Why Do We Disagree on Climate Change?

with Mike Hulme, "(Still) Disagreeing about Climate Change: Which Way Forward?"; Annick de Witt, "Climate Change and the Clash of Worldviews: An Exploration of How to Move Forward in a Polarized Debate"; Lisa Stenmark, "Storytelling and Wicked Problems: Myths of the Absolute and Climate Change"; Jonathan Moo, "Climate Change and the Apocalyptic Imagination: Science, Faith, and Ecological Responsibility"; and Mary Evelyn Tucker, "Can Science and Religion Respond to Climate Change?"

(STILL) DISAGREEING ABOUT CLIMATE CHANGE: WHICH WAY FORWARD?

by Mike Hulme

Abstract. Why does climate change continue to be a forceful idea which divides people? What does this tell us about science, about culture, and about the future? Despite disagreement, how might the idea of climate change nevertheless be used creatively? In this essay I develop my investigation of these questions using four lines of argument. First, the future risks associated with human-caused climate change are severely underdetermined by science. Scientific predictions of future climates are poorly constrained; even more so the consequences of such climates for evolving human socio-technological and natural ecosystems. Second, I argue that to act politically in the world, people have to pass judgments on the facts of science; facts do not speak for themselves. Third, because these judgments are different, the strategic goals of policy interventions developed in response to risks associated with future climate change are inevitably multiple and conflicting. Finally, reconciling and achieving diverse goals requires political contestation. "Moving forward" on climate change then becomes a task of investing in the discursive and procedural preconditions for an agonistic politics to work constructively, to enable ways of implementing policies when people disagree.

Keywords: Anthropocene; climate change; democracy; pluralism; politics; synecdoche

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Climate change is an environmental, cultural, and political phenomenon which is reshaping the way people think about themselves, their societies and their Earthly futures. It is therefore an exemplary case of scientific knowledge, personal experience, and the human imagination interacting

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 ISSN 0591-2385

in multiple, complex and changing social contexts. As Lucien Boia observes in his book *The Weather in the Imagination,* "Global warming and global cooling are physical phenomena. But the battle over these real or presumed developments is a cultural and social phenomenon. In this sense at least, history and meteorology go hand in hand" (Boia 2005, 181). For example, the idea of climate change has provoked the emerging narrative of the Anthropocene—which posits a new geological era in which human actions have become dominant in planetary functioning. In this narrative, the long-standing separation in Western thought of nature from culture is no longer tenable.

In *Why We Disagree about Climate Change: Understanding Controversy, Inaction and Opportunity* (Hulme 2009), I considered the different ways people think about, and act in response to, climate change in the context of science, economics, religion, fear, risk, development, and politics. I argued that the idea of climate change mobilizes very different meanings, ideologies, values, and goals—"it means different things to different people in different contexts, places and networks" (325). That book was written during the winter of 2007–8 and in the eight years since then many things have changed in the cultural politics of climate change. But my key argument remains valid: it is necessary to reveal the underlying reasons for disagreement about how to act in response to climate change *before* it is possible to find constructive ways of acting politically in the world. In this essay I want to pursue this investigation further by asking, and seeking to answer, these questions: Why does climate change continue to be a forceful idea which divides people, and what does this tell us about science, about culture, and about the future? What does climate change mean to different people? Despite disagreement, how might the idea of climate change nevertheless be used creatively to enact change?

The anthropologist Michael Dove has argued that climatic and human agency have historically been understood not as two separate domains with one causing or shaping the other (Dove 2015). Rather, for much of cultural history and in most places, climate and human agency have been understood to be co-dependent. Agency to shape the future is distributed between climate and humans; neither climate nor humans are in charge. The idea of human-caused climate change—and its progeny, the idea of the Anthropocene—has (in the enlightened West) reacquainted citizens with the unavoidable intimacy they have with the weather. If true, it means that any account of future climate given by merely scientific inquiry can never be complete since human actions are always imaginatively and morally reflexive. Merely constructing scientific truth or establishing expert consensus about the biogeophysics of the climate system is too limited a basis for acting in the world (Rescher 1993).

I develop my investigation along four lines. First, the future risks associated with human-caused climate change are severely underdetermined

by science. Although scientific inquiry has revealed humans as now powerful actors in influencing the climate system, scientific predictions of future climates are poorly constrained. Even less constrained are the consequences of these climates for evolving human socio-technological and natural ecosystems. Second, following Hannah Arendt (1958), I argue that people have to pass judgments on facts before they can act politically in the world. Facts do not speak for themselves, least of all the underdetermined facts of the climatic and human future. Third, because people judge the facts of climate change in different ways, the strategic goals of policy interventions developed in response to the putative risks associated with future climate change are inevitably multiple and conflicting. They are shaped by different worldviews, different ethical systems, and different accounts of good human living. And then, finally, how these diverse goals are achieved—the specific policies and human actions that materialize in specific societies—remain politically contested. These policies and actions reflect diverse values about what is at stake and different preferences for who is licensed to act. "Moving forward" on climate change then becomes a task of investing in discursive and procedural pre-conditions for an agonistic politics to work constructively, to enable ways of implementing policies when people disagree.

The Risks of Climate Change are Underdetermined

Scientific inquiry never yields the truth, the whole truth, and nothing but the truth. Least of all can it do so with respect to the future. The future, singular, is inaccessible to human minds because our knowledge of the outcome of interacting physical processes is deficient. But it is also underdetermined because of human agency: the mere act of imagining a possible future changes the likelihood and character of the future thus imagined. Despite the heroic efforts of many climate change researchers and international knowledge assessments such as the Intergovernmental Panel on Climate Change (IPCC), this remains inescapably the case with regard to the climatic future. The scientific consensus on climate change thus becomes unhelpfully limiting. The "97.1% consensus" that has been widely circulated (e.g., Cook et al. 2013), is a consensus regarding only the extent of the belief among relevant experts that humans are exerting a significant influence on the climate system. The future risks for society and ecology resulting from this influence are known by experts and analysts much more diffusely. I have written elsewhere about the dangers of climate reductionism (Hulme 2011), about the dangers of elevating climate as a predictor of future social and ecological change without appreciating the deep contingency of these changes. The most that can safely be stated is that human actions on the atmosphere are changing existing environmental and social risks and introducing new ones.

The language of risk is one that the IPCC adopted more explicitly in its Fifth Assessment Report, especially in its Working Group 2 volume on impacts and adaptation options (IPCC 2015a, 2015b). Chris Field, the co-chair of this working group, explained one of the consequences of this linguistic move: "Characterizing climate change as a challenge in managing risks opens doors to a wide range of options for solutions" (quoted in Painter 2015, 286). This is because the idea of "risk"—with its attendant uncertainties and subjectivities—opens the space for different ethical, political, and economic judgments to be made about different courses of action to ameliorate or tolerate these risks. The language of risk also challenges the univocal narrative of climate change ("the plan" as articulated by Sarewitz, 2011) as being partial at best, unhelpful at worst. Since the risks of future climate change are underdetermined, and how those risks are interpreted and acted upon is plural, we begin to see why climate change means different things for different people in different places, indeed why it must do so. Masking such differences by repeatedly emphasizing the limited—limited in epistemic extent rather than depth—scientific consensus is unhelpful (Hulme 2015a).

Passing Judgment on the Facts

"Nature" should never be our moral or political guide, as is clear for example in relation to sexual or development ethics. Quite apart from philosophical objections to such a position,[1] since human actions are increasingly reshaping bodily and planetary natures, there is no "nature" which is itself free from human agency (Albertson and King 2010). Yet even if there were, simply knowing "the facts" of climate change would be insufficient to inspire or determine political action in the world. The former chairman of the IPCC, R. K. Pachauri, was profoundly wrong when he claimed in November 2014 at the launch of the Synthesis Report of the IPCC's Fifth Assessment that "all we need is the will to change, which we trust will be motivated by . . . an understanding of the science of climate change" (IPCC 2014). Simply understanding climate science is *not* all that is needed to act. Similarly, when the American Association for the Advancement of Science called for "decisive political action" on climate change on the basis of "what we know" (Pinholster 2014), it begged the question about how diverse and competing human political and ethical values are to be reconciled for determining what that "decisive action" should consist of.

What climate change requires of us cannot be read from the pages of the IPCC's Fifth Assessment Report. There is no one story to tell about climate change; there is no single imperative to act. Hannah Arendt explained this position half a century ago in *The Human Condition* (Arendt 1958). For

Arendt, each individual has to pass judgment on the facts before he or she can act politically in the world:

> The question is only whether we wish to use our new scientific and technical knowledge in this [or that] direction and this question cannot be determined by scientific means; it is a political question of the first order and therefore can hardly be left to the decision of professional scientists or professional politicians. (Arendt 1958, 3)

Integral to such judgment is the establishment of meaning. "What do the facts mean?" Since climate change prompts us to think about the future, and about human responsibility for that future, cosmologies, ideologies, beliefs, and cultural practices become relevant and motivating. These rich and historically mediated human attributes help us to pass judgment on the facts. Merely "understanding the science of climate change" can never be enough. The meaning of climate change, and the moral and ethical demands it places upon humans, will therefore inevitably be understood differently within and across diverse human cultures. Meaning-making precedes action. To quote Arendt again: "Men [sic] in the plural, that is, men in so far as they live and move and act in this world can experience meaningfulness only because they can talk with and make sense to each other and to themselves" (1958, 4). The diversity of meanings which emerges from the idea of climate change, and what animates such meanings, is well explored in two recent books: Candis Callison's *How Climate Change Comes to Matter: The Communal Life of Facts* (2014) and Philip Smith and Nicholas Howe's *Climate Change as Social Drama* (2015).

Given that climate change induces multiple meanings it is perhaps fruitful to think of the phrase "climate change" as a synecdoche; that is, as replacive speech in which a part stands for a whole (as in "fifty sail" for "fifty ships") or vice versa (as in "society" for "high society"). So what things, what ideas, might climate change "stand for"? Out of a much larger array of possibilities let me suggest here just four.

Climate change stands for "risk society." Taking inspiration from the work of Ulrich Beck and Anthony Giddens, this modernist reading of climate change places it as a future risk which disciplines the present. Both authors approach climate change firmly from the perspective of modernity and the idea that today's societies, unlike preceding ones, live in the future rather than in the past. For Giddens, a risk society is one which becomes preoccupied with future risk and concerned with how such speculative risks can be tamed and safely navigated in the present. Ulrich Beck explains:

> Risk society means that the past is losing its power of determination of the present. It is being replaced by the future, that is to say, something non-existent, fictitious and constructed, as the basis for present-day action. . . . Expected risks are the whip to keep the present in line. The more threatening

> the shadows that fall on the present because a terrible future is impending, the more believed are the headlines provoked by the dramatization of risk today. (Beck 1997, 20)

Climate change with its future drama and "threatening shadows" works precisely to exert such a hold on the present. Climate risks become mediatized (Weingart, Engels, and Pansegrau 2000); climate change becomes an imagined spectacle which appears to "demand" new techno-economic instruments of risk management.

Climate change stands for "capitalism." A different reading of climate change is to understand it as a decisive weapon to use in an ideological struggle. Climate change thus becomes a synecdoche for the evils of global capitalism. Naomi Klein's book *This Changes Everything: Climate versus Capitalism* (Klein 2014) is a good illustration of this position. Klein makes explicit this instrumental role that climate change plays for her: "... I realized the science of global warming ... could be a catalyst for forms of social and economic justice in which I already believed" (59). Climate change works in this way too for those seeing the world through an explicitly socialist ideology. Here is Suzanna Jeffrey writing in *International Socialism* (Jeffrey 2011),

> Those of us fighting for change should ensure that we mount a political battle against the climate sceptics, not simply a scientific one ... the real enemy is the capitalist system, which puts profit before the lives of billions of humans and the planet ... the real allies in this fight [are] the millions of working people around the world who have no vested interest in a system that prioritizes profit over the world's climate.

Climate change stands for "lost nature." A third meaning of climate change is that is stands for a lost nature. Bill McKibbin's best-selling book *The End of Nature* (McKibbin 1989) was an early and prominent articulation of this narrative with respect to climate change, and it is a narrative which has deep resonance across many cultures (Rudiak-Gould 2012; Haluza-Delay 2014). The Edenic myth is a lament for a lost order and stability in a natural (and maybe God-given) world. Climate change eats away at the material foundations of a utopian future, a sentiment captured by Boia: "The history of humanity is characterized by an endemic anxiety ... it is as if something or someone is remorselessly trying to sabotage the world's driving force—and particularly its climate" (Boia 2005, 149). It is the same anxiety echoed in this lament from the United Kingdom's Camp for Climate Action (2008):

> Not long ago we knew the best time for planting seeds ... when the leaves would turn deep orange, when to look forward to building snowmen. Things like the cuckoo's dependable call would be a sign that spring had come. There was a kind of certainty to our lives. ... But the cuckoos are

> disappearing and it seems all the patterns of the world are being scrambled. . . . For the first time in human history the ability of our planet's ecosystems to sustain future generations can no longer be taken for granted.

Climate change therefore unsettles what had been presumed to be settled, whether that be a particular set of climatic conditions (Hulme 2015b) or an assumed purity or separateness of the natural world beyond the reach of humans. This way of making sense of climate change, of giving it meaning, resonates with the idea of "things falling apart" which Nigerian novelist Chinua Achebe explored—in a different context —in his eponymous best-selling post-colonial novel set in West Africa (Achebe 1958). And it is reflected too in the Dark Mountain Project, a UK-based cultural movement triggered by the negotiating failures of COP15 in Copenhagen in 2009. In the words of joint founder Paul Kingsnorth (undated):

> Dark Mountain became a wider cultural movement of people who had stopped believing in the conventional narratives about the future, and who wanted to start unweaving some of the myths of human centrality; of our separation from something called 'Nature'; of endless progress; of our ability to control the Earth.

Climate change stands for "the Anthropocene." A fourth synecdoche for climate change is to see it standing in for the larger (and more ambiguous) idea of the Anthropocene. This proposed new epoch is one in which the collective force of human activities remakes the physical world and leaves ineradicable traces in geological strata; in the words of one recent review, "Human activity is now global and is the dominant cause of most contemporary environmental change" (Lewis and Maslin 2015, 171). With climate change as a synecdoche for the Anthropocene it becomes an idea which reveals the changed relationship between humans and nature, an idea which "invites techno-managerial planning and expert administration at the expense of democratic debate and contestation" (Lövbrand et al. 2015, 217). Yet there are many different Anthropocenes to be imagined. For some, climate change offers the hope of a "brave new world" and the prospects of a "Great Anthropocene" (Breakthrough Institute 2015) and for others the possibilities of a "Charming Anthropocene" (Buck 2015). For others still, climate change signals the first moves into dangerous "operating space" for humanity (Rockström et al. 2009).

Multiple and Conflicting Goals

With the facts of climate change judged in these and other ways, it becomes clearer to see the range of preferred courses of action to be pursued. Out of these different meanings, these different narratives of what climate change stands for, emerge multiple and often conflicting goals. The goals of "action" on climate change might therefore be, *inter alia*, to limit global

warming to two degrees, to deliver creation care, to design a planetary thermostat, to transform civilization or to safeguard economic growth—or indeed to secure fair growth, zero growth or de-growth. All of these goals have *prima facie* credibility since they emerge from different readings of what climate change is about, inspired by different cosmologies and ethical or political values. They emerge from different judgments being passed on the facts. Far from their being the possibility of a singular "decisive political action" on climate change, the strategic goals of policy interventions are inevitably multivariate because they are shaped by different worldviews and different narratives of good human living.

It is for this reason that Luers and Sklar (2014, 114) declare that "the focus on a single target [two degrees of warming] has become an obstacle [to effective policy-making] because it . . . frames climate change as a distant abstract threat and fails to recognize the diversity of values and risk perceptions of people around the world." This, too, is the position taken by Victor and Kennel (2014) in their argument for moving away from a singular climate policy target in favor of a basket of goals, a strategy of multiple goal-seeking. Climate risks have to be contextualized alongside other risk and welfare issues, for example as articulated in the multiple objectives of the newly negotiated Sustainable Development Goals. This move away from climate exceptionalism was evident in the framing of some of the chapters in the IPCC's Fifth Assessment Working Group 2 Report (IPCC 2015a, b).

Using Politics to Move Forward

So, in the light of such diversity and plurality what way forward? One way is the programme of global environmental visioning—under the rubric "the future we want"—that has been developed for the United Nations. This initiative, emerging from the Rio+20 Summit in 2012, aims to gather "priorities of people from every corner of the world, [to] . . . build a collective vision that will be used directly by the UN and World Leaders to plan a new development agenda launching in 2015, one that is based on the aspirations of all citizens!" (Beyond 2015 2014). But can a "collective vision" based on the "aspirations of all citizens" really be constructed? In their analysis of a similar global visioning process conducted by the Danish government in 2009 in the run-up to COP15 in Copenhagen, Blue and Medlock (2014) identify the dangers of such ambition. Their careful analysis of the framings and citizen engagements used in this process concluded that it is essential to maintain diversity of meanings and plurality of visions in such dialogues: " . . . the more universal and standardized scientific discourse becomes for global policy purposes, the more responsive formal participatory initiatives should be to diverse public meanings" (576). A singular "future" imagined by a collective "we" is an unachievable goal.

Neither, I suggest, is the way forward simply an endorsement of the types of elitist proclamation about "what must be done," such as the one released by the Earth League on Earth Day in April 2015 (Earth League 2015). This self-selecting group of 18 leading academics and environmental scientists offered the world's governments, meeting in Paris at COP21 later in 2015, "eight essential elements of climate action." They were clear in the definitive necessity of what had to be done, using phrases such as "The carbon budget **must** . . . ," "We **need** to . . . ," "Every country **must** . . . ," "We **must** unleash . . . ," "We **must** safeguard sinks . . . ," "We **must** realize . . . " It may be the case that these particular 18 scientists "speak with one voice" (quoted in Rockström et al. 2015, 607, another article taking inspiration from the Earth League), but as I have shown above the world does not.

Both of these examples of "ways forward" end up suppressing the diversity and proliferation of meanings and goals that gain inspiration from the idea of climate change. They end up short-circuiting political processes of opening up contest and negotiation in the name of (scientific) necessity. Instead, I suggest a different way forward: to invest intellectual, political, and social capital in establishing the following four pre-conditions for recognizing and handling such plurality in relation to climate change. This manifesto is, of course, as with the Earth League, an expression of my own normative position. It does not emerge from "an understanding of the science of climate change" nor from some bottom-up process of collective global visioning. And it doesn't jump into declaring what the world's governments "must" do. Instead, it draws attention to the importance of appropriate modes of procedure.

First, science needs to be put in its place. As I have argued, scientific knowledge about climate change will never be decisive in providing the will to change nor in adjudicating what should be done in response to the risks: "Science must be part of the democratic process and not a substitute for it" (Krauss 2014, 74). For climate change this implies a shift in perspective. Scientific knowledge, least of all consual knowledge, is not in the foreground. Pope Francis' recent (2015) Encyclical, *On Care for Our Common Home*, is a good example of being respectful to science, but not being obedient to it.

Second, the proliferation of diverse and inspiring narratives and meanings surrounding the idea of climate change needs encouragement. Such narratives gain inspiration and give expression to more deeply held human beliefs and values which offer the promise of the "full moral voice" the lack of which was lamented by Naomi Klein (Klein 2014). This would include re-animating religious myths and stories which can expand cultural repertoires—finding new stories through which to "pass judgment" on the facts of climate change. As Forrest Clingerman (2015) argues, given the salience of religion and religious institutions across the world, religious

voices need to be heard in this public conversation (cf. Mendieta and Vanantwerpen 2011). Again, the 2015 Papal Encyclical is a good example (Pope Francis 2015).

Third, investment should be made in strengthening forms of political representation which are able to function under conditions of deep conflict— at state level, but also above and below the state. Living with climate change is nothing less than living in an agonistic democracy, in which those whose preferred policy options are rejected by political power nevertheless acquiesce in decisions because their voice has been heard (Rescher 1993). It is crucial to cultivate adequate spaces of public encounter and listening beyond the echo chambers and information cocoons of the internet and digital social media (Sunstein 2009). The conditions that make political judgment possible—trust in institutions, accountable power, respect for contrary opinions, legitimate forms of representation—cultivate an agonistic politics and an acquiescent polity (Mouffe 2005).

Fourth, I suggest that investment is needed in the cultivation of virtuous citizens, citizens who act resolutely in the world from a sense of appropriate purpose. This is an argument I have made elsewhere with respect to climate change (Hulme 2014) and one that is echoed in other recent work. Di Paola (2015), for example, draws attention to the virtues of mindfulness and cheerfulness in the Anthropocene, for him given expression through the cultivation of "urban gardens," while Stirling (2015) calls for mutual relations of "care" over the domineering rhetoric of "control."

The goals of climate policy interventions matter, yes. And these need clear articulation, drawing upon the range of cultural beliefs and political values that are held between and within our societies. In a healthy democracy it is necessary to expose this diversity of goals; and reconciling conflicting goals is what politics is for. But the most precious investment is to lay down the right conditions for how people wish to live and decide together, agonistically, in democratic societies. This is to establish a secure and rightful basis for how politics is to work, for how the powerful are to be held accountable and the powerless to be heard. Ends matter, but so too do means. We can neither predict nor control what the outcome of these political conditions and human virtues will be. But then neither can global climate be controlled nor climate change solved. It is not that sort of phenomenon.

Acknowledgments

This article was developed from an invited presentation at the 2014 American Academy of Religion Annual Conference in San Diego, California, in November 2014. I thank Professor Willem B. Drees for this invitation and *Zygon: Journal of Religion and Science* for contributing to my financial costs of attending this conference. I also thank the other members of the panel,

and the session audience, for their questions, thoughts, and provocations. The ideas in this article were also presented in the annual STEPS Lecture at the University of Sussex in May 2015.

Note

1. See Kwame Appiah's review (Appiah 2010) of Sam Harris's 2010 book *The Moral Landscape: How Science Determines Human Values*.

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