

Forthcoming in symposium on Henry Shue's 'The Pivotal Generation' in *Philosophy and Public Issues*

Who has a moral responsibility to slow climate change?

Säde Hormio, University of Helsinki

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

1. Introduction

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

¹ The study was conducted in the USA.

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 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

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".

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

lack the relevant background knowledge and concepts to be able to grasp p , but *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 future 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

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 the likelihood is that 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.

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” 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).

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

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 undermine 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. 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, he writes that the goal is to make people suspend their judgement through conflicting evidence. The misleading or false information that individuals 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.

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

References

- Bell, D. (2011). Does anthropogenic climate change violate human rights? *Critical Review of International Social and Political Philosophy*, 14: 99–124.
- Bruine de Bruin, W., Rabinovich, L., Weber, K. et al. (2021). Public understanding of climate change terminology. *Climatic Change*, 167, 37.
- Caney, S. (2010). Climate change and the duties of the advantaged. *Critical Review of International Social and Political Philosophy*, 13(1): 203-28.

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 & 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).

⁸ I would like to thank the Finnish Cultural Foundation for the personal research grant (00190342) they provided.

- Carmichael, J. T., Brulle, R. J. & Huxster, J. K. (2017). The great divide: understanding the role of media and other drivers of the partisan divide in public concern over climate change in the USA, 2001–2014. *Climatic Change*, 141(4), 599-612.
- Fallis, D. (2016). Is Making People Ignorant as Bad as Deceiving Them? In R. Peels (Ed.), *Perspectives On Ignorance From Moral And Social Philosophy* (pp. 120-33). Routledge.
- Hormio, S. (2017). Can Corporations Have (Moral) Responsibility Regarding Climate Change Mitigation? *Ethics, Policy & Environment*, 20(3), 314–332.
- Kahan, D. M., Peters, E., Wittlin, M., et al. (2012). The polarizing impact of science literacy and numeracy on perceived climate change risks. *Nature Climate Change*, 2, 732–35.
- Oreskes, N., & Conway, E. M. (2010). *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming*. Bloomsbury Press.
- Peels, R. (2010). What is ignorance? *Philosophia*, 38(1): 57-67.
- Peels, R. (2018). Asserting Ignorance. In S. Goldberg (Ed.) *The Oxford Handbook of Assertion*. Oxford University Press.
- Shue, H. (2021). *The Pivotal Generation: Why We Have a Moral Responsibility to Slow Climate Change Right Now*. Princeton University Press.
- Singer, P. (2002). *One World: The Ethics of Globalization*. Yale University Press.
- Vanderheiden, S. (2016). The Obligation to Know: Information and the Burdens of Citizenship. *Ethical Theory and Moral Practice*, 19(2), 297-311.