

Ethical Enhancement in an Age of Climate Change

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This roundtable of *Ethics & International Affairs* provides an opportunity to step back and reflect on the fundamental elements of climate change and how ethics can play a role in addressing them. In this spirit, I explore three questions that capture the broad outlines of climate concerns. First, what is the nature of climate change as a global problem? Second, what frustrates humanity's ability to respond? Third, what can be done?

There is, of course, much written about each of these questions, and thus the following is not meant to provide definitive answers so much as to place an interpretive frame over all three queries. This frame proposes a particular route for applying morality to climate change. As will be explained, the character of climate change is such that it would be naïve to think that humans can easily solve it. Despite significant domestic and international efforts over the past few decades, greenhouse gas emissions continue to rise and show little sign of abating. Given this fact, moral action must be understood not exclusively in instrumental terms—as if it were simply a tool in the service of climate stability—but as an intrinsically worthwhile undertaking. Climate change offers the opportunity for humans to care about each other and the nonhuman world in new ways. Accepting this invitation can enable people to practice moral action independent of whether their efforts actually make a material difference. This is important since the window for promising mitigation and adaptation efforts is quickly closing. The world is dashing toward greater and more devastating climate intensification. Nonetheless, opportunities for moral action abound. Embracing these opportunities may well come to define what it means to be fully human in an age of climate change.

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WHAT IS THE NATURE OF CLIMATE CHANGE AS A GLOBAL PROBLEM?

Climate change represents a unique predicament in the annals of global problems. Humans have repeatedly waged war, induced devastating famines and plagues, and impoverished innumerable people, among many other grave and widespread injustices. The key difference between these calamitous acts and climate change is that the former have always been circumscribed in both time and space, and largely restricted to human (as opposed to interspecies) experience. Moreover, in all such instances there have been competent (although not always willing) actors able to respond. Climate change possesses none of these characteristics. It transcends temporal, spatial, and species-specific boundaries, and lacks discernible actors powerful and capable enough to respond efficaciously.

Climate change has been accelerating for centuries and shows no sign of decreasing. Atmospheric carbon concentrations have grown more than a third since the start of the Industrial Revolution, and are predicted to keep rising for the foreseeable future.¹ Additionally, the global average temperature has risen 0.8 degrees Celsius since the start of the Industrial Revolution, and the Intergovernmental Panel on Climate Change (IPCC) predicts it will continue to rise both in the short-term and more distant future.² No scenario currently being discussed in governmental circles envisions an end to climate change; the challenge extends indefinitely into the future.

Climate change also knows no spatial limits. It is already affecting weather conditions in many parts of the world, and is increasingly penetrating and altering ecosystemic conditions on the planet itself. Global warming is melting the Earth's permafrost, raising its seas, altering the timing of seasons, influencing trade winds, and shifting biomes. In other words, climate change is modifying Earth's organic infrastructure, and thus has expanded to the outer reaches of spatial consequence. People across the globe are experiencing the early years of climate disruption, and this will, of course, continue. Climate change's geographical reach is endless.

Climate change extends not simply across the planet and into the future but also deeply into the very dynamics of life and death. It has already upended the lives of many people, and has rendered many more vulnerable. Equally tragic are its effects on the nonhuman world. Climate change is pulling the biophysical rug from under vast numbers of species and whole ecosystems. Today, it is a

primary cause of species extinction—as it increases the range of invasive species and denudes various habitats—and the main anthropogenic factor in ecosystemic alteration. It has made humanity the unwitting governors of evolution. No other atrocity in human history has extended so deep and far.

Finally, no single actor or group of actors is responsible for climate change, and there exists no defined party capable of reining it in. Greenhouse gas emissions are essentially ubiquitous. Everywhere that people burn fossil fuels, cut down forests, raise cattle, or grow rice, anthropogenic climate change finds its source. We live in a fossil-fueled age in which most people use oil, gas, coal, or biomass for energy, and in an expanding market economy that induces humans to colonize increasing parts of the planet for habitation, agriculture, or resource extraction. The structures of our contemporary world have developed almost inevitably to generate climate change. To be sure, some people and states are more responsible for greenhouse gas emissions than others and have more capacity to address climate protection. But this does not make them governors of climate politics. No group of actors has the power to dictate climate affairs, even if they were willing to take up this responsibility. The engines of climate change are simply too vast and the effects too extensive to enable a circumscribed set of agents to get a governing handle on them. This is why climate change represents what some scholars call a “wicked problem.” Its complexities refuse easy resolution.

WHAT FRUSTRATES HUMANITY’S ABILITY TO RESPOND?

Scholars offer different accounts of climate change. At the most basic level, like other environmental issues it results from an expanding world population that is getting richer over time and has increasingly greater access to more powerful technologies. This explanation, known as the IPAT formula (Environmental Impact = Population x Affluence x Technology),³ is a material account that lays blame on the sheer number of people and their ability to extract resources and generate waste. Greenhouse gas emissions are going up, then, because more people have the economic means to extract and use fossil fuels and denude forests, and are plugged into technologies that require lots of energy. Of course, certain elements of the IPAT formula can reduce the threat of climate change—for example, affluence can be used to shift behaviors, and new technologies can harness renewable energy sources. However, a reluctance either to invest in expensive new technologies or shift current patterns of consumption within affluent and developed

parts of the world stands as a barrier to climate action. The IPAT formula illustrates that policies and habits entrenched in contemporary society will have to be altered in order to combat climate change effectively.

A second explanation is less material and more political, and explains the lack of current initiatives to combat climate change as a structural problem of international affairs. Climate change involves the planetary carbon cycle and the very atmosphere that surrounds the planet. In this sense, it is a unitary threat. It endangers the global commons. Yet, when the world turns to address it politically, the units best able to respond—states—are fragmentary in nature and care fundamentally about their own well-being. This is the long-standing dilemma of living in a state-system, wherein individual sovereign units believe they must provide security for and advance the welfare of their own citizens before they can concern themselves with global problems. In an anarchical setting, it is difficult to reconcile national interests with a global one. For this reason, scholars see climate change as a collective action problem.⁴

Political economists proffer a third explanation. They see climate protection not as a coordination challenge but as a fight between moneyed interests. Here, the key actors are not states but corporations that have vested commitments in a fossil-fueled economy. ExxonMobil, British Petroleum, Royal Dutch Shell, PetroChina, Chevron, Gazprom, and the like are the most profitable businesses in the world. In 2011, the top 100 coal and top 100 oil and gas companies had a combined worth of over \$7.42 trillion.⁵ Many of these companies see any kind of climate regulation as a threat to their businesses, and thus have fought hard to avoid governmental action. To support this campaign, many of them have funded efforts to sow doubt among the public about climate science. According to this line of reasoning, climate change remains a problem because the most powerful economic actors are opposed to doing anything significant about it.

Each of these accounts offers insight into the “wicked” quality of the climate challenge. At this point, I want to offer a fourth explanation that underlies these accounts and brings the moral component into high relief. It explains inaction on climate change as a matter of moral blindness associated with the practice of displacement. Displacement involves moving the harms of climate change across the dimensions of time, space, and species. At its core, displacement reveals moral blindness to the degree that it generates grave but avoidable injustices.

Take the extraction of fossil fuels. Reserves have built up over geological time, yet the world is using them at breakneck speed with little regard about their availability to future generations. While the warnings of peak oil were certainly exaggerated, it is clear that fossil fuels are, for all intents and purposes, finite. At some point in time—and it will certainly be after the world experiences runaway climate change—oil, gas, and coal reserves will tap out. This represents a type of displacement across time since present generations will have exported the challenge of living without fossil fuels to their successors.

The same pattern holds for greenhouse gas emissions. Climate change is already being felt throughout the world in the form of climate-related droughts, floods, intensified storms, and unprecedented heat waves. But these are only harbingers of a warmer, more erratic, and certainly more dangerous future as carbon dioxide, methane, nitrous oxide, and other emissions increase. As emissions rise, successive generations will be on the receiving end of intensified, climate-related disasters. By choosing to burn fossil fuels (and cut down forests, graze cattle, and so on), present generations are making a choice to enjoy associated benefits while transferring the costs. They are, in other words, displacing the harm of current practices across time.

Climate change also involves displacement across space. Today, people living near coal mines, oil refineries, hydraulic fracturing facilities, and denuded forests are suffering at the hands of extractive industries. Many of them live with contaminated water, polluted air, and despoiled landscapes, while distant others enjoy the advantages of such hardship. On the face of it, this may appear completely just insofar as many people in these areas work for extractive industries and enjoy dignified livelihoods. Indeed, on some level, they and their families are choosing to live in such places. But the socioeconomic and racial patterns of extraction reveal a more complicated story. As numerous scholars have pointed out, those living nearest to coal mines, oil refineries, and so forth tend to be the poorest and most marginalized. They only “choose” their place of residence because economic and political factors “locate” them there. While some, like Robert Bullard, see racial injustice at work,⁶ others perceive class, ethnic, and gender injustices.⁷ Whatever the case, and no doubt all of these factors apply to some degree, those most able to enjoy the benefits of fossil fuels usually live far from the site of extraction.

Similarly, burning fossil fuels indirectly involves displacement across space. Those enjoying the bulk of the advantages accrued from fossil fuels and

deforestation live in places relatively immune from the devastating consequences. Unlike the poor and marginalized, who tend to live on fragile lands and in sub-standard structures and who lack the means to protect themselves from climate-related incidents, the more affluent enjoy material protections and societal safety nets that often shield them from climate hardship. They are certainly not invulnerable to droughts, floods, and so forth, but they do benefit from mediating buffers that spare them from the most immediate effects, and they have access to social and infrastructural services that can help them recover. Of course, it would be ungenerous to say that the more affluent deliberately work to shift harm to the poor or that they purposely distance themselves from climate suffering. Nonetheless, the patterns at work underline an inherent structure of injustice, especially since these patterns are well known.

Humans are not the only victims of climate inequality; the nonhuman world bears tremendous amounts of climate stress, and this represents displacement across species. Hotter temperatures, changes in humidity, and newly emerging seasonal fluctuations are shifting biomes across the planet and undermining the ecological base of many creatures. To be sure, some animals and plants can migrate across ecosystems in search of accommodating conditions. But many others lack such mobility and most are unable to cross highways, cities, and other manufactured features of the human-changed landscape. As David Quammen has documented, human habitation and transportation systems have spliced up terrestrial landscapes throughout the world to create what are essentially islands of biodiversity that are now as vulnerable to climate shifts as are species on water-bound isles.⁸ Scientists are now documenting such vulnerability and have declared climate change a central cause of species extinction.⁹ This becomes a matter of displacement to the degree that humans pursue their energy needs, agricultural systems, and forestry practices largely oblivious to the consequences for the nonhuman world. These consequences remain shrouded since relatively few people actually care.

Such insensitivity is typical insofar as the Western ethical tradition has always been anthropocentric. Thinkers have long seen other creatures lacking some combination of reason, the experience of pain and pleasure, freedom, or dignified purpose to warrant full ethical treatment. Most people throughout history and across various cultures have looked at plants and animals (to say nothing of rivers, mountains, and microorganisms) as mere resources to be used or simply as

planetary furniture. Other living beings are taken to possess no intrinsic value and thus seemingly deserve little or no ethical consideration.

Nonhuman species and those people most vulnerable to displacement across time and space share the same status and condition. They are the voiceless, poor, politically powerless, and disregarded of the world—the “global residuum,” as Mike Davis puts it.¹⁰ Future generations, for instance, do not vote, buy and sell goods, or otherwise lodge public preferences. Likewise, the marginalized, from whom industries grab resources and who lack material protection, have little influence on public affairs. In fact, they are usually the victims of other people’s decisions. And of course nonhuman creatures not only find themselves undeserving of moral worth but also lack the capacity for political expression. In all three cases power differentials structure relationships, and too often these assume patterns of injustice. The harms that result from displacement are usually hard to witness. They are instances of what Rob Nixon calls “slow violence”—a “violence [that] is neither spectacular nor instantaneous, but rather incremental and accretive, its calamitous repercussions playing out across a range of temporal scales.”¹¹ This is exactly the type of maltreatment associated with climate change. The engines of climate change are driven by the privileged while the effects are most immediately experienced by the disadvantaged and neglected; thus the affluent have little incentive to alter their own behavior since the effects take place outside their purview and the underprivileged lack the means to change relations. That this continues speaks not only to structures of economic and political power but also to a type of moral deficiency, and it explains much about why the world has yet to address climate change.

WHAT CAN BE DONE?

To address the challenges of climate change we must first expand our sense of moral responsibility beyond our closest circles to include future generations, our contemporaries who happen to be poor and most vulnerable to climate hardship, and nonhuman creatures. This will certainly better position the world to cooperate and thus overcome the policy challenges associated with the IPAT formula, the self-regarding character of the state-system, and the power dynamics that pit the fossil-fuel industry against those working for climate regulations. An important question to ask, however, is how realistic is it to advance a moral climate agenda in the face of accelerating climate change. Is there sufficient

time to build an ethical climate movement, given the incremental quality of any such effort and the rapid pace of climate intensification?

If the objective of enlisting morality in the climate challenge is to “save the world”—that is, to stop climate change or significantly reduce climate threats—the entire discussion above as well as all appeals for changing morality in light of climate change are useless. Climate change is already wreaking havoc around the globe, and the world is fast approaching biophysical tipping points—like an increase of the average global temperature above two degrees Celsius—that promise massive climate disruption. It is hard to imagine any amount of moral prodding and development outpacing these realities and seeming eventualities. However, this does not dispense with morality entirely; in fact, it invites it with even greater significance.

Ethicists have long advanced non-consequentialist forms of moral behavior. For instance, deontological ethics, certain strands of feminist care ethics, and virtue ethics emphasize the quality of intention, empathetic sensitivity, and excellence in character, respectively, rather than overall outcomes. Furthermore, the practice of compassion, realization of interdependence, and the commitment to a meaningful life provide non-instrumental settings for ethical action insofar as they encourage moral responsiveness rather than focus exclusively on material consequences. A number of thinkers are invoking these traditions and orientations in the context of climate change. Some talk in terms of “ethical adaptation,” wherein climate intensification challenges us to develop greater moral clarity, enhance our sense of humanity, and act with dignity in the face of almost certain widespread suffering and competition over scarce resources.¹² Others explore how ethical life might deepen even as climate hardships intensify. They see the possibility of living through climate disaster with “ethical wisdom intact,” even in the absence of much hope for turning things around.¹³ Still others claim that working on behalf of climate stability in the face of almost certain defeat is a moral imperative that requires ethical discernment emerging out of emotional despair.¹⁴ Behind these articulations is the realization that moral action has meaning aside from how much it achieves. Morality in an age of climate change, in other words, is not about ushering in a new material reality but about forging a different kind of human being—one who acts in the service of climate arrangements that may never come to pass, but nevertheless deserve effort; one who acts according to principles or deep-seated values of what constitutes the good life in the midst of climate hardship, independent of a consequentialist calculus; and one who

responds to unjust climate adversities simply because such response is ethically called for. Put differently, ethics in an age of climate change entails cultivating a life of integrity toward a climate-safe and more just world even if such arrangements forever elude realization.

At the heart of such ethical formation is the need to expand personal identity and the scope of moral consideration beyond conventional circumscriptions. Climate dangers extend deep into the future and across the entire globe, and thus into the lives of the yet-to-be-born and of fellow humans and other creatures. Climate morality involves becoming intimate with and feeling compassion for those experiencing, or in line to experience, the various consequences of climate intensification. It is to include the far reaches of the future, remote communities, and the more-than-human world in one's consciousness and to orient one's action on behalf of this expansive kinship. Again, this might not materially benefit others or alter widespread political practices, but it represents an ethic appropriate for and worthy of this historical atmospheric and social moment.

Many recognize the dire straits of climate change and reach for any tool in an effort to respond. Many have turned to ethics to shift how people think about others as a step toward climate stability. Nothing in this essay belittles such a strategy; in fact, I firmly support instrumentally enlisting moral sensitivity and ethical traditions in the fight for climate protection. But such stratagems do not exhaust the place of ethics in the context of climate change. Moral action is possible in all settings, even in the darkest moments when disaster looms or is already underway. Climate change calls on us to become ethically enhanced people, then, not only because this will create the ideational conditions for greater climate protection efforts—policies, initiatives, and collective commitments to mitigate and justly adapt to climate disruptions—but also to cultivate lives worth living.

NOTES

- ¹ "International Energy Outlook 2013," U.S. Energy Information Administration, July 25, 2013, www.eia.gov/forecasts/ieo/emissions.cfm.
- ² IPCC, "Climate Change 2013: The Physical Science Basis," Summary for Policymakers, Working Group I Contribution to the Fifth Assessment Report of the IPCC (2013), http://www.ipcc.ch/report/ar5/wg1/docs/WGIAR5_SPM_brochure_en.pdf, pp. 3 and 18.
- ³ Paul R. Ehrlich and John P. Holdren, "Impact of Population Growth," *Science* 171, no. 3977 (1971), pp. 1212–17.
- ⁴ See, e.g., Stephen M. Gardiner, *The Perfect Moral Storm: Ethical Tragedy of Climate Change* (New York: Oxford University Press, 2013); Paul Harris, *What's Wrong with Climate Politics and How to Fix It* (Cambridge: Polity Press, 2013).
- ⁵ Carbon Tracker initiative, "Unburnable Carbon: Are the World's Financial Markets Carrying a Carbon Bubble?," www.carbontracker.org/site/wp-content/uploads/downloads/2011/07/Unburnable-Carbon-Full-rev2.pdf.

- ⁶ See Robert Bullard, “Environmental Justice in the 21st Century,” in Robert Bullard, ed., *The Quest for Environmental Justice: Human Rights and Politics of Pollution* (San Francisco: Sierra Club Books, 2005); and “Anatomy of Environmental Racism and the Environmental Justice Movement,” in Robert Bullard, ed., *Confronting Environmental Racism: Voices from the Grassroots* (Cambridge, Mass.: South End Press, 1999).
- ⁷ See, e.g., Steve Lerner, *Sacrifice Zones: The Front Lines of Toxic Chemical Exposure in the United States* (Cambridge, Mass.: MIT Press, 2012).
- ⁸ David Quammen, *The Song of the Dodo: Island Biogeography in an Age of Extinction* (New York: Scribner, 1997).
- ⁹ Elizabeth Kolbert, *The Sixth Extinction: An Unnatural History* (New York: Henry Holt and Company, 2014).
- ¹⁰ Mike Davis, “Planet of Slums: Sinister Paradise,” (Canberra, Aus.: Treason Press Pamphlets, 2006), <https://libcom.org/files/Planet%20of%20Slums1.pdf>, p. 16.
- ¹¹ Rob Nixon, *Slow Violence and the Environmentalism of the Poor* (Cambridge, Mass.: Harvard University Press, 2011), p. 2.
- ¹² See, e.g., Allen Thompson and Jeremy Bendik-Keymer, eds., *Ethical Adaptation to Climate Change: Human Virtues of the Future* (Cambridge, Mass.: MIT Press, 2012).
- ¹³ Kathleen Dean Moore and Michael Nelson, “Moving Toward a Global Moral Consensus on Environmental Action,” in Worldwatch Institute, *State of the World 2013: Is Sustainability Still Possible?* (Washington, D.C.: Island Press, 2013).
- ¹⁴ Joanna Macy and Chris Johnstone, *Active Hope: How to Face the Mess We’re in Without Going Crazy* (Novato, Calif.: New World Library, 2012).