) is false, or so I argue below. Further, the BFP either equivocates when using the word "decarbonization," or misleads by using it in a way that obscures a central function of the proposed bank. The argument offered by Broome and Foley for the type of WCB they advocate appears unsound.[5] Partly for this reason, the BFP lacks adequate responses to Shue's powerful moral arguments.

Shue argues in TPG, on the basis of a well-informed account of the history of climate-relevant conduct by fossil fuel interests, that now "the rest of us have no choice but to force them to [either] change their business plans or [else] go out of business" (TPG p. 119). Here I suggest that an effective way of doing this forcing may be to establish a multilateral financial institution that would be similar to, yet in a decisively important respect different from, the one proposed by Broome and Foley: specifically, a bank that would (like the one described in the BFP) function together with a carbon price so as to draw investors' money away from the brown economy by selling World Climate Bonds, and would (unlike the bank described in the BFP) use its revenues only for climate change mitigation, adaptation, and resilience, not for buying up fossil fuel assets. A bank of this new type (perhaps to be called a World Climate Bank for Mitigation, Adaptation, and Resilience, or WCB-MAR), if properly designed and implemented, may be able to play a significant role in facilitating decarbonization of the global economy.

Shue argues in TPG that everyone should do all they can, both individually and together with others in both domestic and international nonviolent political and social movements, in order to change the political and economic structures and practices that have been impeding "comprehensive political measures to reduce carbon emissions," and "to replace those impediments with public policies and institutions designed to protect the majority of people of future generations, not to enrich further a powerful minority in the present" (TPG p. 119). Shue notes that supporting these aims does not require being anti-capitalist, only "antirapacity," and that climate activism (in countries with functional legal systems that secure democratic citizens' rights) can take the form of conventional political work including voting, participating in election campaigns, and exerting political pressure for certain laws and policies and against others.[6] However, Shue emphasizes, tactical imaginativeness and agility are needed (in all countries) (TPG pp. 130, 134). Pointing out that nonvio-

[5] Elsewhere (Bernstein 2024) I offer further support for this claim.

[6] Shue says that the sociopolitical situation is "[not] yet completely out of control or impossible to change through essentially normal political action" (TPG p. 16).

lent political action such as civil disobedience has in the past achieved radical change, Shue argues that it can, together with other forms of climate activism, shape world politics (TPG pp. 131, 172 note 73). [7]

Unlike Broome and Foley, whose proposal for a WCB serves the aim of enabling the current generation to avoid making any economic "sacrifice," Shue invokes the "greatest generation" (those who rose heroically to confront the challenges posed by German Nazism in World War II), aiming to motivate us all to rise heroically to confront the challenges posed by climate change, and explains why everyone alive now is part of a generation that is pivotal "for the fate of our planet's livability" for all species (TPG p. 2). I agree with Shue: we must take control of our legacy (TPG p. 136). We can help to achieve the goals of the Paris Agreement in many ways, including by opposing problematic proposals (such as the BFP), learning from them, developing better proposals, and collaborating to address the climate crisis with all who (like Broome and Foley) share the goal of creating a green global economy and a thriving planet.

Below, in Part (2), I discuss Shue's perspective, as presented in TPG, on what needs to be done in response to climate change, and the moral and interest-based reasons why we must do it. In Part (3) I present and critically analyze the BFP. Part (4) is a brief concluding section.

2. Shue's moral case for political action to address climate change

Henry Shue has been, for close to half a century, an eloquent contributor to both policy debates and theoretical debates about universal human rights. Academic discussions of policies relating to climate change have been influenced by his book, *Basic Rights* (published in 1980), in which he argued that subsistence rights are as basic as individual liberties and rights to personal security, and by his article, "Subsistence Emissions and Luxury Emissions" (1993), in which he argues for inalienable rights to the emissions necessary for a minimal quality of life. In his most recent book, TPG, Shue argues that due to numerous features of the climate crisis, "those of us alive now are the pivotal generation in human history" (TPG p. 2), and explains what needs to be done as well as the reasons, both moral and interest-based, why we must do it.

[7] A widely cited study supporting Shue's position is *Why Civil Resistance Works: The Strategic Logic of Nonviolent Conflict* by Erica Chenoweth and Maria J. Stephan (Columbia University Press, 2011).

2.1. What must be done

Shue argues that we all must cease to "tolerate [the] deceptions, diversions, and detours" imposed on us by "[t]he most unrelenting opponents of progress toward a net zero carbon world," namely, "the fossil-fuel interests and their dedicated and entrenched allies in government and banking," and that progress requires building social movements aiming to replace the political and economic practices and structures that are blocking action on the climate (TPG pp. 117-118). Shue advocates nonviolent political action of various kinds, including divestment campaigns and boycotts (TPG p. 134). The necessary tasks, which include construction of infrastructure for noncarbon energy production and transmission, are conditional on actions by many countries' governments that must go far beyond merely allowing the market to accept noncarbon energy at its own pace, which is not quickening as fast as it would without the market-distorting subsidies and bailouts favoring fossil fuels (TPG 124, 130-131). Endorsing an analysis and action plan developed by Leah Stokes, Shue argues that addressing the climate crisis must involve transforming the obsolete energy systems that are impeding progress, and that this requires undermining their defenders' political power (TPG pp. 117, 120).

The "most important" course of action available to individuals in countries with some degree of democracy, Shue asserts, is to get involved in electoral politics in order "to remove from political power as many as possible of the friends of fossil fuel" who are impeding the necessary reshaping of economic incentive structures (TPG p. 131). Further, it is necessary to uncover and publicize the facts about bribery and other forms of corruption allegedly connected with fossil-fuel extraction contracts between governments and fossil-fuel corporations. A fuller picture of the relevant facts would permit banks to make sounder risk assessments when evaluating applications from fossil-fuel corporations for long-term loans (TPG p. 133). [8]

2.2. Shue's moral arguments

Shue presents numerous climate-relevant moral arguments on the topics of justice, rights, fairness, and responsibility, in TPG and elsewhere. Here I discuss some of TPG's justice-focused arguments. Broome and Foley, when at-

[8] Transparency is needed also regarding the trading of mitigation credits; in the USA, although such credits are traded at both state and federal governmental levels, there is "no transparent market or price discovery" (USCFTC).

tempting to defend their proposal for a WCB, reply to two moral objections concerning justice that are based on a perspective quite similar to Shue's.

Shue explains that wealth inequalities, both among nations and among other agents, broadly correspond to differences in responsibility for climate change. The accumulation of anthropogenic CO_2 in the atmosphere since the eighteenth century has been caused mainly by national processes of industrialization, and while most of the resulting benefits have accrued to the industrialized countries, the harms have been distributed universally (TPG pp. 32-33). Regarding this as profoundly unfair, Shue argues that "the nations that are the initiators and the proprietors of industrialization should mainly bear its costs" (TPG pp. 33-34). More generally, the costs of bringing under control the climate change caused by emission of GHGs should be paid by "those who contributed to causing the problem, held onto the bulk of the benefits of doing so, and allowed much of the costs to fall upon others who benefited less" (TPG pp. 53-54). Shue supports this position with arguments about collective as well as individual agents.

Shue asserts that "[t]he main players in the carbon energy regime are [...] violating basic human rights," and argues that they, like all violators of such rights, have the duty "to stop entirely as soon as possible, [and to bear] whatever costs are involved" (TPG p. 47). Both the corporations and the states of the fossil-fuel regime have imposed inherently wrongful harms and other net costs on others, arbitrarily and without consent, and in doing so have worsened international inequality (TPG p. 48). Although "the net reduction in the others' well-being [due to the fossil-fuel regime] is the result of the creation of new costs for them [...] rather than the literal removal of some asset from them for redistribution upward," they have become absolutely and relatively worse off (TPG p. 52). And although in some cases, depending on the relevant absolute levels of well-being, "there may be nothing wrong, other things being equal, with making yourself, and only yourself, better off, even though this will indeed increase the degree to which you are better off than those who were already worse off than you," in this case the worsening of international inequality is morally objectionable (TPG p. 51).

As regards individuals, Shue argues that regardless of whether fault is ascribable to anyone who has contributed to causing the harms of the fossil-fuel regime, all who have contributed are accountable agents who "ought to share proportionally the costs of developing alternative energy" (TPG p. 40). Even if all were judged innocent, it would be unfair for those who have played more significant roles in causing the harms to require the rest to bear more of the costs of the transition to a safe energy regime (TPG p. 42, 54). And the causal

roles played by the wealthiest individuals have been more significant, indeed, according to both a report cited by Shue (TPG pp. 139-140) and reports published later than TPG, which advocate "luxury carbon taxes" or wealth taxes (Chancel & Piketty). Shue concludes that "we have strong economic and ethical reasons for moving immediately against the superfluous luxury emissions of the affluent as one part of a broad program" (TPG p. 141).

Here I do not undertake systematic inquiry aiming to determine whether Shue's moral arguments are sound; instead, I endorse Shue's moral views as presented above, and undertake to address the question of whether the BFP provides sound argumentation in support of its replies to two moral objections based on positions similar to Shue's. I argue that it does not, and that revising it as advocated below transforms it into a more defensible proposal.

3. The Broome-Foley Proposal for a World Climate Bank

Below I offer an explanatory summary of the BFP. Before presenting my criticisms of it, I provide clarifications regarding its uses of two potentially confusing terms: "sacrifice" and "compensation." I then provide reasons for doubting that a WCB of the type favored by Broome and Foley would function so as to decarbonize the global economy. Subsequently I discuss the topics of political reality and self-interest, and raise moral objections to the BFP, after which I advocate a WCB-MAR.

3.1. Explanatory summary of the BFP

The explanatory summary presented here below is based partly on recent personal correspondence with Broome, as well as on one of his forthcoming papers, in addition to publications by Broome and Foley. The BFP addresses both the serious shortfall of climate funding and the political opposition to pricing carbon. It presents arguments based on mainstream economic theory to support its authors' conclusion that the proposed bank could accelerate and scale up mobilization of the financial resources needed for decarbonizing the global economy, and presents political arguments to support its authors' conclusion that there is no realistic alternative to their favored policy approach. However, as I argue below, the BFP fails to support its contention that the proposed WCB must buy up fossil fuel assets.

The BFP's case for a WCB consists mainly of the four claims listed below, together with their supporting arguments.

1. A certain policy strategy, *efficiency without sacrifice*, is justifiable on the basis of economic theory.

2. There is no realistic alternative to adopting *efficiency without sacrifice*.

3. A WCB is necessary (economically and politically) for implementing *efficiency without sacrifice*.

4. Two apparently powerful moral objections fail to defeat the case in favor of *efficiency without sacrifice* and a WCB.

Here I raise objections to claim (2) and indicate implications for claim (4). [9] Critically analyzing the economic arguments supporting claim (1), which are briefly presented below, is not necessary for present purposes. My objections to claim (2) defeat the case for a bank *designed to serve **all of** the purposes advocated by Broome and Foley*. However, they do not defeat the case for a bank *designed to serve **all but one of** those purposes*, i.e., excluding use of its funds for buying up fossil-fuel assets. I advocate a bank of this latter kind: a WCB-MAR.

Broome and Foley note that, despite the climate treaties of the past several decades, global emission of GHGs has continued to rise (apart from brief reductions, for example in 2020, due to COVID-19). This constitutes, they argue, proof of the failure of a certain type of climate policy: "the moral appeal has not proved powerful enough to bring climate change under control" (Broome & Foley 2022 p. 3). By "the moral appeal" they refer to the exhortation to bear a burden for the sake of future people.

The UNFCCC introduced the term "burden sharing," asked countries to take on a burden for the sake of slowing climate change, and raised the question of how to share the burden among them fairly. Associated with the moral exhortation to bear a burden (or what Broome and Foley term a "sacrifice") are two assumptions, which are implicit in both the UNFCCC and the Stern Review: (1) that a burden needs to be borne in the present so as to bring benefits in the future, and (2) that the bulk of the benefits will accrue to future generations and not to the people who bear the burden (Broome & Foley 2022 p. 1). The Stern Review concluded that "the costs of stabilizing the climate are significant but manageable," that "the benefits of strong and early action far outweigh the economic costs of not acting," and that most of these benefits will arrive after several decades or more (Broome & Foley 2022 pp. 1-2).

Why should we (meaning, in the BFP, the current generation) take such action? According to Broome and Foley, "[t]he only explanation is morality":

[9] I raise additional objections to claim (2) elsewhere (Bernstein 2024).

the UNFCCC and Stern are "appealing to our moral responsibility" by implicitly arguing that we have a moral duty to stop causing climate damage that worsens future human lives. Broome and Foley agree with the UNFCCC and Stern; they write: "The moral appeal for action against climate change – whether expressed implicitly or explicitly – is certainly justified" (Broome & Foley 2022 p. 2).

Unfortunately, they assert, it has failed.

> For almost thirty years the present generation has been urged to make a sacrifice for the future by taking practical steps to limit greenhouse gas emissions and avert climate damage. Economic models have been used to reinforce this appeal, by showing that a sacrifice would lead to the best result (Broome & Foley 2022 p. 7).

However, the "inertial and political obstacles" have not been overcome by the moral appeal for action (Broome & Foley 2022 p. 7).

> The problem is that many governments seem impervious to morality, or at least to be insufficiently moved by it to overcome the paralysis induced by political conflicts over the impact of climate policies on particular interests (Broome & Foley 2022 p. 3).

Governments apparently either do not "care about unborn generations," or else "find themselves unable to act effectively" even when their citizens do care (Broome & Foley 2022 p. 3).

> Why are governments so reluctant to act? A part of the explanation is the power of the fossil fuel interests (Broome & Foley 2022 p. 4).

Therefore, Broome and Foley argue, we should abandon the previous policy approach, which they call *efficiency with sacrifice*. Not only has it failed, in their view, but also it is misguided: "[n]o one needs to bear a burden to mitigate climate change" (Broome & Foley 2022 p. 1). They advocate instead *efficiency without sacrifice*, arguing that policies *not* requiring any sacrifice constitute "the most practical path to controlling climate change" (Broome & Foley 2022 p. 6).

Moreover, Broome and Foley argue, "we shall not in practice be able to implement a no-sacrifice policy financially except by means of borrowing" (Broome & Foley 2022 p. 10). Governments will need to borrow large sums for very long terms. Implementing the new policy approach requires a WCB, which would issue bonds with very long terms. The BFP's economic argu-

ment for a WCB is usefully summarized in the following blurb on the website of the Australian National University:

> Greenhouse-gas emissions cause external costs. They create inefficiency on a huge scale. Eliminating the inefficiency would lead to very great benefits, which could be distributed to the people of the world in a way that improves the life of each of them. No one need make a sacrifice. To achieve this result in real terms requires a transformation of the world's economy. Resources must be shifted out of conventional investment and into reducing greenhouse-gas emissions. To make this possible in practice puts a responsibility on the world's financial system. The transformation will have to be partly financed by very long-term loans. We need an international financial institution—a World Climate Bank—with enough stability and credibility to finance these large-scale changes (ANU).

The WCB would issue bonds; these would finance loans.

> The bonds issued by the WCB would finance loans to national governments to support specific expenditures tied to decarbonization, including investments in new energy, transportation and housing infrastructure, short-term measures to control the concentration of greenhouse gases in the atmosphere such as carbon capture and sequestration, and compensation at economically realistic prices for the loss of value of fossil fuel reserves (Broome & Foley 2022 p. 11).

Lopez-Claros agrees with Broome and Foley that, although the IMF and the World Bank are already carrying out activities similar to those envisaged for the WCB, a specialized facility is a good idea, partly because the scale of spending needed for decarbonization investments is so much larger than what the IMF and WB have handled in the past. Lopez-Claros also explains why certain aspects of the proposal that might appear unrealistic are in fact realistic. These include likely sources of revenue for a WCB and the high likelihood that its bonds would get such a high rating that central banks would use them as international reserve assets. [10]

In the next section I provide clarifications regarding the BFP's uses of two potentially confusing terms.

[10] Elsewhere (Bernstein 2024) I consider which economic agents would be likely to buy World Climate Bonds and what their motivating reasons would be.

3.2. Clarifications re: "sacrifice" and "compensation"

The terms "sacrifice" and "compensate" figure prominently in many discussions of climate justice. [11] In some cases they are used as technical terms of welfare economics, while in other cases they are used as terms of ordinary language with their usual moral or evaluative connotations. Confusion can result if authors do not point out and explicitly discuss the differences between the technical and non-technical uses of the words. The BFP uses the words "sacrifice" and "compensate" as technical terms of welfare economics. Some critics of the BFP, [12] evidently assuming that it uses those words in the ordinary way, with their typical moral or evaluative connotations, have misunderstood it.

Economic theory can be used to answer policy-relevant questions without subscribing to certain contestable views apparently held by many economists and policymakers, which include: (a) welfare economics takes into account all relevant moral considerations; and (b) whether or not any of the considerations taken into account by welfare economics are moral, they include all of the considerations that are relevant for policy evaluation. The BFP does not depend on, or assume the truth of, either (a) or (b). It uses abstract economic theory to answer the following question:

> (1) If mitigating climate change requires "green investment," and if shifting funds and resources away from conventional investment and/or consumption would be disadvantageous (from the perspective of welfare economists and the policymakers and political leaders who follow their advice) for people of the present generation (considered in aggregate) and therefore unacceptable (politically), then is there any other source of the needed funds and resources?

Answering this question would leave open the following questions:

(2) Is there a way to access and utilize such funds and resources?
(3) Would this way be morally acceptable?
(4) Would it be politically feasible?

Without explicitly formulating and distinguishing these questions as I do here, the BFP develops answers to questions (1) and (2), analytically and systematically. In doing so, it uses the terms "sacrifice" and "compensate" as

[11] See, for example, Broome 2012, Weisbach & Hayner.

[12] See, for example, Lawlor.

technical economic terms. In addition, it offers some statements of opinion and assertions relevant to questions (3) and (4).

The BFP regards a policy as involving a "sacrifice" if it makes one or more individuals "worse off" than they were originally (prior to the policy), using these words (as they are standardly used in welfare economics) to describe the consequences of a policy in merely quantitative terms (that is, in terms of utility or welfare, measured numerically). Similarly, the BFP uses the word "compensate" as it is standardly used in welfare economics: merely to state the idea that a policy would make available (in some sense) money, goods, and/or services in a quantity equivalent to (and in this sense sufficient to compensate for) the relevant reduction of money, goods and/or services (the "sacrifice"), and that the quantity available for compensation could (in a certain sense) be transferred (by some means) to those who lost out. The sense of "could" is merely that there would be sufficient quantity. This establishes the technical possibility. Establishing that there would be sufficient quantity is a necessary first step toward determining both the policy's feasibility and its moral justifiability. If the economic analysis shows that compensation is not technically possible, this implies that there is no institutional means of transferring a sufficient quantity, therefore neither any politically feasible way, nor any morally justifiable way, to do so.

If the best global climate change mitigation program (according to some specified criterion) were one involving a sacrifice of goods and/or services by members of the present generation (considered in aggregate) that would *not* be compensated (by an equivalent quantity of goods and/or services), then it would not be necessary to devise a policy expected to make such a quantity available for transfer. Broome agrees with Nicholas Stern and William Nordhaus that the best policy (in other circumstances) would involve such sacrifice (Broome 2012 pp. 45-48). However, he takes as a given, and uses as an assumption of his case for a World Climate Bank, that such a policy is unacceptable to the relevant politically powerful agents, and that this will not change soon enough to allow avoidance of catastrophic consequences of climate change. This, says Broome, is the reason why he seeks a policy that would not involve such sacrifice (Broome & Foley 2022 pp. 3-5).

Broome claims that "an elementary piece of economics shows" that no sacrifice is required from the present generation for mitigating climate change, even though the contrary "is very commonly assumed" (Broome 2016 p. 12). This "piece of economics" is the following argument. Since GHG emission is an externality, and since the current situation is therefore inefficient in the sense that a Pareto improvement is (in principle) possible, the inefficiency can

(in principle) be eliminated without any sacrifice by the present generation.

The BFP's claim (that economics shows the falsity of the common assumption that sacrifice is required) seems false when understood as referring to what people in general, or many or most people, tend to assume. If this latter assumption is stated accurately, by using "sacrifice" as a word of ordinary language (with its familiar moral connotations), then the BFP's claim about it seems to be false, since the economic argument uses the term "sacrifice" merely as a technical economic term. However, according to a second interpretation, the BFP's claim does not use the word "sacrifice" to express what people in general assume, but instead uses it to express an assumption common among both (a) mainstream economists and (b) the many political leaders and international negotiators who consult economists and understand the words "sacrifice" and "compensation" (as used in their policy advice) as technical economic terms. If so, and if the BFP correctly uses the term "sacrifice" when stating this latter assumption, then the claim may not be false.

Evidence supporting the second interpretation includes the fact that Broome argues for *efficiency without sacrifice* by arguing against the policy approach favored by the economists Stern and Nordhaus, *efficiency with sacrifice* (Broome & Foley 2022 p. 2). Additional supporting evidence is provided by Broome's argument that since the intergenerational situation is such that we (the present generation, considered in the aggregate) leave "gifts" to future generations (artificial capital in the form of economic infrastructure, such as roads, factories, farmland, cities, and so on, as well as "natural resources that we could have used for ourselves but choose to leave in the ground for them"), if we pay the costs of mitigation (insulating buildings, constructing wind and solar farms, etc.), then we can compensate ourselves for these costs by leaving fewer gifts to our descendants. For example, he says, we could consume more of, and bequeath them a smaller amount of, various natural and artificial resources (other than fossil fuels and the artificial resources dependent on them). A different way to look at this, Broome says, is that we can "switch investment but leave our own consumption alone" (Broome 2016 pp. 13-14). This does not mean that we can continue consuming the same things. "To be sure, we shall have to change the sorts of things we consume. We shall have to consume fewer goods that are produced with fossil fuel. But, by consuming other sorts of goods instead, we can ensure that the benefit we get from our consumption is not diminished" (Broome 2016 p. 14).

The BFP refers to compensation both in the abstract economic argument for *efficiency without sacrifice* and when discussing implementation of this policy approach. Although the word "compensation" is generally used as a

technical term, in the following three cases it may seem to be used non-technically to make controversial moral claims about compensation:

(1) The present generation can and should compensate itself.

(2) Some members of the present generation can and should compensate other members of the present generation.

(3) Future generations can and should compensate the present generation.

However, in making these three claims, the BFP uses the word "compensation" as a technical term and supports each claim by reference to the economic criterion of Pareto optimality. Claim (1) means that the present generation, considered in aggregate, can compensate itself (in a technical economic sense) by means of the WCB, and should (according to economic theory) do so if this is workable and if no better means are available. [13] As regards (2) above, the BFP's claim is that some members of the present generation can (partly by means of monetary payments, tax arrangements, etc.) compensate other members of the present generation, and that they should (from an economic point of view) do so. As regards (3) above, it is important to notice that Broome explains what he means using only economic theory.

Broome writes:

> The theorem I described tells us that it must be possible to get enough compensation from somewhere, because it tells us everyone can be fully compensated. Compensation is a transfer from the beneficiaries of the carbon tax to those who are harmed by it. The beneficiaries are mainly people who will live in the future whereas those who are harmed live mainly in the present. So compensation has to be transferred from future people to present people. How is that possible? In real terms, a transfer from the future to the present can in effect be achieved by reducing transfers from the present to the future. We leave many resources to future people in the form of capital goods that are built by our investment. If we increase our consumption and diminish our investment, we shall leave future people fewer resources for their own consumption. So in real terms consumption is shifted from them to us. Such a transfer can be accomplished financially by means of public debt (Broome Forthcoming p. 6).

The BFP's argument is not rendered unsound by its reliance on the claim that economics shows the falsity of the common assumption that a sacrifice is

[13] The clarity of the BFP would have been increased by addition of an explicit statement that whether the present generation should do so depends on whether the means are morally permissible as well as whether they are politically and socially feasible.

required from the present generation for mitigating climate change. However, as I argue in the next section, the BFP uses the terms "decarbonization" and "investments" equivocally (or at least misleadingly). By doing so, it obscures a crucially important and highly problematic aspect of the BFP.

3.3. How, or whether, the BFP's WCB would "decarbonize" the global economy

Broome explains that fossil fuel industry leaders, having "lavishly funded climate denial and relentlessly lobbied governments," now "have the power to prevent us from controlling climate change." (Broome & Foley 2022 p. 8). Therefore, he argues, it is necessary to provide financial payment:

> They hold us to ransom, and we have to pay. We have to buy out fossil fuel interests (Broome & Foley 2022 p. 8).

The BFP states: "[t]he bonds issued by the WCB would finance loans to national governments to support specific expenditures tied to decarbonization, including investments in new energy, transportation and housing infrastructure, short-term measures to control the concentration of greenhouse gases in the atmosphere such as carbon capture and sequestration, and compensation at economically realistic prices for the loss of value of fossil fuel reserves" (Broome & Foley 2022 p. 11). Notice that providing such compensation must include paying money to owners of fossil fuel reserves in exchange for rights of perpetual control over these assets; this would amount to purchasing them or buying them up. Notice also that the buy-up would have to be accomplished as soon as possible, given the urgency of reducing GHG emissions and given the BFP's assumption that the fossil-fuel interest groups will not change their conduct prior to such a buy-up. Indeed, it is probable that most of the money initially raised by the WCB (by means of selling World Climate Bonds and also by other means, e.g., carbon-tax-revenue-sharing arrangements between the WCB and its member states) would be earmarked for the buy-up.

During this initial period, which could last years, vast sums of money would be funneled to various owners of fossil fuels in many countries including petro-states, while less money (perhaps far too little) would be available for decarbonizing the global economy (understood as distinct from buying up fossil fuel assets). Broome and Foley do not offer any estimate of how much money may be needed for buying up fossil fuel assets, nor do they compare the amount of money needed for decarbonization (understood as excluding the

buy-up). [14] Lopez-Claros emphasizes that since so much money is needed for decarbonizing the global economy (understood as excluding the buy-up), it is necessary to consider other potential sources of revenue for this purpose, whether a WCB is or is not established (Broome et al 2022, Lopez-Claros 2021).

Notice also, in the same quoted passage, how Broome and Foley use the word "investments" and the phrase "expenditures tied to decarbonization." Surprisingly, when advocating what they term "compensation" payments, Broome and Foley use the word "investments" to refer to them: they write of "financing investments in the decarbonization of the world economy, including compensation of those who stand to lose from decarbonization" (Broome & Foley 2022 p. 10). As Broome and Foley describe the WCB they advocate, it would "mobilize financial resources to implement the investment needed for decarbonizing the world economy" (Broome & Foley 2022 p. 1). It is problematic (either equivocating or misleading) to refer to such payments as either "investments" or "expenditures tied to decarbonization." If the BFP uses "investments" as a technical term of economic theory (and uses this technical term correctly), then the authors should point this out, in order to avoid inadvertently misleading their readers, who may include (as is apparently the hope of the BFP's authors) not only economists but the full range of members of the general public, worldwide. [15] As regards the word "decarbonization," it is unlikely that the authors of the BFP could plausibly argue that it is a technical term of economic theory; in any case, their use of it in this important context is misleading and highly problematic. [16]

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[14] An anonymous reviewer, requesting clarification of the term "decarbonization," highlighted the fact that it is used nowadays in the academic literature to refer to various specific processes (e.g., carbon capture or sequestration) as well as, more broadly, weaning a country from its fossil fuel-dependency. I understand the BFP as using the term "decarbonization" in the broadest sense, referring to the totality of the processes involved in transitioning the global economy from brown (dependent on fossil fuels) to green (free of them). Within the phrase, "decarbonization (understood as excluding the buy-up)," I first use the term "decarbonization" in the broadest sense and then narrow it in the way specified in the paragraph to which this note is attached as well as the paragraph preceding it.

[15] In addition to publishing the BFP in an Oxford University Press volume of academic articles, the authors have published on the internet a shorter version of it that is less technical and includes colorful photos; it is available on the websites of Global Challenges Foundation and Global Governance Forum. Moreover, Broome previously presented his argument for *efficiency without sacrifice* in a book, *Climate Matters*, written for a broad audience and issued by W. W. Norton & Company.

[16] It is worth noting that the blurbs on the websites of the ANU and the Global Challenges Foundation mention only green investments, not buying out fossil fuel interests (or paying "ransom").

3.4. Political reality, self-interest, and moral objections to the BFP

Broome and Foley consider two moral objections to their proposal, which express views similar to Shue's.[17] In response to both objections, they invoke political realism and allegedly unchangeable facts about the current distribution of power. One of these moral objections is the following:

> Most of the people who cause harm by emitting greenhouse gas are ordinary consumers of energy. But there are also some who knowingly cause harm on a very large scale, and do everything they can to continue the injustice. These include some leaders of the fossil fuel industry who tell lies about climate change, and pay others to tell lies, in order to preserve their unjust advantage. They have lavishly funded climate denial and relentlessly lobbied governments. Justice requires people like this to be punished, but under a no-sacrifice policy they will be rewarded (Broome & Foley 2022 p. 8).

As regards rewarding such people, Broome and Foley write:

> This is perhaps the least palatable feature of a no-sacrifice policy. It sticks in the gullet, but we have to swallow it. These people have the power to prevent us from controlling climate change. They hold us to ransom, and we have to pay. We have to buy out fossil fuel interests (Broome & Foley 2022 p. 8).

The other moral objection is the following:

> The world distribution of income is grossly unequal, which is plainly a very bad thing. So if we choose our climate change policy with the aim of producing the best result, it will be one that involves some redistribution from better-off to worse-off people within the present generation. However, imposing the no-sacrifice constraint prevents this redistribution. So the world distribution of income under a no-sacrifice constraint will end up worse than it would have been without one. But again, this cannot be helped, since governments representing the present better-off people will not accept a sacrifice (Broome & Foley 2022 p. 7).

Broome and Foley argue that "the no-sacrifice constraint is forced on us by political reality," while also describing the "compensation" payments as "ransom." (Broome & Foley 2022 p. 7). On the one hand, they seem to present a

[17] Broome and Foley neither discuss nor cite Shue's writings, and Shue likewise neither discusses nor cites theirs (as far as I know).

moral case in favor of a WCB, since they write both about compensation for "sacrifice" and about the WCB's role in distributing the benefits of mitigation of climate change so that "everyone can share in them," (Broome & Foley 2022 p. 1). On the other hand, they acknowledge that, by "buy[ing] out the fossil fuel interests," the WCB they advocate would "reward" people who deserve punishment, and that this "sticks in the gullet" (Broome & Foley 2022 p. 8). It is clear, therefore, that the BFP's case rests principally on their claim that in order to avert "catastrophic climate change," there is no realistic alternative to adopting the policy approach they recommend, *efficiency without sacrifice*, together with their claim that implementing it requires a WCB (Broome & Foley 2022 p. 8).

> The only way we can achieve a satisfactory outcome is to make sure it is [in] no one's interest to oppose action. [...] We can then harness the strong motive of self-interest to drive action on climate change (Broome & Foley 2022 p. 5).

Notice that an apparent implication of what Broome and Foley say here, in the context of the BFP, is that unless and until a World Climate Bank of the type they advocate is established, taking action (and ceasing to obstruct action) to mitigate climate change will not be in everyone's self-interest (understood broadly, not narrowly as in economic theorizing). If Broome and Foley hold this view, then they are profoundly mistaken. If they do not hold it, and if they use the word "self-interest" in the narrow, technical, economic sense because they are speaking as economic theorists, then they should say this explicitly and acknowledge that economic theory requires revision. Given the momentous consequences of climate change for both human and non-human life worldwide and into the distant future, economic theorists should acknowledge moral constraints on self-interest in the narrow sense, and should conceive more broadly the self-interest of economic agents.

Various conceptions of self-interest, in some cases encompassing a significant degree of altruistic concern for nearer or further future generations, evidently have been motivating climate-focused political activism, which has contributed to causing significant climate-relevant political events since the publication of the BFP. These include Australia's replacing Scott Morrison with Anthony Albanese as Prime Minister in May of 2022, US President Joseph Biden's signing major climate legislation in August of 2022, and Brazil's replacing Jair Bolsonaro with Luiz Inácio Lula da Silva ("Lula") as President in October of 2022. In November of 2022, the Global Carbon Project released a report show-

ing that US emissions peaked in 2005 and have declined by just over 10% since then (Crownhart, GCP). Amazon deforestation has steeply declined since the end of far-right President Jair Bolsolonaro's rule. (Euronews.green). In March of 2023, Australia's parliament "passed the country's most significant emissions reduction legislation in more than a decade" (Morton).

These events highlight the fact that one of the BFP's crucial premises about governments (that they will never act as they morally should act with regard to climate change) is either a false claim of impossibility or else merely a generalization that can be undermined by later events (and has been, to a significant degree). The examples in the previous paragraph are, in terms of logic, counterexamples to Broome's generalization: they demonstrate its falsehood by showing possibilities that it denies. Moreover, although global CO_2 emissions have continued to rise, progress is possible and has been occurring, according to UNEP's "Emissions Gap Report 2023":

> The report finds that there has been progress since the Paris Agreement was signed in 2015. Greenhouse gas emissions in 2030, based on policies in place, were projected to increase by 16 per cent at the time of the agreement's adoption. Today, the projected increase is 3 per cent. [18]

Another questionable premise of the BFP is quoted here above: "The only way we can achieve a satisfactory outcome is to make sure it is [in] no one's interest to oppose action" (Broome & Foley 2022 p. 5). This premise, construed as a general claim about how politics works, is rightly disputed by Gustaf Arrhenius, who argues that "no big changes and reforms in humanity's history, such as universal suffrage, [have] been underpinned by such a unanimity of interests among everybody concerned," and that necessary change can be pushed through by "sufficiently many powerful individuals and organisations on the right side." (Arrhenius 2022 p. 13).

In TPG Shue cites arguments by several authoritative commentators calling for carbon accounting as a basic requirement for banks (TPG p. 172 note 69). Since TPG's publication, apparently rapid progress has happened on this front: the "industry-led, UN-convened" Net-Zero Banking Alliance, launched in 2021, has convened 122 member banks from 41 countries, representing 40% of global banking assets; all of these banks have set decarbonization targets, to be achieved by 2030, which prioritize "areas of the member's business

[18] https://www.unep.org/resources/emissions-gap-report-2023 -- accessed on 31 Dec 2023.

based on GHG emissions, GHG intensities and/or financial exposure in their portfolio," and which align with "no/low-overshoot 1.5°C transition pathways, as specified by credible science-based climate scenarios" (UNEPFI). The facts mentioned in this paragraph and the previous one tend to support Shue's position and to undermine the BFP.

As regards whether a WCB is needed for buying up fossil fuel assets, Arrhenius suggests that "already existing big and rich national governments, or coalitions of governments" can buy up the assets, if it must be done; as regards the BFP's contention that buying up fossil fuel assets is necessary, Lopez-Claros suggests that pricing carbon need not give rise to claims for compensation, since the fossil fuel industry can adjust to the emerging new energy landscape at its own pace, as other industries have always had to adjust over the centuries in response to structural changes in the global economy (Broome et al 2022). The next section provides further reasons for declining to endorse the BFP's position that the no-sacrifice constraint and its implementation by a WCB are necessary. If neither economic nor political realities compel us to endorse the BFP, then we may judge, as Shue evidently would, that the moral objections to the BFP defeat it.

3.5. How (not) to overcome resistance to pricing carbon

A carbon tax is a way of putting a price on carbon. Broome explains that "it is an ideal tax in that, unlike most taxes, it promotes economic efficiency" (Broome Forthcoming p. 1), although it is not ideal in other senses, being inadequate in moral or otherwise practical respects.

> [An] ideal [tax] system will be progressive as a whole, taking a greater proportion of rich people's income than poor people's. But a carbon tax is regressive at least in rich countries. It takes a smaller proportion of rich people's income, because rich people cause less emissions in proportion to their income.[19] The ideal system will have to be made progressive by other taxes. (Broome Forthcoming p. 4).

A carbon tax functions as an incentive leading carbon emitters to change their behavior so as to emit less. There are various ways to collect such a tax; for example, the carbon emitted from fossil fuels throughout the economy can be covered by taxing extraction of these fuels from the ground, and other

[19] This important assertion is questionable.

sources of emissions such as agriculture and forestry can also be taxed. (Broome Forthcoming p. 3). A carbon tax is *necessary* for controlling climate change, Broome asserts (noting that he agrees on this point with William Nordhaus); however, Broome emphasizes (noting that he disagrees on this point with Nordhaus), it is *not sufficient*: also necessary is long-term planning to decarbonize the economic infrastructure, and regulation to speed up change. (Broome Forthcoming p. 4).

Taxing carbon is opposed by "strong political interests," but there is a way to eliminate or reduce their opposition, Broome argues:

> these interests need to be appeased by fully compensating anyone who would otherwise be harmed by a carbon tax. If a carbon tax is to be successful, it needs to be introduced alongside [an] appropriate system of compensation. (Broome Forthcoming p. 1).

Although such a system of compensation requires public borrowing on a very large scale, which currently is not possible for countries that are "up against their credit limit," this problem can be solved, Broome argues, by establishing a World Climate Bank built on the model of the World Bank and the International Monetary Fund. (Broome Forthcoming p. 7).

Compensation payments, considered as compensating for harm or sacrifice, may be advocated on either moral grounds or economic grounds. Economists' arguments about compensation for "harm" or "sacrifice" use these concepts as technical terms belonging to economic theories, not as moral terms. The economic arguments in the BFP concern behavioral incentives necessary and sufficient for achieving Pareto efficiency.[20] These behavioral incentives include both sticks (such as carbon taxes) and carrots (such as compensation payments).

An economist may object to denying either full or partial compensation to owners of fossil-fuel assets by arguing that paying full compensation is needed as a carrot complementing and strengthening the stick (carbon taxes) in the system of incentives required for dealing with climate change. Whether such an economic objection would be sound depends on many facts about human behavior, including both economic and non-economic motivations that are either actual or possible in some sense(s). Here I must leave this question open.

[20] Broome uses both the standard economic concept of Pareto efficiency and a revised version of this concept, which he calls "constrained Pareto efficiency." (Broome Forthcoming p. 2).

However, the progress already made in pricing carbon constitutes reason to doubt the necessity of making the deal with fossil fuel owners proposed by Broome and Foley. A World Bank report published in May 2023 states:

> the annual State and Trends of Carbon Pricing report is now in its tenth year. When the first report was published a decade ago, only 7% of global emissions were covered by either a carbon tax or an ETS [emissions trading system]. Today, as highlighted in the 2023 report, almost a quarter of global greenhouse gas emissions (23%) are now covered by 73 instruments (World Bank).

Even if Broome and Foley correctly believe that fossil fuel owners have sufficient power to block additional progress in pricing carbon and will not drop their opposition unless promised that a WCB will buy their carbon assets, such a deal would almost certainly be extremely unwise. Although the owners may agree to prices for their assets below current market levels, and pledge to drop their opposition to carbon pricing, to allow a WCB to be established, and to cease fossil fuel extraction and promotion, the deal may be counterproductive (and indeed disastrous) if paying the aggregate cost of the (below-market-priced) assets would use most of the WCB's revenues during its initial years or longer, and/or if the owners are not trustworthy (and would continue to use their great wealth adversely).

As regards the character of politically influential owners of fossil fuel assets, Broome acknowledges facts emphasized by Shue and noted above, but draws a different inference regarding how to change such people's conduct:

> Some [owners of fossil fuel assets] are bad people, who have been telling deliberate lies for decades in order to increase their wealth. Because they have deliberately delayed action on climate change, they are causing great suffering to very many people and will cause much more. They deserve to be punished rather than rewarded with compensation. I do not say it is desirable to compensate these people. I say it is necessary in order to reduce the great harm that climate change is doing. These people have power and can hold the world to ransom. Buying them out is a price worth paying, distasteful though it is. I see no other way of overcoming their opposition. We have been trying for thirty years to bring greenhouse gas emissions under control, but they are still increasing. We have failed, partly owing to the machinations of these bad people. We have to do something different. We cannot fight them; we have to buy them out (Broome Forthcoming p. 6).

Given that those "bad people" are dishonest, unscrupulous, and ruthless, it is unwise to trust them. Yet Broome and Foley propose making deals with

them, which would involve giving them vast sums of money in exchange for (essentially) either spoken or written promises to cease being dishonest, unscrupulous, and ruthless. Suppose these "bad people" were to take the money but then break the promise; there would be no recourse, if it were then (as it is now, according to Broome and Foley) impossible to compel the "bad people" to do as they should. In such a case, giving vast sums of money to people who are dishonest, unscrupulous, and ruthless would simply increase their power and make everyone else far worse off.[21] Although judicial enforcement of such asset-buying agreements may be possible in some cases, it seems impossible in others; consider, for example, petro-states such as Saudi Arabia and Russia.[22]

3.6. The case for a World Climate Bank for Mitigation, Adaptation, and Resilience (WCB-MAR)

I do not question whether Broome and Nordhaus are correct in concluding that a carbon price (perhaps a tax) is necessary, nor do I question Broome's case for a carbon tax (except as regards a certain possible use of the revenue). I agree with Broome that a carbon price would not be sufficient. In addition to it, many other policy measures must be implemented, both domestically and internationally, so as to change carbon-emitting behaviors. A WCB-MAR would finance some of the necessary decarbonization projects (excluding purchase of fossil-fuel assets, but including compensation payments of other kinds). Some funds for these purposes, as well as for the bank's necessary operational expenses, could be obtained from member states committed to provide the bank with portions of their annual carbon revenues. World Climate Bond sales and loan interest would be other sources of funds for such purposes.[23]

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[21] Relevant here is a paragraph from an essay Shue co-authored with economist Ravi Kanbur; here they discuss their co-edited volume's essay by economist Julie A. Nelson: "When an agreement leads to aggregate gains overall but there are gainers and losers under that aggregate, what keeps the losers in the agreement? Economists argue that 'side payments' from the winners to the losers would keep the agreement, but as economists who work on 'mechanism design' know, even with this there will be incentives to cheat after the agreement is signed." Nelson cites Posner & Weisbach (p. 170), who are, as Shue and Kanbur emphasize, "ultimately forced to call on ethics as deus ex machina, outside their 'incentive compatibility' framework" (Kanbur & Shue pp. 9-10).

[22] As Shue points out, the world's largest fossil-fuel firms are all state-owned (TPG p. 43).

[23] Bank employees' salaries might be paid directly by their home governments in order to sidestep international political conflicts regarding whether too much revenue from World Climate Bonds is used for high salaries instead of decarbonization projects.

Emphasizing the widespread resistance to pricing carbon, Broome has addressed to me the following criticism: "You seem to favour a WCB with the aim of financing the very many trillions of dollars in investment that are needed to decarbonize the world's economy.[24] Our aim is much more modest. It is not to pay directly for physical investment in decarbonization. It is to make it possible to have a carbon tax of the right size. If carbon is properly taxed, then investment in decarbonization will become profitable, and we can expect it to be financed privately. That is where the many trillions of dollars will come from."[25]

I find this criticism puzzling, in view of the following statement in the most recent version of the BFP: "The bonds issued by the WCB would finance loans to national governments to support specific expenditures tied to decarbonization, including investments in new energy, transportation and housing infrastructure, short-term measures to control the concentration of greenhouse gases in the atmosphere such as carbon capture and sequestration, and compensation at economically realistic prices for the loss of value of fossil fuel reserves."[26] The mission of the WCB-MAR would encompass all but one (the last) of these aims; it would be more modest than that of the WCB proposed by Broome and Foley. Moreover, it would presumably be possible for a WCB-MAR to draw income from the same sources from which a WCB would draw (principally the proceeds from sales of World Climate Bonds, interest on loans, and other funds provided by member countries), if making the BFP's proposed deal with owners of fossil fuels is not, in reality, a prerequisite for putting a suitable price on carbon and establishing a new international financial institution such as a WCB or a WCB-MAR.

I endorse the aim of overcoming resistance to pricing carbon.[27] My argument concerns means of achieving this aim. One of the main functions of the

[24] Notice how Broome here uses the words "investment" and "decarbonization".

[25] Personal correspondence (17 Feb 2023), quoted with permission.

[26] Broome & Foley 2022 p. 11.

[27] Such resistance has been overcome in both Indonesia and Canada's British Columbia. An anonymous reviewer suggests that, as part of a proposed law banning new fossil fuel infrastructure and introducing a carbon price, a government could offer compensation payments to fossil fuel companies, in exchange for their not blocking the bill (by putting pressure on the legislators they helped to elect, for example). My reply is that whether governments (or a WCB) could, indeed, pay out compensation checks to fossil fuel companies depends partly on how much money would be required (for each country and globally). Moreover, this is not the only question to be considered in relation to the moral question of whether such payments should be made.

WCB proposed by Broome and Foley would be to funnel money ("ransom") to the owners of fossil-fuel assets. I have argued that doing so would be counterproductive and could be disastrous, that Broome and Foley have not shown that it is necessary, and that for these reasons among others the BFP is morally unacceptable. I advocate instead a WCB-MAR.

4. Conclusion

As explained above, it is highly likely that most of a WCB's funds would be spent, during many of its initial years of operation, on providing financial compensation to owners of fossil fuel assets due to market value losses, instead of on global green transition priorities. For this reason, establishing the type of WCB proposed by Broome and Foley would be counterproductive and profoundly unwise. We should reject Broome and Foley's claim that there is no realistic alternative to the policy approach they call *efficiency without sacrifice* and the type of WCB they think it requires. Important political and economic realities, including those on which Shue rightly bases his moral arguments for political action to address climate change, [28] support my case against the BFP and in favor of a WCB-MAR. [29]

[28] An anonymous reviewer expressed doubt about whether a WCB-MAR is fully supportable from Shue's perspective, since it would involve generational cost-shifting instead of the present generation's taking full responsibility for decarbonization and therefore bearing its full costs. My reply is that taking full responsibility does not always require bearing all financial costs. Dealing with the climate crisis necessitates diverse types of action imposing burdens and costs of many kinds (not only financial) on the agents (collective and individual, public and non-public) and everyone else. If necessary actions (for the sake of the further future as well as the near future) cannot be taken without shifting burdens and costs, and if all of the currently feasible means of doing so are morally problematic in some respect and to some degree, then the least problematic of these means must be used, unless new and less problematic means can be devised soon enough.

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Hope for a Burning World: Climate Nihilism and Therapeutic Hope

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Abstract

A growing number of young people have responded to the repeated failure of the world's richest countries to accomplish what is needed to prevent climate catastrophes with "climate nihilism" or "doomism": the attitude that further climate disasters are inevitable and climate activism is pointless. This epistemic point leads the nihilist to accept a further moral point, that, because we cannot prevent the coming climate disasters, we therefore cannot have a moral responsibility to do so. The apparent prominence of this response raises the question of how reasonable it is. The consistent history of inadequate political and corporate action seems to support this nihilistic conclusion. Nonetheless, we argue that the practical severity of their conclusion demands a high standard of evidence. In order to reassess the evidence, we develop an account of a particular kind of hopeful attitude, which we term therapeutic hope. Drawing on the successes of past social movements, we show that the adoption of this hopeful attitude makes it more likely that climate activism will be successful and for this reason the possibility of hope undermines the nihilist's epistemic and moral conclusions.

I. Introduction

One of the most poignant facts about the history of environmental activism

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is the repeated failure of the world's richest countries to accomplish anything close to what is needed to prevent the coming climate catastrophes. A growing number of young people have responded to these failures by adopting "climate nihilism" or "doomism": the attitude that nothing can be done, further climate disasters are inevitable, and trying to prevent them is pointless. The apparent prominence of this response raises the question of how warranted it is. The history of inadequate political and corporate action supports the conclusion that adequate climate policy will be continually put off, no amount of activism will do any good, and thus, according to the nihilist, because we cannot prevent climate catastrophes, we have no responsibility to try to. We should just accept this fate rather than pointlessly resisting it.

Contrary to this line of thinking, Henry Shue advocates for an aspirational hope that problematic institutions can change, despite a history of evidence to the contrary. This hope, in turn, enables generational recognition and collective adoption of the responsibilities that we bear to past, present, and future generations. Drawing on philosophical literature about hope and trust, we develop an account of the aspirational hope that is necessary, which we term 'therapeutic hope'. Therapeutic hope is characterized by the recognition that, without the belief that change is possible, change is, in fact, impossible. Envisioning structural change and maintaining the belief that it is possible, even in the face of seemingly insurmountable odds, is necessary for that possibility. Committing to this sort of hope can contribute to shifting those odds. As a result, rather than abrogating our moral responsibilities, as the nihilist advocates, we have an obligation to adopt a hopeful attitude so that we can come together as a pivotal generation and meet the demands of the moment.

In the next section, we reconstruct the arguments in defense of nihilism and interpret them as arguing that, first, we have good reasons to believe that effective action to prevent climate catastrophes is unattainable, and, second, we therefore do not have any moral responsibility to try to prevent climate catastrophes. In section three, we explain Shue's argument that we have a unique generational duty to address climate change. The fourth section introduces the concept of therapeutic hope as the specific attitude necessary to meet this generational duty, and it shows how this attitude has proven effective in past social movements. Section five shows how therapeutic hope can provide resources that undercut the nihilist's argument. Section six concludes by arguing that the nihilist's moral conclusion hubristically abandons a significant moral responsibility.

II. A Defense of Climate Nihilism

A number of recent reports have discussed the growth, particularly among members of Gen Z, of an attitude known as "climate nihilism" or "climate doomism" (Buckley 2022; Franzen 2019; Hickman et al. 2021; Silva 2022; Thomson 2021). While the details vary, the core idea is that nothing can realistically be done to avoid significant global climate catastrophes or even apocalypse, and so large-scale climate activism is pointless. "If you care about the planet, and about the people and animals who live on it, there are two ways to think about this. You can keep on hoping that catastrophe is preventable, and feel ever more frustrated or enraged by the world's inaction. Or you can accept that disaster is coming" (Franzen 2019). Several authors (Moellendorf 2020; Moellendorf 2022; McCormick 2017; Huber 2023) have argued that hope is only reasonable and permissible when we have good evidence to think that the hoped-for end is sufficiently likely to be achieved. The nihilist argues that given the available evidence it is unreasonable to hope that large-scale climate catastrophes will be avoided, and that attempts to save the climate amount to nothing more than impotently raging against an inevitability. It is perfectly reasonable to be angry about it, but it is a wasted effort to try to stop it.

How well supported is this fatalistic attitude? To answer this question, we can first look at how effective individual, market, and political actions can be for addressing climate change. According to the nihilist, however, we have strong reasons to think that no attempt to make progress on any of these levels will make a difference.

In his influential essay, "It's Not My Fault: Global Warming and Individual Obligations," Walter Sinnott-Armstrong argues that there are no traditional moral principles that can obligate an individual to reduce their carbon emissions (2005). The problem, as he sees it, is that the vast majority of us don't have enough of a carbon footprint for it to make any difference how much we cut our personal emissions. Most individuals' carbon emitting actions do not themselves cause harmful consequences. There are two reasons for thinking this. First, the actions of a few super-emitters, primarily large energy and transportation companies, are necessary and sufficient for the harmful consequences of climate change. An individual driving a fuel-efficient vehicle, avoiding air travel, and living a vegan lifestyle would not affect those outcomes at all. Second, there is no causal story that can connect emissions on the scale that individuals typically have to those harms. Small emissions would, if not for the high carbon concentrations in the atmosphere caused by super-emitters, be harmlessly reabsorbed or break down in the upper atmosphere. Sinnott-Armstrong analogizes

individual climate change contributions to someone pouring a quart of water into a river upstream of a catastrophic flood (2005, 290-291). Doing so neither causes the flood, nor does it make the harms of the flood worse (no one will drown who otherwise wouldn't have, no houses will be damaged that otherwise wouldn't be damaged, etc.). In the same way, no climate catastrophe will be prevented or made less harmful if someone chooses to take public transit or plant trees. No hurricane will form that otherwise wouldn't form, nor will any hurricane destroy a house or cause a death that otherwise wouldn't occur had one just refrained from driving oneself to work one day.

Of course, there is plenty of evidence showing that humanity's collective emissions increase the risk of devastating hurricanes or wildfires. However, "Simply noting that eventually, some level of aggregation of tiny increments must sum to a significant increase in the relevant property is not enough to render it obvious that the tiny increment must therefore have some additive property (such as risk-raising) itself" (Kingston and Sinnott-Armstrong 2018, 180). This is not to say that no one has any moral responsibilities with regard to climate change. Sinnott-Armstrong does stress that the governments of those countries with the largest carbon footprints have an obligation to act to mitigate climate change. Rather, there are, according to Sinnott-Armstrong, no changes to one's lifestyle that will have any impact upon any climate catastrophe, and so individual moral responsibility with regard to climate change cannot include a specific obligation to reduce one's carbon footprint. [1]

At first glance this looks like a collective action problem. While it may be true that there's nothing that any of us can do alone, if everyone–individuals, businesses, and governments–accepted the need to significantly curb emissions and energy usage, then significant catastrophes could be avoided. There's certainly something to this way of thinking, but the challenge, as with any collective action problem, is how to get everyone to cooperate. Collective action problems are typified by situations where some collectively good end is

[1] It's worth noting that Sinnott-Armstrong is not a nihilist, since he ultimately argues that governments can address climate change and have a responsibility to do so. Furthermore, he argues that individuals may have a responsibility to hold governments accountable to bring about the needed changes. His point – for present purposes – is that individuals don't have a responsibility to curb their personal emissions. It is also worth noting that this point is controversial, and several authors have criticized him for it (see Fragniére 2016 for a survey of this discussion and Kingston and Sinnott-Armstrong 2018 for his response). For us all that is necessary is that Sinnott-Armstrong's position is reasonably defensible. We will, ultimately, provide our own criticism of it below.

technically achievable, but only if each agent in the group chooses not to pursue some end that is better for them individually. Generally, solutions to collective action problems require some sort of coercive force to make the individually advantageous outcome unavailable or less desirable than the collectively good end. Specifically, since, as the previous argument established, individual emissions are not the problem, this amounts to asking how individuals can influence the behavior of super-emitters like large energy and transit companies. There are two main avenues for such coercion: either through market forces or political action.

Consider first an economic, market-based response. The basic idea is that, while our individual actions cannot have any real effect on the environment, we can choose to support more environmentally friendly companies. For example, we may choose to boycott those companies that are the worst climate offenders, and instead support competitors with a strong track record of environmentally friendly business practices. Since most super-emitters are dependent upon customers and clients, by supporting organizations with better environmental practices, we may be able to influence those who have the ability to impact the environment. In this way, while our actions to avoid climate catastrophes may be individually ineffective, with our purchases we can contribute to collective action that makes continuing to be a super-emitter less desirable for corporate leaders and shareholders.

While this could work in theory, nihilists question whether this mechanism would have any effect on climate catastrophes in practice. The younger generation's skepticism is captured well in the popular meme, "There's no ethical consumption under capitalism" (Lockhart 2017; Singer 2019). The idea is that it's practically impossible to purchase anything that does not involve some sort of morally suspect activity at some point in its production process. Most of our clothes, for example, are made in sweatshops on the other side of the world, out of fabrics that are either partially or entirely petroleum-based, and then shipped in diesel-powered ships around the world (Dottle and Gu 2022; Pucker 2022). Even supposedly natural cotton is typically treated with petroleum products and dyes and often mixed with synthetic, petroleum-based fabrics. Furthermore, even though many companies claim to have sustainable production practices, it is nearly impossible for a retailer to trace the entirety of their supply chain, so these claims are suspect (Higgs 2017). As a result, there's a real sense in which an environmentally conscious consumer has no options for where to buy their clothes. Our power as consumers, both individually and collectively, is our purchasing power. If there are no ethical products in the market, then we have no consumer power to push for or support ethical

production. More specifically, we cannot choose to purchase ethical products or boycott unethical ones if there are no ethical alternatives available. [2]

This problem is hardly unique to the clothing industry. Kate Crawford argues that technology companies cannot ever honestly claim to be 'conflict-free':

> The elements [that go into manufacturing electronic devices] are laundered through such a vast number of entities along the chain that sourcing their provenance proves impossible–or so the end-product manufacturers claim, allowing them a measure of plausible deniability for any exploitative practices that drive their profits. … Ignorance of the supply chain is baked into capitalism, from the way businesses protect themselves through third-party contractors and suppliers to the way goods are marketed and advertised to consumers. More than plausible deniability, it has become a well-practiced form of bad faith: the left hand cannot know what the right hand is doing, which requires increasingly lavish, baroque, and complex forms of distancing. (2021, 35)

Across industries, assurances that each stage of the production process is ethical have repeatedly been revealed to be little more than a shield that allows corporate leaders to claim that, so far as they know, their products are morally unproblematic.

The latest trend in capitalist greenwashing is for large corporations to publicize a net-zero pledge (Clune et al. 2022; Sheldrick 2022). A net-zero pledge is a public promise that their greenhouse gas emissions will, at some point in the future (typically 2030 or 2050), be completely offset by carbon capture and carbon reduction. "Unfortunately, many corporate so-called 'net zero' policies in practice include little to no near term emission reductions on the part of the company. Rather than committing to decarbonize in the here and now, some companies instead seek to offset the majority of their existing emissions by paying others to avoid or remove carbon on their behalf" (Sheldrick 2022). Crawford describes this practice of purchasing carbon offsets as "buying indulgences out of environmental guilt" (2021, 44). Furthermore, these promises to remove carbon, which form the backbone of all net-zero pledges, are deeply problematic because neither of the two approaches to carbon capture actually solves the problem.

The first kind of carbon capture is technological carbon capture and se-

[2] To be clear, this is different from more traditional collective action problems, where there is an available option that is better overall, but motivational structures that make it unachievable. Here, there are no strategies open to consumers that are better.

questration (CCS). The problem with CCS is, quite simply, that it doesn't exist (Oreskes 2022). While we are able to remove carbon dioxide from the atmosphere and pump it underground, we don't have any way to remove the large quantities that are necessary to approach net-zero, and we have not developed any reliable way for large amounts of the gasses to stay underground. Furthermore, what is possible is prohibitively expensive: it costs between $135 and $345 per ton of CO2, and, to get back to 1992 atmospheric concentrations of CO2, we would need to remove about half a trillion tons of CO2 (Bruna 2023; Tiseo 2023a). Even on the low-end cost estimates, that would require committing nearly the entire gross world product. Reaching pre-industrial levels would require twice that.

The second way to remove carbon from the atmosphere is more natural and less expensive: new and reforestation (Bruna 2023). While this technology obviously exists (since it's just planting trees–though, admittedly, knowing how and where to do so is an active body of research), the problem is that it doesn't hold the carbon it captures. Burning fossil fuels releases carbon that has been trapped underground for about three hundred million years and, if not burned, would remain trapped for millions more. While the mass of a tree mostly comes from carbon pulled from the atmosphere, when the tree dies and decays, the carbon is released back into the atmosphere, typically after a few decades, but often much less. Not only does this fail to come close to the hundreds of millions of years offered by coal, it does not even span the amount of time needed to prevent near-term climate catastrophes. The simple fact is that, as far as the climate is concerned, trees are not coal. You cannot trade long-term carbon reservoirs in the form of fossil fuels for short-term carbon reservoirs in the form of reforestation, especially with the fast-growth, small-root, short-life trees that are common in reforestation programs (Stabinsky and Dooley 2021; Surma 2022). As a result, corporate pledges to offset the burning of fossil fuels by planting trees are misinformed at best and disingenuous at worst.

This point may be somewhat countered with the observation that, while trees cannot provide the long-term carbon sinks that are needed, forests are much better. Where a tree holds carbon for a matter of decades and fossil fuels do so for hundreds of millions of years, a healthy forest may hold on to carbon for tens of thousands of years, through successive generations of trees (Forestry Service n.d.; Richie 2021). These time scales are certainly long enough to make a difference with regard to climate change, but there are two big problems with reforestation commitments as part of net-zero pledges.

First, forests are complicated, fragile ecosystems, and the carbon stored in

them can be highly variable (Forestry Service n.d.). While we do know a great deal about forest management, and have had some success at forest growth, rebuilding a forest from scratch typically takes at least a hundred years, often much more. Some recent breakthroughs have dramatically reduced that time, in certain circumstances, but the process is difficult and costly, involves quite a lot of trial and error, and is still in need of a great deal of further research (Eng 2015). As a result, reforestation schemes seem unlikely to be a cost-effective and timely way to decrease the amount of carbon in the atmosphere. Furthermore, it can take very little for the carbon that is stored in a forest to be released into the atmosphere. Because the carbon is stored in living plants, anything that threatens that life also threatens the forest's ability to mitigate climate change. As became painfully evident during the four years of Jair Bolsonaro's presidency in Brazil, a temporary political shift can destroy forestland that will likely take centuries to repair, if repair will even be possible (Jones 2022). During that time, over 45,000 square kilometers of rainforest was lost, an increase of 55% over the previous four years (Gabbatiss 2022; Mendes 2022). In addition to vulnerability to deliberate acts of deforestation, more natural threats like wildfires, storms, floods, and erosion can also release carbon from forests. Furthermore, since these natural disasters are likely to become more common and more severe due to climate change, such loss can have a cascading effect, making the world's forests even more vulnerable.

Second, many net-zero pledges don't even involve a commitment to reforestation, coming instead in the form of a zero-deforestation pledge. Of course, reducing deforestation is environmentally important for many reasons, including for reasons of mitigating climate change. But we have very good reasons to be suspicious that such pledges will be effective. First, though many net-zero calculations treat zero-deforestation and reforestation as equivalent, they are not interchangeable. Most generally, preserving forests cannot help us make progress towards reducing atmospheric CO2 concentrations, because, unless a forest expands, it will already have about as much CO2 as it can hold. As such, there cannot be any real gain, there can only be a deceleration of the loss. Moreover, in at least some cases, reduced deforestation pledges are disingenuous. Some companies have reportedly claimed credit towards a net-zero pledge for promising not to destroy forest that was not at risk of deforestation (Welch 2022; Elgin 2022; Elgin and Mider 2020). Finally, supply chains often involve significant disconnects between different industries, making it difficult to hold companies that have made zero-deforestation pledges accountable, with the effect that many of these companies routinely violate those pledges (Mobray 2022; Hofmeister 2021). Many of these problems can, in principle,

be solved, but taken together they provide strong reasons to be skeptical of the efficacy and honesty of zero-deforestation pledges and the net-zero pledges they are often a part of.

Though net-zero pledges can appear to be ambitious and scientifically grounded green promises, digging deeper reveals them to be mostly pipedreams with little chance of alleviating any climate catastrophes, let alone preventing them. Ultimately, they are far more effective as marketing strategies than as climate mitigation strategies. The same is true for pretty much all attempts at environmentally conscious consumerism. The problem lies in the motivational structure of the capitalist system itself: insofar as the only corporate motivation is the growth of capital, and apparently vacuous and comparatively cheap marketing strategies achieve that, then there can be no internal, market-driven incentive for companies to make the kinds of real changes that would be necessary to avoid climate catastrophes. The problem, in short, is central to the whole capitalist system, and we have good reasons to think that capitalism cannot solve the problems that capitalism created (see, e.g., Klein 2014). Time and again, the supposedly environmentally conscious actions of large corporations have proven to be nothing more than greenwashing. As a result, in addition to the inefficacy of individual lifestyle changes, the nihilist concludes that conscientious consumerism feels like a fool's errand. The economic solution to the collective action problem turns out to be no solution at all.

Rather than solving collective action problems with market forces, we may try to solve them with the force of governmental action, which we can affect by political engagement. This could come by way of direct government restrictions on carbon emissions, or indirectly by creating a carbon market, implementing a carbon tax, or otherwise internalizing carbon externalities. While it's certainly still possible that some climate catastrophes could be averted, delayed, or mitigated through strict governmental regulation, climate nihilists have two arguments for why we shouldn't expect political action to be effective.

First, the governments of the world have failed, and have failed repeatedly, to prevent the coming catastrophes. Leading politicians continue to actively promote the interests of the fossil fuel industry over those of their constituents, and to largely ignore those of the developing world. This persists even as the disastrous effects of climate change–floods, fires, heat waves, droughts–become more severe, more common, and more difficult to (honestly) deny. The scientific consensus that the climate is changing, that we are causing it to change, and that the results will be catastrophic has been unequivocal for more than a generation. Nonetheless, CO2 emissions continue to increase every year, and political action has been at best ineffectual, and far too commonly

actively counterproductive. This track record of failure has been startlingly consistent, and so we have at least a *prima facie* reason to think that it will continue unabated.

Of course, politicians have run for office with strong environmental platforms and have occasionally succeeded at implementing environmental regulation. However, the politicians who focus on environmental problems have not been broadly successful at getting elected and staying in office.[3] They are, without question, an exception to the rule. Furthermore, these environmental policies have not been nearly enough, as can be clearly seen in the relevant data: only four times in the past thirty years have annual CO2 emissions decreased from the previous year, and only once has the next year failed to immediately eliminate the progress (Tiseo 2023b). As a result, total CO2 atmospheric concentration has increased every year (Tiseo 2023a). To the extent that we can identify these metrics as the ones that are most relevant–since they measure the direct causes of climate change–they can serve as a measure of our success in mitigating climate change. Given how time sensitive the challenge of climate change is, one might have good reason for thinking that this is the most relevant standard of progress. By this measure, political action does not seem to have made any progress. One could, of course, contend that there are intermediate goals that we judge progress by, but to the extent that we have met any of them, they have not helped by the most important measure: decarbonizing the atmosphere.[4] As Franzen puts this failure: "The struggle to rein in global carbon emissions and keep the planet from melting down has the feel of Kafka's fiction. The goal has been clear for thirty years, and despite earnest efforts we've made essentially no progress toward reaching it" (2019). The most that has ever been achieved is a slight, temporary improvement in the rate at which greenhouse gas concentrations continue to worsen. The greatest political success so far is that the speed at which things are getting worse has very slightly, and very briefly, slowed. The situation is no better when viewed internationally: not a single G20 country has stayed on track to meet their promises from the Paris Agreement (Kottasová 2021). Why, the nihilist wonders, should we think that governments will suddenly get their acts together?

Second, because climate change is cumulative and involves positive feed-

[3] Consider, for example, the failed U.S. presidential campaigns of Ralph Nader, Al Gore, and Jay Inslee, who made environmental concerns the focus of their campaigns.

[4] It is worth noting that this is not the only measure of political success. We return to this point below in our discussion of past civil rights movements.

back loops, the measures that now must be implemented are much more severe than those that would have been effective thirty years ago, when, at the Earth Summit in Rio de Janeiro, world governments came together to say that something needs to be done about climate change. It might have been enough in 1992 for high-emitting industrialized countries to implement a cap on carbon emissions at then-current levels and invest significant resources into carbon capture and sequestration technologies, but that has long ceased to be true (Nawaz 2023; Randers and Goluke 2020). In order to achieve the goal of arresting the increase in greenhouse gas concentrations–a goal that would not actually be sufficient to stop global warming–"overwhelming numbers of human beings, including millions of government-hating Americans, need to accept high taxes and severe curtailment of their familiar life styles without revolting," and "every one of the world's major polluting countries [would need to] institute draconian conservation measures, shut down much of its energy and transportation infrastructure, and completely retool its economy" (Franzen 2019). Prices of nearly all products would have to increase to accommodate the increased production and shipping costs of "green" goods, and many agricultural products would become unavailable except for very near their points of production. One need not be a cynic to think that the population could not be talked into accepting these measures in time for them to stave off climate catastrophes. This conclusion serves to reinforce the first point, that political inaction will likely continue as it has for decades. Because effective action is so much more costly and difficult now, we have good reasons to think that effective action is more politically untenable than it has ever been, despite the fact that the harms of climate change are becoming increasingly evident. Thus, the nihilist concludes, we have quite a lot of evidence that political action will be no more effective than economic or individual action.

It's worth stressing that nihilists aren't arguing for the physical impossibility of affecting climate catastrophes. Most scholars agree that, while it may not be possible to avoid all harmful consequences of climate change, if we very quickly adopted drastic reductions in global carbon emissions and implemented expansive carbon capture programs, we could substantially reduce those harms. The nihilist's point, rather, is that we have good pragmatic reasons to think that meaningful change is out of reach. Those with the power to implement these changes will not do so, and the rest of us will not get our acts together to force them to do so.

The nihilist takes these arguments to justify their view that we do not have a moral responsibility to try to prevent climate catastrophes. To see why, consider the old Kantian adage that 'ought' implies 'can'. If all that's been said to

this point is right, then we have strong reasons for believing that there is nothing we can do to prevent the world from facing substantial climate catastrophes. Because we cannot have a moral responsibility to do something that cannot be done, we have the same good reasons to think that we cannot have a moral obligation to prevent climate catastrophes.

The problem we have here has an epistemic component and a moral component. The epistemic component is that we have a seemingly compelling analysis of the evidence that supports the nihilist's claim that current climate activism will be no more effective at averting large climate catastrophes than historical climate activism has been. The moral component starts with the Kantian inference that we cannot have any obligation to avert climate catastrophe if we are unable to do so, and then recognizes that this amounts to shirking what would otherwise be a significant moral duty. In the following sections, we will reverse the moral part of this argument, and show that the severity of the moral duty shirked by the nihilist's conclusion demands a higher epistemic burden.

III. Obligations from the Last Opportunity

All of these arguments seem to point in the same direction. Given the apparent ineffectiveness of individual emissions reductions and economic and political action to prevent climate catastrophes, the nihilist concludes that such disasters are inevitable, that there is nothing that we can do. In response, a growing number of young people are experiencing what the American Psychological Association calls 'eco-anxiety': "the chronic fear of environmental cataclysm that comes from observing the seemingly irrevocable impact of climate change and the associated concern for one's future and that of next generations" (Jain and Jain 2022, 1; see also Buckley 2022; Clayton et al. 2017; Hickman et al. 2021; Silva 2022; Thomson 2021).[5] This is very similar to what Jakob Huber calls "resignative despair": "a desire for a state of affairs, combined with the belief that it is impossible" (2022, 84). These attitudes may be entirely appropriate, when viewed in a certain light: those who have the ability to bring about meaningful change (namely, powerful politicians and industry leaders) have repeatedly failed to do what's necessary, which has

[5] Some sources equate nihilism, doomism, and eco-anxiety. We are not doing so here. We are using nihilism and doomism interchangeably, as beliefs concluded from evidence and argument, but characterize eco-anxiety as an attitude that may be appropriate even if nihilism is not.

made the problem both worse and harder to solve. Furthermore, inaction and obstructionism have made it so that future climate mitigation will be more costly and less effective, which in turn makes it politically more difficult to accomplish anything at all. The evidence seems to straightforwardly support the conclusion that adequate climate policy will continue to be put off, that no amount of activism will do any good, and we should just accept our fate. On the other hand, for obvious reasons, dwelling in despair is psychologically untenable. [6] Nihilism presents an alternative: give up on any feeling that we ought to solve the climate crisis. While this will not alleviate all of the sources of climate anxiety–one may still be afraid of having to face a cataclysm oneself–there is no need to be morally concerned about preventing the long-term consequences of climate change for future generations, because there is nothing to be done to prevent the catastrophes they'll face. We are thus freed from guilt at our inability to solve an unsolvable problem. [7]

While this moral conclusion seems to follow from a simple argument using well-supported premises, that support must be examined more carefully. How much support those premises need should be a function of the conclusion. To put it another way, whether the available evidence in support of a premise is sufficient or not depends on the practical severity of the conclusion. When concluding, for example, that a mushroom is safe to eat, the evidence in support of the premise that it is a paddy straw and not a death cap needs to be overwhelming. We argue that the nihilist's argument requires a similar analy-

[6] Beyond resignative despair, Huber discusses fundamental despair, the kind of despair that is characterized by passivity and depression (2022, 96-7). These kinds of despair are untenable, though it's worth noting that Huber argues that another kind of despair, episodic despair, can lead to hoping well (85). We do not dispute that possibility in this paper, as even in that case, hope is doing the important work of motivating action. If episodic despair fails to yield hoping well, that despair is itself problematic.

[7] Nihilists do not necessarily think that this means that we have no moral responsibility at all. While there is certainly a contingent who respond to the apparent inevitability of climate catastrophes with a broad sweeping nihilism, believing that nothing at all matters, the position we are engaged with is more modest. Franzen in particular argues that, because we cannot prevent the eventual climate apocalypse, we have no moral responsibility to do so (2019). Rather, our responsibilities should focus much closer to home, and try to ameliorate those injustices that we are able to address. Some of them may be related to climate change, and if it were possible to push climate catastrophes back a little, then that would certainly be good to do, but for the most part we are unable to do so. On the other hand, we probably can do something, say, about homelessness in our hometown, or expanding trans rights, or securing voting rights. Our only moral responsibilities can be to ameliorate injustices that can be ameliorated, and global climate catastrophes aren't on that list.

sis. The nihilist is concluding that we can safely abandon a moral responsibility. The appropriate standard of evidence will thus depend on how important that moral responsibility would be.[8] On this front Henry Shue offers guidance for evaluating the nihilist's conclusion that we lack this responsibility. His discussions of dates-of-last opportunity, the seriousness of climate catastrophes, and generational positionality suggest that the moral cost of their conclusion is very high indeed.

Shue defines dates-of-last-opportunity as "the date[s] at which the reaction time exceeds the intervention time, making the intervention impossible to carry out" (2021, 77). These are the dates at which it is no longer possible for us to prevent a specific climate disaster from occurring. While a given disaster may not have yet occurred, we might already be incapable of intervening fast enough to prevent it. The troubling fate of the West Antarctic Ice Sheet falls into this category: there was a time when we could have prevented it from collapsing, but that time has passed (Shue 2021, 59). If we miss these dates-of-last-opportunity, it becomes unavoidable that we will cross irreversible tipping points that exacerbate the severity of, and pace at which, climate conditions change, making some climate catastrophes inevitable. Because of positive feedback loops, the faster these conditions change, the sooner other dates-of-last-opportunity become, making it more likely that we will be incapable of preventing other tipping points from being reached.

In addition, Shue notes, there are two kinds of catastrophe that are likely to result if climate change continues unchecked (2021, 78-79, 82-85). The first is the more obvious physical destruction to the landscape and the suffering of humans and animals. The second is the loss of culture and the social achievements that have taken many lifetimes and many sacrifices to generate. This includes the loss of progress made in fights against entrenched injustice, not least because those who are likely to suffer the most from climate change are also those who have historically suffered the most injustice. For these reasons, being mistaken, individually and collectively, about whether intervention is possible is a particularly grievous error.

Shue argues that the current generation is in a privileged position regarding this issue. We are the last ones potentially capable of preventing the world from passing many dates-of-last-opportunity (Shue 2021, 5-6). For those com-

[8] This idea draws on the work of Carl Cranor. He argues specifically that burdens of proof and standards of evidence must be a function of the social consequences of an error of judgment. See, e.g. (Cranor 1997; Douglas 2010). (Huber 2023; McCormick 2017; Moellendorf 2020; Moellendorf 2022) also argue that pragmatic considerations may affect when a hope is reasonable.

ing after us, it will certainly be too late. Given the time-sensitive nature of our situation, we could direct our time and energy into assessing whether the evidence in support of the conclusion that we cannot make a difference to climate change meets an appropriately high evidential threshold, or we can focus on resisting climate change. If we are going to make an epistemic mistake under time-sensitive conditions, better to make the mistake that has the potential to mitigate catastrophic damage, or, at the very least, to give those coming after us as much runway as possible for responding to what we failed to prevent (see also Hartzell-Nichols 2017, 48). As Shue argues, "If moral overachievement is a 'mistake,' it seems like a good kind of mistake to make–and it seems a bit strange to think of it as a mistake" (2021, 87). In other words, it is better to err in doing more than is strictly required rather than less. [9]

Further, Shue can motivate an alternative response to nihilism. Rather than giving in to despair, we must instead respond with hope: "[O]ne thing that humanity cannot do without in the struggle to limit climate change is hope. We cannot succeed in preventing additional disasters unless we can lick our wounds and then return to the fight with refreshed hope and steeled determination to succeed" (Shue 2021, 85). We argue that this hope is an alternative to nihilism. In addition to simply offering a different attitude, the presence of hope makes it more likely that there will be progress made in the fight against climate change, in turn undermining the nihilist's argument that nothing can be done. This is so for two reasons.

First, when hope is translated into action, it can offer others reasons for being hopeful. While it is true that mere wishful thinking does little to bring about meaningful change, projecting active hope signals to those around you that you are ready to work towards solving the collective problem, which tells them that their effort alongside you is less likely to be in vain. Their hope can, in turn, inspire a similar response in others. In this way, hope can become productively contagious.

Second, as Shue describes in the quote above, hope yields determination and a willingness to push forward in the face of difficult conditions. The motivational power of hope should not be underestimated (see, e.g. Dout and Obst

[9] Some authors (e.g. Moellendorf 2020; Moellendorf 2022; Huber 2023) have stressed the opportunity costs associated with hoping. It is beyond the scope of this paper to address these arguments fully, but in brief we find the opportunity costs of failing to mitigate climate change in time to be far greater than any reasonable assessment of the opportunity costs of hoping. See also (Dout and Obst 2023), who argue that there can be a duty to act in hope, even when there are substantial costs to doing so, and (Mason 2022, 298-9), who argues that hoping is appropriate precisely when our ends are vulnerable.

2023; Mason 2022; Moellendorf 2020; Moellendorf 2022). Hope gives us reasons to keep showing up, and even if not every attempt is a success, refusing to give up increases the likelihood that at least some of them will be. In making his case, Shue gives the powerful metaphor of the boxer who, upon recognizing the sacrifices others made to get him to the ring, thinks, "'I have taken a considerable beating so far, but I have won half the rounds, and if I win the next round I will break the tie and win the fight.'... He simply needs to make his premise true. He needs to be as sure as he can that he wins the last round. Maximum effort could indeed pay off" (2021, 84). One of the tragic parts of the nihilist's argument is that the present failures do not really stem from a lack of knowledge or of the technology needed to respond to climate change, but instead from the lack of a collective will: we won't force the institutional changes and make the sacrifices that would suffice to avoid the worst consequences of climate change.

However, this way of thinking is unnecessarily narrow. It's not just about following through on what we know we ought to do; it's also about being imaginative about possible solutions, open to social structural revisions or policies that generate some uncertainty and yet perhaps must be tried if the current structure makes it impossible for us to do things in an ethical way. Dout and Obst, for example, stress the importance and power of imaginative extrapolitical actions, "forms of struggle outside conventional political action," especially when traditional political and economic means seem unable to bring about the structural changes necessary to achieve the hoped-for aim (2023, 326). They refer specifically to the success of the Great Green Wall project at reversing the desertification of the Sahel (2023, 329). Evidence like this of activists being creatively motivated and acting cooperatively can undermine the support for the nihilist's beliefs that our will cannot rise to the occasion and that the rules of the game cannot change. The creativity needed is not limited to working outside of traditional political institutions. As the media and culture critic Mark Fisher observed, "It is easier to imagine the end of the world than it is to imagine the end of capitalism" (2009, 2). Therapeutic hope pushes us to imagine more: to imagine alternatives to the structures that are often taken to be necessary.

Despite the many benefits of hope, not all hopeful attitudes are appropriate. Hope can be dangerous. If one construes hope as ostriching, as a refusal to assess the evidence at hand, then being hopeful will not lead to productive motivation. For example, hoping that technologies will be invented that can solve climate change without requiring any sacrifices to our lifestyles simply fails to acknowledge the facts. This kind of hope is naive optimism, not the kind of

aspirational hope that Shue argues is necessary. As Franzen argues, another kind of problematic hope may lead one to stubbornly dig in their heels in response to a battle already lost rather than turn to one that is winnable (2022). Thus it is necessary to further flesh out an account of the kind of hope that offers a genuine alternative to the nihilist, a task which we take up in our next section.

Shue himself acknowledges that we could get to the point at which hope in our ability to prevent climate catastrophes would become unreasonable: "Before a change for the worse becomes irreversible, there is hope that it can be avoided, and the hope itself can be precious. Irreversibility brings the death of hope" (2021, 85). We may eventually have strong evidence that we have crossed all dates-of-last-opportunity, and thus that catastrophic damage is inevitable and irreversible. In that case the nihilist's position may become reasonable. But we are not there yet. For Shue, accepting that conclusion prematurely involves condemning future generations to a loss of any reasonable hope, which in itself is a devastating sentence.

IV. The Promise of Therapeutic Hope

In the previous section, we argued that, because of the moral and practical severity of the nihilist's conclusion, the 'good reasons' that support their conclusion must meet an extremely high burden of proof. To accept the conclusion that we lack a moral responsibility to prevent climate catastrophes without meeting that standard would be dangerously hubristic. [10] While *prima facie* the nihilist's reasons seem to meet a high bar, we will show that examining the situation from a hopeful stance reveals that their evidence is incomplete and weaker than it at first appears. In this section, we introduce therapeutic hope as the form of hope capable of reframing that evidence. In doing so we offer a solution to the challenge posed by the nihilist. Adopting therapeutic hope shows us how, in keeping with the path followed by other political movements, we can reasonably hope that the future will not resemble the past. As a result, regardless of how unlikely success may appear right now, we

[10] It's worth noting that the strength of the evidence may be different for different people. An impoverished person living in the developing world, for example, could have better reasons to think that they cannot influence the policies of distant, wealthy countries than do the voting citizens of those wealthy countries. We are not suggesting that it would be hubristic for the global poor to reach a more nihilistic conclusion, for the simple reason that they will be far closer to meeting the burden of proof.

nonetheless ought to try, and adopting this hopeful attitude makes eventual success more likely.

Our account of therapeutic hope is analogous to therapeutic trust. Therapeutic trust builds trust by extending a trusting attitude toward someone who has not proven themself to be trustworthy (see, e.g., Carter 2022; Horsburgh 1960; Frost-Arnold 2014). This lack of proof could be because information about their trustworthiness is lacking, such as the trust we extend to strangers in a public place. More relevant for our purposes is when we have information that suggests someone is not trustworthy, and yet, to encourage them to become trustworthy, we treat them as though they already are. This typically occurs among individuals who have ongoing relationships that transcend any specific trusting encounter. An example of this would be a parent who leaves their teenager home alone, telling them, "I trust that you will be responsible and won't have a party at the house." Though past evidence might not support a belief that their child will act responsibly in their absence, the extending of trust itself makes it more likely that the child will rise to the occasion and act in a way that justifies future trust.

The kind of hope needed to respond to the nihilist's challenge is analogous to therapeutic trust in that, while it may not be an attitude that's justifiable based on past evidence, therapeutic hope can create the conditions that make future hope more reasonable. As in the case of therapeutic trust, therapeutic hope may be reasonable to adopt when the hope is not about one isolated incident, but instead concerns an ongoing dynamic. For example, in the case of climate change one might hope that we can get a particular climate policy adopted despite evidence from the failure of past efforts. Importantly, however, therapeutic hope cannot be an attitude that is adopted only for the individual policy. Just as therapeutic trust presupposes an ongoing relationship that gradually builds trust, so therapeutic hope is about adopting an extended attitude to the broad goals of a movement. Even if the specific policy one is fighting for fails to be adopted this time, the general attitude of therapeutic hope involves a commitment that the movement's goals can be realized.

Both trust and hope require opening oneself up to vulnerability: that the trust will be violated or that the hoped-for goal will fail. What characterizes the broader attitude is that the vulnerable position of violated trust or failed goal need not undercut how reasonable it is to remain trusting and hopeful. Holding firm to the belief that, eventually, the trust will be justifiable and the hope will be realized, even in the face of past failures, makes it more likely that trustworthiness will be earned and the movement will succeed.

While trust often focuses on specific agents following through on their

commitments, therapeutic hope is more general. In the case of hope that we will blunt the worst of climate change's effects, this more general hope entails more specific hopes: that others will be moved to act and willing to accept personal sacrifices; that global leaders will commit to and follow through on policies that limit emissions (or be replaced by those who will); that business leaders will do more than greenwashing; that we are capable of bringing about large-scale structural change; and that individual actions in concert with others can make a difference. Hope that it is possible to prevent climate catastrophes requires investing in both mitigation and adaptation strategies. Mitigation strategies can potentially prevent the worst chains of events from being set off by passing tipping points. Adaptation strategies can make the climate effects (storms, fires, droughts, etc.) less harmful to human and non-human life when they do occur. While at times difficult decisions will need to be made about which strategies to prioritize and when (an active area of research), we are focused most directly on the nihilist who is looking away and despairing rather than committing to doing whatever they can to respond to these threats. Further, people might see themselves as part of the pivotal generation and commit to preventing climate catastrophes while still having different visions about what future we should aim at. Robust discussion about that vision is compatible with moving toward a collective future.

Therapeutic hope is more than wishful thinking because, like therapeutic trust, therapeutic hope aims to actively bring about these hoped-for outcomes. Toward this end, we follow Michele Moody-Adams in thinking that the kind of hope needed for large-scale social change is an affective orientation rather than an ordinary emotion or a volitional attitude or disposition. Moody-Adams characterizes this hope, which she terms 'positional', as "'standing firm' on the conviction that something good or desirable can happen—even in the most challenging of times—and that one might be an effective part of the efforts that bring it about" (Moody-Adams 2022, 230). We argue that therapeutic hope is like this, a stance that one takes toward the future, a stance that allows us to reinterpret what is possible and remain resilient in the face of threats to the hoped-for end.

Adopting this kind of hopeful stance can, in turn, make it more likely that one also feels hopeful in the ordinary emotional sense and that one is more disposed to act in ways that reflect hopefulness. Karen Jones describes this dynamic as affective looping, the process by which "a prior emotional state provides grounds for its own continuance, or when it provides grounds for another different but allied emotional state which in turn provides grounds for the original emotional state, which further reinforces the allied emotional

state, and so on, in a self-supporting loop, a loop that tends to not only sustain but also to magnify both emotional states" (Jones 2019, 956). While Jones focuses on how ordinary emotions like empathy and fear frequently generate affective loops of trust and distrust respectively, others have argued that emotions more generally follow this kind of feedback loop (see, e.g. Hollenstein 2015). Our proposal is that affective orientations such as hope and despair function similarly. From a hopeful stance one is more like Shue's boxer, facing new challenges with the belief that one simply needs to make the premise true, that a win is still possible. From a stance of despair, the boxer has already lost; they fail to fully show up for the fight. The hope is therapeutic in that even when faced with terrible odds, continuing to commit to–and identify with–one's goal enables one to act in ways that make that hoped-for goal more likely. Thus, while one cannot just choose to feel hope in the ordinary emotional sense and then conjure up the emotion, hope in the sense of an affective orientation is more under our control. One can choose to try to embrace a more hopeful stance and then do so by connecting with others who are hopeful or by taking actions that are consistent with hope. By changing how we focus our attention, how we act, and who we engage with, becoming more hopeful is within our control.

Shue's comparison of the current generation to the greatest generation and Moody-Adams' engagement with social movements further draws our attention to the reality that many others have already fought for causes they judged to be morally important despite enormous challenges and entrenched opposition. In the face of these challenges, they decided to move forward under conditions of great uncertainty and personal risk. Had they not done so, the world would look very different today. The United States' women's suffrage and Civil Rights movements illustrate this point. The Seneca Falls Convention took place in 1848 and it was not until 1920 that women secured a constitutional right to vote with the passing of the 19th amendment. The Civil Rights movement of 1954-1968 was needed specifically because the passing of the 13th, 14th, and 15th Amendments between 1865 and 1870 failed to effectively secure the voting rights, physical safety, and equal citizenship of people of color in the United States. In fact, the backlash of the Jim Crow era showed political action on this front to be actively moving in the wrong direction. While the passage of the 19th Amendment in 1920 and the Civil Rights Act of 1964 are far from the ends of those stories, in both cases there were decades of stalled action and even regression before the political tides changed. Forward progress was only possible because people were willing to take personal risks and to imagine a more just future, even if it takes longer than their lifetimes to make

substantial progress. Their efforts should not be looked at as isolated incidents or judgments that their specific actions would turn the tide. That could not be known in advance. Instead, these efforts were part of an ongoing shared struggle made worthwhile in part by the future actions of others who continue to be motivated and inspired in the face of terrible odds by the sacrifices of those who came before. These social justice leaders committed themselves to be a part of an intergenerational change. "[I]n a way the ultimate value of the sacrifices everyone else has already made on every other previous day depends on whether the sacrifices we make on this decisive day are adequate for success. If ours are adequate, all the sacrifices on all the other days will have led to victory; if not, the past sacrifices will have led nowhere" (Shue 2021, 83).

Both Moody-Adams and Jones argue that activists such as these offer valuable insights and that philosophers would do well to attend to them (Jones 2019, 956; Moody-Adams 2022, 233). The insight most relevant for our purposes is Moody-Adams' observation that:

> [T]here really are identifiable and accessible pathways to collective and socially constructive hope. We follow these paths when we appeal to people's capacity to accept a shared social identity; when we encourage the readiness to interpret important episodes and events in light of that identity; and when we assist efforts to articulate shared goals and then to collaborate on collectively imagining what the world might look like if those goals were realized. (2022, 233)

Shue has provided us with a means of following through on Moody-Adams' observation. His characterization of us as the pivotal generation, in comparison to the greatest generation, does precisely the work of offering us a shared social identity from which we can approach the problem of climate change (2021, 10-11). Adopting this shared identity as the pivotal generation then leads us to interpret our circumstances as an opportunity rather than a burden, and one that we are uniquely called to on account of our temporal positionality. This hopeful stance can be maintained "even in the most challenging of times" (Moody-Adams 2022, 230) if we conceive of ourselves and one another as members of the pivotal generation. Thinking of one another in this way, in turn, better enables us to articulate shared goals and to imagine future possibilities, all of which further supports continued hope.

Therapeutic hope can also lead us to approach decisions about how climate burdens are distributed with empathy and an attentiveness to justice. John M. Meyer observes that sacrifice in a democracy is ongoing and unavoidable, though sometimes it is not recognized as such because it is embedded into the

background conditions of a society. For example, our current dependence on gasoline-powered vehicles requires many to make health sacrifices, to endure long and stressful commutes, and to spend limited financial resources on cars (Meyer 2010, 20-21). Recognizing that these, too, are sacrifices allows us to reframe the sacrifices needed to address climate change more hopefully. Because sacrifice is unavoidable, our choice isn't just whether or not to voluntarily give up something we now enjoy. Rather, hope empowers us to choose which sacrifices we will make, and, in doing so, gives us the opportunity to prevent members of future generations from being sacrificed for us (Meyer 2010, 22-23). Conceiving of our situation in this way gives us agency and respects human dignity. Allowing people to be sacrificed does not. This difference is about more than how we each choose to think about our situation. Collectively shifting the perspective from which we have the conversation can better enable us to be more thoughtful about who is bearing which burdens and also allows us to experience a sense of choice in the matter. The nihilist's framing of the collective action problem focuses on coercing people into making sacrifices and their acceptance of the inevitability of climate catastrophes entails accepting that some will be sacrificed. Shue's and Meyer's approaches highlight that there is another alternative: we can have hope that we will not condemn ourselves and future generations to a much less livable planet.

V. Responding to the Nihilist

Let us now return to the arguments made in Section II in defense of the nihilist's conclusion that individuals cannot prevent climate catastrophes. We identified three primary arguments: First, because individual carbon footprints are so small, changes to one's lifestyle cannot affect the severity or inevitability of climate catastrophes. Second, engaging in conscientious consumerism is similarly ineffective because environmental corporate action is dominated by greenwashing and delaying tactics, making it difficult, if not impossible, to make ethical market choices. Third, political action has proven itself to be a fruitless endeavor, and we have no reason to think that the voting public will suddenly begin to support politicians who advocate for effective climate policies, including some draconian restrictions. In all three cases, we grant the main facts, but therapeutic hope provides an alternative way of looking at the problem. To the degree that there is still space for hope, the strength of each argument weakens, and with it the support for the nihilist's contention that nothing can be done to address the coming climate catastrophes.

Consider first the effects that our lifestyle decisions can make. We can drive fuel-efficient cars, get solar panels, give up meat, etc., but none of these choices will suffice to reduce the harms of climate change. It's the decisions of super-emitters that have the ability to drastically shift our climate course. While it is true that individual carbon footprints are not causally efficacious, the nihilist is here assuming that we only act as consumers. However, we are far more than that: we are members of communities, which gives us far more ability to enact change. It is a mistake, in other words, to see the role of individual action as starkly distinct from economic and political action, and it is a mistake to see those latter two as only serving the role of being mechanisms to force others to act in ways that wouldn't otherwise be in their best interest. Furthermore, one of the most impactful decisions we can make is with which communities to identify. By identifying with the pivotal generation, as Shue suggests, we are choosing to be part of an intergenerational movement committed to preserving a livable planet for future generations.

As noted above, we agree with the nihilist that consumer action in a market economy is probably incapable of solving the coming climate crisis. The nihilist is right that we have good reasons to be skeptical that market actions can fix what market capitalism is continuously breaking. Under the current form of capitalism, we have little ability to force the corporate world to adopt meaningful environmental practices. But capitalism is not the only option, and the kind of capitalism that is destroying the environment is not the only form of capitalism. Contemporary capitalism may not be able to fix what it broke, but we are able to fix capitalism. Furthermore, we have some reasons to think that changes to capitalism are practically feasible rather than merely conceivable. For instance, the number of national and local American politicians who openly identify as democratic socialists has sharply increased in recent years. At the policy level, the Green New Deal, which includes fairly substantial modifications to some basic capitalist structures, has enjoyed broad support among American voters (Deiseroth and Blank 2021; Gustafson et al. 2018). This suggests that the average American judges that environmental concerns could be a good enough reason to abandon some long-held economic tenets. So, on the one hand, we could take the available evidence to say that there aren't market solutions to climate problems. On the other, we could adopt a more hopeful attitude, taking the evidence to say that we need to find solutions outside of the structures of market capitalism, and we can have reasonable hope that such solutions are, eventually, attainable.

Finally, consider the possibility of meaningful political action. While it is true that politicians have a track record of failing to pass regulations that could

avoid climate catastrophes, this is not the only relevant evidence. The nihilist's argument takes the proper measure of political progress to be reductions in carbon emissions and atmospheric carbon concentrations. Through that lens, however, past political accomplishments appear mysterious. As discussed above, the American civil rights laws passed in the 1950s and 60s were only passed after seventy years of Jim Crow regulations aimed at undercutting the 13th, 14th, and 15th Amendments. Of course, the passage of civil rights laws didn't come out of nowhere; they came as a result of decades of concerted effort, including quite a few failed attempts to pass laws of the sort that eventually succeeded. Similarly, the American environmental regulations of the 1970s passed rapidly and in quick succession, in part because of the substantial groundwork laid over decades by the likes of John Muir, Aldo Leopold, and Rachel Carson. There have also been significant changes to the kinds of attitudes that are judged acceptable for a politician to openly hold. For instance, there are now few American politicians willing to publicly admit to being white supremacists, though that wouldn't have been that uncommon seventy or eighty years ago. Similarly, it is becoming anathema for politicians to express broad doubt about the existence of anthropogenic climate change, though that wouldn't have been the case just ten years ago. If we include data other than simply the passage of adequate legislation, then, we can find far more evidence that change is possible. Of course, this doesn't entirely eliminate the force of the nihilist's arguments: it will certainly require hard work to force the needed political change, and, even then, we may not be successful. But we certainly will not be successful if we don't hold on to hope that we can succeed, and, as we've argued, that obstinate hope can be contagious and self-reinforcing, making it more likely that the kind of rapid and broad regulation that's needed will be adopted.

Of course, the evidence in support of the nihilist's conclusion is still compelling, and still serves as a reasonable basis for a certain amount of despair. The question is what we should do in response to that despair. As Huber (2023) stresses, we can either embrace it and (in our terminology) embrace nihilism, or we can adopt the hopeful attitude and recognize that nihilism would be violating our duty to be a part of the pivotal generation. The nihilist might still press the point by asking, "Isn't this just foolish, though, because my individual hopes still aren't efficacious?"

Iris Marion Young's theory of political responsibility offers a response to the nihilist's individualism (2003). Young advocates for moving beyond a restrictive liability model of responsibility, according to which we are always and only responsible for those effects we directly bring about. While liability

is important, she argues that we must also recognize a broader sense of political responsibility. As she explains it, "Political responsibility is a shared responsibility, which can best be discharged through collective action. It is nevertheless individually distributed: transformation in structures that produce or perpetuate injustice can occur only when many individuals take responsibility for making such transformation" (2003, 19). The nihilist's arguments are reductive to the liability model: we can only be responsible for what we can individually bring about. This individualism precludes the possibility of intergenerational projects. Young advises us to consider the possibility of collective responsibility without individual guilt: though we cannot be held individually liable for the coming climate catastrophes, as a generation we nonetheless can be responsible for preventing them.

Young's conception of political responsibility can help us recognize that we can have duties that aren't reducible to what's recognized under the liability model. We can also have duties that stem from our political responsibility to be a part of a movement, even when none of our individual actions are either necessary or sufficient to bring about the change. Further, past social movements reveal that, even if we don't know which actions will succeed, there is still value in the pursuit, in finding the progress that isn't measurable in terms of nearness to the goal–here, in terms of the amount of atmospheric CO2. Of course, we eventually will need that progress, but the fact that none of our work has shown progress by that measure doesn't indicate that we haven't made progress towards being able to make measurable changes. We can engage in a wide variety of actions as a generation, hopeful that some of them will ultimately conspire to bring about the needed change.

While the nihilist primarily sees the problem of climate change as a collective action problem only solvable through external coercion, the hopeful activist recognizes that solidarity and willing sacrifice are also ways of responding to the problem. Recognition of shared political responsibility opens up a wider range of political and extra-political actions and can motivate the adoption of necessary sacrifices. For example, citizens might willingly support personal restrictions or restrictions on the freedom of super-emitters. Shue's emphasis on shared generational opportunity and sacrifice works to generate an affective orientation that leads to precisely these kinds of responses. While it might be naive to think that all necessary climate sacrifices will be willingly adopted, it is just as naive to presume that none of them will be.

VI. Conclusion

The nihilist's view that we have good reasons to think that we are incapable of preventing climate catastrophes may be understandable, but their conclusion that we lack a responsibility to try to do so is not morally defensible. Given how much our stance, either hopeful or nihilistic, can influence what it is possible for us to accomplish, it is morally hubristic to allow 'good reasons' to be good enough. The judgment that our evidence is sufficient for concluding that we cannot do anything to prevent climate catastrophes and that we should leave everyone to their fates is something of a first-world attitude. It is far easier to accept that climate catastrophes are inevitable as a citizen of a wealthy country, with a resilient infrastructure, living well-above sea level, than, for instance, as a resident of Jakarta, which will be among the first major cities to suffer from rising sea levels (Kimmelman 2017; Guest 2019). The consequences if our generation does nothing are particularly severe, and it is technically possible that wealthy countries can act to avoid, or at least significantly mitigate, many of the coming climate catastrophes. As such, it is the height of moral hubris for members of those wealthy countries to abrogate that responsibility without decisive reasons that meeting it is impossible. This is especially so because, as with Shue's boxer who can only win if he believes that he can, our attitude to our climate-related responsibilities directly affects our ability to meet them.

As we have argued, therapeutic hope presents an alternative to nihilism. Because therapeutic hope requires imagining positive possible futures and recognizing oneself as having both the capacity and the responsibility to try to bring them about, the hope itself makes those outcomes more likely. Therapeutic hope entails a call to action and an acceptance of the present generation's collective responsibility to bring about hoped-for changes. Like therapeutic trust, therapeutic hope is a practical stance that may not be justifiable on narrow evidentiary grounds, but which can be effective or necessary to bring about precisely that state of affairs that would make it justifiable. As such, therapeutic hope can shift the epistemic weighting of evidence and provide a response to the apparent strength of the nihilist's reasoning.

There are several ways that therapeutic hope may affect our attitude toward environmental action specifically. Straightforwardly, without hope that political inertia can shift, it won't. It may well be reasonable to expect that, since politicians have consistently failed to meet their climate obligations, they will continue doing so. However, if there is no concerted push for change, no strong and univocal call to replace politicians who have failed to prioritize the climate, then political business-as-usual will keep us on the path to climate catastrophes. The

same is true of corporate and economic behavior: corporations won't spontaneously decide to cease destructive but profitable business practices without consumer demand, and our current neo-liberal, constant growth capitalist system cannot change without the belief that it can change. Without hope that the institutions that currently constrain our actions could be different, they won't be. Nihilism, then, is a self-fulfilling prophecy: if we respond to patterns of bad actions by accepting that action will always be bad, then there is no incentive for bad actors to change or be replaced. The nihilists may be right that effective change is practically impossible. But if nihilism spreads, they definitely will be right.

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