Introduction

Our world is beset with several pressing problems, including war, intolerance, poverty, and climate change. The theme of this book takes up the last two items on this bleak list. It should be scandalous that nearly half the world's population lives in desperate poverty, especially while many lavish in such plenty. And the fact that despite the formation of the 1992 United Nations Framework Convention on Climate Change (hereafter "UNFCCC" for the institution and "the Convention" for the treaty), globally we continue to emit more CO_2 each year, even as we become more aware of the harmful effects of doing so, is evidence of an enormous collective failure. This book takes the problem of global poverty to be central to climate change policy. In so doing, it rejects the approach of many attempts that address the problem of climate change in isolation. Some even make a virtue out of doing so. I take that to be a grave moral mistake.

Some analysts of climate change policy contend that an international climate change agreement should be oriented only around the values of efficacy and efficiency. Claims of equity, fairness, and poverty eradication are sometimes rejected as redistributive and as poison to the process of reaching a climate change agreement, because redistribution would render an agreement counter to the interests of highly developed states.[1] Two considerations tell against this view. First, from the beginning of the international discussions on climate change it has been clear that climate change mitigation was one important aim, but not the only one. That aim has always been accompanied by a concern that poverty-eradicating human development be continued – that a climate change regime not establish hurdles to this developmental aim. International climate negotiations are not simply about climate change;

[1] This position is defended by Eric A. Posner and David Weisbach in *Climate Change Justice* (Princeton: Princeton University Press, 2010), pp. 79–88.

they are also about a fair framework for energy consumption, which is necessary for states seeking to eradicate poverty within their borders. This point is too often missed, and not only by writers who cannot see beyond the value of efficiency. Even writers who take the negotiations to be concerned with multiple problems can be blind to the importance that regulating access to energy for poverty-eradication purposes plays in the negotiations.[2] Any proposal regarding mitigation and adaptation that does not take into account the broader objective of poverty eradication will be insensitive to a fundamentally important feature of the context of climate change negotiations, namely a fair framework for energy consumption. Second, it is false that an international regime that assigns responsibility to states simply with the goal of achieving efficiency would be especially likely to generate broad agreement. If such a regime did not protect the claims of states to pursue human development, it would not find adequate support among least developed and developing states.[3]

The Convention is the first comprehensive international attempt to pull together concerned states for the purpose of avoiding dangerous climate change. The Kyoto Protocol was written, and annual Conferences of the Parties (COPs) occur, under the auspices of the UNFCCC. The COPs are large and unwieldy affairs. And because the UNFCCC has been ineffective in producing a comprehensive climate change agreement, it has come under criticism as the wrong place to expect progress on climate change.[4] Although it is important to consider these criticisms carefully, critics of the UNFCCC often overlook one of its important features. The language of the treaty is a rich source of norms and principles for guiding future deliberations and action to mitigate and adapt to climate change. This book takes these norms seriously because they provide guidance for international deliberations

[2] Robert Keohane and David Victor identify four problems that climate change negotiations seek to address, and access to energy for purposes of eradicating poverty is not on the list. See Robert O. Keohane and David G. Victor, "The Regime Complex for Climate Change," *Perspective on Politics* 9 (2011): 13. For an example of a proposal based not on efficiency but on a narrow conception of justice in the distribution of emissions without responding to the importance of energy for human development, see Lukas H. Meyer and Dominic Roser, "Distributive Justice and Climate Change. The Allocation of Emission Rights," *Analyse & Kritik* 2 (2006): 223–249. Approaches like this are criticized in Simon Caney, "Just Emissions," *Philosophy and Public Affairs* 40 (2012): 255–300.

[3] This point is a central theme of, and well defended in, J. Timmons Roberts and Bradley C. Parks, A *Climate of Injustice: Global Inequality, North-South Politics, and Climate Policy* (Cambridge, MA: The MIT Press, 2007).

[4] See David G. Victor, *Global Warming Gridlock: Creating more effective strategies for protecting the planet* (Cambridge: Cambridge University Press, 2011), Chapter 7.

by taking some discussions off the table and by directing the ambition of proposals made in international negotiations. Without these norms parties would have either to revisit the question of the aims of the negotiations each time they met or to tolerate discussions and proposals based on fundamental differences of value.[5] This would surely handicap and prolong the negotiating process. Whatever the weaknesses of the UNFCCC project – and there are many – the norms and principles contained in the document are important for facilitating appropriate agreement, and this book offers interpretations and defenses of several of them.

This is a book about climate change policy written by a political and moral philosopher. It assumes that the development of policy should be based, among other things, on what is important to promote and protect. Considerations of what we should promote and protect take us straight to a discussion of values. And the study of values is the bread and butter of political and moral philosophy. Climate change and climate change policy raise several important questions of value. What sort of climate change policy do we owe the poor of the world who are particularly vulnerable to climate change? Why should our generation take on the burden of mitigating climate change that is caused, in no small part, by emissions from people now dead? What value is lost when natural species go extinct, as they may well do en masse as a result of climate change? Understanding both the context in which these questions arise and what might count as good answers to them requires also understanding some of what natural scientists and economists have to say about climate change. I have no special expertise in these fields, but I have sought to read and understand the literature, not to pass judgment on debates where I have no expertise but to understand questions (and their possible answers) such as those that I just mentioned.[6] In discussions of values, moral and political philosophers can play a crucial role. With some luck, our education and experience provide us with intellectual tools that can help clarify what is at stake in discussions of values, where arguments have gone awry, and ultimately what we should do.

Professional philosophers, like many other academics, tend to write mostly for their peers in the profession. It is by means of reading and thinking hard about each other's papers that we come to understand better the questions

[5] On "sticky" principles, see Roberts and Park, *A Climate of Injustice*, pp. 222–223. They draw on Robert Keohane's argument about "agreement-facilitating effects of the information provided" by principles, rules, and regimes. See Robert Keohane, *After Hegemony: Cooperation and discord in the World Political Economy* (Princeton: Princeton University Press, 1984), p. 102.

[6] Only the Report of the First Working Group of the Intergovernmental Panel on Climate Change's *Fifth Assessment Report* was published at the time of this writing; so I relied on that and the *Fourth Assessment Report*.

and possible answers that animate our discipline. We hope that we are getting closer to the truth of an issue and we believe that the discipline advances by means of this activity. Often these discussions get technical very quickly, and typically they require an understanding of the dialectical context that must be built up by a great deal of background reading.

Climate change policy, however, will not be made by philosophers. It will be made by diplomats and lawmakers and in response, at least in part, to their understanding of the issues, the advice that they receive from policy analysts, and the political pressure they come under from their citizenry. One of the convictions that motivated me in the writing of this book is that moral and political philosophers have important tools to help in making sense of what is at stake in climate change policy. But if that is the case, and if we hope to advance understanding and improve policy in this regard, we had better try sometimes to present our views in a way that is understandable to people outside of the professional discipline, who might care to listen to what we have to say. This book is such an attempt. It takes up climate change not first and foremost as a philosophical problem of interest only to advanced students of the discipline, but as a public problem on which philosophy can shed some light. My hope is that the book will be of interest to non-philosophers, and especially to people who come to it because of an interest in climate change policy. This includes researchers and students of climate policy but also many others who seek a sharper understanding of the values at stake in climate change and climate change policy. But I hope that the book will also be of interest to philosophers and students of philosophy, because as more philosophers have taken up the topic of climate change, important debates are beginning within the discipline.[7]

The discipline of philosophy has various names for the kind of enterprise undertaken in this book. It is sometimes called *applied ethics* or perhaps *applied political philosophy*. This, I think, is not a very good name for what I have tried to do, given that, for the most part, I am not interested in the problems of applying principles that have been justified elsewhere at some higher level of abstraction. In one of his many books, the legal philosopher Ronald Dworkin described what he was doing as philosophy from the inside out.

[7] Important recent books by philosophers include Stephen M. Gardiner, Simon Caney, Dale Jamieson, and Henry Shue, *Climate Ethics: Essential Readings* (Oxford: Oxford University Press, 2010); Stephen M. Gardiner, *A Perfect Moral Storm: The Ethical Tragedy of Climate Change* (Oxford: Oxford University Press, 2011); Dale Jamieson, *Reason in a Dark Time: Why the Struggle Against Climate Change Failed and What It Means for Our Future* (Oxford: Oxford University Press, 2014); and Henry Shue, *Climate Justice: Vulnerability and Protection* (Oxford: Oxford University Press, 2014).

Rather than applying independently justified principles, he sought to advance philosophical understanding by looking at the problems and the practice first.[8] Better than *applied ethics* is, I think, *practical ethics* – or, more broadly, *practical philosophy* because this drops the connotation of applying a principle justified elsewhere. But whereas the first seems too narrow, because ethics is often construed to focus only on individual action, the latter is too broad, as practical philosophy can include all of moral philosophy.

The name that I believe fits best draws from the tradition of pragmatism in philosophy, namely *public philosophy*. This name conveys, I think, the idea that there is an attempt to talk about something of profound public importance, and to do so to an audience that is broader than only academic philosophers. If this book is a piece of public philosophy, readers will have to decide whether it successfully manages to talk about something that it is important to the public and to an audience that includes nonprofessional philosophers, in addition to addressing advanced students of the discipline.

The goal of climate change mitigation is widely regarded as the avoidance of dangerous climate change. But the efforts of natural and social scientists to provide an account of dangerous climate change have fallen wide of the mark. Chapter 1 takes up this topic. I use what I call *the personal analogy* to show that dangerous action is not a matter of risks alone, but a matter of whether conduct is too risky in light of one's values. Danger is then necessarily a normative concept, which picks out what is too risky and therefore ought to be avoided. In the context of climate change, judging what we have reason to avoid requires paying attention to three categories of reasons: the reasons that people in the future will have that we mitigate; the reasons the people presently have to consume energy to fuel poverty eradicating human development; and the reasons that people in the future will also have that we consume energy for human development. These three categories of reasons are important in subsequent discussions in the book. I argue that the relevant norm for identifying climate change is moral, and that we can adjudicate between the three kinds of reasons just mentioned by considering what respect for human dignity requires. This is the basis for my defense of what I call *the antipoverty principle*, which directs our attention to what we should avoid:

> Policies and institutions should not impose any of costs of climate change or climate change policy (such as mitigation and adaptation) on the global poor, of the present or future generations, when those costs make the prospects

[8] Ronald Dworkin, Life's Dominion: An Argument about Abortion, Euthanasia, and Individual Freedom (New York: Vintage Books, 1994), p. 29.

for poverty eradication worse than they would be absent them, if there are alternative policies that would prevent the poor from assuming those costs.

The danger that climate change poses to humans surely does not exhaust its dangers. Climate change could well produce mass extinctions of species, with estimates ranging from 30 percent to 70 percent of existing species. This would be a terrible loss that we should want to avoid. But the reasons for this are not the same as the reasons to avoid the prolongation of poverty. It is implausible that plant and animal species should be characterized as possessing dignity. Indeed, when one thinks about the kinds of things species are, namely closed gene pools, it might seem puzzling why they are even valuable. Chapter 2 argues that species possess presumptively high economic value. But that is not the whole of the story. This chapter introduces an idea I call *the normative gap*, which is the logical gap between recognizing something as being good or having a good and being under duty to the thing in virtue of this good. The normative gap explains why an argument for a moral duty to an organism cannot be derived from the claim that organism has a good. By enlisting the writings of the unfortunately neglected art historian and naturalist, John C. Van Dyke, the chapter also argues that organisms possess aesthetic value, the loss of which is something we have reason to avoid. Species loss is the final loss of aesthetically valuable organisms comprising the species.

One striking feature about climate change is just how much of the forecasting is riddled with uncertainty. Chapter 3 distinguishes between risk and uncertainty and also distinguishes between different sources of uncertainty: epistemic and moral. I defend a precautionary approach to climate change policy based on the rule of thumb called *the minimax rule* for deliberation in specific conditions of uncertainty, and I argue that those conditions apply in the case of climate change. The minimax rule supports a precautionary approach to climate change policy. In the context of climate change, uncertainty about grave outcomes adds to the reasons for mitigation. In this chapter I also introduce what I call *the psychological fallacy*, which occurs when one uses psychological dispositions, such as being risk averse, as models for the kinds of reasons appropriate for the justification of public policy.

Because of the long residence time of CO_2 in the atmosphere and the thermal inertia of the oceans, the CO_2 we emit today will probably have effects for hundreds, if not thousands, of years. This requires us to think in longer terms than we are accustomed. Standard approaches to long-term planning in economics seek to optimize intergenerational consumption discounted according to a social discount rate. Such a discount rate is also used when calculating the future costs of climate change. Disagreement exists

among economists about how costly climate change is, but much of this disagreement is not about what the outcomes will be. Rather, it is about how to value them. It is, in other words, a moral disagreement. In Chapter 4 I argue that the standard economic approach to valuing the future of costs of climate change is highly dubious because of some of the factors used in the social discount rate. When thinking about what we should do on behalf of future generations to mitigate climate change, it is much more reasonable to employ a precautionary approach, which supplements our reasons for mitigation. This chapter also introduces the idea I call *the morally constrained CO_2 emissions budget*. To arrest global warming, we must transition to a no-carbon economy. For any particular temperature increase there is budget for cumulative CO_2 emissions. This idea is important in subsequent chapters.

States should not be equally burdened with the task of mitigating climate change. The UNFCCC claims that states have the right to sustainable development. In Chapter 5 I offer my understanding of that right as a claim the least developed and some developing states may make on highly developed states, such that the former are able to pursue poverty-eradicating human development without energy price increases attributable to climate change mitigation. The defense of this right is made on the basis of two claims: the prior commitment of parties that have ratified the Convention, and the idea of fairness in an international framework for access to energy oriented toward mitigating climate change.

Theories of justice give accounts of who is owed what; they are accounts of the moral creditors. Theories of responsibility are accounts of the moral debtors. In Chapter 6 I explain the responsibility of the present generation to mitigate climate change as a duty not to harm the next generation by using more than our share of the morally constrained CO_2 emissions budget. Moreover, I defend an intragenerational distribution of the responsibility to mitigate based on a conception of responsibility consistent with the right to sustainable development. I argue that the adequacy of a conception of responsibility depends on the purpose to which it is put. I defend a conception of responsibility for the framework of a mitigation treaty that I call *social responsibility*. Finally I argue for the establishment of an ability-to-pay account of social responsibility for a climate change treaty.

Although it is a depressing thought to entertain, it nonetheless is true that thus far we have utterly failed to mitigate climate change. Our failures make it increasingly less likely that warming will be limited in accordance with internationally affirmed warming limits. In light of this, it seems to make sense to consider some alternatives. In Chapter 7 I consider the merits of three such alternatives: increased planning for and investment in adaptation, tests into

the assisted migration of plant and animal species, and research into geo-engineering. I argue that these cannot plausibly be understood as alternatives to mitigation, but that each is an important supplement. In light of this, I return the discussion of mitigation policy and set out conditions for a morally satisfactory international mitigation policy. I argue that the version of the policy known as Pledge and Review that is incorporated into the Copenhagen Accord fails to satisfy these conditions. This does not rule out a more satisfactory version of Pledge and Review. But a general problem with such approaches seems to be a lack of urgency.

While I was writing this book, Frankenstorm Sandy ravished the Caribbean and the eastern seaboard of the United States. The Afterword contains a very brief piece on Sandy originally published in the online version of the magazine *Dissent*. Sandy may have been an important turning point in U.S. opinion regarding climate change. Then, as I was finishing this book, typhoon Haiyan – another devastating Frankenstorm – ravaged the Philippines. Because these storms may well be the new normal, I decided to include the piece as part of the book.

Finally, this book contains four appendixes. The first three are aimed primarily at advanced students of philosophy and my colleagues in the discipline. In these appendixes, I take up themes in normative ethics and justification that will mainly interest them. And owing to the more technical nature of these chapters, they are not likely to be of much interest to people who are interested in climate change policy first and philosophy only second. I have placed these discussions in the appendixes so that they can be easily skipped by readers who are less interested in philosophical debates. For those who are interested in the material, the themes of Appendixes A and B follow directly on the discussions of Chapter 1. So, they are best read between Chapters 1 and 2. The short discussion in Appendix C is best read after Chapter 5. The fourth appendix contains the Declaration on Climate Justice, which is endorsed by members of the High Level Advisory Committee to the Climate Justice Dialogue, an initiative of the Mary Robinson Foundation – Climate Justice and the World Resources Institute. The Declaration aims to mobilize political will and creative thinking to shape an ambitious and just international climate agreement in 2015. This is an important political document that is consistent with the positions that I defend in this book and I offer my support for this effort by including the Declaration within these pages.

1

Danger, Poverty, and Human Dignity

"[I]f a clod be washed away by the sea, Europe is the less."

– John Donne

It is widely appreciated that climate change is a moral problem, but perhaps not so well understood is that even identifying climate change as dangerous necessarily involves a moral judgment. This is surprising because it means that moral judgments enter into climate change policy discussions very early on, already at the point of identifying when, or what kind of, climate change is dangerous.

The stated central objective of the United Nations Framework Convention on Climate Change "is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system."[1] If we suppose that this is the principal objective of international climate change negotiations and policy formation, we are left with some obvious questions: What is dangerous anthropogenic interference with the climate system? How is it to be identified so that policy can be crafted to avoid it?

The mean surface-air temperature of the Earth is already around 0.74°C (1.33°F) warmer than during preindustrial times. The Earth is absorbing more of the Sun's radiative energy caused by the greenhouse effect; meanwhile, the thermal inertia of the oceans causes them to warm more slowly than the mean atmospheric temperature just above land. The effect of this is that the Earth is already in for more warming even if we do not add any more CO_2 to the atmosphere, just as the water in the kettle on the stove warms more

[1] United Nations Framework Convention on Climate Change, 1992. http://unfccc.int/essential_background/convention/background/items/2853.php (accessed October 4, 2012).

slowly than the air immediately around the flame. We are committed to more warming, probably around 1° Celsius (1.8°F) more. Avoiding climate change altogether is not a realistic policy option. If international policy is to be guided by the Convention's central objective, a reasonable distinction between climate change and dangerous climate change is needed.

We need an identificatory account of dangerous climate change; an account that serves to identify dangerous climate change. An obvious thought is that the important work of climate scientists can provide us with such an account. Climate scientists desiring intelligently guided international policy have sought to assess the dangers of climate change, most often by discussing the risks and uncertainties associated with different warming scenarios. The risks of damage accumulate and the uncertainties loom larger as warming increases. Appreciating this is very important for intelligent policy, but it is not enough. Judging something to be dangerous relies on there being a reason to avoid it, as the language of the Convention suggests. That's not necessarily true of the judgment that something is risky.

In this chapter I defend an account of the concept of danger as too risky in light of the available alternatives, and I argue that the judgment that an action or policy is too risky involves more than an empirical estimation of the risks involved. The judgment rests necessarily on considerations of value. This is a claim that I support by developing what I call *the personal analogy*. The conception of danger that I develop relies on the value of human dignity, widely supposed to be the basis of human rights. This conception supports an approach to identifying dangerous climate change on the basis of reasons that we can all share,[2] and leads to the idea that whether poverty eradication is delayed by either climate change or climate change policy is fundamental when identifying either as dangerous.

DANGER AND VALUES

In trying to understand the nature of dangerous climate change, it would be folly not to incorporate the findings of climate science. We need to understand what CO_2 does in the atmosphere, how long it stays there, what its likely climatic effects are, how and where it returns to the Earth, and the variety of positive feedbacks that warming produces. Many climate scientists have carefully studied these matters for decades. As they continue to learn more,

[2] The distinction between a concept of something and the conception of it derives from John Rawls. See his A *Theory of Justice*, rev. ed. (Cambridge, MA: Harvard University Press, 1999), p. 9.