

Introduction: The Global Environmental Tragedy

Sometimes the best way to make progress in solving a problem is to clarify what the problem is. That is the aim of this book. Its subject is the coming global environmental crisis. Still, this is not a work of natural science. It does not seek to explain humanity's effects on the earth's physical, biological, and ecological systems. These facts are, I take it, reasonably well known.¹ My concern is with why, given that the relevant facts are known, effective action is so difficult, and indeed has so far eluded us. This is the real global environmental tragedy, and it is what needs to be explained.

I. MY APPROACH

In my view, the global environmental tragedy is most centrally an ethical failure, and one that implicates our institutions, our moral and political theories, and ultimately ourselves, considered as moral agents. In a moment, I will introduce my explanation of how the tragedy comes about through the metaphor of the perfect moral storm. But first let me say something about the kind of project I am engaged in, some of the assumptions I am making, and the audience for which this book is intended.

Much work in moral and political philosophy, and especially in its more applied or practical areas, takes the form of announcing, developing, and defending a set of principles (or norms) for guiding institution-building or policy decisions in a particular area. This is a worthy endeavor;

1. See, for example, IPCC 2007a; UNEP 2007. I do not mean to imply that everything about the natural science is known with certainty. Indeed, part of the problem of global environmental change is precisely that it involves uncertainty. My point is rather that those facts essential to action are known, where this includes the fact that there are some deep uncertainties. See also chapter 11 and Appendix 2.

however, it is not my aim in this book. Instead, my goal is to get clearer about the nature of the problem itself, as a preliminary to generating and assessing potential solutions.²

Such a project has precedents in at least two traditions of moral and political theorizing. The first is perhaps best exemplified by the social contract tradition in political philosophy in general, and the work of Thomas Hobbes in particular.³ Hobbes sets out to say what the basic problem of political organization really is. (Infamously, he claims that it is to avoid the scenario of continual war in a state of nature where life is “nasty, brutish and short.”) He then treats this account as the background against which potential solutions should be formulated and judged. As it happens, Hobbes’s statement of the problem has turned out to be of more enduring interest than his own attempt at a solution. Still, his contribution is not regarded as any less important because of that. Sometimes clearly identifying the problem is a crucial step.⁴

The second tradition is most clearly evident in what might broadly be called virtue theory, although it is also present in other approaches to normative ethics, as well as in some areas of professional ethics, and in literature. This tradition seeks to identify the characteristic “temptations” present in certain situations, positions, or ways of life, where these are understood as vulnerabilities to behaving badly to which many are likely to be susceptible. Such work is helpful not only for thinking about how to resist acting badly, but also in coming to understand ourselves as moral agents.⁵ “Who we are,” morally speaking, is a significant ethical issue, and one which (as we shall see in chapter 10) has considerable bearing on the global environmental tragedy.

2. For solution-oriented material, see chapter 11, Gardiner et al. 2010, Garvey 2008, Page 2006, and Vanderheiden 2008a, 2008b.

3. Locke 1988, Rousseau 1997, Rawls 1999, Dworkin 2000, and Nozick 1974 also fit into the more general tradition, even though not all are contract theorists.

4. A similar point might be made in epistemology about Descartes’s method of doubt. This is set up as the criterion against which solutions to the problem of knowledge should be judged. Again, Descartes’s own solution has not been influential; but his effort to set out the problem provides the backdrop for centuries of further work.

5. Consider, for example, Plato’s discussion of conflicts between the three parts of the soul, Aristotle’s account of the excess and deficiency related to each virtue, and Hume’s analysis of the “monkish” and other virtues. Some recent writings on “moral psychology” also fit this mold.

Let us turn now to assumptions. In setting out my account of the global environmental tragedy I will be taking for granted a number of claims that I shall not attempt to justify within the confines of this book. These include that we have strong reason to believe that climate change poses a real and potentially catastrophic threat to human and other life on this planet,⁶ that scientific concern about the threat is robust and not driven by some kind of left-wing or green conspiracy, and that people in all nations have a shared responsibility to act together to address the threat.⁷ I shall also assume that ethical concerns matter in deciding exactly why and how we must act; and that it is not only inaction that might be morally wrong (in ways to be discussed), but also inappropriate action (such as a retreat of the affluent into their own “fortress world,” or predatory geoengineering). Nevertheless, in keeping with the goal of clearly identifying the problem, I will try to couch the ethical risks of our current predicament in the broadest possible terms. My hope is to specify the global environmental tragedy in language that almost all morally serious people can accept, and so I will try not to beg any contentious theoretical questions. Presumably, potential solutions to the tragedy will have to go further, and make claims that are more controversial. Still, in my view, it is better not to build in such assumptions at the beginning. As we shall see, one of my main claims is that we are already vulnerable to distraction from the imperative to act, and act well. So, one of my aims in this book is to keep such distractions to a minimum.

Who should read the book? My hope is that it will be useful to a wide audience, both inside and outside the academy. Though I am a philosopher by training, this work is aimed at the problem—the global environmental tragedy—rather than at a particular discipline or institution, and so reflects the fact that the challenge transcends traditional boundaries. In my view, the issue is one that concerns all of us, simply as moral agents. The future of our own societies, of humanity, and of many of the earth’s species is at stake, and with them our own moral legacy. Hence, I have tried to make my discussion accessible to as many people as possible, avoiding as much tangential complexity as I can. This is not a time for purely parochial concerns, or local academic niceties.

6. IPCC 2007a; Oreskes 2005.

7. See chapter 11.

That being said, some parts of the book are clearly more technical than others, and some may be of special interest to particular audiences. I try to indicate this (and especially which sections might be safely skipped) in the outline offered below, and in the main text itself. However, I also believe that most chapters can be safely read in isolation, especially if one already has the first two in hand. Hence, the more confident reader should feel free to skip around. For those looking for a “fast and dirty” grasp of the book, I suggest reading chapters 1, 2, 5, 7, and 9 first.

One final point about my approach is perhaps worth emphasizing. This book tries to identify our moral situation, including the temptations to which we are subject, and the ways in which they make us vulnerable to a certain kind of corruption. Some may take a peculiar kind of pleasure in this, and rejoice in pointing fingers at those they see as most liable to moral criticism. But I want to stress right from the start that my objective is not to vilify any particular individuals, groups, classes, or nations. Indeed, the point is not really to apportion blame at all, but rather to help us understand our own predicament (see chapter 7). This is a tragedy in which most of the world’s more affluent people play a part. Hence, almost all those able to read this book are ethically vulnerable to at least some extent, in many parts of our lives, and through membership in a wide range of social and political communities. If the moral quality of our lives is not to be compromised (see chapter 10), we must seek to address it together.

II. INTRODUCING THE PERFECT STORM METAPHOR

The global environmental tragedy has many causes and aspects. But in this book I will highlight three central contributions through invoking the metaphor of “a perfect moral storm.” I borrow the phrase “a perfect storm” from Sebastian Junger’s book of that name, and the subsequent Hollywood film.⁸ Junger recounts the true story of the *Andrea Gail*, a fishing vessel caught at sea during the rare convergence of three particularly bad storms, and ultimately destroyed as a result. Given this, I take a perfect

8. Junger 1999.

storm to involve the unusual intersection of a number of serious, and mutually reinforcing, problems, which creates an unusual and perhaps unprecedented challenge. In my metaphor of the perfect moral storm, the three problems (or “storms”) are all obstacles to our ability to behave ethically. Like the *Andrea Gail*, we are beset by forces that are likely at least to throw us off course, and may even sink us into the bargain.

Each of the first two storms involves a serious asymmetry of power, where the possibility of some taking undue advantage⁹ of others is pronounced. The first storm is global. Its key feature is that the world’s most affluent nations, and especially the rich within those nations, have considerable power to shape what is done, and to do so in ways which favor their own concerns, especially over those of the world’s poorer nations, and poor people within those nations.

The second storm is intergenerational. Its key feature is that the current generation has similar, but more pronounced, asymmetric power over the prospects of future generations: roughly speaking, earlier generations can affect the prospects of future generations, but not vice versa. In my view, the intergenerational storm is the most prominent of the three. Here the possibilities for taking advantage are deep.

The third storm is theoretical. In dealing with the first two storms, it would be nice if we had robust general theories to guide us. Unfortunately, this is not the case. In particular, existing theories are extremely underdeveloped in many of the relevant areas, including intergenerational ethics, international justice, scientific uncertainty, and the human relationship to animals and the rest of nature. This not only complicates the task of behaving well, but also renders us more vulnerable to the first two storms.

Each of the three storms hampers the cause of ethical action, and threatens to blow it seriously off course. But taken together they are mutually reinforcing, and the challenge becomes profound. Moreover, this interaction also brings on new problems. Most prominently, the

9. In keeping with my aim of begging as few theoretical questions as possible, I shall use the phrase “taking undue advantage” (or just “taking advantage”) as a placeholder, to be filled in by a more nuanced philosophical account of the moral wrong at stake. (I take it that this is often the function of that phrase.) For example, one might try to flesh it out with notions such as “exploitation” (Bertram 2009) or “domination” (Nolt 2011), or by appeal to violations of the principles of a particular moral or political theory, such as Rawls’s (cf. Gardiner 2011a).

perfect storm puts pressure on the very terms in which we discuss the environmental crisis, tempting us to distort our moral sensibilities in order to facilitate the exploitation of our global and intergenerational position. I call this “the problem of moral corruption.”

III. CLIMATE CHANGE

In this book, I explore the perfect moral storm through a discussion of one central example, that of global climate change. I do so both because this is the leading environmental problem of our age, and because it is an especially good example of the storm.

First, the sources and impacts of climate change are spread across space, time, and species. The temporal aspect is particularly striking. Once emitted, molecules of the main greenhouse gas, carbon dioxide, typically persist in the atmosphere and contribute to warming for centuries. Moreover, a significant percentage of these emissions remains for thousands, and even tens of thousands, of years. Given this, the full impacts of our current activities are realized over a very long period, making the problem they pose profoundly intergenerational.

Second, climate change seems to provide a compelling case study of how the storm can undermine effective policy. On the matter of substance, there is a serious problem of political inertia (see chapters 3 and 4). Leaders and their countries have been promising to act for nearly two decades now. But this has been a sad history of delay, obstruction, and broken promises.

In the early 1990s, the nations of the world announced the objective of avoiding dangerous climate change for the sake of protecting current and future generations against its impacts, and with the understanding that ecosystems should not be pushed beyond their capacities to adapt. In line with this, many industrialized countries (including the United States, Canada, Japan, New Zealand, and Norway) said that they would voluntarily stabilize their emissions at 1990 levels by 2000. As it turned out, almost no one did so, and most had risen by around 10% by that time.¹⁰

10. Marland 2008. Germany and the United Kingdom did post reductions, although these were for unrelated economic reasons.

Moreover, subsequent negotiations around the Kyoto Protocol have at best had only limited effect. Despite a few notable efforts, emissions in most countries continued to grow through the next decade, even as the science suggested that reductions were becoming much more urgent. The United States, for example, saw growth of just over 20% in the period 1990–2005, while global emissions increased by almost 30%.

More recently, in the period 2007–09, much energy was invested in the idea that a United Nations meeting in Copenhagen in December 2009 would produce a new, more ambitious, and binding global treaty to replace Kyoto. However, as things turned out, that gathering delivered only a vague and weak political accord, accompanied by widespread dismay and angry recriminations.

It is difficult to see this experience as anything other than a geopolitical disaster. As Connie Hedegaard, the Danish Minister for Climate and Energy (and subsequently EU commissioner on climate action), put it two months before Copenhagen: “If the whole world comes to Copenhagen and leaves without making the needed political agreement, then I think it’s a failure that is not just about climate. Then it’s the whole global democratic system not being able to deliver results in one of the defining challenges of our century. And that . . . should not be a possibility.”¹¹

As a matter of public discourse, the geopolitical disaster has been facilitated by the fact that the current generation in the developed countries has spent much of the last two decades conveniently distracted and confused about the problem. On the one hand, governments have persistently had “other priorities,” and citizens have failed to see climate change even as a serious environmental problem, let alone one of humanity’s largest problems *per se*.¹² On the other hand, we have seen much hand wringing about the soundness of the science (albeit almost all by nonscientists, or scientists who don’t work on climate), active campaigns of misinformation, and a tendency to reduce the issue to tangential matters such as recycling. In short, few seem interested in really dealing with the problem despite its catastrophic potential. All of this seems difficult to explain away in any normal way. Unfortunately, in a perfect moral storm, it makes perfect sense. The temptation to pass the buck on to the future, the poor, and nature is very strong. So, the incentive to disengage is high.

11. Von Bulow 2009.

12. Leiserowitz 2005, 2009; Pew 2005; see also Jamieson 2006.

In my view, then, the perfect moral storm poses a very serious and deep ethical challenge, and one that is manifest in the climate policy of the last two decades. Still, mine is not a council of despair. First, even given the theoretical storm, the broad outlines of what must be done are relatively clear and well-known, especially in the short- to medium-term (see chapter 11). Even lacking robust theory, intermediate guidance is possible using indirect methods, such as identifying intuitively clear cases of failure, trying to articulate ethical constraints based on those cases, searching for levels of overlapping consensus across existing theories, and defending such benchmarks against the forces of moral corruption. Such strategies suggest two things. To begin with, global emissions must be put onto a sensible pathway that takes seriously the needs and aspirations of both present and future people. Given the extreme risk facing future generations, this mandates that they must peak sometime in the next few decades and then decline significantly for the foreseeable future. In addition, the developed nations are morally required to take the lead, and the heaviest burdens, at least in the short- to medium-term.

Second, though achieving this will be a serious challenge, the more central problem seems to be with engaging and then making operative the motivations that will bring it about. This is within our control. If climate change is a perfect moral storm, it is concerns about what we are doing to the poor, future generations, and nature that justify most of what needs to be done. I am optimistic that most of us have such concerns, and take them seriously. (Others are less so, but that is another story.) Still, what seems clear is that we lack the appropriate institutions to make these concerns effective in the world of policy. Markets and democratic elections may be good at registering short-term and local interests, but they look more dubious in the face of the perfect storm. We must find new ways to engage such institutions, and probably also develop additional institutions to help.

Here it is useful to recognize that the biggest obstacles to effective action may be our own attitudes of complacency and procrastination. Much of what passes for even the most progressive discussion of climate change these days is devoted to persuading us that dealing with the problem will not be costly in terms of our current lifestyles, and so is compatible with ways of living that many take to be in their best inter-

ests. This is comforting talk, and I am hopeful that it may turn out to be substantially true. Still, it seems to me that this is the wrong discussion to be having. Our reasons for acting on climate change are not (or at least not primarily) that doing so will be good (or at least not bad) *for us*; they are deeper and more morally serious than that. In my view, seeing this should make it easier for us to act. To dither when one might prevent moderate harms to oneself by taking modest precautionary action is folly to be sure, but its moral import is limited. By contrast, to engage in willful self-deception and moral corruption when the lives of future generations, the world's poor, and even the basic fabric of life on the planet is at stake is a much more serious business. We should wake up to that fact, and demand more of our institutions, our leaders, and ourselves.

IV. THE WIDER RELEVANCE OF THE MODEL

The focus of this book is on climate change. This is a vitally important topic. Still, I want to emphasize that the perfect moral storm analysis does not stand or fall with this case alone. In my view, the analysis is relevant to environmental affairs more generally, and indeed beyond them to other areas of human life. Importantly, I suspect that other instances of the storm are both possible, and indeed likely, to emerge over the coming decades and centuries. As humanity's activities become ever more extensive, it seems probable that the potential for the global and intergenerational problems to manifest themselves also increases. Some suggestion of this potential may come from the fact that climate change is already the second genuinely global environmental problem to come along in just a few decades (after ozone depletion), and another (ocean acidification) comes fast on its heels.¹³ Another indication comes

13. Ozone depletion does not seem to fit the perfect moral storm model, partly because it has substantial intragenerational effects that seem sufficient to motivate action. But ocean acidification may share some of the crucial characteristics.

from the thought that we may have already seen degenerate forms¹⁴ of the storm in other areas—such as nuclear proliferation, and financial deregulation prior to the Great Depression and current recession.

One way to see the wider relevance of the perfect storm is by contrasting it with the traditional “tragedy of the commons” analysis originally made popular by Garrett Hardin. This model is ubiquitous in discussions of environmental (and many other) problems. But, for reasons which should become clear, I believe that the perfect moral storm is sometimes more fundamental, and the intergenerational storm often so. This has practical consequences. Hardin’s model, though useful in many contexts and respects, would underestimate the seriousness of some problems, and misdirect our energies in searching for solutions.¹⁵ Given this, it should sometimes give way.

Another reason that the perfect storm analysis has more general relevance is that ultimately we are in need of a political philosophy and an ethic to address it, and especially its intergenerational aspect. This is especially so if, as I suggest elsewhere, the challenge of the storm is in some ways more fundamental than the one much conventional theory tries to address.¹⁶ Surely philosophy would be remiss if it did not try to rise to the challenge and provide an “ideal theory” to resolve this deep problem.¹⁷

In the case of climate change, of course, the problem is too urgent to wait, so we must muddle through without strong theory, and within existing institutions. Hence, as well as ideal theory, we must also seek an

14. I say more about the idea of degenerate forms in chapter 5. But one example would be if we see the convergence of the intergenerational and theoretical storms at a national or regional level. At first glance, this would not be a perfect moral storm in my sense, since it is not global in scope. Still, it might retain many of the same characteristics, so that much of what we say about the perfect storm remains apt. More deeply, from the theoretical point of view I would argue that the crucial features of what I have been calling the “global” storm are not essentially tied to a single planet considered as such (let alone this planet), but rather to certain kinds of systems that are largely self-contained. I call the storm “global” since, at this stage in human history, the earth is such a system for humanity, and because many of our prominent political and theoretical problems are at this level (see chapter 7).

15. On Hardin’s application of the commons metaphor to world population, see Appendix 1.

16. Gardiner 2009a, 2011a.

17. Rawls 1999.

“ethics for the transition.” As already mentioned, here we are fortunate that the basic parameters of what needs to be done morally-speaking are fairly clear, at least in the short- to medium-term. Nevertheless, there remains work to be done in fleshing out the details, and in defending this ethical consensus against the forces of moral corruption. Moreover, how to get existing political institutions to act, or how to create and fashion new (even transitional) ones, is not obvious. Hence, in addition to pointing in the general direction we should be heading, it would be useful for the ethics of the transition to offer some guidance in how to get there, and what to do while we figure out both of these things.

In this book, I comment only briefly on these tasks, deferring deeper engagement for another occasion. Here my aim is to clearly identify the problem, trusting that in the current context this is itself a contribution to progress. If we persistently see global environmental problems in general, and climate change in particular, through other lenses (e.g., the scientific, economic, or short-term geopolitical), this may prevent us from reaching a solution. As Henry Shue likes to say, “sometimes sunlight is the best antiseptic.”¹⁸ I hope that in this case it is.

V. OUTLINE OF THE BOOK

The basic structure of the book is as follows. Part A offers an overview of the perfect moral storm analysis. Chapter 1 presents the basic metaphor, distinguishes its main elements, and explains why these are especially problematic in the case of climate change. Chapter 2 addresses two initial objections. One suggests that the analysis relies on too selfish and unethical an account of human agency; and the other that it neglects the potential for a “green energy revolution.” I argue that the perfect storm can accommodate both concerns.

Part B discusses the global storm. Chapters 3 and 4 consider two competing diagnoses of the structure of the current international problem. (These chapters involve some modestly technical sections that may be safely skipped by general readers.) According to the optimistic analysis, addressing climate change does not really require truly global cooperation, but only that of a substantial, “critical mass” of countries.

18. Shue 1980, 341.

According to a more pessimistic analysis, truly global cooperation is necessary. I argue that the facts of climate change make the optimistic analysis largely untenable for the global storm considered as such, and in ways that support the more pessimistic case. However, I go on to claim that the more pessimistic analysis is itself not bleak enough, since it neglects the background presence of the intergenerational storm. Given this, we might expect nations to indulge in a modest “wait and see” policy that focuses on only short- to medium-term concerns. Unfortunately, we see evidence for such “shadow solutions” in the history of global climate policy, and especially in the Kyoto framework. Interestingly, their existence may help to explain the initial appeal of the optimistic analysis.

Part C considers the intergenerational storm more directly, and constitutes the theoretical heart of the book. Chapter 5 sets out the basic structure of the intergenerational problem, suggesting that it operates at various social levels. Chapter 6 assesses whether its application to climate change is undermined by the possibility that severe impacts may be imminent: if catastrophe is coming soon, the thought goes, doesn't the intergenerational problem disappear? I argue that it does not, and moreover that (counterintuitively) the temporal proximity of major negative impacts may make matters worse, even perhaps to the extent of setting off the equivalent of an intergenerational arms race.

Part D discusses the theoretical dimension of the perfect moral storm. Chapter 7 introduces a global test for political institutions and moral and political theories, and argues that we have strong grounds for thinking that current versions of both are failing this test. It also suggests that theories can be opaque, complacent, and evasive in the face of serious problems, and that this is a live worry in the case of climate change. Chapter 8 offers as an example of these problems attempts to apply economic cost-benefit analysis, the leading public policy tool of the day, to climate change. Such analysis is often criticized by philosophers and environmentalists; but in the present case, it also comes under pressure from many of its usual supporters.

Part E discusses the problem of moral corruption. Chapter 9 explains the basic problem and then illustrates its relevance through a comparison of some of the current debate about climate change with a classic piece of corrupt reasoning discussed by Jane Austen. In light of such worries, chapter 10 explores recent arguments for the pursuit of geoengineering,

and considers how the perfect storm analysis might illuminate them. In addition, it assesses what might be at stake when we do wrong, even when that wrong might be in some sense justified as a “lesser evil.” Through this, it suggests that there is a value at stake in global environmental tragedy that casts further light on the ethical challenge of the perfect storm.

Part F brings the book to a close. Chapter 11 briefly makes steps towards an ethics of the transition through commenting on some basic concerns about scientific uncertainty, precautionary action, responsibility for past emissions, the allocation of future emissions, and the shape of individual responsibility. The conclusion summarizes the main claims of the book, and says something about the prospects for the immediate future. Appendix 1 considers and rejects Garrett Hardin’s identification of the global environmental tragedy with world population growth. Appendix 2 illustrates how we may be vulnerable to epistemic as well as moral corruption through a discussion of three of Michael Crichton’s claims in the author’s message accompanying his novel *State of Fear*.