

# Climate Change and Justice

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*Edited by*  
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harms to individual animals, loss of species diversity, or even alteration of abiotic systems. In fact, it is only in light of these considerations regarding individual animals, species diversity and alteration of abiotic systems that we can appropriately assess these otherwise everyday behaviours.

To put this a little differently, the problem of climate justice is not exactly that the Earth's climate system is shifting – though this may in fact present significant complications for life on Earth, potentially resulting in a devastating loss of resources, natural value and beauty. The problem is that when measured up against the scrutiny of outside parties, many of the actions that we take, and the reasons that support these actions, aren't of the sort that could be justified given these outcomes. We do not need to establish the moral significance of all affected corners of the Earth to understand this. All we need is to understand that the actions that we take often have impacts greater and wider than the reasons that we have for taking those actions typically account for.

Taken in this context, Robert Lewis's query about the bombing of Hiroshima takes on a sentiment perhaps just as chilling as Robert Oppenheimer's. Certainly he was concerned about the loss of life, the suffering of the injured, the profligate torching of resources and the destruction of nature, as many might assume. But more than that, he was concerned with what we had ushered in. The moment he inaugurated the nuclear age – a period during which many billions of us lived our lives in fear of unending war and nuclear annihilation. But now we face a somewhat different moment, a much longer moment ... the inauguration of the Anthropocene – a period during which many billions of us will live our lives in placid but complicit indifference to the eventual, gradual whittling away of mother nature's support systems.

The question for us, I think, is a serious one. Looking back 100 years from now, once this new moment has passed and the Anthropocene is in full swing, will we too look in the rear-view mirror and ask ourselves, as Robert Lewis once did: what have we done? If we do, if our children do, how might we explain ourselves? Could we justify what we've done? Could we explain our actions in a way that would meet the scrutiny of future generations? If we ask ourselves this question honestly, and we ask it bearing in mind all that will be affected by our mundane actions, I suspect we could arrive at an answer without too much trouble. We don't need to know how severely individual animals or species or ecosystems will be impacted by our actions. All we really need to recognise is that, up until this point, we haven't been asking this question at all.

## 12 Empathising with scepticism about climate change

Simon Keller

### Climate change

The world's climate is changing, the change is harmful and humans are responsible.<sup>1</sup> Through cutting down forests, burning fossil fuels and maintaining large numbers of livestock, among other activities, humans have caused there to be greater quantities of greenhouse gases (GHGs) in the Earth's atmosphere, in turn causing temperatures to rise and weather patterns to become more erratic. In the near future, the ice caps will continue to melt; the oceans will warm, causing sea levels to rise; parts of the world in which humans presently live will become uninhabitable; hurricanes and droughts will become more common; many agricultural and other food production systems will become unsustainable, especially those relied upon by the poorest people in the poorest countries; and more non-human species will be driven to extinction.

Climate change is a singularly challenging problem technologically, but also morally and politically. The worst consequences of climate change are likely to be felt soonest by the world's most vulnerable people, but the problem is mostly caused by the activities of the world's most prosperous people. The problem of climate change crosses generations, with the acts of presently existing people likely to have their greatest effects upon people not yet born. The problem of climate change is essentially international, because it exists as a result of the accumulated actions of people in many different countries, and because changes to the climate caused by the people in one country can have their most damaging effects upon people in other countries; it is not a problem that can be dealt with through the unilateral decisions of individual states. Perhaps most significantly, climate change results from and should cause us to reconsider the culture of economic growth, ever-greater consumption and ever-greater use of energy from fossil fuels through which human progress has been

<sup>1</sup> I received helpful feedback from several people during the writing of this chapter. I would particularly like to thank Gwen Bradford, Jonathan Boston, David Coady, Garrett Cullity, Melinda Fagan, Dave Frame, Jeremy Moss, George Sier and Justin Sysma.

understood and pursued since the Industrial Revolution. Morally and politically, the problem of climate change is a perfect storm. Only through the profoundest of changes in humanity's goals and modes of organisation could the problem be successfully confronted.

#### Scepticism about climate change

That, at least, is what I think. I think it is also the view of most scientists who know what they are talking about. It is certainly the view of most people I talk to. But there are many people who do not accept that view about climate change, and the numbers and influence of such people appear to be growing.<sup>2</sup> Some people doubt that the Earth's climate is really changing; some accept that the climate may be changing but doubt that human activity is responsible; some accept that the climate may be changing and humans may be responsible, but doubt that the problem is severe enough to require expensive or far-reaching responses. The people with these various opinions make up the class of climate change sceptics.

Climate change scepticism is a major obstacle to meaningful action on climate change. While there is widespread concern about climate change within electorates in Western democracies, the concern is not so great as to make it politically necessary for our leaders to make dealing with climate change a high priority. This is not because people are ignorant of climate change, in the sense of never having heard of it. Nor is it because people believe that climate change is occurring and has significant consequences, but do not care; it is rare to hear people say anything like, 'Yes, we are changing the Earth's climate, but the effects will be felt mostly by other people – people in poorer countries and people not yet born – so I don't think we should bother doing anything about it'. Rather, many people have the sense that the science is not settled, or that we cannot yet be sure that the problem is real and urgent, and so they do not make it a main point of pressure upon the politicians who seek their votes.

More immediately, the US is a major obstacle to real action on climate change, and part of the reason why it is an obstacle is that many influential political actors in America, including perhaps a majority of the Republican representatives in the current Congress, where the Republican Party in turn holds a majority in the House of Representatives, are climate change sceptics.<sup>3</sup> America is the world's most powerful country and it is responsible

<sup>2</sup> Some relevant figures are collected in E. Anderson, 'Democracy, public policy, and lay assessments of scientific testimony', *Episteme*, 8 (2011), 144–64, see p. 153.

<sup>3</sup> An article by Ryan Lizza in *The New Yorker* ('As the world burns', 11 October 2010) traces the efforts of some US senators to construct a bill imposing measures to address climate change. The efforts failed largely because they could not find Republican representatives who were

for a large proportion of the world's emission of GHGs. Effective international action to address climate change is impossible without American support, and American support is contingent upon Congressional support. Whatever other difficult issues are faced by efforts to confront climate change, if scepticism about climate change continues to be such a strong force within American politics, then those efforts will not succeed. If we could work out how to overcome scepticism about climate change, then we would make a significant step towards making robust action on climate change a reality.

#### Climate change and environmentalism

Nobody is pleased about climate change. When evidence that the world is warming and we are responsible was first made widely available, nobody took it as something to celebrate. That said, for many of us, it was not really a surprise to hear that human industrial activity is causing significant changes in the world's climate. It is a fact that fits quite smoothly with a picture of the world to which we were already committed. It is even tempting to say that the evidence about climate change stands as a vindication of that picture. Here is what I mean.

Concern about humanity's effect upon the environment predates knowledge of the nature and causes of climate change. The modern large-scale environmentalist movement predates it too. Since the eighties, at least, large numbers of us have identified as environmentalists, supporting environmental causes and feeling sympathy for green political movements. Environmentalism is marked by the conviction that 'the environment' – made up of unpolluted waterways and oceans, natural native forests, undeveloped wilderness areas and so on – is valuable and should be preserved; by the concern that our treatment of the environment will redound to the harm of humans, especially vulnerable humans in poor countries and humans yet to be born; by a rejection of the culture of unfettered economic growth and consumption and reliance upon fossil fuels; by the advocacy of a low-impact, perhaps vegetarian diet; and by support for the establishment of strong international institutions to deal with what are essentially international environmental problems.

Environmentalism does not need climate change. It focuses also on pollution, the loss of species and habitats, the destruction of places in which nature can be enjoyed, and so on. But if anything could show that the environmentalist is right, surely the evidence about climate change is it. We have been saying that humanity will be damaged by its uncaring treatment of the

sufficiently convinced of the seriousness of climate change even to enter negotiations about how the bill might look.

environment. We are not happy to hear that the climate is changing and human activity is to blame, but still – we told you so.

Accordingly, much of the philosophical treatment of climate change presses extant environmentalist themes. Climate change is linked to the exploitation of the global poor by the global rich. It is said to show that we need an entirely new approach to moral theory: one that emphasises ‘green virtues’ like frugality and respect for nature. It is said to show that we should eat less meat. It is said to challenge the coherence of the idea of absolute state sovereignty and to demonstrate the need for more powerful international institutions charged with taking stewardship of the global environment.<sup>4</sup> The news about climate change is not good news, but it does help advance the broadly environmentalist agenda, to which many of us are committed anyway.

#### Assessing climate change scepticism

If it is easy to view climate change from the ideological perspective of environmentalism, it is even easier to introduce ideological considerations in assessing scepticism about climate change. The basic facts about climate change have been widely known for twenty years. The scientific consensus about climate change is overwhelming. The truth is obvious. Why do so many persist in denying it?

One reason why so many people are sceptical about climate change – it is easy to point out – is that so many people are selfish and lazy. The science is out there, freely available, but people cannot be bothered reading up on it.<sup>5</sup> The facts about climate change are annoying. If we are meaningfully to confront climate change, then we will need to make sacrifices. We will need to pay more for petrol and use our cars less, change our diets, reduce our international travel, pay a tax on carbon and so on. For many, it is unpleasant to think that such sacrifices are necessary, and hence comforting to take refuge in the conviction that they are not.<sup>6</sup>

Another factor that helps to explain the prominence of climate change scepticism is the existence of a broader anti-scientific movement. The movement urges people to be distrustful of intellectuals and to put faith in their own

intuition, or their own religious instincts, or whatever they read on the Internet. Scepticism about climate change might be attributed partly to the same ideological orientation that lies behind the denial of evolution, and – perhaps – behind doubts about whether children should be immunised.

Finally, and most disturbingly, we can point out that scepticism about climate change is propped up by entrenched well-funded corporate and political interests whose explicit intention is to lead people astray. As was the case with tobacco, acid rain and the ozone layer, and as is often the case with pollutants and other products that threaten public health, corporations are prepared to fight against scientific results that promise to hurt their interests, whether through distorting or suppressing the scientific results, attacking the scientists responsible for the results, or publicising and funding the research of anyone approximating a scientist whose claims are less damning. And, because there are large ideological disagreements at stake, political actors who are committed to economic expansion and consumption and opposed to environmentalism have a motive to make the science look less decisive than it really is.<sup>7</sup>

What unites these explanations is that they take climate change scepticism to be explained by factors that are non-rational (at best). They do not call upon any considerations that could be taken, from anyone’s point of view, to make scepticism about climate change more likely to be correct. Rather, they present climate change scepticism as a result of a rejection of the responsible search for truth. Climate change sceptics are made to look like people who care more about their own interests and their own dogmatic ideological commitments than they do about whether the Earth really is undergoing damaging change. To overcome climate change scepticism, it would seem, our first task is not simply to make people aware of the evidence. Our task instead is to shake people out of their selfishness and laziness and to win a political battle against corporate and ideological interests and the anti-scientific movement. The mission of overcoming climate change scepticism looks more like a war than an exercise in persuasion.

#### What do we know?

As easy as it is to see climate change scepticism as a result of failures of wisdom, rationality and responsibility, arguing against a real climate change sceptic is painfully difficult. I can accuse a climate change sceptic of failing to understand the basic science, but the truth is that I do not understand it either – if understanding the basic science means being able to explain it, step by step, refuting alternative hypotheses along the way, until reaching the conclusion

<sup>7</sup> For a compelling and careful exposition of this explanation, see Oreskes and Conway, *Merchants of Doubt*, esp. ch. 1.

<sup>4</sup> All of these views are pressed by several authors in the papers in S. M. Gardiner et al. (eds.), *Climate Change: Essential Readings* (Oxford University Press, 2010). See especially H. Shue, ‘Global environment and international inequality’, pp. 101–11; P. Singer, ‘One atmosphere’, pp. 181–99; and D. Jamieson, ‘Ethics, public policy, and global warming’, pp. 77–98.

<sup>5</sup> Anderson argues that it is quite possible for a motivated layperson to find and understand the truth about climate science, and offers several proposals for removing obstacles for their doing so. See Anderson, ‘Democracy, public policy, and lay assessments of scientific testimony’, especially pp. 149–53.

<sup>6</sup> See N. Oreskes and E. M. Conway, *Merchants of Doubt* (New York: Bloomsbury Press, 2010), pp. 266–7.

that it is most reasonable to believe that the Earth is warming and we are responsible. I can tell a basic story about how carbon emissions lead to warming, but it is a very basic story indeed. When I am told that other explanations of warming are available, or that the purported changes to the Earth's climate are best explained as part of a natural recurring pattern, I have nothing much to say in response. I can say that the vast majority of serious scientists believe in anthropogenic climate change, and I can say that there are many scientific studies to support the thesis of anthropogenic climate change, but I cannot name many climate scientists or list the relevant studies. When someone tells me that there are better studies showing that anthropogenic climate change is not really happening, or that there is not enough evidence for the question to have been resolved, I have nowhere much to go.

The reason why I have trouble explaining why a sceptic should share my beliefs about climate change is that I come by my beliefs through trust in others' testimony. As with most complex scientific questions, I form my opinions about climate change by listening to the scientific experts.<sup>8</sup> That is true of almost all of us, including almost all climate change sceptics. When a believer in climate change argues with a sceptic about climate change, then, the argument is usually not about the science, directly. Instead, it is an argument about whom to trust and what the trustworthy people say.

An argument about whom we should trust is difficult to win, and in the case of climate change it can quickly turn into a political argument. You may have read something that suggests that anthropogenic climate change is a hoax, but I may offer a reason why the thing you read is not representative. I may recall a report of a study that confirms that the Earth is warming, and you may tell me that the study is likely to be biased. If the voices of climate change sceptics come mainly from outside the major institutions and journals, is that evidence that those voices are not authoritative, or is it evidence that they are being silenced by the scientific mainstream? Is the Intergovernmental Panel on Climate Change (IPCC) a straightforwardly scientific organisation, or has it become a lobbying organisation? Do scientists tend to overstate their findings out of a desire for publicity or in order to attract further funding? Is it impossible to get academic respect if you hold heretical views about climate change? If I have read *Superfreakonomics*, with its chapter on why the threat of climate change is exaggerated, does that make me better informed than you? Trying to argue through these matters with a climate change sceptic is excommunicating, and is certainly not – for most of us – well described as a case in which a scientifically informed party expounds the facts of the matter to a scientifically

<sup>8</sup> Anderson, 'Democracy, public policy, and lay assessments of scientific testimony', pp. 144–5; D. M. Kahan and D. Braman, 'Cultural cognition and public policy', *Yale Law and Policy Review*, 24 (2006), 147–70, see pp. 151, 155–6.

<sup>9</sup> S. D. Levitt and S. J. Dubner, *Superfreakonomics* (New York: William Morrow, 2009), ch. 5.

ignorant party. (For what it is worth, a recent survey suggests that supporters of the Tea Party in the US are, compared to the general population, both much more likely to be sceptical about climate change and much more likely to describe themselves as 'very informed' about climate change.<sup>10</sup>)

To show why this may have implications for the ways in which we think about climate change scepticism, I want to offer a lengthy, fanciful, hypothetical case.

### Space dust

Evidence emerges that the Earth's climate is changing. The world is becoming warmer and climate patterns more erratic, causing sea levels to rise, hurricanes and droughts to become more frequent, food production systems to be interrupted and species to be driven to extinction. The worst consequences are to be felt by poor people in poor countries and by future generations.

A number of different possible explanations of global warming are offered. Over time, however, a scientific consensus appears to build around the 'space dust hypothesis'. According to the hypothesis, the root cause of global warming is a cloud of dust that has drifted from space into the Earth's atmosphere. When it rains, the dust is brought down to the Earth's surface, where it sometimes sifts through to a layer of rock within the Earth's crust, causing a reaction that leads the rock to heat, hence warming the Earth's surface and causing overall temperatures to rise. Most of the damage is caused by rain seeping through the ground in wilderness areas, like rainforests. It appears that much of the rock that warms when brought into contact with the space dust is in these areas, and when the rain falls on treated agricultural land or runs off to rivers, the sea, or treatment plants, the warming effect is avoided.

There arises a social and political movement urging action to prevent global warming. Global warming activists urge governments to cover forested and wilderness areas with concrete, and to adopt such policies as giving large subsidies to developers, introducing new taxes on property owners who wish to leave parts of their properties undeveloped, and abolishing national parks and other protected natural areas. To prevent the planet from warming, they urge, and to prevent great harm to future generations and the world's most vulnerable humans, we need to identify the world's most naturally unspoiled areas and develop them as soon as possible.

While the science behind the space dust hypothesis is difficult for ordinary people to understand, and while the worst anticipated effects of global warming

<sup>10</sup> *The Economist*, 'American public opinion and climate change: no green tea', *The Economist Online* (8 September 2011), [www.economist.com/blogs/dailychart/2011/09/american-public-opinion-and-climate-change](http://www.economist.com/blogs/dailychart/2011/09/american-public-opinion-and-climate-change), last accessed 10 October 2014.

are yet to be felt, for people of a certain ideological bent, the hypothesis is treated as a source of vindication. What global warming confirms, they say, is that the world is a hostile place in which we humans can survive only by bending it to our will. The story of human progress, they say, is the story of humanity taming and dominating nature. Developers and free-marketeters enthusiastically take up the cause, lecturing us on the naivety of environmentalism and the hopelessness of the idea that if we leave nature alone then somehow things will look after themselves. Only if we free humanity to innovate, develop and dominate, they say, can we save our species from destruction.

While the space dust hypothesis enjoys widespread scientific support, doubts are expressed by voices at the margins. Some scientists say that the evidence that the Earth is warming is quite flimsy, some that it is not really so clear that space dust is to blame. Some say that the warming effect of space dust will not really be counteracted by massive development of wilderness areas, some that the potential harmful effects of global warming are massively overstated. Many environmentalists speculate about the motives of the scientists who offer the space dust hypothesis, wondering whether they are trying to curry favour with the corporate interests their findings serve. Outside the scientific mainstream, people talk darkly about a conspiracy to advance the agenda of capitalists and developers using the veneer of scientific discovery.

#### *Space dust scepticism*

Faced with this scenario, I would be tempted to be a space dust sceptic. I would be suspicious of the motives of those advancing the space dust hypothesis, and very suspicious of the motives of those who want to move quickly to destroy the wilderness areas whose existence I so greatly value. At a minimum, I would urge caution. The science is difficult to understand, the promised effects of global warming seem very distant, the people I trust – environmentalists – seem unsure about the whole story, and the recommended measures are drastic. Would it not at least be worth holding out for a little longer, until we can be absolutely certain that the problem is so great, and absolutely certain that a less destructive solution cannot be found?

Space dust scepticism, of the kind just described, would not amount simply to denial. To some extent, it is rationally defensible. First, it rests upon some true suppositions. Sometimes scientists get it wrong. Sometimes scientists are moved to exaggerate the significance of their results in order to get funding or publicity. People motivated by political or selfish interests do sometimes over-emphasise scientific findings that they find agreeable. Second, it rests on beliefs about the world to which I am independently committed, whether or not those beliefs turn out to be true. As an environmentalist, I am suspicious of the

motivations of people who advocate greater development and destruction of wilderness areas, and I believe there is a history of corporate, political and putatively scientific parties conspiring to silence environmentalist voices and to advance an ideological agenda by stealth. Third, space dust scepticism rests partly upon a straight evaluative commitment, which is not itself under question here. Whether it is worth covering wilderness areas in concrete is a matter of weighing values, and it is quite reasonable for an environmentalist, who sees great value in keeping the wilderness in its natural state, to set a higher threshold for being convinced that such a policy is justified. The more you care about the wilderness, the greater the degree of certainty about the space dust hypothesis you will need, and the greater the harm promised by global warming will need to be, before you will agree that concreting the wilderness is a good idea.

Given my starting point as an environmentalist, scepticism about the space dust hypothesis will fit much more smoothly into my view of the world than will belief in the space dust hypothesis. My starting point may be misguided. But given that that is where I begin, it makes sense for me to be drawn to space dust scepticism. It is subjectively rational, as we might put it, for me to move from my starting point to space dust scepticism; it is a move that looks just as responsible – just as likely to get to the truth – as does any other move, from the perspective I occupy. If there is something irrational about my acceptance of space dust scepticism, then it has to do with my starting point, not with my treatment of the evidence for the space dust hypothesis or my way of drawing it within my own beliefs.

#### *Confronting space dust scepticism*

Supposing that you were a space dust sceptic, influenced by your commitment to environmentalism, what could lead you to change your mind? You could change your mind in light of a closer examination of the science, becoming convinced that the authoritative data do, in fact, support the space dust hypothesis. If the science is difficult, however, and if you are not an expert, then it is unlikely that you would come to that conclusion with any (justified) certainty. Your judgements about the science probably will (and probably should) still go by way of the testimony of experts.

You are most likely to be caused to change your mind, then, if you find experts whom you trust and who insist that the space dust hypothesis is correct. An expert you can trust will be someone whom you do not suspect of pushing an ideological agenda or being susceptible to the corrupting influence of money and power. Such an expert will be someone whom you take to share your values, or, if they have values that conflict with yours, to have successfully put their values to one side. Perhaps you could come to accept the views of experts who accept the space dust hypothesis but do not see it as the end of

environmentalism. Perhaps you could be drawn to a movement that sees the prospective loss of wilderness areas as a terrible cost and is working to find alternative solutions to global warming, or that is working to minimise the amount of wilderness that needs to be sacrificed.

Given your environmentalist starting point, it will be more likely, and more reasonable, for you to accept the space dust hypothesis if the hypothesis is brought, as far as is possible, within your framework of values and your picture of the world. The greater the extent to which the hypothesis is presented as part of an anti-environmentalist agenda, the more reason you will have to be suspicious of it. Space dust scepticism can be reasonable for those who begin with a certain evaluative outlook. But, with the right kind of argument presented by the right kinds of people, perhaps it can be made reasonable for people with that outlook to give up their scepticism.

#### Understanding scepticism about climate change

Imagine, now, that you are the sort of person who is likely to be a sceptic about climate change, here in the real world. Suppose that you begin from the following ideological perspective: you believe that industrial activity and consumption are responsible for the progress and improved living standards of humanity over the last few hundred years; you believe that the human impulse to innovate and make money provides our best hope for continuing to lift people out of poverty; you have no particular love of 'nature' and no inclination to become vegetarian; you are suspicious of governments that gather power for themselves, and you believe that governments have a natural tendency to grow larger and levy higher taxes and exert more control wherever they can; and you are suspicious of international institutions, which you regard as undemocratic, unaccountable and likely to be dominated by persons and nations not worthy of your trust.

This starting point might be indefensible on its own terms, questions about climate change aside. Even if it is, though, it is easy to see how it could play a role in leading someone to be a climate change sceptic. Suppose that that is your starting point, and you are then confronted with the thesis of anthropogenic climate change: a thesis that you cannot fully understand and that is based on science that you are in no position to assess directly. The thesis comes to you as part of an ideologically potent package, associated with a movement that looks to impose new taxes on energy and development, to grant greater power to international organisations, to move wealth and power from the global rich to the global poor, to encourage people to eat less meat and live less consumptive lives and to alter fundamentally the economic system that has dominated in the West for the past few centuries – and that presents the news about climate

change as a vindication of the environmentalist ideology. Your first thought, quite likely, will be sceptical.<sup>11</sup>

In deciding whether or not to trust those who advance the thesis of anthropogenic climate change, you will notice the existence of voices at the scientific margins expressing doubts about whether the thesis is correct. Much of what is said by those voices fits nicely with your pre-existing set of values and beliefs. You are told that the science is not as strong as it is said to be, that governments and universities are deliberately directing funding towards scientists who support the thesis of anthropogenic climate change, that many of those advancing the thesis are also people who are opposed to development and the free market and hence ready to abandon our prevailing economic system for any old reason, that the liberal academic establishment is deliberately shunning scientists who express doubts about the thesis, and so on. There are people available to you who claim to be experts, who doubt the reality of anthropogenic climate change, and who present their view by stating claims that you find independently plausible. You will then have some reason to trust these experts, not the climate change believers. For you, the suggestion that the scientific consensus is not authoritative will not seem extreme or fanciful. It will make sense, given the beliefs and values you already hold.

To that extent, climate change scepticism is similar to space dust scepticism, and to that extent, it can be subjectively rational.<sup>12</sup> The climate change sceptic might be wrong. Their ideological starting point might be misguided. But the move from their ideological starting point to their scepticism about climate change is a move that makes sense, from their own point of view. It need not be a result of laziness and selfishness, or wilful ignorance of the science, or brainwashing by corporations and right-wing politicians. It could be a result of an ordinary person doing their best to form true beliefs, within a certain social context and beginning from a certain ideological framework.

<sup>11</sup> Kahan and Braman offer evidence that views about climate change, along with many other views, tend to come as parts of distinctive ideological packages. 'Cultural cognition and public policy', pp. 149–50.

<sup>12</sup> My explanation of scepticism about climate change, and the suggestions I shall shortly make for addressing it, have much in common with the explanations and suggestions offered in the literature on cultural cognition: see Kahan and Braman, 'Cultural cognition and public policy'. The main point of difference is that I try to show that scepticism about climate change can emerge, in its familiar form, from a rational process. For Kahan and Braman, it is important that cultural cognition and its effects are non-rational: on their view, 'the cultural cognition of public policy can impede the rational processing of information' (p. 151). I would be happy for my argument to be interpreted as showing that the phenomena discussed in the literature on cultural cognition are due largely to differential exercises of rationality, not just to a primitive non-rational psychological mechanism.



### Choosing between experts

As another way to see the nature of the predicament in which we find ourselves as ordinary non-experts trying to form a judgement about climate change, we can think about it as a particularly problematic manifestation of the general problem of choosing between experts who disagree. I have presented two stark and schematic ideologies: the environmentalist starting point of my imagined believer in climate change, and the right-wing anti-environmentalist perspective (for want of a better description) of my imagined climate change sceptic. These are not the only two possible ideological standpoints, and they are not the only two standpoints that have special salience for beliefs about climate change. Against many different backgrounds, the thesis of dangerous anthropogenic climate change is ideologically powerful, and so there are many ideological starting points that complicate the ordinary person's efforts to choose wisely between putative experts on climate change.

A guide for choosing between experts is offered by Alvin Goldman.<sup>13</sup> When two experts offer conflicting opinions, Goldman says, we should decide which one to trust by doing our best to evaluate the experts' respective arguments, seeking out opinions from additional experts, appraising the credentials of the experts and the judgements of authorities (like universities and professional bodies) who decide which people are the experts, asking whether the experts are likely to be biased, and looking at the experts' track records. You might use these criteria if, for example, you are a patient who has received conflicting advice from two doctors, or if you are a car-owner who has received conflicting advice from two different mechanics.

The debate about climate change has developed in such a way as to make it very difficult for a non-expert to find a non-controversial way to employ Goldman's criteria. You can try to evaluate the arguments of the different self-proclaimed experts, but the scientific arguments are complicated and difficult for a non-expert to assess, and at every point in the debate it seems that each side has a confident reply to the other. You can look for additional experts and you can ask who has the best credentials, but part of the argument of each side is to place doubt on anyone who vouches for the expertise of those on the other side; sceptics are said to be charlatans propped up by corporate interests, and believers are said to be part of a corrupt scientific establishment. You can ask about bias, but each side offers reasons to think that those on the other side are moved by self-interest or ideology, and the claims of bias on each side are difficult to confirm. You can try to assess track records, but it is difficult to know exactly what makes for a track record when it comes to explaining

<sup>13</sup> A. Goldman, 'Experts: which ones should you trust?', *Philosophy and Phenomenological Research*, 63/1 (2001), 85–110. See especially p. 93.

what will happen to the Earth's climate and why, and the facts about track records are, in any case, part of the dispute.<sup>14</sup> As things stand, it is much more difficult to make a sober and responsible choice about whom to trust on climate change than to make such a choice about whom to trust for medical advice, or whom to allow to fix your car.

### The need for progress

I have presented my argument in the voice of a believer in dangerous anthropogenic climate change who is worried about the power of climate change scepticism. For genuine progress in confronting climate change to be achieved, I have said, it is important that we find a way to reduce the quantity and influence of scepticism in political debate. A climate change sceptic, though, should have a parallel motivation to achieve progress in the debate. As the sceptic sees it, belief in anthropogenic climate change is a costly blunder, which promises to result in misguided allocations of resources, unnecessary new taxes and regulations, and the denial of the opportunity for uninhibited industrial growth to the people in the world who most need it. For different reasons, believers and sceptics should be concerned to overcome the entrenched political division over climate change.<sup>15</sup> So we can all ask: how can rational progress be achieved? In closing the chapter, I want to consider three possibilities.

### *The triumph of the science*

It is conceivable that the science could become sufficiently unambiguous and accessible for the debate to resolve itself, in one direction or the other. This, on one plausible diagnosis, is what happened in the debate over whether or not smoking causes lung cancer. Eventually, despite all the efforts of the well-funded and inventive tobacco lobby, it just became obvious to everyone that the link between smoking and lung cancer is real and scientifically established.<sup>16</sup> It would be nice to think that a similar resolution could be achieved in the

<sup>14</sup> Elizabeth Anderson offers a much more optimistic view about abilities of laypersons to identify the genuine experts on climate change, and the consensus the experts have reached. See 'Democracy', pp. 149–53. Anderson's account depends upon the acceptance of a hierarchy of expertise (on which PhDs from prestigious universities, for example, are more expert than others), and upon the acceptance of the integrity of academic systems of peer review, among other things. In my view, Anderson underestimates the power of the picture, offered by many climate sceptics, on which those are not indicators of expertise or truth at all.

<sup>15</sup> See R. W. Spencer, 'Introduction and background', in *The Great Global Warming Blunder* (New York: Encounter Books, 2010).

<sup>16</sup> For excellent summaries of the eventual triumph of the science in the cases of acid rain, the ozone hole and second-hand smoke, see Oreskes and Conway, *Merchants of Doubt*, chs. 3–5.

debate over climate change, but there are reasons to doubt that it will happen anytime soon.

First, the predictions made by climate scientists concern overall effects to a complex system, with consequences to be felt gradually over several decades. There are tangible, striking phenomena that can be attributed to climate change, like the melting of the polar icecaps. The tasks of showing that such phenomena are part of a predicted general pattern and showing that they are caused by the accumulation of greenhouse gases, however, is difficult to achieve to everyone's satisfaction.<sup>17</sup> It is much more difficult than having people realise that people who smoke are more likely to end up with lung cancer.

Second, 'climate' is a complicated concept, and 'the climate' is something that can be studied and assessed in any number of ways. The data concerning the climate include a great deal of noise, and it can be difficult to come up with clear, widely accepted, authoritative data points. For every fact about how the climate is changing in one respect, it is possible to come up with some other fact that looks like evidence that the climate is changing in the opposite respect. Putting it crudely, if it looks as though one part of the world is warming, it is always possible to come with data that make it look as though another part of the world is cooling.<sup>18</sup>

Third, climate science relies largely, though not solely, on modelling, and modelling is a scientific enterprise that requires good judgement and proper discretion. What counts as good judgement and proper discretion, however, is usually unclear to non-experts, and there is a heightened ability on this issue for people to accuse others of setting up their models in biased or otherwise irresponsible ways.<sup>19</sup>

Fourth, climate science, as a scientific field in its own right, is young. It is populated by scientists with training variously in earth sciences, meteorology, physics and chemistry, among other disciplines. There are disputes, some well motivated and some disingenuous, about what training really turns a person into an expert on climate science. One of the reasons why it is difficult to assess the claims to expertise of different self-declared climate scientists is that procedures for verifying such claims are not yet well established in the field – in comparison, at least, with the procedures established in venerable scientific disciplines like physics and biology.<sup>20</sup> Much climate change scepticism, indeed, is pressed by scientists who claim that they, with their training, are the true experts on climate, while those who advance the thesis of

<sup>17</sup> For some relevant discussion, see M. Hulme, *Why We Disagree about Climate Change* (Cambridge University Press, 2009), ch. 3, especially pp. 88–90.

<sup>18</sup> On the relationship between climate and individual weather events, see Hulme, *Why We Disagree*, pp. 5–11.

<sup>19</sup> *Ibid.*, pp. 36–9, 66–8. <sup>20</sup> *Ibid.*, pp. 6–9, 42–68.

anthropogenic climate change in fact do not know what they are talking about, because they have been trained in the wrong disciplines.<sup>21</sup>

For all these reasons, I think, it will be easy for parties to the debate about climate change to keep the debate alive, or to resist acquiescence to the other side, for a good while yet.

### *Winning the ideological war*

If the climate change sceptic and the climate change believer disagree because they have different ideological starting points, then one way to seek agreement in the debate might be to settle the underlying ideological dispute. Perhaps those who are suspicious of the scientific establishment could be convinced that their suspicions are misplaced. Perhaps those who distrust international institutions could be made to change their minds.

Some very good work has been done in trying to undermine the ideological bases of scepticism about climate change.<sup>22</sup> Perhaps there could also be effective parallel arguments offered from the other side, concerning the ideological framework within which belief in climate change tends to be placed. But the wars over the status of science, the value of the environment, the proper role of government and so on, are unlikely to be won, by either side, anytime soon. There is not much hope in the project of turning people into environmentalists, or of turning them away from corporatist and right-wing ideologies, and then afterwards convincing them that climate change is real.

### *Removing the ideology*

In asking what might bring progress in a debate over the space dust hypothesis, I mentioned the significance of the source from which the science is heard and the manner in which the science is presented. You are more likely to treat someone as an expert if you lack reason to be suspicious of their ideological agenda: if their ideological commitments are the same as yours, or if you are sure that their ideological commitments are not affecting their presentation of the science. And there ought to be ways to present the evidence about climate change, as a strictly scientific matter, without making commitments as to its broader ideological consequences.

The space dust hypothesis, even if true, would not refute environmentalism. It might show that there is reason to destroy some parts of the natural

<sup>21</sup> In *Merchants of Doubt*, ch. 6, Oreskes and Conway describe the attempts of sceptical physicists to show that climate science is misunderstood by people without training in physics. Spencer's influential sceptical treatise, *The Great Global Warming Blunder*, presents itself as a meteorologist's attempt to correct the systematic mistakes made by 'climate modellers'.

<sup>22</sup> See Oreskes and Conway, *Merchants of Doubt*, especially chs. 6–7.

environment, but it would not show that it is wrong to value the environment or to worry about humanity's effects upon it. And climate change, by analogy, does not vindicate environmentalism, and does not show that it is wrong to value economic and industrial growth, consumption, development and state sovereignty. Taken in isolation, the thesis of dangerous anthropogenic climate change shows only that there is some cost to industrial activity, of a certain kind. It also does not show, taken in isolation, that we need a new moral theory that emphasises the green virtues, that there is something deeply wrong with capitalist consumerist culture, that it is a good thing to have strong international institutions, or that we should all be vegetarians; perhaps there are other good reasons to believe these claims, but climate change, on its own, is not enough.

Perhaps one way to take ideology out of the debate is to make it clear that the question of what to do about climate change if it exists is in principle independent of the question about whether climate change does exist. If we were not presented with the science of climate change as part of a broader package – if descriptions of what is happening to the climate were not paired with exhortations to make changes to our lifestyles, for example – then our independent assessments of elements of that broader package would not be so relevant to our decisions about whether to trust the science.<sup>23</sup> The process through which a person can rationally move from an ideological starting point to a certain belief about climate change might, perhaps, be interrupted.

It would be helpful for more prominence to be given to suggestions about how the thesis of anthropogenic climate change, if correct, would fit in with a greater variety of ideological perspectives. It would be good to put all options for dealing with climate change on the table, so to speak. There is nothing inconsistent, after all, about believing that if climate change is real then the best thing to do, all things considered, is just to let it happen, or to adapt rather than mitigate, or to try to confront it by using technology to further manipulate the climate. And it is always possible to agree that certain changes – new taxes, alterations to lifestyles, stronger international institutions – are necessary, but regrettable. Perhaps the measures required to combat climate change are to be taken up with reluctance, not with environmentalist enthusiasm.

The strategy of keeping the ideology out of the debate seems to me the most likely to yield genuine progress. But I have described the strategy in only the most sweeping of terms. How it could be applied at the level of political debate, in the present political climate, against the background of entrenched disagreement and mutual suspicion, I do not know.

<sup>23</sup> See the discussion of 'identity affirmation' in Kahana and Braman, 'Cultural cognition and public policy', pp. 168–70.

### Conclusion

Scepticism about climate change need not be irrational. Once our predicament with regard to the science of climate change is understood, it becomes possible to see how the climate change sceptic and the climate change believer are not really so different. Much of the time, at least, climate change scepticism and climate change belief are each manifested in non-experts trying their best to form opinions about whom to trust, working within a salient ideological background and under conditions of radical informational impoverishment. The way to see how a person can be a sceptic about climate change is to try to empathise with them and their predicament, or to see how the debate looks from their point of view.

If we can understand the disagreement about climate change as arising partly through the differential use of subjectively rational strategies of belief-formation, then possibly – hopefully – we can see how progress in the debate can be achieved. And, importantly, we can see how such progress can be achieved through the engagement of people's rational capacities. People rationally form beliefs by responding to the information they have, presented in a certain way, against a certain background of pre-existing beliefs and values. Considering the various points of view from which people in our societies actually begin, how can the science of climate change be presented so as to give them good reasons to assess it on its merits, not as part of an ideological bundle? I again, do not have much of an answer, but I think it is the question we should be asking.