



Reason in a Dark Time: Why the Struggle Against Climate Change Failed -- and What It Means for Our Future

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Living with Climate Change

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Abstract and Keywords

In an era dense with population and technology, it is difficult to believe that our individual actions matter. Yet they matter both because they affect the world and because they affect ourselves. An ethics for this new era would nourish and cultivate virtues. The virtues are not an algorithm for problem-solving, but they provide guidance for living gracefully while helping to restore in us a sense of agency. One part of the Rio dream that dies hard is the view that anthropogenic climate change is fundamentally a problem of justice between states. But climate change is not a problem that conforms to our traditional models of individual morality and global justice. Climate change is not a problem that can be solved but a condition that can be managed by people acting individually and collectively in ways that blunt its force while allowing them to live meaningful lives.

Keywords: Population, technology, ethics, virtues, agency, justice, morality

Climate change is occurring and is effectively irreversible on timescales that are meaningful to us. Our failure to prevent or even to respond significantly reflects the impoverishment of our systems of practical reason, the paralysis of our politics, and the limits of our cognitive and affective capacities. None of this is likely to change soon. Many will find these conclusions depressing. Let us return to the beginning in an effort to find some consolation.

6.1. Life in the Anthropocene

The problem of climate change is often portrayed as the problem of atmospheric concentrations of carbon dioxide (and other greenhouse gases [GHGs]) increasing beyond their “pre-industrial” levels. This may suggest that there is a stable, “natural” background value for atmospheric carbon dioxide. However, atmospheric concentrations of carbon dioxide have varied radically throughout Earth’s history. Fifty-five million years ago they exceeded 1, 000 ppm.¹ About 200, 000 years ago, when anatomically modern humans emerged, atmospheric carbon was about 225 ppm. Over the past 10, 000 years, when almost everything we value about humanity and its creations came into existence, the Earth has been remarkably stable on a broad range of indicators. Until the last 250 years, when concentrations began to grow as a result of the industrial revolution, concentrations of atmospheric carbon dioxide have varied between 240 and 280 ppm. We have reached nearly 400 ppm as a result of human action, and if humans persist as long as the dinosaurs there is every reason to expect that much more extreme concentrations will occur.

In 1997 a distinguished group of scientists published an influential article in which they assessed the human impact on the Earth.² They calculated that between one-third and one-half of Earth’s land surface had been transformed by human action; that carbon dioxide in the atmosphere had increased by more than 30% since the beginning of the industrial revolution; that more nitrogen had been fixed **(p.179)** by humanity than all other terrestrial organisms combined; that more than half of all accessible surface freshwater was being appropriated by humanity; and that about one-quarter of Earth’s bird species had been driven to extinction. This led them to conclude that “it is clear that we live on a human-dominated planet.”³

The challenge we face is not (only) to reduce or stabilize concentration of atmospheric carbon dioxide, but to live in productive relationship with the dynamic systems that govern a changing planet. This is a new challenge because humanity is young and now constitutes an important planetary force in a way that is unprecedented. Anthropogenic climate change is the harbinger of a new world in which humans have become a dominant force on Earth’s natural systems. In recognition of the increasing human domination of the planet, some scientists propose that we have entered a new geological era, the Anthropocene.⁴ Climate change may be the first challenge of the Anthropocene but it is not the last. What is needed is an ethic for the Anthropocene—not only a climate change ethics. For it is in the world of the Anthropocene that we and our descendants will have to live and find meaning.

6.2. It Doesn’t Matter What I Do

Probably the greatest threat to meaning in such a world is the widespread perception that “it doesn’t matter what I do.” Environmentalists talk about

“saving the earth” and websites tout “green consumerism, ” yet none of this seems to matter given the scale of the changes that are underway.

Indeed, it may be that the central reason that commonsense morality does not moralize needless driving and thoughtless flying is that whether or not I do these things makes no difference as to whether or not climate change will occur. Walter Sinnott-Armstrong (2005) seems to think that something like this is true.⁵ He writes that

my individual joy ride does not cause global warming, climate change, or any of the resulting harms, at least directly. (336)

He goes on to say that

[w]e should not think that we can do enough simply by buying fuel-efficient cars, insulating our houses, and setting up a windmill to make our own electricity. That is all **(p.180)** wonderful, but it does little or nothing to stop global warming and also does not fulfill our real moral obligations, which are to get governments to do their job to prevent the disaster of excessive global warming. It is better to enjoy your Sunday driving while working to change the law so as to make it illegal for you to enjoy your Sunday driving. (344)

There are some hedges here. Sinnott-Armstrong claims that his individual joyride does not cause climate change “at least directly” but nevertheless suggests that it should be “illegal.” He says that the climate-friendly acts he mentions are not “enough, ” that they do “little or nothing” to stop global warming, yet he says that they are “wonderful.” His main point seems to be that because these individual acts have little or no effect on producing harms, they are not in the domain of moral prescription. What is morally required is that we “get governments to do their job to prevent the disaster of excessive global warming.”

In Section 5.5 I gave some reasons for why we should be skeptical about whether there is a causal relation between any particular act that emits GHGs (e.g., the Sunday drive) and climate change damages (e.g., a BMW dented in a hailstorm). The emissions that come from a Sunday drive are vanishingly small relative to the total GHG forcing, and intervening between the action and harms are various thresholds, non-linearities, and feedbacks that occur at different scales.

The most common models of collective responsibility discussed by philosophers do not fully capture the relations between individual emissions and climate change damages.⁶ One common model is the Cumulative Model in which every relevant input produces a relevant output, though the inputs and outputs may be imperceptible. It is this model that is demonstrated by a case in which each of a

thousand torturers turns a knob that imperceptibly increases the electric shock delivered to a victim. No single torturer is responsible for causing a perceptible increment of pain, but since the torturers together cause the pain, it is plausible to think of them as each causally responsible for some increment even if it is imperceptible. A second model is the Threshold Model in which no effect occurs unless a specific level of collective contribution is achieved (e.g., a car will not get out of the mud unless four people push). There are different ways of assessing the causal contributions of individuals in such cases, but what matters for our purposes is that on this second model, inputs produce outputs only when some particular threshold has been reached.

A cursory look at an introductory atmospheric science text shows how inadequate the Cumulative Model is to the complex relations between individual emissions and climate change damages. This model only seems plausible, I think, because of the seductiveness of the “bathtub” analogy that is often used in thinking about carbon emissions. On this analogy, emitting carbon is like running water into a bathtub and damages occur when the tub overflows. This is quite intuitive and can **(p.181)** be useful for pedagogical purposes but it is quite misleading if taken seriously. The carbon from individual emissions does not stack up, overflow the atmosphere, and cause damages. Rather, as mentioned in Section 5.6, the carbon emitted from joyriding in a '57 Chevy very slightly perturbs the global carbon cycle, affecting various fluxes and feedbacks, in ways that are difficult to quantify. The molecules themselves may stay in the atmosphere for centuries, be absorbed by the biosphere within a few years, or wind up in the oceans. In any case we will never know the fate of the particular molecules that were emitted.

The Threshold Model is somewhat more applicable because thresholds in the climate system actually exist. However, what this analogy does not capture is the dynamic nature of the climate system, the fact that there are vast numbers of differently structured processes that occur simultaneously, the differences in scale that are involved in moving from individual emissions to damages, and the fact that the system at each level is open to a vast number of influences, many of which are not causally active at other scales. In the end the relation between my emissions and climate-related harms is not at all like the relation between my pushing and the car getting out of the ditch in the threshold case.

In light of all this it is not clear that we can say that my Sunday drive in any way and to any extent caused a particular meteorological event, much less the socially mediated harms that may follow. The obstacles to making such claims are both epistemological and conceptual. In these kinds of cases we do not know and likely never will know whether some particular emission had any causal relevance for a particular harm. Even if we knew that a particular emission had some causal relevance, it would still remain a difficult conceptual question whether we would want to say that the emission caused the harm given the

scalar differences between them. Having said this, however, I think that we are too ignorant and confused about both the climate system and the concept of causation to make Sinnott-Armstrong's categorical claim that an individual joyride "does not cause global warming, climate change, or any of the resulting harms, at least not directly," whatever exactly he may mean by this. Still, Sinnott-Armstrong has got it roughly right. Contributing to an outcome is not the same as causing it.⁷ For all practical purposes, climate change damages are insensitive to individual behavior.⁸

However, I don't think the sting can be so easily balmed by transferring our supposed duties to the political domain as Sinnott-Armstrong suggests. For the same problem that arises with individual acts of emissions reduction arises for individual political acts, though perhaps not quite as sharply or always in the same ways. When it comes to voting, writing letters, making modest campaign contributions, or even occupying Wall Street, it is hard to feel that my individual act has much efficacy.⁹ **(p.182)** Rather than political action, the real alternative to green consumerism may be full-on conspicuous consumption, for that is something that may have identifiable, definitive consequences that matter to people (i.e., it seems to make some of them happy). But it is hardly a solution to our environmental problems.

However, this result is overly pessimistic. Our thought and action can inspire others, change their lives, and even affect the course of history. Indeed, reducing our own emissions as a demonstration of sincerity and commitment may be necessary for us to be effective in this way.

There are other things that we can do that would make a difference in the world. We can take action on adaptation and work to aid or compensate those who suffer from the effects of climate change. Individuals may be able to exert more influence in these ways than by working to affect macrolevel political decisions or in attempting to produce significant emissions reduction. Adaptation is inevitable and we can play a role in our own communities in trying to make sure that adaptation strategies are both fair and effective. Actions that aid or compensate those who are damaged by climate change would not be much different from those that assist people who are in need due to other causes. Indeed, climate change will increasingly make itself felt through the familiar scourges of poverty, disease, and insecurity, and the efficacy of our responses is not likely to depend much on the cause of the misery.¹⁰

6.3. It's Not the Meat, It's the Motion

What we do matters because of its effects on the world, but what we do also matters because of its effects on ourselves. The balance and relations between what is world-affecting and self-affecting are important to determining life's meaning. I will not purport to provide a detailed account of such deep and personal matters but I will gesture toward a general view.

Let us begin with some questions. Did Lenin live a more meaningful life because the Bolshevik revolution succeeded? What would we think if Mandela had died in prison rather than becoming president of post-apartheid South Africa? Was it Plato who gave meaning to Socrates' life by memorializing his dialogues?

These examples elicit complicated responses. To some extent we do associate life's meaning with successfully achieving goals. Since Mandela's life was devoted to abolishing apartheid, it is hard not to feel that the meaning of his life would have been diminished had apartheid survived him or even if it had succumbed but not through his actions. Moreover, when assessing the meaning of a life, the value of what one is trying to do or how it actually turns out also seems to matter. We are less inclined to think that instigating the Bolshevik revolution gave Lenin's life meaning in the same way or to the same extent that abolishing apartheid gave meaning to **(p.183)** Mandela's life. We think of a meaningful life as something that is good and so we do not fully separate our assessment of a life's meaning from our attitudes towards the goals towards which a life has been directed.¹¹ It also seems that a life's meaning can be affected by subsequent events that are not within the scope of an agent's intentions. We often speak as if the Arab Spring imbued meaning to the life of the Tunisian flower seller whose self-immolation ignited these events, even if his act was just a desperate suicide with no political motivation.¹²

What these examples show is that to some extent life's meaning depends on making a difference in the world and on the goodness of our goals. How should we understand these conditions and how far should we go in this direction?

Many Americans would say that what makes a life worth living is doing what is right, and doing what is right consists in obeying God's commandments. This idea was current in the Greek world as well (though the Greeks spoke of "the gods" rather than "God"). Plato (and perhaps Socrates) systematically discussed this view in his dialogue *Euthyphro*.¹³ His conclusion was that anyone who held such a view was impaled on the following dilemma. If what makes an act right is that it is commanded by God, then any act, no matter how horrific (e.g., murder, rape, torture, etc.), would count as right so long as God commanded it. But this is the view of cultists and terrorists who commit horrifying acts of destruction in God's name. On the other hand, if what God commands is right, independent of his command, then we could do what is right and give meaning to our lives whether or not God exists.

Other ideas that have currency in contemporary America also had their analogues in the Greek world. The idea that success, fame, or celebrity is what is most important in life is reminiscent of the Greek idea that it is honor that gives life meaning. While honor is not the same as celebrity, fame, or success it is similar to them in one important respect. No one has it within themselves to be honored, famous, or successful. Whether one succeeds in achieving any of these

goals depends on luck and the attitudes of other people. Thus, to suppose that the meaning of our life consists in such things is to take it out of our hands and make it contingent on luck or fate. Socrates, Jesus, and the Buddha were unanimous in rejecting the idea that the meaning of life should be held hostage entirely to fortune. Whether my life is worth living is to a great extent up to me. It does not primarily depend on the attitudes of others or the vicissitudes of fate. **(p.184)**

The idea that it is success, fame, or celebrity that makes life worth living is an instance of a more general view that is ubiquitous in American society. On this view, life is an instrument whose value consists in its contribution to achieving some goal. This is the attitude that underlies the slogan attributed to a widely admired football coach that “winning isn’t the most important thing, it’s the only thing.” For people who see themselves as devoted to progressive projects that begin before they are born, that will persist long after they die, and whose outcome is very much in doubt, these are not the right metrics for evaluating lives. But because we live in a society that is dominated by such values it is easy to lose heart. Yet when these episodes are seen as part of a life that is engaged in valuable activities, they will not threaten the sense of meaningfulness that sustains us.

So what makes a life worth living? The views that I have been discussing see the value of life as contingent on the attitudes or approval of others, or on fate or fortune. The contrary view is that what makes a life worth living is primarily internal to each person. Of course we do not want to exaggerate the independence of life’s meaning from the vicissitudes of fate. Under conditions of extreme material deprivation, when each day is dominated by the struggle for bare survival, questions about climate change are not at the forefront. But most of you who are reading this book are, like me, living in an affluent society in comfortable circumstances. Despite what we may sometimes say, life for us presents itself as a field for choice, decision, and action rather than as a set of imperatives required for survival. It is against this background that each of us must decide how to live.

In my view we find meaning in our lives in the context of our relationships to humans, other animals, the rest of nature, and the world generally. This involves balancing such goods as self-expression, responsibility to others, joyfulness, commitment, attunement to reality and openness to new (often revelatory) experiences. What this comes to in the conduct of daily life is the priority of process over product, the journey over the destination, and the doing over what is done.¹⁴ This view is reminiscent of Aristotle’s account that a life worth living is one that is devoted to valuable activities. Many of these activities are goal-directed, so insofar as they achieve their ends then so much the better. But the meaning of life fundamentally turns on engaging in these activities, not on

reaching our ends. What I am responsible for is trying to make the world better. Whether or not I succeed is not entirely up to me.¹⁵ **(p.185)**

6.4. Ethics for the Anthropocene

The Anthropocene presents novel challenges for living a meaningful life. They begin with questions of ethics.

From the beginning of human morality, ethics has been primarily concerned with the proximate: what presents to our senses and causally interacts with us in identifiable ways. However, what is proximate is flexible. Stories, music, relics, sacred space, and even the establishment of a common language are all ways of bringing into view what would otherwise be remote. The expanding circle of ethics (which to a great extent coincides with globalization) has made the distal proximate through new living arrangements, forms of travel, and kinds of imagery enabled by technological innovation. However, there may be a limit to what can be made proximate.

The late philosopher Bernard Williams distinguished what he called “the morality system” from “ethics.” Ethics concerns the generic question of how we should live and goes back to at least Homer and the ancient Greek dramatists. It is relatively universal and resilient, though flexible and revisable in its content. The morality system, on the other hand, is

a particular development of the ethical, one that has a special significance in modern Western culture. It particularly emphasizes certain ethical notions rather than others, developing in particular a special notion of obligation, and it has some peculiar presuppositions.¹⁶

The mark of the morality system is the establishment of an inner deontic order that mirrors an external law.¹⁷ It is characterized by an emphasis on purity, voluntariness, inescapability, and generalizability. According to Williams, the morality system has been enormously influential on “we moderns,” though its underpinnings are largely illusory. He thinks that “we would be better off without”...this “peculiar institution.”¹⁸

One does not have to accept Williams’s entire story to wonder whether morality has more than met its match in the Anthropocene. Not everything that matters can be made proximate to creatures like us. Not all of contemporary life can be fruitfully modeled on eighteenth-century concepts. The morality system may have room for revision and may not disappear, but it may come to be seen as more like the **(p.186)** “etiquette system,” important for a particular domain, but hardly an oracle that can answer all of our most important questions.¹⁹

Ethics is a collective construction, like morality, but it seems to allow more individual variation. For this reason it may seem more revisable than morality, at least from the perspective of an individual. While ethics is fundamentally agent-

centered, it leaves its mark on the world because it requires attunement to reality. While there is no guarantee or even much reason to believe that ethics and morality together can provide comprehensive guidance for life in the Anthropocene, we can hope that they can make some contribution to making the world better and enabling us to live meaningful lives.

An ethics for the Anthropocene would, in my view, rely on nourishing and cultivating particular character traits, dispositions, and emotions: what I shall call “virtues.” These are mechanisms that provide motivation to act in our various roles from consumers to citizens in order to reduce GHG emissions and to a great extent ameliorate their effects regardless of the behavior of others. They also give us the resiliency to live meaningful lives even when our actions are not reciprocated.

My conception of the virtues does not rest on any deep metaphysical commitments about “natural goodness” or “the good for man.” It flows from the general view that when faced with global environmental problems such as climate change, our general policy should be to try to reduce our contribution regardless of the behavior of others, and we are more likely to succeed in doing this and living worthwhile lives by developing and inculcating the right virtues than by improving our calculative abilities.²⁰

The green virtues that would be part of an ethics for the Anthropocene would not be identical to classical or Christian virtues but neither would they be wholly novel. Much that mattered to humanity in the Pleistocene will matter in the Anthropocene as well. In writing a set of virtues for the Anthropocene we can draw on a great deal of traditional wisdom. However, some speculation is in order when we contemplate how to live meaningfully in a world that has not yet fully taken shape.

We can think of green virtues as falling into three categories: those that reflect existing values; those that draw on existing values but have additional or somewhat different content; and those that reflect new values. I call these three categories preservation, rehabilitation, and creation.²¹ I will discuss each in turn, offering tentative examples of green virtues that might fall into these various categories. **(p.187)**

Thomas Hill Jr. (1983) offers an example of preservation. He argues that the widely shared ideal of humility should lead people to a love of nature. Indifference to nature “is likely to reflect either ignorance, self-importance, or a lack of self-acceptance which we must overcome to have proper humility.”²² A person who has proper humility would not destroy redwood forests (for example) even if it appears that utility supports this behavior. If what Hill says is correct, humility is a virtue that ought to be preserved by greens.

Temperance may be a good target for the strategy of rehabilitation. Long regarded as one of the four cardinal virtues, temperance is typically associated with the problem of *akrasia* and the incontinent agent. But temperance also relates more generally to self-restraint and moderation. Temperance could be rehabilitated as a green virtue that emphasizes the importance of reducing consumption.²³

A candidate for the strategy of creation is a virtue we might call mindfulness. Much of our environmentally destructive behavior is unthinking, even mechanical. In order to improve our behavior we need to appreciate the consequences of our actions that are remote in time and space. A virtuous green would see herself as taking on the moral weight of production and disposal when she purchases an article of clothing (for example). She makes herself responsible for the cultivation of the cotton, the impacts of the dyeing process, the energy costs of the transport and so on. Making decisions in this way would be encouraged by the recognition of a morally admirable trait that is rarely exemplified and hardly ever noticed in our society.

Cooperativeness would be another important characteristic of agents who could successfully address the problems of climate change. Surprisingly, this characteristic appears to be neglected by both ancient and modern writers on the virtues. Perhaps a virtue of cooperativeness is a candidate for creation; or perhaps, though not itself a virtue, cooperativeness would be expressed by those who have a particular constellation of virtues.²⁴

There are other potential candidates for green virtues, some of which are related to those in the tradition and others that are not. Simplicity, for example, has a relatively long history, and the related virtue of conservatism has also been mentioned.²⁵ In what follows I discuss a virtue of particular importance in the Anthropocene. **(p.188)**

6.5. Respect for Nature

Respect for nature has been celebrated at various places and times to different degrees.²⁶ It is a persistent if not universal value. There are at least precursors of this idea in Kant and strong assertions of it in the Romantic tradition.²⁷ It is frequently attributed to indigenous peoples and found in various Asian traditions. While it is difficult to say exactly what this virtue consists in, it is relatively easy to give examples of the failure to express it.

As we saw in Section 6.1, according to some eminent scientists “it is clear that we live on a human-dominated planet.”²⁸ If we dominate our planet, then surely we can be said in an important sense to dominate nature. Dominating something can be one way of failing to respect it, so it is plausible to say that in virtue of our domination of nature we fail to respect it.²⁹ But what exactly does it mean to dominate nature?

In Section 5.4 I claimed that domination is related to the extent to which an agent has power over a subject. When an agent's power is of a certain kind or extremity, it can compromise a subject's autonomy to the extent that the agent can be said to dominate the subject. In the literature of environmental ethics, nature is often seen as autonomous in the sense of self-determining.³⁰ Rather than being autonomous (i.e., governed by its own laws and internal relations) nature is increasingly affected by human action. While humans (and other forms of life) have always influenced their environments, what makes the present human relationship to nature one of domination is the degree and extremity of human influence. Human influence on nature is now so throughgoing that it constitutes domination.³¹

Domination can be expressed attitudinally in the ways in which we think and feel about nature as well as substantively. We often treat nature as "mere means, " as if it did not have any value or existence independent of its role as a resource for us. As a society we seem to treat the Earth and its fundamental systems as if they were toys **(p.189)** that can be treated carelessly, as if their functions could easily be replaced by a minor exercise of human ingenuity. It is as if we have scaled up slash-and-burn agriculture to a planetary scale.³²

One of the insights of the social movements of the 1960s was that a vicious circle can take hold with subordinated groups.³³ Mistreatment diminishes respect, which leads to further mistreatment, which further diminishes respect, and so on. The same vicious circle can take hold with nature. Dominating nature both expresses and contributes to a lack of respect, which in turn leads to further domination.

Respecting nature, like respecting people, can involve many different things. It can involve seeing nature as amoral, as a fierce adversary, as an aesthetic object of a particular kind, as a partner in a valued relationship, and perhaps in other ways. These attitudes can exist simultaneously within a single person.

When nature is seen as amoral it does not constitute a moral resource in any way. Moral concepts arise, on this view, either from divine commandment, as in the case in the Hebrew Bible, from reason (as in Kant), the emotions (as in Hume), or are artificial human constructions laboriously created and maintained to provide us with refuge in an otherwise heartless world (as in the story told by Thomas Hobbes). One memorable statement of nature as amoral occurs in chapter 5 of the *Tao Te Ching*, attributed to the Taoist sage Lao-Tse: "Heaven and Earth are impartial; they treat all of creation as straw dogs." In ancient Chinese rituals, straw dogs were burned as sacrifices in place of living dogs. What is asserted here is that the forces that govern the world are as indifferent to human welfare as humans are to the fate of the straw dogs they use in ritual

sacrifice. On this view we should respect nature because of its blind, unpurposing force and power.

Seeing nature as amoral can easily slip into seeing nature as an immensely powerful even malevolent adversary, and humanity as weak, vulnerable, and in need of protection.³⁴ If humanity and its projects are to survive and thrive, nature must be subdued and kept at bay. Nature, on this view, is the enemy of humanity.

Amoral nature can be respected for its radical “otherness” that cannot be assimilated to human practices. Nature as an adversary can be respected for its power and abilities in pursuing its ends, which are fundamentally at odds with those of humanity. Seeing nature as amoral or as an adversary can provide grounds for respecting nature but can also provide a rationale for dominating nature.³⁵

A third way of respecting nature sees profound aesthetic significance in its overwhelming power. This thought is powerfully developed in Edmund Burke’s 1757 work *A Philosophical Enquiry into the Origin of our Ideas of the Sublime and Beautiful*. **(p.190)** The human experience of the sublime is, according to Burke, a “delight, ” and one of the most powerful human emotions. Yet, perhaps paradoxically, the experience of the sublime involves such “negative” emotions as fear, dread, pain, and terror, and can occur when we experience deprivation, darkness, solitude, silence, or vacuity. The experience of the sublime arises when we feel we are in danger but it is actually not so. Immensity, infinity, magnitude, and grandeur can cause this experience of unimagined eloquence, greatness, significance, and power. The sublime is often associated with experiences of mountains or oceans. Such experiences may occasion wonder, awe, astonishment, admiration, or reverence. In its fullest extent, the experience of the sublime may cause total astonishment.

The idea of the sublime was profoundly influential on nineteenth-century American culture, notably through painters such as Thomas Cole and Frederic Church. It went on to be an important influence on American environmentalism through the writings of John Muir and, more recently, Jack Turner (1996), Dave Foreman (1991), and other advocates for “the big outside.” Indeed, the case for wilderness preservation is often made in the language of the sublime.

Finally, there is the idea of nature as a partner in a valuable relationship. People often speak of particular features of nature as if they were friends, lovers, or even parents. People who see elements of nature as friends often feel that they learn from nature as they do from other companions. Some speak of nature in language that is usually reserved for lovers.³⁶ Indeed, we often speak of those who want to protect nature as “nature lovers.” In some people, nature elicits feelings of filial devotion. John Muir wrote that “[t]here is a love of wild nature in

everybody, an ancient mother-love.”³⁷ Many of us also associate nature with a feeling of being home. I grew up in San Diego, California, and the sights, smells, breezes, and quality of light that I experience when I am there are transformative, especially when I step onto the beach at Torrey Pines, just north of the city.

This idea of nature as a partner in a valuable relationship makes itself felt in economic language when people talk about “natural capital” or “ecosystem services.” On this view protecting nature returns monetized benefits. Damaging nature damages ourselves.

These different ways of respecting nature support somewhat different attitudes toward nature and reasons for respecting it. Rather than discussing the details, I will mention three reasons for respecting nature that seem quite robust across times and cultures. Respect for nature can be grounded in prudence, can be seen as a fitting response to the roles that nature plays in giving our lives meaning, and can also spring from a concern for psychological wholeness. **(p. 191)**

One reason for respecting nature is that it is in our interests to do so. The geoscientist Wallace Broecker (2012: 284) compares our climate-changing behavior to poking a dragon with a sharp stick. Angering the dragon of climate is not likely to be a good business plan for maintaining human life on Earth. Versions of this argument are ubiquitous in the environmental literature and something like this view is implicit in slogans such as Barry Commoner’s (1971) “third law of ecology” which states that “nature knows best.” It can also be seen as providing the foundation for the precautionary principle.

A second reason for respecting nature is that, for many people and cultures, nature provides important background conditions for lives having meaning. It is easy to think of examples from history, literature, or contemporary culture. Blake’s idea of England as a “green and pleasant land” is important in English literature, history, and identity. The cherry orchard in Chekhov’s play of the same name defines the life of everyone in the community. Think of the role that landscape plays in the lives of indigenous peoples. For that matter, think of how the “flatirons” define Boulder, Colorado.³⁸

An analogy may help to bring the point out more clearly. Representational painting is not the only kind of valuable painting but it is one very important kind. Indeed, it may be the mother from which other forms of valuable painting emerged. Representational painting exploits the contrast between foreground and background. What is in the foreground gains its meaning from its contrast with the background. What I want to suggest is that nature provides the background against which we live our lives, providing us with an important source of meaning. It is thus not surprising that we delight in nature and take

joy in its operations, and feel grief and nostalgia when familiar patterns are disrupted and natural features destroyed.³⁹ In these respects, meaning and mourning are closely related concepts.⁴⁰

A third reason for respecting nature flows from a concern for psychological integrity and wholeness. As Kant (and later Freud) observed, respecting the other is central to knowing who we are and to respecting ourselves. Indeed, the failure to respect the other can be seen as a form of narcissism. Some work in environmental psychology gestures toward a story in which the recognition of nature as an “other” beyond our control is at the root of our self-identity and communal life.⁴¹

Many of these same reasons for respecting nature apply to respecting those who have gone before and those who will come after. Seeing ourselves as related to others in these ways is important to respecting ourselves and knowing who we are. It is **(p.192)** also central to giving meaning to our lives. Such respect is also likely to help us from destroying ourselves.

The idea of respect for nature may seem in tension with another thought that is often articulated by environmentalists. On this view the ultimate source of our environmental problems is our separation from nature. The solution is to see humans as part of nature. From this perspective, nature is inside of us and we are part of nature. Our skin is a permeable membrane that is itself part of the natural world.⁴² How can we respect nature when we ourselves are part of nature?

Such claims can be irritating because it is easy to hear them as trivial, false, pernicious, or mystical. For a naturalist such claims seem trivial. Of course we are part of nature. What else is there for us to be part of? Yet in another sense it is clear that we distinguish people from nature in much the same way that we distinguish artifacts from natural objects. Someone who cannot make such distinctions, at least in the ordinary case, either does not know how to speak the language or has some serious psychological deficiency or disorder. The claim that we are part of nature can also seem pernicious since it seems to imply that there is no moral difference between a human being killed by an earthquake and one who is killed by another human being. Of course those who claim that humans are part of nature typically want to deny this implication, but this is where the mysticism sets in.

Nevertheless, I think there is important truth in the claim that humans are part of nature. We can take many different perspectives on the relationship between ourselves and nature. For example, we can see nature as a set of cycles and from within this single perspective there are multiple views. From the point of view of biogeochemistry, nature is the carbon cycle, the nitrogen cycle, and so on. On this view we, like other natural objects, are instances of these cycles. At another

level of analysis we can say that breathing and respiration are instances of the same cycles that govern the atmosphere; our circulatory system as well as various cellular processes are instances of the hydrological cycle; digestion and metabolism recapitulate the soil cycle; and we are as subject to the laws of thermodynamics as any planet or star. We could go on acknowledging other perspectives and various points of view within them. From these perspectives we are not separate from nature. Not only has nature brought us into existence and sustains us, but it also constitutes our identity.

This may seem hopelessly abstract or romantic but it is because of these perspectives from which we see ourselves as part of nature that we cannot fully reduce nature to competing baskets of distributable goods, at least not without radically changing our own self-understandings. We are hesitant about markets in kidneys and more than hesitant about markets in brains, in part because we see these organs as partly constitutive of who we are. Even if we allow such markets we will not be tempted to think that everything that is important about a kidney or a brain is expressed by its market value. It would be strange for someone to do a benefit-cost **(p.193)** analysis of a brain as if its value in a shadow market were its most important feature. The same sort of strangeness attaches to attempts to assess in market terms “the value of the world’s ecosystem services and natural capital.”⁴³ A residue remains of our relation to nature that cannot be fully expressed in the language of economics. This dimension is primordial, and occurs in various traditions around the world. It cannot easily be dismissed.⁴⁴

Much that I have said in this section is sketchy and unsatisfactory. The important points, which surely need fuller development and deeper reflection, are these. Respect for nature is an important virtue that we should cultivate as part of an ethics for the Anthropocene. Respect can be manifest in many different ways within a single person, sometimes simultaneously. Nature itself is not a single thing and we can respect elements or dimensions of nature while expressing contempt for others. Respecting nature is respecting ourselves.

6.6. Global Justice

One aspect of the dream that dies hard is the view that anthropogenic climate change is fundamentally a problem of global justice that can be assimilated to other such concerns. This view holds out the hope that climate change can be solved by a global deal. On this view an international group of adults, acting as agents of states or of other powerful institutions, pursuing national and institutional interests but constrained by considerations of justice, meeting behind closed doors somewhere like Breton Woods, can put the world back together. Indeed, it is their responsibility to do so. Exactly what the deal should or could be is a matter of some dispute. What happens if they fail is something people do not like to think about.

There are important differences among people who have such views. Some just want to make a deal; they care very little about justice. Others care passionately about justice and argue that justice matters practically because nations will not agree to deals that they see as fundamentally unfair. What these people have in common is a state-centric view of how the climate change problem can be solved.

Some of those who are committed to this view have been shaken in recent years by the failure of world leaders to respond adequately to climate change. Increasingly they worry that there are no adults left in the world or that the few who remain have been exiled to cushy sinecures where they can be safely ignored. The politics of some countries seem to have been seized by resentful adolescents engaged in never-ending popularity contests. In other countries it really does seem like the lunatics are running the asylum. **(p.194)**

Still, this view remains influential. Some academics find it attractive because they think that we know what we are talking about when it comes to global justice or rational choice theory. Climate ethics and justice appear to be special cases of these broader concerns or in any case an underdeveloped and undisciplined field. They dismiss collisions with reality as involving questions of “non-ideal” theory, which is not their subject.

Many activists and world leaders share the view that climate change is at heart a problem of justice between states. For those who suffer from the existing global order or speak for those who do, the language of global justice provides a kind of soft power. Despite the seductiveness of this view, some complications become apparent upon reflection.

Activists and leaders from developing countries often speak of climate change as an injustice that rich countries inflict on poor countries. For example, Ugandan President Yoweri Museveni has been quoted as saying that climate change is “an act of aggression by the rich against the poor.”⁴⁵ At Copenhagen in 2009 Lumumba Stanislaus-Kaw Di-Aping, the chief negotiator for the G-77, upped the ante when he compared the Copenhagen Accord to the Holocaust.⁴⁶

There is reason to see climate change as an injustice that rich countries inflict on poor countries. Rich countries have done most of the emitting, but most of the climate change-related suffering is likely to occur in poor countries, just as poor countries suffer most today from climate variability and extreme events.⁴⁷ Honduras suffers more from hurricanes than Costa Rica, Ethiopia suffers more from drought than the United States, and probably no country is more affected by floods than Bangladesh. Generally, 96% of disaster-related deaths in recent years have occurred in developing countries.⁴⁸

Some would deny that poor countries are more vulnerable, pointing to the long history of mutual accommodation between indigenous peoples and their environments. However, underdevelopment is not the same as lack of development. In some regions of the world people are less able to feed themselves and to manage their environments than they were in the distant past.⁴⁹ In some cases contact with the Northern-dominated global economy has brought the risks of capitalism without the benefits. Traditional ways of coping have been lost or driven out, while modern approaches are not available. From this perspective underdevelopment should be thought of as something that has been produced by the global economy rather than as some point of origination from which development proceeds. To say this, **(p.195)** however, is not to endorse any “myth of merry Africa” in which all was paradisiacal before European contact. No doubt, in many regions “capitalist scarcity [has simply] replaced precapitalist famine.”⁵⁰

Whatever is true about the details of these speculations, the vulnerability of poor countries to climate change has been widely recognized in international reports and declarations, including the 2007 Intergovernmental Panel on Climate Change (IPCC) report. The Johannesburg Declaration, issued on the tenth anniversary of the 1992 Rio Earth Summit, declared that “the adverse effects of climate change are already evident, natural disasters are more frequent and more devastating and developing countries more vulnerable.”⁵¹ When we look at particular countries, the case for this view is even more compelling.

Even without climate change, Bangladesh suffers enormously from extreme events. In a “normal” year about a quarter of the country is inundated by floods.⁵² In an “abnormal” year things are often worse. In 1998 68% of Bangladesh’s landmass was flooded, displacing 30 million people and killing more than a thousand, and this was only one of seven major floods that occurred over a 25-year period.

Climate change will make things worse. By the end of the century global mean sea level rise may be a meter or more.⁵³ An 80-centimeter sea level rise would put about 20% of Bangladesh permanently under water, creating about 18 million environmental refugees.⁵⁴ Climate change may also intensify cyclones, which generally occur about every three years. Saline water will intrude even farther inland during storm surges, fouling water supplies and crops, and harming livestock.

In recent years Bangladesh has made significant progress in reducing vulnerability to extreme events by developing early warning systems, building cyclone shelters, and implementing other disaster-preparedness measures. The mortality figures show the results. In 1970 Cyclone Bhola killed 500, 000 people, in 1991 Cyclone Gorky killed 140, 000 people, and in 2007 Cyclone Sidr killed 3, 500 people. Even though mortality has been greatly reduced, extreme events

still result in widespread damage to houses, crops, livestock, and other assets.
(p.196)

In 2008 Bangladesh published a Climate Action Plan.⁵⁵ Implementing the first phase would involve constructing embankments, cyclone shelters, roads, and other infrastructure; strengthening disaster research and knowledge management; and building capacity and creating public awareness programs. To fully fund the first five years of this plan required \$5 billion, a figure that is more than half of Bangladesh's 2008 total annual budget. The plan launched with a contribution of about \$125 million from the United Kingdom, but aid to Bangladesh has been volatile and has generally been declining in constant dollars and as a percentage of GDP.⁵⁶ Bangladesh will only succeed in adapting to climate change if others provide the financial support that was promised in the Framework Convention on Climate Change (FCCC).

Bangladesh will suffer enormously from climate change, yet its contribution to the problem is minuscule. Its total carbon dioxide emissions are less than .2 of 1% of the global total.⁵⁷ On a per capita basis, Bangladesh's emissions are about 1/20th of the global average and about 1/50th of American emissions.⁵⁸ Several small island states (e.g., Seychelles, Maldives) whose national emissions are even more negligible are even more at risk. They may literally cease to exist as their landmass is swallowed by rising seas.

It is these sorts of considerations that support the conclusion that anthropogenic climate change is an act of aggression by the rich countries of the North against the poor countries of the South. However, it is also important to recognize that global climate change fails to display some of the central features of an injustice between states.

The first difference is that paradigm injustices between states, such as aggressive war, involve the intentional infliction of damages, while this is not the case with global climate change. GHGs are a by-product of a nation's economic and other activities, and climate change damages are a by-product of these (and other) emissions. Virtually every nation would be happy if their economic and other activities continued as they are while their emissions ceased. They would also be happy if their emissions occurred but did not cause damages. When it comes to an unjust war, on the other hand, the whole point is to deprive other states of what is rightfully theirs. The difference between emitting GHGs and fighting unjust wars can be reduced to **(p.197)** a familiar adage. The purpose of a military is to smash things and kill people while the purpose of emitting GHGs is to become rich and enjoy life.

Second, many people and even some political leaders in nations that have high levels of emissions at least claim ignorance about the effects of GHG emissions. Other nations admit to the damages and undertake policies to reduce emissions

or to aid those who suffer from climate change. But if this is to be understood on the model of an injustice between states this is weird in its own way. It is as if one nation unjustly invades another but does not know that it has invaded, or seeks to alleviate the harm it unjustly causes while continuing to cause it as a matter of policy.

The third and most important difference is the fact that since the atmosphere does not attend to national boundaries and a molecule of carbon has the same effect on climate wherever it is emitted, climate change is largely caused by rich people, wherever they live, and is suffered by poor people, wherever they live. Thus the people who contribute most to climate change and will suffer the most from it are distributed throughout all the countries of the world though in different proportions.

One way of thinking about those who contribute most to climate change is to focus on the 500 million people who emit half of the world's carbon.⁵⁹ Who are these people and where do they live? The shape of the climate change problem would be very different if they (we) did not exist. Although I know where to find some of the high-emitters (e.g., me and my readers), it is not easy to identify and locate all of those who emit most of the carbon. One way of trying to find them is through the use of a proxy.

In 2010 there were a little over 700 million registered cars in the world.⁶⁰ Anyone who owns a car is quite likely to be one of the 500 million who emit half the world's carbon (or equivalent to them in terms of emissions). This is not only because of the emissions from their automobile, but also because someone who owns a car is able to command relatively large amounts of energy to use for heating, cooling and other purposes.

Here are some examples of where these 700 million cars are registered.

United States 119 million

Japan 58 million

Germany 42 million

Italy 37 million

China 35 million **(p.198)**

Russia 35 million

France 31 million

United Kingdom 31 million

Brazil 26 million

Spain 22 million
Mexico 21 million
Canada 20 million
Poland 17 million
India 13 million
South Korea 13 million
Australia 12 million
South Africa 5 million
Switzerland 4 million
Saudi Arabia 4 million
New Zealand 3 million
Iran 3 million
Ireland 2 million
Israel 2 million
Slovenia 1 million
Afghanistan 600, 000
Ecuador 300, 000
Viet Nam 170, 000
Papua New Guinea 38, 000
Vanuatu 9, 000
Central African Republic 2, 000

The differences in car ownership between some countries are enormous, while car ownership is widely distributed over many countries. The extremity of the differences is indicated by the fact that car ownership in the United States is greater by four orders of magnitude than car ownership in the Central African Republic. China and Russia have more than 17 times as many cars as Ireland and more than all but two EU countries. The broad and sometimes surprising distribution of car ownership is shown by the fact that only six of the top ten countries in automobile ownership are among those countries required to fund

the climate change activities of developing countries under the FCCC, while some of the 24 countries that are required to fund these activities are not among the top 24 countries in car ownership. What this means is that rich people who live in countries such as China and Russia escape obligations that attach to poor people who live in countries such as Ireland and Spain.

Even more troubling than the fact that poor countries suffer more from climate-related impacts than rich countries is the fact that poor people wherever they live suffer more from such impacts than rich people. This pattern of the poor **(p. 199)** suffering most from extreme climatic events has been documented as far back as the “little ice age” that occurred in Europe from 1300 to 1850.⁶¹ A more recent example is the Chicago heat wave of July 14–20, 1995. In a fascinating book, Klinenberg (2002) documents in detail the victims of this event; they were disproportionately low-income, elderly, African-American males living in violence-prone parts of the city. A total of 739 people died in the heat wave, more than four times as many as in the Oklahoma City bombing that occurred three months earlier, although it received much less media attention. This pattern of the poor suffering disproportionately from climate-related impacts, even in rich countries, occurred once again in the wake of Hurricane Katrina, which struck the Gulf Coast of the United States in August, 2005.

The societal factors that made Hurricane Katrina so devastating in New Orleans—high levels of inequality, large populations living in poverty, poor public services, and so on—will lead to similar consequences in the future in otherwise rich countries that have such features. Indeed, something like this is more likely to happen again in the United States, if not in New Orleans, than perhaps in Houston, Atlanta, Miami, or Baltimore. Indeed, there is reason to suppose that poor people in the United States will suffer more from climate change than similarly situated people in a country such as Cuba, which has less inequality and a public sector that is more effective in responding to climate- and weather-related disasters than the United States.⁶²

The fact that the high-emitting 500 million as well as the potential victims of climate change are distributed around the globe is awkward for those who want to assimilate climate change to traditional notions of global justice. It is as if the army of the aggressor includes citizens from the victimized country and the aggressor’s victims include residents of both countries. Something like this may be true to some extent in some unjust wars, but in nothing like the degree to which it will be true in the case of climate change.⁶³

I want to be clear that I am not denying that climate change poses questions of global justice. Rather, my points are these. First, like questions of individual moral responsibility, the problems that climate change presents stray from the paradigm of global justice. A nation’s emitting a large quantity of GHGs is not, in several important respects, like unjustly invading another country. Second, the

nation-state is not a particularly good vehicle for collecting high GHG emitters or even perhaps potential victims of climate change. A picture that views individual people in their **(p.200)** various roles and relationships as the primary bearers and beneficiaries of duties and obligations is one that comports more naturally with the climate change problem than a picture that views nations as fundamental.⁶⁴ Specific normative relationships emerge from a network of considerations. People and their values and commitments matter as they manifest in their gender, ethnic, class, and religious identities, and in their roles as parents, students, members of NGOs, citizens, stockholders, consumers, patrons of the arts, sports fans, home owners, commuters, and so on. Each of us occupies multiple roles, and different responsibilities and powers attach to them. We do not have to choose between these roles or privilege some particular level of analysis when it comes to ascribing actionable duties.⁶⁵ To a great extent the nation-state matters when it does because people care about it and it is a causally efficacious institution.

6.7. Concluding Remarks

We live in a post-Nietzschean world in which the gods are not available to give meaning to our lives, nor can nature provide transcendental grounding in a human-dominated world. The authority of reason, which according to the thinkers of the Enlightenment was supposed to replace obedience to the gods and subservience to nature, has turned out to be tenuous and under sustained attack. Still we can find meaning in the Anthropocene. Climate change threatens a great deal but it does not touch what ultimately makes our lives worth living: the activities we engage in that are in accordance with our values. The green virtues are not an algorithm for solving the problems of the Anthropocene, but they can provide guidance for living gracefully in a changing world while helping to restore in us a sense of agency. Acting individually and collectively in the various roles we occupy gives us the power to blunt the force of climate change while living meaningful lives. Reasonable people can make a difference while living well. In the final chapter I describe what can be achieved even within the limits of these modest but hopeful aspirations.

Notes:

(1) Unless otherwise noted, data in this paragraph are from www.epa.gov/climatechange/pdfs/print_ghg-concentrations.pdf. Retrieved July 18, 2013.

(2) Vitousek et al. 1997. For a recent review, see Running 2012.

(3) Vitousek et al. 1997: 494.

(4) For an influential statement of this view, see Crutzen 2002. The idea of the Anthropocene has become so influential that it figured in the title of the 2011 Geological Society of America meetings (“Archean to Anthropocene: The Past Is the Key to the Future”). See also Zalasiewicz et al. 2008. Priya Murthy has

suggested to me that the idea of the Anthropocene may be implicit in the preface to Arendt 1998. In any case the claim that we have entered an era in which there are unprecedented ethical challenges does not rest on whether this proposed change in geological classification actually takes hold.

(5) See also Hale 2011; Johnson 2003; Hiller 2011; and Jamieson 2007b.

(6) E.g., Sinnott-Armstrong 2005; Parfit 1984, ch. 3; Glover 1975; and Kagan 2011.

(7) Julia Nefsky (2012) makes a similar point at the end of her paper.

(8) There are other reasons for being skeptical about the efficacy of individual behavior as well (e.g., the “rebound” effect). For discussion, see Csutora 2012.

(9) Hiller (2011) and Sandler (2010: 168) also make this point.

(10) This point has been made for decades by Michael Glantz and others in the climate impacts community. Visit <http://www.ilankelman.org/glantz.html>. Retrieved July 18, 2013.

(11) This helps to explain a debate that broke out in the United States about whether the 9/11 hijackers were courageous. While the discussion was innocent of much serious reflection, some separated the attribution of courage from the goals or character of the courageous person, while others thought that nothing good (e.g., courage) could be attributed to evil men who would perform such horrific acts.

(12) Thomas Nagel (1991) has wise things to say about these and related matters.

(13) Visit <http://classics.mit.edu/Plato/euthyfro.html> for an English translation. Retrieved July 18, 2013.

(14) Such thoughts are well expressed in various profound books and sappy (and not so sappy) pop songs. I personally recommend Kumar 2000 and John Lennon’s “Watching the Wheel Go Round.”

(15) For the philosophical underpinnings of this view, see Jamieson and Elliott 2009. A related view that emphasizes the importance of narrative structure to a worthwhile life has been developed by Alan Holland. See O’Neill et al. 2007; see also O’Neill 2008.

(16) Williams 1985: 6.

(17) This thought is explicit in the work of Williams’s longtime colleague, G. E. M. Anscombe (see especially her 1958); to a great extent they share a common

critique of modern moral philosophy, though their positive views are quite different.

(18) Williams 1985: 174. By artfully using an expression (“peculiar institution”) that has traditionally been applied to American slavery, Williams indirectly references Nietzsche’s critique of Judeo-Christian morality as a slave morality. For Williams the morality system is basically a rationalized version of Judeo-Christian religious ethics, though so far as I know he never states this explicitly in his published writings.

(19) On the relationship between morality and etiquette, see Foot 1972.

(20) I defend these claims more fully in Jamieson 2007b. The instrumental attitude I take toward the virtues separates me from traditional virtue theorists and many of those who work in the tradition of environmental virtue theory. Cf. Sandler 2007; Cafaro and Sandler 2005.

(21) These strategies reflect the mechanisms of moral change discussed in Section 5.6. A fuller account would also have to provide an account of the vices (see, e.g., Thompson and Bendyk-Keymer 2012: Ch. 10–12).

(22) Hill 1983: 222.

(23) Another example of rehabilitation is exemplified in Jonathan Lear’s 2006 story of how courage came to take on new meaning in the life of Crow Chief Plenty Coups after his people were virtually destroyed and confined to a reservation. For its application to climate change, see A. Thompson 2010.

(24) Hume is an exception in the tradition in noting the importance of cooperativeness. For further discussion of the importance of cooperativeness to morality, see Hinde 2002.

(25) For simplicity, see Elgin 2010 and Cafaro 2005; generally, see Jamieson 1992 and 2012.

(26) Respect for nature can be thought of as a duty as well as a virtue, which is how Paul Taylor (1986/2011) understands it, and also how I regarded it in Jamieson 2010b. See also Wiggins 2000.

(27) On Kant, see Wood 1998; for an expression of respect for nature in Romantic poetry, see Coleridge’s poem “The Rhyme of the Ancient Mariner.”

(28) Vitousek et al. 1997: 494.

(29) There is a sense of “domination” in which it does not imply a lack of respect (e.g., one team can be said to dominate another in a game) but for reasons that are given below (e.g., that our lack of respect for nature expresses attitudinally

as well as substantively) and for others that are obvious it is not this sense that is in play here.

(30) See, for example, Katz 1997; the essays collected in Heyd 2005; and Turner 1996. What Turner means by “wildness” is related to what I mean by “autonomy.” For reservations, see O’Neill et al. 2007: 134–137.

(31) This is why Vitousek (1997) used the language of domination. These are also the sorts of reasons why McKibben (1989) took climate change to mark “the end of nature.” While this was an exaggeration, McKibben was making an important point: Though it does not mark the end of nature climate change is a mark of the Anthropocene. For more on these themes, see Jamieson 2008: 166–168 and Jamieson 2002: 190–196.

(32) I owe this image to Jeremy Waldron.

(33) This theme was especially prominent in the work of Franz Fanon and Malcolm X.

(34) Werner Herzog’s *Grizzly Man* is a wonderful film on this and related themes.

(35) Mill is an interesting case of someone who saw nature as amoral but maintained a fundamental respect for nature, in part for its otherness, but also because of its aesthetic qualities and the ways it contributes to human life.

(36) There is even a blog “52 Ways to Fall in Love With the Earth” which can be viewed at <http://52ways.wordpress.com/>. Retrieved July 18, 2013.

(37) http://www.goodreads.com/author/quotes/5297.John_Muir. Retrieved July 18, 2013.

(38) http://en.wikipedia.org/wiki/Flatirons#A_symbol_of_Boulder. Retrieved July 18, 2013.

(39) For an articulate example of these feelings regarding the devastation of Utah’s red rock canyon country by the creation of Lake Powell, see Lee 2006 and Abbey 1985. A similar sense of loss and nostalgia can be engaged by urban projects such as Robert Moses’s plan to build a highway through Manhattan’s Washington Square Park (see Caro 1975).

(40) I owe this thought to Sebastiano Maffetone.

(41) See, e.g., Clayton and Opatow, 2003.

(42) These themes are suggested by Suzuki and McConnell (1997).

(43) This is the title of Constanza et al. 1997. According to the authors, the value in question is in the range of \$16–54 trillion per year. For a critical discussion, see Sagoff 2004: ch. 6.

(44) Sagoff (1991) and Dworkin (1993: ch. 3) argue points that are similar to this—Sagoff when he distinguishes nature from the environment, and Dworkin when he talks about species as sacred.

(45) *The Economist* (2007): 123.

(46) http://www.youtube.com/watch?v=s0_wvZw0fOU. Retrieved July 18, 2013.

(47) From 1850 to 2002 more than three-fourths of all CO₂ emissions came from developed countries (Baumert et al. 2005: 32). For a review of the health impacts, see Patz et al. 2007.

(48) See African Development Bank et al. 2003 and the sources cited therein for documentation of the claims made in this paragraph,

(49) Davis 2001.

(50) Iliffe 1987: 3.

(51) <http://www.un-documents.net/jburgdec.htm>. Retrieved August 2, 2013.

(52) For more on Bangladesh's vulnerability to natural disasters and climate change see "Assessing the Evidence: Environment, Climate Change and Migration in Bangladesh," International Organization for Migration (IOM) Regional Office for South Asia, Dhaka, Bangladesh, 2010. Also visit http://www.washdiplomat.com/index.php?option=com_content&view=article&id=8456:as-ground-zero-of-climate-change-bangladesh-braces-for-the-deluge&catid=1491&Itemid=428. Retrieved July 18, 2013.

(53) See Grinsted et al. 2009; Rignot et al. 2011. For a review, see National Research Council 2010: 243–250.

(54) P. Roy, Climate refugees of the future. *ALRD Newsletter on Land, Water and Forest*, issue 3, January 2010. See also the five-part *Scientific American* account on Bangladesh and climate migration that begins at <http://www.scientificamerican.com/article.cfm?id=climate-change-refugees-bangladesh>. Retrieved July 18, 2013.

(55) MoEF, 2008. Bangladesh Climate Change Strategy and Action Plan 2008. Ministry of Environment and Forests, Government of the People's Republic of Bangladesh, Dhaka, Bangladesh.

(56) <http://www.indexmundi.com/facts/bangladesh/net-official-development-assistance-received> (retrieved July 18, 2013). Generally see Overseas Development Institute, Bangladesh Case Study for the MDG Gap Task Force Report, May 2010. See also http://www.washdiplomat.com/index.php?option=com_content&view=article&id=8456:as-ground-zero-of-climate-change-bangladesh-braces-for-the-deluge&catid=1491&Itemid=428. Retrieved July 18, 2013.

(57) <http://co2now.org/Know-GHGs/Emissions/>. Retrieved July 18, 2013.

(58) This is calculated from World Bank data available here: <http://data.worldbank.org/indicator/EN.ATM.CO2E.PC/countries/BD-8S-US?display=graph>. Retrieved July 18, 2013.

(59) This is the approach of Chakravartya et al. 2009.

(60) There is probably a fewer number of car owners since some people own more than one car. I have rounded off numbers supplied by Ward's Automotive Group. The numbers are obviously increasing rapidly and the calculations can be updated from data found on the following sites: wardsauto.com/ar/worlds_vehicle_population_110815; <http://dc.streetsblog.org/2013/07/05/car-ownership-may-be-down-in-the-u-s-but-its-soaring-globally/>; <http://data.worldbank.org/indicator/IS.VEH.PCAR.P3/countries/1W?display=default>. Retrieved October 25, 2013.

(61) Fagan 2001.

(62) Mas Bermejo 2006.

(63) There is more to say about these matters. Steve Gardiner (2011) thinks there's more to the analogy between war and carbon emitting than I do. Shue 1996 and Pogge 2002 provide materials for supposing that states can act unjustly with respect to other states short of war by violating negative duties not to harm. There is also a growing literature on complex forms of injustice that bears on these questions (see, e.g., Young 2013). See also Jamieson and Di Paolo 2013.

(64) Such a view is, I guess, a version of Cosmopolitanism, but there are so many undercharacterized versions of Cosmopolitanism in circulation that it is not clear that it is a useful concept. In any case see Pogge 2002: ch. 7 for an attempt to provide some order.

(65) Related views have been put forward by Kuper (2000) and Sen (2002); see also Jamieson (2005a and 2005b).

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