Michael Hulme

Nobel Conference 55

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Thank you very much, Sam, and, uh, thank you to you all for being here and sticking with us. I'm bringing up the tail this afternoon and I'm looking forward to sharing my thoughts with you on climate change.

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Let me also just thank the three wonderful women who've organized this, as far as I'm concerned anyway, the interactions I've had with Barb, Anna, and Lisa, you've made everything run very smoothly for me. So thank you very much indeed. And also for my student hosts, Ted, Shawna [SP], and Lisa for taking care of me over these last two days.

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So in a book published last year called *In the Year of Our Lord, 1943, Christian Humanism in an Age of Crisis*, Alan Jacobs, the distinguished professor of humanties at Baylor University Texas reflected on a powerful current of thought cenetered on the war year of 1943 which sought to establish the basis for creating a new and better world from the ashes of what was then becoming clear would be an allied victory.

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Through examining the work of five Christian intellecuals from that era, W.H. Auden, C.S. Lewis, T.H. Eliot, Simone Weil, and Jacques Maritain, Jacobs consolidated their argument that Western societies were neither culturally nor morally prepared for victory against fascism.

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These thinkers worried that a war won merely by technological superiority laid the ground for a post-war society to be governed by technocrats. This was not their vision of a better or more humane world. For them, it was more important to, quote, as Jacobs put it, 'train the emotional responses before training the rational

ones.' And following St. Augustine, 'to seek the ordo amoris – the order of love' as the more appropriate sensibility.

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So in this talk I want to develop a similar argument in relation to how the contemporary world deals with, not in this case the crisis war, but the crisis of climate change. Mere climate solutionism, whether technical, economic, political, is not sufficient if it leaves our cultural, moral, and spiritual senses still buried or else unmoved.

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My argument in a nutshell is as follows: climate change is not a problem like Mercury pollution of rivers or asbestos in buldings. It's rather a symptom of the rapid expansion of human numbers, technologies and material transformations that have occurred over the past two centuries. Just as humanity has irrevocably imbeeded itself in the physical workings of the planet, and transformed the land and ocean, our own an other people's bodies, and those of non-human species so too we're now transofrrming the climate.

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This new condition is partly what is meant by the notion of the anthropocene. We should not, therefore, think of climate change as a problem that can be solved. We cannot reverse engineer our way back out of such deep entanglement. Suggesting what solving climate change would look like is just as hard as suggesting what solving the human genome would look like, or solving democracy, or solving the anthropocene.

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Rather we should use the realities of climate change to think and act more profoundly and carefully about what it is to be human, about the nature and quality of our relationships with the material world and about the goals of our pol-, political life together. This implies to me that we resist thinking of climate change purely in scientific categories, the future only in terms of climate, and climate governance solely in terms of carbon metrics.

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Governing climate change through carbon metrics is a form of moral attenuation. Metrics are alluring because they simply complex realities into objective numbers. And because they appear to short circuit the need for difficult moral judgement.

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But they mask the contested politics and diverse values that lie behind different personal and collective preferences. Who wins, who loses, whose values count. To quote Habermas, 'We need an awareness of what is missing.'

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Wise governance of climate emerges best when rooted in larger and thicker stories about h-, human identity, purpose, duty, and responsibility. It is these alternative forms of moral reasoning that are better suited to the ethical challenges of climate change.

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So let me now expand this argument in the rest of my talk. The belief that climate change could be solved can be traced back to its emergence in public life in the 1970s and the 1980s as the latest in the line of environmental challenges facing the modern world.

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These challenges had grown in scale from the merely local to the regional and then to the global. Climate change was in a line which followed from Rachel Carson's intervention in the early 1960s about DDT and chemical pesticides in her book, *Silent Spring*. Which then progressed to concerns about river and ocean pollution, smog, acid rain, the ozone hole and eventually in the late 1980s to the fully developed awareness of the challenge of global climate change. David Keith has alluded to some of these earlier examples already.

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Although inheriting this problem/solution framing, what solving climate change actually meant has always been harder to establish. It's not as simple as eradicating DDT, installing sulfur scrubbers on power stations or eradiating CFCs in industrial productions.

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The original universal formation, in the 1992 frame of convention on climate change from the U.N. as to quote, 'stop dangerous interference in the climate system by stabilizing atmosphereic concentration of greenhouse gasses.'

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This rather vague ambition gradually transformed into ever more reductionist goals defined by precise numbers. Initially arresting global warming at 2 degree above pre-industrial, now is seemingly at 1.5 degrees, now delivering net zero emissions by a certain date. Or, for example, in [inaudible] goal from a decade ago, reverting concentrations of CO2 back to 350 parts per million in the atmosphere.

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I believe the modernist instinct for control revealed by these numbers, what James C. Scott calls, *Seeing Like a State* and Ulrich Beck referred to as 'reflexive modernization,' is reading humanities increasing into penetration of the non-human world in the wrong way.

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Seeking merely to hit the numbers, whichever ones you choose, is not enough. It encourages the type of climate solutionism of which I'm critical. And it fuels what I've called climate reductionism, and climate deadline-ism. Closed time tables and pre-ordained options can strain the diverse moral horizsons that characterize and complicate the difficult politics of climate change.

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It is exactly whether Jacobs' intellecutals from the early 1940s worried about, that mere tecxhnique and technology would crowd out wide explorations of moral meaning and purpose. Carbon metrics, after all, are only a proxy for global temperature, which is only a proxy for regional weather, which is only a proxy for human well-being, which in fact depends on innumerable other factors for its achievement and maintenance.

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Even the sustainable development goals on which I'll say a little more later are only a proxy for full human flourishing. As my colleagues Amanda Machin and Alexander Ruser have recently argued, quote, 'Emblematic numbers in the production of political thresholds, targets, and truths will not settle out or settle down the political disputes over climate change.' The reliance upon emblematic numbers may ignite a sense of urgency, but it may also fuel the suspicion of politicians, scientists, and climagte change policy.

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So to think through this a little more, we need to take a quick survey of the matter disciplines of human inquiry. The natural sciences, the engineering sciences, the social sciences, and the humanities. How climate change is understood, how a problem/solution frame becomes established determines the ways in which different academnic disciplines are mobilized and valorized in relation to it.

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This is both with regard to the forms of knowledge deemed to best describe what is happening to the physical world because of climate change. And to those knowledges, beliefs off the most useful insights and suggestions as to what should be done.

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Thus, the sciences are mobilized to explain the physical world and predict its future, on the assumption that better predictions of the climate future are key to enable and design apt solutions in the present. Yet science is fundamentally inquisitive in nature, asking how does the world work?

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What effect does this intervention or that intervention have on the physical functions? At its heart, scientific inquiry is curiosity driven, not solution oriented. It certainly is not normative or didactic. But as this front page headlignt from the Guardian Newspaperx, after the fourth assessment report of the IPCC reveals, many commentators still seem to think that science, at least undisputed science, if it's that, contains magical powers to unlock political deadlock.

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Then there are technologiy oriented disciplines, various forms of engineering. For example, civil, mechanical and electronic energy, biomedical, biochemical, genetic and so on. These are mobilized to develop specific and tangible solutions to society's problems. These engeinnering disciplines leads to a proliferation for proposed solutions for climate change, ranging from, as we've just heard, direct air capture of co2, solar climate engineering, nuclear fusion, GMOs, genetic modification of organisms, diet modification, human re-design.

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But we need to remember that technologies do not merely solve problems. They're also generative of new worlds in ways that are usually unpredicted and unpredictable. Technologies are world changing in their own right and frequently yield future, further problems and challenges, which subsequent generations will then have to confront as in days [sounds like] with climate change itself, the results of the coal-fired steam engine or the internal combustion engine, which seemed pretty good ideas at the time.

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And then there are the social sciences which are mobilized to inquire into the dymanics of social, behavioral and political change that might offer themselves up as solutions to climate change. Thus we have social technologies for altering cultural norms and behaviours such as nudge theory, far-reaching economic interventions around taxes and fiscal policies, entirely new sub- or transnational instituaional configurations for governing the world, or social theories for creating radically different political economies.

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So these matter [sounds like] of search [sounds like] domaines and enterprises are of great value. I don't deny this for a minute. I work at a university after all. But the problem with mobilizing these academic disciplines to seek out solutions to climate change is that as solutions they will always fail. Climate change is a wicked problem, meaning a problem that has no definitive formulation and no imaginable solution.

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Wicked problems are insoluable in a sense that solutions to one aspect of the problem reveal or create other, even more complex problems, which in turn demad further solutions. In contrast, for example, as David as just eluded to, the ozone hole stratospheric ozone depletion was a relatively tame problem.

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Proposed solutions to climate change can only ever be partial. They set in train [sounds like] seconaroy, tertiary consequences, which will always exceed that which humans will be able to anticipate.

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So for example, we have seen some of the perverse outcomes of various climate policies already. Amongst others, for example, promotions of biofuels, the clean development mechanism, carbon taxes, nuclear energy, planting forests, solar PV feed-in tariffs, and so on. We live in a Kafkaesque world of bizarre, convoluted and impersonal situations where individuals, as too do political authorities, find themselves seemingly powerless to understand or control what is happening.

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Just ask Mark Zuckerberg or the British government right now. But I haven't mentioned yet the humanities. Mobilizing the humanities disciplines would appear to offer something different. When knowledge from the humanities is applied to solving climate change, then the outcomes look and feel very different.

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The humanities have evolved over millennia as ways of reflecting on the material and imaginative human experience of the world. Together with the creative arts, inspired by the mysteries of the human imagination, the humanities disciplines interrogate the meaning, purpose, and significance of human and non-human life.

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They are used to train and cultivate a range of human reflexes, emotions, sensibilities and motives that construct worlds that make sense to us and that guide our actions within such worlds. Humanities disciplines are able to engage and

explain the multitude of stories and myths that people create to help in this process of orientation.

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As my Cambridge colleague, Sarah Dillon, explains, quote, 'attention to the stories circulate in different social groups, both the dominant and the marginalized, can reveal diverse, even conflicting social values and norms, thereby providing a more complex picture of society's coherence of lack thereof,' end of quote.

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So for me, inspired by work in the humanities in philosophy, ethics, ecocriticism, religious studies, anthropology, I've concluded that a well-ordered physical climate is deeply contingent about a well-ordered social world. But, of course, many people got there well before I did. Many traditional societies have long recognized this and still do. Their material, social, spiritual, and ethical worlds are deeply interdependent. A state of existence we might describe as a moral ecology.

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Disturb any one element of these relational webs and the other elements feel the disturbance. And we see this understanding around the world, this understanding of climate change in widely scattered cultures, in the Andes, the Himalaya, the Pacific Islands, in the Artic, in the Congolese and the Amazonian forests.

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Such a reading of climate change makes clear that it not merely some technical or engineering maneuver or intervention that is needed to redeem or restore the climate. It demands a re-ordering of everything, of all human, social, and material and spiritual relations.

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As the novelist Margaret Atwood has suggested, quote, 'I think calling it climate change is rather limiting. I would call it everything change.' But, and this is an important but, on the other hand, there are no authoritative universal prescriptions of what form this re-ordering should take. From my early arguments, we do know that climate science, and therefore the IPCC, is inadequate for this purpose.

Sciences know normative authority to instruct our moral behavior. And merely hitting the numbers, as I call it, through engineering solutions is blind to the collateral damage that is usually caused along the way.

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So if science and technology cannot redirect or cannot direct this re-orientation, then what can? One of the wider resources beyond science, the motivational moral commitments that Habermas refers to as missing in secularist societies that can enact and guide such change. And what follows, I suggest five ideologies, let me call them that for now, which are advocated by different actors to guide action and response to climate change. Everything change, in a sense.

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They differ from each other in various ways, as you'll see, sometimes profoundly. But they are similar in that each of them extends well beyond being rooted merely in the science of climate change, or possessing a simple faith in technology.

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The first of these five ideologies, we might also call them myths, a group loosely under the label ecomoderism and the associated moniker of Green Growth. The argument here is that modernicy can, so to speak, both have its cake and eat it. Yes, climate change is an outcome of rapid and penetrating technological expansion and economic and population growth, but it is through adjusting and redirecting these very great achievements of modernity towards more just and ecologically sensitive ends that climate change can be arrested.

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Thus, for example, the 2015 Ecomodernist manifesto claimed that, 'humans need to use all their growing social, economic, and technological powers to make life better for people, stabilize the climate and protect the natural world,' end of quote.

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Or as Erle Ellis and others have argued, an ecomodernist's stance would urge us to work hard to spare land for nature, the idea of land sparing. For them, climate change signals not the end of development but the chance to develop better. This

is the logic of Green Growth. It's espoused in "The Stern Review" back in 2006 and in numerous reports since there. The proposed Green New Deal here in the U.S. takes inspiration in part from this ideology.

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Second framework into which the problems of climate change might be placed is that of human rights. At its heart, this is rooted in the liberal and egalitarian instinct for the dignity and the quality of all humans given expression in the 1948 universal declaration on human rights. It has been inspirational, as indeed we've seen on the panel already, first in setting up in 2000, the millennium development goals, which sought to make poverty history. And now since 2015, the sustainable development goals. The SDGs comprised 17 goals and 169 associated indicators around which political action is the world is to be oriented, included here is the goal of climate action, goal number 13. But climate action is here placed alongside 16 other goals which attends to the welfare, needs, and rights of all humanity, clean water, zero hunger, affordable energy, general equality, strong institutions and so on.

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A third ideology, or motivational discourse, is what we might call ecological civilization. In essence, ecological civilization is seen as the final goal of social, culture, and environmental reform within a given society. It argues that the changes to be wrought by climate change in the future could only be headed off through an entirely new form of civilization, one based centrally on ecological principles. Now there are both techno and romantic versions of this ideology. For example, the techno version has been imbedded since 2012 in the Chinese communist party's constitution. But the Chinese version is very different from the version of ecocivilization espoused by the deep ecologists, and new culture movements such as The Dark Mountain Project, which seek an unweaving of the core tenets of Western civilization. Nevertheless, these two versions are linked in their claims to make human civilization, to remake civilization rather, by foregrounding ecological limits as the principles for a sustainable society.

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My next example is an ideology for guiding political action and response to the challenges of climate change, which gives rise to, or is rooted in a comprehensive

and radical critique of capitalism. This was given clear expression in Naomi Klein's book, *Climate versus Captalism* in 2014 but more recently has been articulated even more decisively by the social movement, Extinction Rebellion. XR has a clear belief that the only adequate response to climate change is the overturning of the social order and the capitalist economic system. Though they may lack details of the post-capitalist social formation that they aspire to replace capitalism with, they are clear as to the real enemy of a stable and benign climate. It is capitalism. And its fetishizing of economic growth and the centralization of wealth and power that capitalism fuels. XR is rooted in the political extremism of anarchism, ecosocialism, and radical anti-capitalist environmentalism. It feeds off the powerful moral critiques of capitalism that date back a century and a half to Karl Marx. The civil resistance moral espoused by XR is intended to achieve mass protests accompanied by law-breaking, leading eventually to the breakdown of democracy in the state.

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My fifth and final suggested ideology was given new focus in 2015 through the publication of Pope Francis' encyclical, ' "Laudato si' On Care For Our Common Home." Here climate change stands in for is the synecdoche for a spiritual human emaciation, which is having adverse repercussions for the material world. Pope Francis is concerned first and foremost to offer a vision of human dignity, responsibility and purpose, drawing upon the rich traditions of Catholic theology and ethics. Notably the idea of virtue ethics, which is valorized above utilitarian and deontological modes of ethical reasoning. "On Care for Our Common Home" offers a powerful story. Concerns about technology, water, power, climate, slavery, biodiversity, human greed are woven together into an inspirational account of divine goodness and healthy human living. It escapes the confines of a narrowly drawn science and economics and shows the power of vitality and inspiration of a Christian worldview. It also draws attention to the centrality in the Christian faith of the idea of transformation. Quote, 'for this reason, the ecological crisis is also a summons to a profound interior conversion, an ecological conversion, whereby the effects of their encounter with Jesus Christ become evident in their relationship with the world around them.'

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Now there are, of course, other ways we could group the different ideologies that shape and guide political action and social mobilization around the idea of climate change. We could certainly debate these. I'm not proposing that these five are by any sense definitive. For example, there are clear overlaps between ecomoderism and human rights and between ecological civilization and post-capitalism. But my central point in the talk is this, all five ideologies require science and technology to be placed in a subservient role to these normative visions of how the world should be ordered, whether its ordering be around economic growth, human dignity, ecological integrity, ecosocialism, or spiritual renewal.

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Merely offering climate solutiosn is not the point. It is which solutions emerging from which visions that matters. Each of these ideologies may, and they do, mobilize science and technology in different ways, perhaps very different ways, to bolster their ambitions. But they illustrate why it's profoundly inadequate to suggest that tackling climate change is all about, quote, 'uniting behind the science,' or, quote, 'listening to scientists.' There's no possibility that merely uniting behind the science will arrest climate change or deal with its consequences. Science on its own offers no moral vision, no ethical stance, no political architecture for the sort of world the people desire.

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So now as I end, let me return to my earlier contention about the inadequacy of carbon metrics for governing climate and instead offer the value of thinking about climate change in terms of moral ecologies and about Alan Jacobs' claim, drawn from the 1940s, about the need for cultural and moral resources to be unearthed and mobilized in a time of crisis. And let me offer just three very brief examples of narrative-based approaches to moral deliberation that offer something different to the moral calculus of carbon accounting.

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My first example is to return to Pope Francis' encylical Here the encyclical places the scientific evidence for human agency over climate inside a much larger moral vision of the world. Rather than focus on metrics and the coercive regulatory logic of numbers, Pope Francis offers a cosmic account of human dignity and

responsibility within which duty, virtue, humility and care feature prominently. This framework of moral reasoning offers an account of causation and also an orientation towards moral action in the world.

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A second example harnessed the powerful force of metaphor in helping cultures find moral orientation. Metaphors are essential in how we relate to each other and to the non-human world. They offer a kind of imaginative creativity that humans need in order to think through the many-layered conundrums that climate change confronts us with. Metaphors gain their power and utility precisely because they rely on the ambiguity and uncertainty that carbon metrics seek to eradicate.

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Rather than act superficially, guided by the unyielded force of numbers, metaphors encourages to think relationally about our place in the world and through time. Metaphors such as stewarding, healing, restoring, cultivating, repairing, are each suggestive of different ways of relating to climate and to our ecological surroundings. They offer richer vocabularies to think not just about the sort of climate we bring into being, but the sort of role we see for people such as us.

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My third example, from a different source, focus on the figure of a trickster, an archetypical, mythical being found in many traditional cultures. Although not embodying a fixed moral orientation, the trickster seeks to disrupt and transform taken-for-granted realities. This myth has value when thinking about climate and carbon governance since it challenges the illusion of controllability that is promised by the carbon metrics and offer [sounds like].

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The trickster introduces the virtues of humility, modesty, and irony into human storytelling and suggests that the effects of human actions in the world will always exceed our ability to predict and our desire to control.

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So, in conclusion, governing climate change through carbon metrics, for me, is another form of reductionism. It reduces the future to climate. Even more dangerously, it masks the contested politics and values diversity that lie behind different personal and collective choices. Who wins, who loses, whose values count? It's a form of moral attenuation. Metrics are alluring because they simplify complex realities into objective numbers. As Jerry Muller in his book, *The Tyranny of Metrics*, says, 'Metrification may make a troubling situation more salient without making it more soluble.' The circulation of ubiquitous carbon metrics operates as a facilitant of an imminent mode of power. Morality by numbers also marginalizes other forms of moral reasoning, which cannot be reduced to calculation.

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But these latter offer richer narrative context, that enable the wisdom of different choices to be deliberated, interpreted and judged. Wise governance of climate, as indeed in the application of wisdom in everyday life, emerges best when rooted in larger and thicker stories about human purpose, identity, duty, and responsibility. Such stories are what traditional and religious knowledges can offer. Carbon metrics should only be used as a complement to experience and to wider modes of moral reasoning, not as a substitute. Thank you.