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What is the rational response?

Malcolm Bull

A Perfect Moral Storm: The Ethical Tragedy of Climate Change by Stephen Gardiner
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For the benefit of anyone who has spent the past decade or so on a different planet, the most frequently asked questions about climate change on this one are as follows. Is it getting warmer? Yes, surface temperatures have risen by 0.8°C from pre-industrial levels. Are humans causing it? Almost certainly. The gases produced by industrialisation and agriculture are known to have an insulating effect, and their concentration in the earth’s atmosphere has increased in line with rising temperatures, while natural causes of global warming have remained constant. Will it get warmer still? Very probably, though no one can accurately predict when or by how much. The 2007 Intergovernmental Panel on Climate Change (IPCC) Report offers a range of projections within which its best estimates are for a temperature rise of somewhere between 1.8°C and 4°C over the course of the 21st century, depending on the level of greenhouse emissions. Is there anything we can do about it? Potentially, yes. If we were to keep emissions to the low end of that spectrum, global warming might just be kept at 2°C or below, and its impacts minimised.

Climate change sceptics are an assortment of cussed old men, mostly without relevant scientific training, who disagree with one or more of these answers. Their aim is scattershot, but they do have some ammunition. The first decade of the 21st century may have been the hottest on record, but global temperatures did not get significantly hotter in the course of the decade as they had in the 1980s and 1990s. There are several possible explanations for this, one of which is the protective effect of sulphate aerosols, another result of industrialisation (Chinese in this case), which may also explain the flattening of the upward secular trend in temperatures from the 1940s to the 1970s. If that’s so, there is no reason to adjust the trend-line, for greenhouse gases stay in the atmosphere a lot longer, and sulphates mask rather than modify their effect.

That said, even though Chinese industrialisation was well advanced in the 1980s, its influence on the climate was not widely anticipated, and anyone looking back at the 1990 IPCC projections on global warming can see that they overestimate temperature rises in the 2000s by some margin (though not the associated environmental impact). This is also an indication of the difficulty of modelling future changes, and given that the range of the 2007 IPCC projections is sufficiently wide for the highest value in the low-emissions scenario (2.9°C) to be 0.5°C above the lowest in the high-emissions scenario (2.4°C), it’s clear that we are some way from quantifying all the variables

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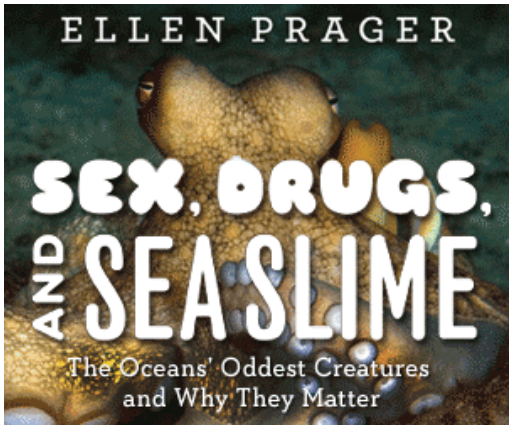


Although they often have to give ground on the science, the sceptics have correctly spotted that there is something odd about the discourse around climate change. Public policy debates are rarely concerned with possibilities so remote in time and uncertain in outcome, and when they are, the policies that result are correspondingly tentative. The peculiarity of climate change is that the seemingly natural relationship of policy to time and certainty is inverted: it is precisely because climate change is so uncertain that we have to consider the possibility that it will bring disaster on a global scale, and it is precisely because its impact is long deferred that we must act decisively now.

Are these demands reasonable? They might be if – as James Hansen, one of the founders of climate science, has claimed – it is ‘our last chance to save humanity’. But is it? Any change in temperature will inevitably benefit some species and harm others, so it probably is the last chance to save those adapted only to specific ecological niches dependent on the existing climate. One pro-climate change website helpfully provides parallel columns of the positive and negative impacts: top of the list on the positive side is an increase in the numbers of chinstrap and gentoo penguins; on the negative, the extinction of the European land leech.

What about the impact on human beings? Here, too, the effects of climate change appear ambiguous. In terms of temperature change itself, the World Health Organisation estimates that climate change since the 1970s is already responsible for 140,000 deaths annually. That sounds terrible, but any temperature variation is going to result in excess deaths from either heat or cold, and it is far from clear that the net effect of an increase in temperature will in itself be harmful – it might even be beneficial. As for rises in sea level, the 2007 IPCC projections range from 18 to 59 centimetres – which is not enough to submerge anywhere other than the lowest-lying areas. And with regard to fresh water, everyone agrees that higher temperatures mean higher levels of precipitation, so there should be more water to go round. The 2007 IPCC report acknowledged that climate change reduces per capita water stress, and one recent study suggests that, with a temperature rise of around 2.4°C, water stress would increase for 1.2 billion people by 2100 but decrease for three billion others.

So what is the problem? There are two: differential impacts and high-end uncertainty. Most of the negative consequences will be felt in the earth’s mid-latitudes, already the poorest parts of the world, where secondary effects such as economic disruption, disease, famine and war will be experienced most acutely. Climate change is therefore likely to have a disproportionate impact on the vulnerable and exacerbate existing inequalities. A mid-range increase in global temperatures, which might be quite pleasant in Canada, is potentially disastrous for the population of Bangladesh or Somalia. Rises in sea level will not affect most populations at all, but even a mid-range increase would make the habitats of between sixty and a hundred million additional people liable to flooding by the end of the century. There are millions of chinstrap penguins already, but the European land leech is exceedingly rare.

However, nobody can be confident that the effects of global warming will end there. The lowest value in the high-emissions scenario might be 2.4°C, but the highest is an

alarming 6.4°C, and some scientists consider the IPCC unduly cautious. Positive feedback mechanisms – the earth’s reduced albedo (reflectivity), the transformation of carbon sinks into carbon sources, or the release of methane from thawing permafrost – could push temperatures towards the top of the range and so trigger irreversible non-linear changes such as the melting of the polar ice-sheets and the disruption of thermohaline circulation in the world’s oceans. Were all that to happen, much of the planet would be uninhabitable.

What is the rational response? The possibility that climate variation is not anthropogenic, or that it will not get much worse, or that some as yet unknown technological development will mitigate its effects, cannot be wholly discounted. All are unlikely, but each has a probability well above zero. How do these combined independent probabilities compare with the probability that global political initiatives in the next, say, twenty years will make a decisive positive difference to the outcome for future generations? That depends on several conditions being met: that climate change is anthropogenic (almost certain); that it is going to get worse (very probable); that decisive and timely global political action takes place (rather doubtful); that it is sufficiently sustained to be effective (unlikely, if the past twenty years are anything to go by).

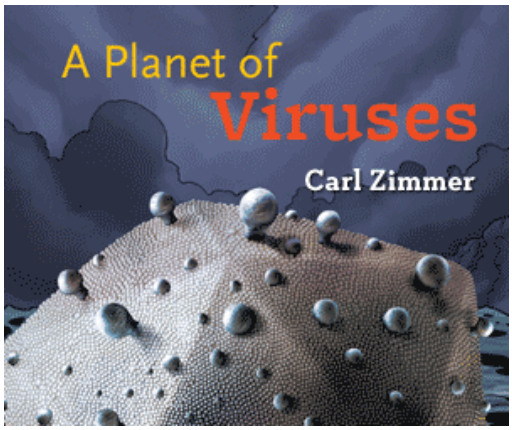
Even someone who both accepted anthropogenic global warming and believed that it was possible to do something about it might look at the odds and think that fatalism was the most appropriate response. As long ago as the 1990s, Al Gore admitted that ‘the minimum that is scientifically necessary’ to combat global warming ‘far exceeds the maximum that is politically feasible’, and many now seem to agree. Aside from the spike created by the Copenhagen summit in 2009, newspaper coverage of climate change has been dropping since 2007. Perhaps we should just acknowledge the problem, try not to exacerbate it too much and hope for the best. That, after all, is what most people have decided to do about the nightmare of the previous generation, nuclear weapons, and there is no reliable means of quantifying whether nuclear war is more or less likely than severe climate change, or whether its effects would be more or less destructive.

The real question is whether such fatalism is ethically defensible. The moral argument for preventing further climate change is easily stated. It is not just a matter of protecting the vulnerable from harm, but of taking responsibility for a harm that we in the industrialised North have both caused and benefited from. However, the worst effects of climate change are likely to be experienced by beings from other times, places or species, and as Stephen Gardiner points out, this allows us to rationalise our obligations to suit our inclinations, rather in the way that, in *Sense and Sensibility*, John Dashwood and his wife Fanny gradually persuade themselves that the large sum of money John had promised to support his stepmother and half-sisters really ought, in the best interests of everyone involved, to be reduced to nothing at all.

Global surveys already show that people who live in countries with high per capita emissions are less inclined to believe that global warming is a serious problem than those who live in hotter, more vulnerable countries with low emissions. But in this case it is not necessarily just a matter of self-interest prevailing over honesty and virtue.

Climate change creates what Gardiner calls ‘a perfect moral storm’, within which it is difficult to keep one’s bearings. The key elements of this storm, which he enumerates with admirable – if exhausting – clarity, are problems of agency, the temptation to intergenerational buck-passing, and the inapplicability of existing political theories.

It is no secret that the 1997 Kyoto Protocol, designed to bring the emissions of industrialised countries below their 1990 levels, has been unable to achieve its targets (or only with unexpected help from economic recessions), or that the Copenhagen summit of 2009 failed to reach any meaningful agreement at all. Such failures, according to Gardiner, reflect a fragmentation of agency: while it might be collectively rational for nations to co-operate on climate change, it is individually rational for them not to. Even greater difficulties are presented by what Gardiner calls the ‘pure intergenerational problem’. The current generation has nothing to gain from reducing emissions and every subsequent one has more at stake than its predecessor. In game-theoretical terms, this means that the current generation has no incentive to co-operate even if every other generation were willing to do so, and that the same will be true of the next generation if the present one has failed to co-operate and passed the buck instead. If successive generations were distinct in this way, it would never be rational to do anything about global warming. In practice, of course, they are not distinct, but even if future generations overlap with ours, they can do little for us or to us as far as climate change is concerned, so our relationship with them is effectively non-reciprocal.



How does the difficulty of achieving co-operation between nations relate to that of achieving co-operation across generations? Gardiner opposes the two, arguing that taking nation-states to represent the interests of their citizens in perpetuity effectively excludes the intergenerational aspect of the climate change problem. However, there are good reasons for thinking that the reverse is true. People routinely make sacrifices for their children and grandchildren, and both individuals and governments are far more likely to invest their resources for the benefit of people who are temporally remote but genetically or culturally proximate than they are for their spatially distant coevals. In these cases, the possibility of future-recognition (transmitted forward through family tradition or cultural memory) trumps that of future-reciprocity. And it is the nation, conceived as a community bound together by cross-generational ties that stretch into the future, that functions as the primary vehicle of such recognition.

Paradoxically, therefore, the intergenerational politics of climate change brings us back to the political form seemingly least able to cope with it: the nation-state. For while the fragmentation of space appears to call for supranational institutions to monitor and enforce agreement, fragmentation in time demands national institutions capable of identifying with and aggregating the interests of future generations. Nation-states could act as the self-appointed representatives of future generations of their own citizens, and then (alongside various NGOs like the WWF) lobby some supranational body on their behalf. In this scenario, what climate change most conspicuously undermines is not the nation-state but democracy, for it requires supranational institutions at a time when there is no supranational democracy, and allows that at a national level the interests of future generations might take precedence over those of

the current one. Perhaps, as James Lovelock has argued, climate change means that ‘it may be necessary to put democracy on hold for a while.’

Gardiner acknowledges that it is doubtful whether democratic political institutions, with their short time horizons, have the capacity to deal with deferred climate impacts, but it does not occur to him that the ‘tyranny of the contemporary’ of which he complains might be coextensive with democracy itself. In the aftermath of the French Revolution, it was Edmund Burke who argued that society ‘is a partnership not only between those who are living, but between those who are living, those who are dead and those who are to be born’, and Tom Paine who, ‘contending for the rights of the living’, responded that ‘every generation is, and must be, competent to all the purposes which its occasions require.’ If the absolute rights of the living are a form of tyranny, then their freedom to choose their own government must be called into question as well.

That might sound bizarre, but although the dead and the unborn cannot make choices now, their interests could be registered through a form of what Burke called ‘virtual representation’, in which ‘there is a communion of interests, and a sympathy in feelings and desires between those who act in the name of any description of people, and the people in whose name they act, though the trustees are not actually chosen by them.’ The current generation may of necessity furnish the representatives, but it does not follow that it is in its entirety an appropriate virtual representative of other generations, for it is collectively liable to prefer its own interests to theirs. Other generations will be more adequately represented by that minority best equipped to act for them.

One version of this arrangement would be the Burkean one in which power resides with a natural aristocracy able to mediate between past and future by conserving what is best and passing it on. Its members are conscious of what is due to posterity precisely because they are mindful of what they have received from their ancestors, and do not think it ‘among their rights to cut off the entail or commit waste on the inheritance ... hazarding to leave to those who come after them a ruin instead of a habitation’. Without this, according to Burke, ‘the whole chain and continuity of the commonwealth would be broken. No one generation could link with the other.’

As Paine observed, this version of inter-generational politics has a strong bias towards the past, allowing people to govern from the grave and bind future generations for ever. An alternative weighting would be closer to the Leninist idea of a vanguard. Articulated in opposition to those who wanted to fight only ‘for themselves and for their children, and not for some kind of socialism for some future generation’, Lenin’s account of the party as the vanguard of the proletariat was founded on the idea that it embodied their objective class interests in a way they could not yet do themselves. In this manner, as Georg Lukács puts it, ‘the party, on the basis of its knowledge of society in its totality, represents the interests of the whole proletariat (and in doing so mediates the interests of all the oppressed – the future of mankind).’

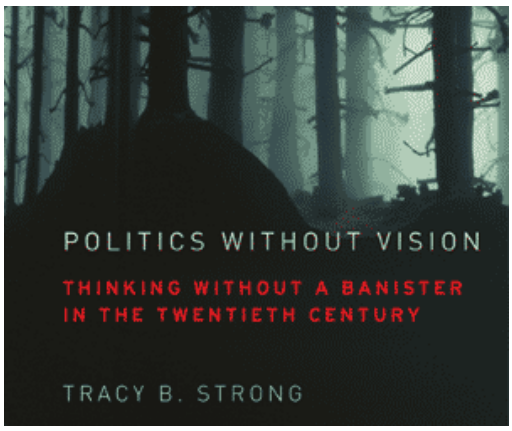
The virtual representatives of other generations will inevitably have to press their claims against those of the living. In respect of climate change, the way in which they

do so will depend largely on the weighting given to past emissions, on the one hand, and future prosperity, on the other. Should the magnitude of past emissions (for which the United States and the EU nations are mostly responsible) have a positive or negative impact on the extent of emissions in the future? And should we discount the costs and benefits that accrue to future generations on the basis that economic growth will probably make them richer than we are? A Burkean would argue that past emissions are irrelevant, and that it is reasonable to discount the future to preserve the comparability and continuity across the generations; a Leninist might say that past emissions extracted value from the lives of future generations, and that any future discounting should be at a zero or negative rate. The Burkean move is liable to have the effect of entrenching the stranglehold of the past over the future: the Leninist creates a dictatorship of the future over the present.

Gardiner himself argues that past emissions do matter, and (it would appear, though he is very cautious here) that the future should not be discounted. But he gives little thought to the far-reaching political implications of these conclusions. Insofar as we move beyond the tyranny of the contemporary, we invite other forms of dictatorship, and the hard-won battle of democracy to exclude its ideological rivals by establishing the present as the temporal locus of sovereignty is under threat. Rather than being able to take its destiny in its own hands, as Paine advocated, the current generation is in danger of becoming the squeezed middle – a victim of the careless excess of the past, yet still obliged to save all its resources for the needs of those to come.

Should this shift in the temporality of political thinking be resisted, or is the need for it an indication that the political forms fostered by industrialisation have proved unsuited to dealing with its consequences, and are now obsolete? With its unavoidable reliance on virtual representation, and its insistence on appropriate deliberation about technical matters beyond the grasp of the uninformed, climate change politics suggests that technocratic government, the contemporary version of Burke’s natural elite, is the only appropriate solution. And yet, with its emphasis on the ‘future of mankind’ and its deployment of backcasting (working backwards from a desired future state to determine what measures are necessary to achieve it), climate change politics has, for all its apocalyptic rhetoric, a distinctively utopian form.

Is this because the emergence of concern about global warming coincided with the failure of Communism? As some climate change sceptics have noted, there was something suspicious about the way that Communism departed stage right moments before climate change entered stage left as the new nemesis of consumer capitalism. Perhaps we should think of climate change as an updated version of the chess-playing Turkish puppet that Walter Benjamin likened to historical materialism operated by the hidden hand of theology, save that historical materialism has now become the wizened hunchback that controls the puppet and has to keep out of sight.



That would be too simplistic. The recognition that actions are liable to have unintended negative consequences is a constant in human affairs, whether mediated through the discourse of theology, economics or environmental science. Such negative consequences provide the phantom opponents against whom we strive and from whom we try to learn. Counter-hegemonic movements invariably seek to harness the

latent power of unintended negative consequences to challenge the status quo. But they are not alone in this. All morality is in part an effort to mobilise sentiment to pre-empt negative outcomes, and climate science is just the latest means through which our actions are amplified back to us to create a moral connection with their consequences.

One indication of the distinctively moral nature of the discourse around climate change is the concern Gardiner expresses about treating it as a purely physical problem susceptible to a technical resolution. Those sulphate aerosols, which may be responsible for the stabilisation of global temperatures in the 21st century, could in theory be pumped into the atmosphere indefinitely for the sole purpose of reducing global warming. Any state (or company or individual for that matter) with the requisite resources could do it unilaterally, thus changing the earth’s atmosphere for everyone else. Given that sulphates are themselves a pollutant, this would be a less desirable option than controlling greenhouse emissions, but in the absence of effective action on that front, it might well be a lesser evil than uncontrolled climate change.

Gardiner devotes an entire chapter to warning against any such solution. Lesser evils, he suggests, may still tarnish those who commit them and blight their lives and those of others, rather as Sophie’s life is destroyed by the sacrifice of one child in *Sophie’s Choice*. The analogy is absurd but revealing, for what Gardiner calls ‘marring evils’ are meta-ethical evils that arise not from the action itself, but from the resulting negative moral assessment of the agent. On this view, the moral failure threatened by sulphate injection, or other forms of geo-engineering, arises not so much from its result, as from the failure of the action as a moral response.

What this reveals is the extent to which climate change is now constructed not as a scientific problem that generates unexpected moral dilemmas, but as an ethical problem that necessarily requires moral solutions. The sceptics are understandably wary of this, and, as Björn Lomborg has argued, we are not generally as moral as climate change ethics assumes, for if we were we might not make climate change our top priority. If we were concerned about polar bears we would start by not shooting them, rather than worrying about how much ice they had left to stand on, and if we were really worried about the global poor, we could help them now rather than helping their descendants at the end of the century, who will probably be a lot better off anyway.

These are in many respects valid arguments, but they miss the point that were it not for climate change, we would be giving even less thought to polar bears, or to the global poor, and would see little connection between our actions and their fate. As Peter Unger’s *Living High and Letting Die* showed, our customary moral intuitions barely extend to poor foreigners, let alone to their descendants, or to Arctic fauna. It is thanks to climate change that an entire body of political thought has emerged which positions our everyday actions in direct relation to their most distant consequences.

Adam Smith once noted that we are less troubled by the prospect of a hundred million people dying as a result of an earthquake in some distant location than of losing our little finger, but would nevertheless be horrified by the idea we might allow them to die in order to save it. Climate change effectively transforms the former scenario into the latter, and so places unprecedented demands on our moral imagination. Almost every little thing we do contributes to our carbon footprint, which increases greenhouse gases, which could in turn ultimately threaten hundreds of millions of lives in some remote time and place – the uncertainty only adding to the sublime awfulness of our responsibilities.

Contrary to Gardiner’s concerns about moral corruption, climate change does not tempt us to be less moral than we might otherwise be; it invites us to be more moral than we could ever have imagined. Unlike the Dashwoods, we never knew how many relatives we had. Climate ethics is not morality applied but morality discovered, a new chapter in the moral education of mankind. It may tell us things we do not wish to know (about democracy, perhaps), but the future development of humanity may depend on what, if anything, it can teach us.

Letters

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From David Campbell

Stephen Gardiner’s book on climate change, and Malcolm Bull’s review of it, labour under the widely held but mistaken belief that, ultimately because of a want of moral and political goodwill among the electorates of the Western democracies, no legally binding international agreement about greenhouse gas emissions has been reached (*LRB*, 24 May). This is not so. An agreement has been reached, but it is an agreement to allow unbounded increase in those emissions. Article 4(7) of the 1992 United Nations Framework Convention on Climate Change provides that any policy towards developing countries ‘will take fully into account that economic and social development and poverty eradication are the first and overriding priorities of those countries’. This is a perfectly clear legal permission for these countries to emit as much as they wish.

As the Framework Convention included Brazil, China and India among the developing countries, 4(7) has created an infinitely extendable margin for growth of emissions. This provision informs all subsequent climate change negotiations, which have never placed any obligation at all on the developing countries to reduce or even limit the growth of their absolute emissions. These countries would never have agreed to the Framework Convention if it did not include 4(7), and they have given every indication that they will never agree to any absolute emissions reductions because 4(7) accurately states their priorities. Those in charge of climate change negotiations have agreed this provision in a desperate attempt to get the negotiations going, and to keep them going, it would seem, as an end in itself.

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