

What Insights Might a Public Theology Contribute to the Debate on Climate Change?

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1. Introduction

This essay considers the insights that a public theology might contribute to the debate on climate change. It accepts that climate change is an urgent reality and begins with a brief overview of recent reports of the Intergovernmental Panel on Climate Change (IPCC) and other bodies that show the seriousness of climate change and its potential impact. To encourage action on climate change, it is wise to understand the reasons for public and private denial of climate change and the failure to act. We will look at some of them. Public theology should be as well equipped as possible to offer its insights. Suggestions are made on this. We then consider the potential for positive contributions and insights on climate change from public theology. Public theology offers moral and ethical perspectives, especially in the dimensions of justice, equity, freedom and peace. It offers theological understanding, not only to advocate action but also to contribute meaning and explanation. Some of that meaning comes from an exploration of cosmic worldviews. Public theology also works in the affective dimension and it also calls the church to repentance through action.

Public theology is a way of doing theology—a method or discipline. Of itself it has nothing to say on climate change. Yet there is much in theology that has a bearing on climate change, some of which we shall note in this essay. ‘A public theology’, as I understand it on the other hand, employs the methods of public theology to draw insights from theology at large to contribute a particular public discussion.

Climate change is topical; worthwhile contributions appear frequently in the news media and on the Internet.¹ Consequently, this essay uses such sources more than might be usual in academic work.

The United Nations Framework Convention on Climate Change (UNFCCC) uses ‘climate change’ as shorthand for *anthropogenic* climate change, that is “a change of climate which is attributed directly or indirectly to human activity that alters the composition of the

1. See particularly *The Conversation*—a website sponsored by Australian universities with current commentary by academics and post-graduate students, under the catchline “Academic rigour, journalistic flair” (<http://theconversation.com>). *The Economist*, *The Guardian*, *The Huffington Post* and *The New York Times* have also been informative. Cited Internet resources were all accessed between 25 March and 17 May 2014.

global atmosphere and which is in addition to natural climate variability observed over comparable time periods.”² For simplicity, I use the same definition.

As shorthand, I refer to climate change ‘denial’ and ‘deniers’. These terms are not intended to be derogatory or to imply particular reasons or the lack of them for denial.

2. Threat

The science of climate change is not new; its beginnings are commonly attributed to work by Joseph Fourier in 1824.³ The World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) established the IPCC in 1998 to assess scientific, technical and socio-economic information relevant to the understanding of climate change, its potential impacts, and options for adaptation and mitigation.⁴ Over recent months the IPCC has released the three main volumes of its Fifth Assessment Report on climate change, dealing with the physical science,⁵ impacts, adaptation, and vulnerability,⁶ and mitigation.⁷ Summaries for policy makers have also been agreed by participating governments and published. A synthesis volume is due in October 2014.

2. *United Nations Framework Convention on Climate Change* (New York: United Nations 1992), Article 1.2.

The IPCC, on the other hand, refers to ‘climate change’ as “a change in the state of the climate that can be identified ... by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer ... whether due to natural variability or as a result of human activity.” —International Panel on Climate Change. *Climate Change 2007: Synthesis Report* (Geneva: IPCC, 2007), 30.

3. French mathematician Joseph Fourier argued in 1824 that the atmosphere maintained surface heat on Earth. Without it, he said, the Earth’s orbit is too remote from the Sun for a temperature that can support life. (Joseph Fourier, “Remarques générales sur les Températures du globe terrestre et des espaces planétaires,” *Annales de Chimie et de Physique*, 27 (October 1824): 136-167). In 1859, Irish physicist John Tyndall found that water vapour, atmospheric carbon dioxide and methane were key factors in maintaining atmospheric temperature. In 1896, Swedish chemist Svante Arrhenius named “the Greenhouse effect” and calculated the relationship between changes in carbon dioxide levels and atmospheric temperature. (Svante Arrhenius, “On the Influence of Carbonic Acid in the Air Upon the Temperature of the Ground,” *London, Edinburgh and Dublin Philosophical Magazine and Journal of Science* Series 5, 41, no. 251 (April 1896): 237-76.) In 1925 American statistician Alfred J. Lotka wrote that through the burning of coal, “Economically we are living on our capital; biologically we are changing radically the complexion of our share in the carbon cycle,” by “evaporating” our coal mine into the air. (Alfred J. Lotka, *Elements of Physical Biology* (Baltimore: Williams & Wilkins 1924), 222, 225.) See: American Institute of Physics. *Discovery of Global Warming: Simple Models of Climate Change*, (website) <http://www.aip.org/history/climate/simple.htm>.

4. IPCC membership is open to all UN and WMO members. Its assessment work is completed through three working groups (WGs): WG I on the physical scientific aspects of the climate system and climate change, WG II on the vulnerability of socio-economic and natural systems to climate change, negative and positive consequences of climate change, and options for adapting to it—including the inter-relationship between vulnerability, adaptation and sustainable development—and WG III on solution-oriented options for mitigating climate change.

5. International Panel on Climate Change, *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, edited by T.F. Stocker, D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (Cambridge: Cambridge University Press, 2013). See: <http://www.ipcc.ch/report/ar5/wg1/>.

6. International Panel on Climate Change, *Final Draft Report of the Working Group II contribution to the IPCC Fifth Assessment Report Climate Change 2014: Impacts, Adaptation, and Vulnerability*, 28 October 2013. This document was approved by the IPCC in March 2014, has been published online and will be formally published following final technical editing. See: <http://www.ipcc.ch/report/ar5/wg2/>.

7. International Panel on Climate Change, *Final Draft Report of the Working Group III contribution to the IPCC Fifth Assessment Report Climate Change 2014: Mitigation of Climate Change*. 17 December 2013 This document was approved by the IPCC in April 2014, published online and will be formally published following final editing. See: <http://www.ipcc.ch/report/ar5/wg3/>.

In sum, the IPCC finds that climate change is already having serious effects on every continent and throughout the world's oceans⁸ and will grow substantially and rapidly worse unless greenhouse gas emissions are stringently controlled. The IPCC says that governments are not doing enough to avert profound risks; there is just enough time to avoid the worst, but only if there is an intensive effort over the next fifteen years. The IPCC finds that the financial and economic costs of emission-limiting measures are declining and that the costs of renewable energy are falling rapidly so that it is becoming practical on a large scale.⁹

Concerning costs, the International Energy Agency recently estimated the global cost of sufficient conversion to green electricity to limit global warming to a maximum of 2 degrees to be US\$44 trillion, which would be more than offset by fossil fuel savings of up to \$155 trillion. However this 2014 estimated outlay is \$8 trillion higher than the 2012 estimate. In other words, the longer we wait to take action on climate change, the more it will cost.¹⁰

An argument against action on climate change has been that the predictions are too uncertain and too alarmist to justify taking costly measures. However, the available evidence suggests that scientists have been conservative in their projections and biased not toward alarmism but toward cautious underestimation of the impact of climate change.¹¹ The WMO¹² and the national science bodies of numerous countries including Australia¹³ agree that climate change is a threatening reality. In May 2014, the United States government published its Third National Climate Assessment,¹⁴ which found that "Climate change, once considered an issue for a distant future, has moved firmly into the present."¹⁵ In February 2014, Australia's Climate Change Authority had reached similar conclusions.¹⁶

Recent research shows that irreversible climate change has contributed substantially to—but is not the sole cause of—nearly certain collapse of the West Antarctic ice shield, with

8. Ove Hoegh-Guldberg, "IPCC Preview: Deep Trouble Brewing in Our Oceans," *The Conversation* (website) 26 March 2014. <http://theconversation.com/ipcc-preview-deep-trouble-brewing-in-our-oceans-24721>.

9. Justin Gillis, "Climate Efforts Falling Short, U.N. Panel Says," *New York Times*, 13 April 2014, <http://www.nytimes.com/2014/04/01/science/earth/climate.html>. See also: Justin Gillis, "Panel's Warning on Climate Risk: Worst Is Yet to Come," *New York Times*, 31 March 2014, <http://www.nytimes.com/2014/04/01/science/earth/climate.html>.

10. International Energy Agency, *Energy Technology Perspectives 2014: Harnessing Electricity's Potential. Factsheet: The Global Outlook: An Active Transformation of the Energy System is Essential to Meet Long-Term Goals* (Paris: IEA, 2014) http://iea/media/ETP14_factsheets.pdf.

11. Keynyn Brysse, Naomi Oreskes, Jessica O'Reilly, and Michael Oppenheimer, "Climate change prediction: Erring on the side of least drama?" *Global Environmental Change* 23, no. 1 (2013): 327–8.

12. World Meteorological Organisation. *WMO statement on the status of the global climate in 2013* (Geneva, World Meteorological Organisation, 2014).

13. Australian Academy of Science, *The Science of Climate Change: Questions and Answers* (Canberra: AAS, 2010). See: <http://www.science.org.au/policy/climatechange.html>.

14. Jerry M. Mellilo, Terese Richmond, and Gary W. Yohe, editors, *Climate Change Impacts in the United States: The Third National Climate Assessment* (Washington: U.S. Global Change Research Program, 2014).

15. Mellilo, *Climate Change*, 1.

16. Climate Change Authority, *Reducing Australia's Greenhouse Gas Emissions—Targets and Progress Review: Final Report* (Melbourne: Climate Change Authority, 2014), 7.

consequent rise in sea levels of more than three metres—although that may take centuries.¹⁷ Stefan Rahmstorf, Head of Earth System Analysis at the Potsdam Institute for Climate Impact Research, commented that, “One of the feared tipping points of the climate system appears to have been crossed.”¹⁸ Related mechanisms, particularly the warming and consequent expansion in volume of the oceans, are contributing to smaller but more rapid sea level rises.

Climate change is already slowing the increases in food production required to meet population growth. The IPCC¹⁹ and the UK Institute for Development Studies²⁰ each predict consequent large rises in food prices. The head of the World Bank is concerned that climate change will ‘lead to battles for food’, and has called for a plan “that will convince anyone who asks us that we’re really serious about climate change.”²¹ The World Health Organization estimates that climate change is already responsible for 140,000 additional deaths from disease annually, with further deaths expected to number in the millions.²²

There are diverse and complex linkages between climate change and security, and a need for robust theories that explain these connections and address “asymmetric power relations”.²³ The US Centre for Strategic and International Studies says that with a 2.6 degree rise, now very likely, “nations around the world will be overwhelmed by the scale of change and pernicious challenges,” with consequent serious threats to security: “The internal cohesion of nations will be under great stress ... Armed conflict between nations over resources ... is likely and nuclear war is possible. The social consequences range from increased religious fervour to outright chaos.”²⁴ A report prepared for the US Government by

17. E. Rignot, J. Mouginot, M. Morlighem, H. Seroussi and B. Scheuchl, “Widespread, rapid grounding line retreat of Pine Island, Thwaites, Smith and Kohler glaciers, West Antarctica from 1992 to 2011,” *Geophysical Research Letters*, online pre-publication 16 May 2014, doi: 10.1002/2014GL060140. See: <http://onlinelibrary.wiley.com/doi/10.1002/2014GL060140>
 Ian Joughin, Benjamin E. Smith and Brooke Medley, “Marine Ice Sheet Collapse Potentially Underway for the Thwaites Glacier Basin, West Antarctica,” *Science*, online pre-publication, 12 May 2014, doi: 10.1126/science.1249055. See: <http://www.sciencemag.org/content/early/2014/05/12/science.1249055>.

See also: Thomas Sumner, “West Antarctic Ice Sheet Is Collapsing,” *Science* (website) 12 May 2014, <http://news.sciencemag.org/climate/2014/05/west-antarctic-ice-sheet-collapsing>.

18. Stephan Rahmstorf, Twitter post (@rhamstorf), 13 May 2014, 5.04am, <https://twitter.com/rahmstorf/>.

19. Suzanne Goldenberg, “Climate Change ‘already affecting food supply’,” *The Guardian*, 31 March 2014, <http://www.theguardian.com/environment/2014/mar/31/climate-change-food-supply-un>.

20. Institute for Development Studies, “Declining Crop Yields and Increasing Food Prices? Modelling the Effects of Climate Change on Agriculture,” (webpage) 17 December 2013, <http://www.ids.ac.uk/news/declining-crop-yields-and-increasing-food-prices-modelling-the-effects-of-climate-change-on-agriculture>.

21. Larry Elliot, “Climate Change Will ‘lead to battles for food’, Says Head of World Bank,” *The Guardian*, 4 April 2014, <http://www.theguardian.com/environment/2014/apr/03/climate-change-battle-food-head-world-bank>.

22. World Health Organisation, *Climate change and health*. Fact sheet no. 266, November 2013, <http://www.who.int/mediacentre/factsheets/fs266/en/>.

23. François Gemenne, Jon Barnett, W. Neil Adger and Geoffrey D. Dabelko, “Climate and Security: Evidence, Emerging Risks, and a New Agenda,” *Climatic Change* 123 (2014): 1-9.

24. Kurt M. Campbell, Jay Gullledge, J.R. McNeill, John Podesta, Peter Ogden, Leon Fuerth, R. James Woolsey, Alexander T.J. Lennon, Julianne Smith, Richard Weitz, and Derek Mix, *The Age of Consequences: The Foreign Policy and National Security Implications of Global Climate Change* (Washington: Centre for Strategic and International Studies 2007), 7. See: csis.org/files/media/pubs/071105_ageofconsequences.pdf. See also: Eric Holthaus, “‘Climate Change War’ Is Not a Metaphor,” *Future Tense* (website) 18 April 2014, http://www.slate.com/articles/technology/future_tense/2014/04/david_titley_climate_change_war_an_interview_with_the_retired_rear_admiral.html.

a large panel of senior retired military leaders reached similar conclusions and said that they were “dismayed that discussions of climate change have become so polarizing and have receded from the arena of informed public discourse and debate.”²⁵

Some commentators are very pessimistic, others more sanguine. Clive Hamilton argues persuasively that even if there is immediate action, catastrophic climate change is already certain; it is now too late to prevent it.²⁶ James Lovelock speaks for those highly sceptical of human ability to bring about change: “I would sooner expect a goat to succeed as a gardener than expect humans to become responsible stewards of the Earth.”²⁷ Yet we have no choice; as Peter Sloterdijk says: “It’s no longer just politics, climate policy is destiny.”²⁸

Futurologist Ray Kurzweil is optimistic—at least as far as mitigation is concerned. His ‘law of accelerating returns’, essentially a version of Moore’s Law,²⁹ suggests that information technologies progress exponentially. Kurzweil believes this can also apply to solar energy, and that it will expand sufficiently to meet energy needs in competition with fossil fuels by around 2028.³⁰

All this deserves serious consideration by theologians—and public theologians in particular.

3. Why is there inaction and denial?

For theological insights to support action in response to climate change, we need to understand the causes of public and private denial of climate change and the failure to act. We now survey these causes in four broad categories: Economy and finance, Misperception and discomfort, Ideology and politics, and Religion.

Economy and finance

A United Nations Climate Conference in Paris in late 2015³¹ will seek a new binding global agreement on climate to overcome the failure of the 2009 Copenhagen conference and supplant the inadequate Kyoto protocol.³² Preparatory talks have not been promising.

25. CNA Military Advisory Board, *National Security and the Accelerating Risks of Climate Change* (Alexandria: CNA Corporation, 2014), 1.

26. Clive Hamilton, *Requiem for a Species: Why We Resist the Truth About Climate Change* (Crows Nest: Allen and Unwin, 2010), particularly chapter 1.

27. James Lovelock, *Gaia: The Practical Science of Planetary Medicine* (Oxford: Oxford University Press, 1991), 186.

28. Peter Sloterdijk, *Globes* (Paris: Hachette Pluriel, 2011), 312 (my translation).

29. Gordon E. Moore, “Cramming More Components onto Integrated Circuits,” *Electronics* (19 April 1965): 114-117.

‘Moore’s Law’ has correctly predicted a doubling of computer processing power every two or three years for nearly half a century. See: International Technology Roadmap for Semiconductors, *ITRS Executive summary 2013 edition* (ITRS, 2014), 9. See: <http://www.itrs.net/Links/2013ITRS/Summary2013.htm>.

30. Robin Lloyd, “Solar Power to Rule in 20 Years, Futurists Say,” *Live Science* (website). (19 February 2008) <http://www.livescience.com/4824-solar-power-rule-20-years-futurists.html>.

31. This will be the 21st yearly session of the Conference of the Parties to the UNFCCC and the 11th session of the Meeting of the Parties to the 1997 Kyoto Protocol.

32. The Kyoto Protocol’s first commitment period ended in 2012 and it is now in a second commitment period that ends in 2020. See: http://unfccc.int/focus/climate_finance/items/7001.php.

Australian researcher Luke Kemp is concerned lest the prospective climate agreement will be “universal and useless.” Tensions exist, Kemp says, between participation, ambition and compliance. Complete global participation may require weak laws and weak targets—“a lowest-common-denominator outcome.”³³

Theologian Michael Northcott emphasises *nations* as key agents in climate change. He narrates their origins in the divine ordering of history and argues that they have legal and moral responsibilities towards just and fair distribution of the fruits of the earth.³⁴

Governments cannot tackle climate change singly, however—they need everyone to act together, as all will benefit from climate stability whether or not they contribute to it. Yet, if each waits for the others to act, none will. The rational response by a self-interested nation is inaction, even though the consequences of universal inaction would be severe. This is a complex version of the ‘prisoner’s dilemma’³⁵ and Hardin’s ‘tragedy of the commons’.³⁶

Investigation by McKenzie Funk has identified many ways in which climate change will be profitable to big *business*.³⁷ Some businesses, however, see that global warming could harm their profitability, including through changed availability of water, increased energy costs, and reduced demand.³⁸ Oreskes and Conway present evidence that the ‘far right’ in America is intent on destroying environmentalism in a quest to ensure the perpetuation of the free market and keeping the world ‘safe from socialism’.³⁹ Australia’s coal industry is an example of business that is vulnerable ethically,⁴⁰ yet—as a producer of wealth—seemingly invulnerable politically.

33. Luke Kemp, “Universal and Useless? The 2015 Global Climate Agreement,” *The Conversation* (website) 22 May 2013. <https://theconversation.com/universal-and-useless-the-2015-global-climate-agreement-14292>.

34. Michael Northcott, *A Political Theology of Climate Change* (Grand Rapids: Eerdmans, 2013).

35. In the ‘prisoners’ dilemma’, two prisoners accused of the same crime are unable to communicate. Their gaolers ask them each to denounce the another. If neither agrees, both will receive a one-year sentence. If one agrees but the other does not, the turncoat goes free while the convicted prisoner gets ten years. If each denounces the other, they both get five years. In such a situation, a rational self-interested prisoner would betray the other. Yet that gives each a five-year sentence, whereas silence by both would have given each just one year. See: “Playing Games with the Planet: a Version of the ‘Prisoner’s Dilemma’ May Suggest Ways to Break Through the Kyoto Impasse,” *Economist*, 27 September 2007, <http://www.economist.com/node/9867020>.

36. In 1968, ecologist Garrett Hardin (1915-2003) explained the tendency to overexploit shared resources—such as the carbon-absorption capacity of the atmosphere—by imagining a town commons that farmers share to graze their cattle. Even when the grazing is at optimum sustainable level, a rational farmer will introduce another cow to the commons, for this returns the full extra benefit of that animal while the cost (undernourishment of the herd) is shared. Hardin called this “The tragedy of the commons” to denote its inevitability (Garrett Hardin, “The Tragedy of the Commons,” *Science* 162, no. 3859 (1968): 1243-1248). Elinor Ostrom (1933-2012), however, was awarded the 2009 Nobel prize in economics for her work showing that, although Hardin was right about the risk imbalance between individual benefit and shared costs, proper management can prevent overexploitation (Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* (Cambridge: Cambridge University Press, 1990).)

37. McKenzie Funk, *Windfall: The Booming Business of Global Warming* (Penguin, 2014).

38. Coral Davenport, “Industry Awakens to Threat of Climate Change,” *New York Times* (23 January 2014) <http://www.nytimes.com/2014/01/24/science/earth/threat-to-bottom-line-spurs-action-on-climate.html>.

39. Naomi Oreskes and Erik M. M. Conway, *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming* (Bloomsbury Press, 2010).

40. David Ritter, “Without a Functioning Moral Compass, the Coal Industry Has Become Mired in a Sea of Ridicule of its Own Making,” *The Guardian*, 15 April 2014, <http://www.theguardian.com/commentisfree/2014/apr/15/australiansforcoal-is-the-latest-sign-of-an-industry-in-values-freefall>.

Misperception and discomfort

The ‘consensus gap’ is the difference between public *perception* of the degree of agreement between climate scientists compared with the scientists’ actual consensus. A 2013 poll found that a third of Americans believed that scientists disagreed on whether global warming was happening. Yet the IPCC’s reports suggest virtually no disagreement.⁴¹ In a recent Australian and American study, respondents on average believed that just 55 per cent of the scientists involved agreed on climate change⁴²—whereas the actual level of agreement exceeds 97 per cent. This confirmed earlier studies⁴³ and is significant because people are more likely to support action if they believe experts to be in agreement.

Scientific illiteracy also creates difficulty in responding to climate change. There is evidence, for example, that many people wrongly presume that climate change can be reversed quickly.⁴⁴

The apparent reasons for climate change denial are not always consistent or rational. Maintenance of a state of denial can be more psychologically valued than intellectual consistency.⁴⁵ Conspiracy theories flourish where trust is lacking—especially of governments. Worldviews are “inflamed” by climate change because mitigation efforts may restrict freedoms; fear of the solutions arouses opposition to the science that informs them.⁴⁶ Dan Kahan’s “cultural cognition of risk” hypothesis explains why Americans trust science

41. Climate Signals, Growing Louder [Editorial],” *New York Times*, 31 March 2014, <http://www.nytimes.com/2014/04/01/opinion/climate-signals-growing-louder.html>.

42. John Cook, “Palmer United Party Needs to Go Back to School on Carbon Facts,” *The Conversation* (website) 28 April 2014, <https://theconversation.com/palmer-united-party-needs-to-go-back-to-school-on-carbon-facts-25756>. The results are shortly to be published formally.

43. In October 2012, 67 per cent of Americans agreed that the earth is warming, but only 45 per cent said scientists agree on whether it is anthropogenic. (Pew Research Center, *More Say There is Solid Evidence of Global Warming* (Washington: Pew Research Center, 2012) <http://www.people-press.org/files/legacy-pdf/10-15-12%20Global%20Warming%20Release.pdf>.) In 2004 Naomi Oreskes published the results of a survey of 928 abstracts of articles on climate change in refereed science journals between 1993 and 2003; 75 per cent of the articles supported the view that there was an observed warming of the atmosphere due to greenhouse gases of human origin; 25% of the articles gave no opinion. None disagreed with the consensus position. (Naomi Oreskes, “The Scientific Consensus on Climate Change,” *Science* 306, no. 5702 (3 December 2004): 1686.) A subsequent analysis by John Cook and others of peer-reviewed scientific literature from 1991 to 2011 found that of abstracts expressing a position on climate change, 97.1 per cent endorsed the consensus position that humans are causing global warming; the papers rejecting the consensus were “a vanishingly small proportion of the published research.” (John Cook, Dana Nuccitelli, Sarah A Green, Mark Richardson, Bärbel Winkler, Rob Painting, Robert Way, Peter Jacobs, and Andrew Skuce, “Quantifying the Consensus on Anthropogenic Global Warming in the Scientific Literature,” *Environmental Research Letters* 8, no. 2 (2013) 024024 77pp., <http://iopscience.iop.org/1748-9326/8/2/024024/>.) Similar results have been found in other studies. (Peter T. Doran and Maggie Kendal Zimmerman, “Examining the Consensus on Climate Change,” *EOS* 90, no. 3 (20 January 2009): 22-23; William R. L. Anderegg, James W. Prall, Jacob Harold, and Stephen H. Schneider, “Expert credibility in climate change,” *Proceedings of the National Academy of Sciences of the United States of America* (published online before print, 21 June 2010) <http://www.pnas.org/content/early/2010/06/04/1003187107>.)

44. John D. Sterman and Linda Booth Sweeney, “Understanding Public Complacency About Climate Change: Adults’ Mental Models of Climate Change Violate Conservation of Matter,” *Climatic Change* 80 (2007): 213–23.

45. John Cook, “The Quantum Theory of Climate Denial,” *Huffington Post*, 29 April 2014, http://www.huffingtonpost.com/john-cook/the-quantum-theory-of-climate-denial_b_5229539.html.

46. Stephan Lewandowsky, “From Conspiracy Theories to Climate Denial: A Cognitive Psychologist Explains,” *The Conversation* (website) 17 April 2014. <http://theconversation.com/from-conspiracy-theories-to-climate-denial-a-cognitive-psychologist-explains-25731>.

but disagree about its implications for them. There is a tendency to ‘groupthink’ as it can be socially costly to diverge from the consensus of one’s peers, even when it is in error.⁴⁷

A British study found that even when there is acceptance of the causes and trend of climate change, there is uncertainty and scepticism about its potential impacts.⁴⁸

‘Secular eschatology’ has a bearing on public attitudes. Jonathan Schell (1943-2014) wrote in 1982⁴⁹ of the horrendous reality of a nuclear holocaust. He later applied similar analysis to climate change. “Both crises,” he said, “reveal a kind of bankruptcy at the crucial hour of many of the things we place our faith in.” Schell believed that people are not in denial—only that “they lack faith in the system to change anything.”⁵⁰

Mike Hulme argues that disagreement and failure to act on climate change is inevitable because, “the idea of climate exists as much in the human mind and in the matrices of cultural practices as it exists as an independent objective physical category.”⁵¹ We create difficulty by “disconnecting climate from its cultural forms [and] framing climate as overtly physical and global.”⁵²

Ideology and politics

Progressives and conservatives both misinterpret evidence when it conflicts with their ideological convictions. “People weren’t reasoning to get the right answer,” Ezra Klein found. “They were reasoning to get the answer that they wanted to be right.”⁵³ Paul Krugman responds that in the real world, however, conservatives overwhelmingly deny certain facts in a way that progressives do not.⁵⁴ Ben Adler explains that conservatives who want there to be no government regulation are thereby motivated to be close-minded on climate change, against the weight of the evidence.⁵⁵

Australian research confirms that political party affiliation has a powerful influence and that ideology is the most important predictor of Australian politicians’ climate change

47. Judith Shulkevitz, “This Is How You Should Talk to a Climate-Change Denier: The Complicated Science of Discussing Risk,” *New Republic*, 22 October 2013, <http://www.newrepublic.com/article/115022/how-talk-climate-change-deniers>.

48. Wouter Poortinga, Alexa Spence, Lorraine Whitmarsh, Stuart Capstick, and Nick F. Pidgeon, “Uncertain Climate: An Investigation Into Public Scepticism About Anthropogenic Climate Change,” *Global Environmental Change* 21, no. 3 (2011): 1015-24.

49. Jonathan Schell, *The Fate of the Earth* (New York: Knopf, 1982).

50. Quoted by Dominic Preziosi, “Climate Change & ‘The Afterlife’,” *dotCommonweal* (website) 8 April 2014, <https://www.commonwealmagazine.org/blog/climate-change-afterlife>.

51. Mike Hulme, *Why We Disagree about Climate Change: Understanding Controversy, Inaction, and Opportunity* (Cambridge: Cambridge University Press, 2009), 28.

52. Hulme, *Why We Disagree*, 28.

53. Ezra Klein, “How Politics Makes us Stupid,” *Vox* (website), 6 April 2014, <http://www.vox.com/2014/4/6/5556462/brain-dead-how-politics-makes-us-stupid>.

54. Paul Krugman, “Asymmetric Stupidity,” *New York Times*, 7 April 2014, <http://krugman.blogs.nytimes.com/2014/04/07/asymmetric-stupidity/>.

55. Ben Adler, “Why There is No Liberal Equivalent to Climate Change Denial,” *Grist*, 8 May 2014, <http://grist.org/politics/why-there-is-no-liberal-equivalent-to-climate-change-denial>.

beliefs.⁵⁶ Despite cautions at least from the 1980s onwards,⁵⁷ it was not until the 2007-13 terms of the Rudd and Gillard governments that national action on climate change was attempted—only to be reversed by the present Australian government, essentially on ideological grounds.

Public communication on climate change is particularly difficult in Australia, where coverage of the IPCC's reports and recommendations has been minimal—particularly in the large proportion of Australia's newspapers owned by News Corporation.⁵⁸

Political scientists Gernot Wagner and Richard Zeckhauser observe that “it may well take dramatic loss to jolt the collective conscience toward serious action” and that only leadership of the highest calibre will “redirect currently misguided market forces toward a positive outcome.”⁵⁹

Religion

Randolph Haluza-DeLay identifies⁶⁰ several categories of impediment to religious engagement with climate change. *Paradigmatic* barriers are theological beliefs or worldviews that disable environmental concern. (These are similar to the ideological category discussed above.) Barriers of *applicability* concern the appropriate degree of attention to give to environmental concerns, if any. Lack of *social critique*—recognition of the societal and cultural factors that affect the human-earth relationship—sometimes coupled with over-emphasis on competing moralistic concerns, can also inhibit action. There may also be a simple *lack of conviction*, a lack of motivation to act.

Ancient beliefs separate the earth as human domain from the heavens as the divine domain. In Scripture the weather is used to discipline or reward believers and non-believers alike. Simon Donner argues that “doubt about human influence on the climate may be grounded in a more general feeling, a remnant of thousands of years of belief in earth-sky separation, that unspecified forces grander than humans control the climate.”⁶¹ In practice and

56. Kelly S. Fielding, Brian W. Head, Warren Laffan, Mark Western & Ove Hoegh-Guldberg, “Australian Politicians’ Beliefs About Climate Change: Political Partisanship and Political Ideology,” *Environmental Politics* 21, no. 5 (2012): 712-733.

57. Barry Jones, Australia’s Minister for Science from 1983 to 1990, described himself in a 2011 speech as “the oldest surviving inhabitant of the climate change controversy. . . . my argument was dismissed then as alarmist and premature. In politics, timing can be everything . . . I was in a category of one on the issue of climate change.” (Barry Jones, “In Climate Change, Everything Old is New Again,” *The Conversation* (website) 28 June 2011, <http://theconversation.com/barry-jones-in-climate-change-everything-old-is-new-again-1914>.) Jones was instrumental in the establishment of the Commission for the Future, which conducted conferences on the ‘greenhouse effect’ and produced reports and recommendations in the 1980s and 1990s.

58. Mark Beeson, “The End is Nigh—Don’t Read All About It,” *The Conversation* (website) 2 April 2014, <http://theconversation.com/the-end-is-nigh-dont-read-all-about-it-25146>.

59. Gernot Wagner and Richard J. Zeckhauser, “Climate Policy: Hard Problem, Soft Thinking,” *Climatic Change* 110 (2012): 507–521.

60. Randolph B. Haluza-DeLay, “Churches Engaging the Environment: an Autoethnography of Obstacles and Opportunities,” *Human Ecology Review* 15 (2008): 71-81.

61. Simon D. Donner, “Domain of the Gods: an Editorial Essay,” *Climate Change* 85 (2007): 234.

everyday speech we do not purport to control the weather—we accept it. “Skeptics of climate change,” Donner says, “have effectively exploited this spiritual uncertainty about human influence on climate by stressing the natural variability in the climate system.”⁶²

Many evangelical and conservative Christians believe that climate change is an urgent Christian issue and use scripture to promote good stewardship of the Earth and its resources. Particularly in the United States, nonetheless, evangelical criticism has emerged of any mingling of Christianity and environmentalism. The Cornwall Alliance, for example, opposes action on climate change and describes the environmental movement as a “false religion” that Christians must avoid. “We believe Earth and its ecosystems—created by God’s intelligent design and infinite power and sustained by His faithful providence—are robust, resilient, self-regulating, and self-correcting, admirably suited for human flourishing, and displaying His glory,” it says.⁶³

Republican presidential candidate Rick Santorum said in 2012—to both applause and ridicule—that we “were put on this Earth as creatures of God to have dominion over the Earth, to use it wisely and steward it wisely, but for our benefit not for the Earth’s benefit...”⁶⁴ Such a view privileges a particular interpretation of Scripture over other interpretations and the authority of science—“Science has many things, but we have God”. This attitude perversely encourages others to see religion as an irrational and unhelpful influence in public life.

David Barker and David Bearce introduce the theoretical concept of ‘relative sociotropic time horizons’, to show that believers in ‘Christian end-times theology’ are less likely to support action on climate change; people with shorter ‘shadows of the future’ tend to resist policies that trade short-term costs for hypothetical long-term benefits.⁶⁵ Religious language on climate change reflects tension between feared calamity and hope.⁶⁶

62. Donner, “Domain of the Gods,” 235.

63. Cornwallis Alliance, *An Evangelical Declaration on Global Warming*, <http://www.cornwallalliance.org/articles/read/an-evangelical-declaration-on-global-warming/>. In another example, out-of-date but still-circulated papers by the Interfaith Stewardship Alliance say that although global climate change is not “out of the question”, “faith is required” to “extrapolate our current level of climate understanding to predictions of future warming.” (Roy W. Spencer, Paul K. Driessen, and E. Calvin Beisner, *An Examination of the Scientific, Ethical and Theological Implications of Climate Change Policy* (Interfaith Stewardship Alliance, 2005)). See: www.interfaithstewardship.org.

64. Rick Santorum, [Remarks on Energy Policy to the 2012 Colorado Election Energy Summit, 6 February 2012] reported by Troy Hooper, “Santorum and Gingrich Dismiss Climate Change, Vow to Dismantle the EPA,” *The Colorado Independent*, 6 February 2012, <http://www.coloradoindependent.com/111924/santorum-and-gingrich-dismiss-climate-change-vow-to-dismantle-the-epa>.

65. David C. Barker and David H. Bearce, “End-Times Theology, the Shadow of the Future, and Public Resistance to Addressing Global Climate Change,” *Political Research Quarterly* 66 no. 2 (2013): 267-279.

66. Erin K. Wilson, “Religion and Climate Change: The Politics of Hope and Fear,” *Local-Global* 10, (2012): 20

One analysis is that the ‘religious right’ in the United States denies climate change because it comes from the same ‘unbiblical’ science that supports evolution.⁶⁷ Sociologists John Evans and Justin Feng found that although conservative Christians may accept that climate change is happening, they are often unwilling for science to influence policy—most likely due to other issues such as evolution and abortion.⁶⁸

3. Developing public theology on climate change

As a precursor to offering its insights, it would be wise for public theology to consider ways to be well equipped to answer climate change denial, provoke action and serve those touched by climate change. The following suggests five such ways.

Coherent theology

We have noted the ‘theological’ grounds employed by some groups to deny climate change. Conradie argues that Christian discourse on climate change is “plagued with problems of reception.”⁶⁹ While the Christian faith may not have caused climate change, Western Christians can be seen not to have done enough to prevent or warn against it. Indeed, Christianity has been used to legitimize destructive behaviour, so that statements by Christians anywhere can be beset with guilt by association. The problem is exacerbated by ideological and theological conflict between Christians and it becomes nearly impossible for public theology to advance a view on climate change and convincingly declare it to be ‘Christian’.⁷⁰ In the United States, Peter Hetzel says “cultural insularity” and separated theological pathways are an obstacle to common action, even though Christians share a belief in the goodness of God’s creation.⁷¹ In Australia such divisions may be less severe, but they do exist—within denominations as much as between them.

Eschatology is an aspect of theology particularly vexing to a coherent theological response to climate change. Will God act to prevent humanity from irreparably harming the Earth? Does God propose to destroy the Earth—or allow its destruction—to bring about a “new heavens and a new earth”,⁷² even if the destruction is initiated by human foolishness? Or does God intend to renew and refresh the present Earth? And if so, will this be through human action or despite human failing? These are enough questions for several books at

67. Katherine Stewart, “America’s Theologians of Climate Science Denial,” *The Guardian*, 4 November 2012. <http://www.theguardian.com/commentisfree/2012/nov/04/america-theologians-climate-science-denial>.

68. John H. Evans and Justin Feng, “Conservative Protestantism and Scepticism of Scientists Studying Climate Change,” *Climatic Change* 121, no. 4 (2013): 595-608.

69. Ernst M. Conradie, “Climate Change and the Common Good: Some Reflections from the South African Context,” *International Journal of Public Theology* 4 (2010): 271.

70. Conradie, “Climate Change and the Common Good,” 280.

71. Peter Goodwin Hetzel, “The World House: Prophetic Protestantism and the Struggle for Environmental Justice,” *Union Seminary Quarterly Review* 63, no.s 1/2 (undated): 26.

72 Isaiah 65.17; Revelation 21.1.

least. (I find Jürgen Moltmann’s work on these questions especially helpful and encouraging.⁷³) In the absence of definitive answers, we must, quite reasonably, argue that preservation of the Earth is simply (but importantly) an act of justice, love, and peace making.

Thus a first (and difficult to implement) proposal is that: *for public theology to be more effective in its insights on climate change, scholars, churches and believers should intentionally strive toward a working consensus on the applicable theology.*

Better theology

For public theology to bring insight to the climate change debate, it may itself have to change. Malcolm Brown, Stephen Pattison and Graeme Smith find that public theology in Britain “stands in some disarray”⁷⁴ and is failing to engage its potential audience. Many public theologians, though seeking to serve their fellow citizens, “are in a position to speak publicly but as yet have nothing very distinctive, informative or wise to say, at least as theologians.” Consequently, few are listening. There is a “ready audience for well-communicated, imaginative, creative, insightful and inspiring ideas,” but for the most part that audience is not being served by public theology.⁷⁵

Brown, Pattison and Smith propose a ‘citizen theology’ (taking the term from Elaine Graham’s idea of a ‘citizen theologian’⁷⁶). ‘Citizen theology’ must “be a piece of theological social, cultural or political analysis”—sound, but also creative and imaginative whenever possible. Further, the analysis must be “recognisably theological”, not simply “a veneer for hard work done by other disciplines.”⁷⁷

The authors suggest that “a vocabulary of the virtues” is essential, but it is difficult to bring this to bear; it will be resisted if there is apparent threat to freedom and knowledge.

The real issue here is whether the gains of modernity, the Enlightenment, and liberal societies can be enjoyed without the painful loss of civilized behaviour, human sympathy and perceptions of the common good.⁷⁸

Nonetheless, “the citizen theologian, alert to the significance of viable community life, will promote key virtues that challenge atomized individualism. ... Liberal virtues include the ability to work with other traditions to produce something which answers new questions in

73. Jürgen Moltmann, *The Coming of God: Christian Eschatology*, translated by Margaret Kohl (Minneapolis: Fortress Press, 1996); Jürgen Moltmann, *God in Creation: a New Theology of Creation and the Spirit of God*, translated by Margaret Kohl (Minneapolis: Fortress Press, 1993).

74. Malcolm Brown, Stephen Pattison, and Graeme Smith, “The Possibility of Citizen Theology: Public Theology after Christendom and the Enlightenment,” *International Journal of Public Theology* 6 (2012): 186.

75. Brown, Pattison and Smith, “Citizen Theology,” 186.

76. Elaine Graham, “Public Theology and the Urban Church,” Plenary address to the British and Irish Association for Practical Theology conference: Public Theology: Dialogue in the Public Square, July 2009, Ushaw College, Durham.

77. Brown, Pattison and Smith, “Citizen Theology,” 195.

78. Brown, Pattison and Smith, “Citizen Theology,” 197.

authentic ways.”⁷⁹ A ‘citizen theology’ is less engaged in “thin propositionalism” and “more self-consciously parabolic and poetic in its discourse and practice.” It will “act like an imaginative and analytic study of the human spirit.”⁸⁰

A second proposal therefore is that: *for public theology to be more effective in its insights on climate change, it may need to change its own manner of working.*

Scientifically sensible theology

Science and religion are not essentially opposed. Some may assume that reason, science, and common sense cannot co-exist with emotion, religion and aesthetics. Erin Wilson responds that such a view,

ignores the immense interconnections between reason and emotion, science and religion and the difficulties of separating the one from the other [and] overlooks the rich, positive, beneficial contributions that those seemingly ‘irrational’ elements—emotion, religion and aesthetics—have made and can make to politics and public life.⁸¹

The interrelationship between scientific and religious inquiry has been obscured only in last few centuries;⁸² yet they have a common goal—to understand more fully all that is. I agree with Lynne Lorenzen that, “It is vitally important that Christian theologians learn enough about the science to be articulate and support the scientists in their endeavors to promote our care of the creation.”⁸³

A third proposal (more readily implemented than the first) is that: *contributions to public theology on climate change should be scientifically literate and reasonable.*

Outspoken theology

In reviewing economic and financial inhibitions to action on climate change we observe a mixture of risk avoidance, political nervousness, self-interest and greed. A theological response may require radicalism. Paula Clifford, Head of Theology at Christian Aid, London, calls for “theology that is based on God’s power and justice, his relationship with his people through Jesus Christ and, in consequence, people’s relationship with one another.” The healing of unjust relationships between rich and poor is “key to tackling global warming and other issues that work to the detriment of the world’s poorest people.”⁸⁴ Rebelliousness as well as courtesy may be needed to “speak truth to power”⁸⁵ and achieve action for change. Rollo May reminds us that often it has been the rebellious “who have made the most

79. Ibid.

80. Brown, Pattison and Smith, “Citizen Theology,” 203.

81. Wilson, “Religion and climate change,” 27.

82. Peter Harrison, “Science and Religion: Constructing the Boundaries,” *Journal of Religion* 86, no. 1 (2006): 88.

83. Lynne Lorenzen, “Religion and Science: What Is at Stake?” *Dialog: A Journal of Theology* 46, no. 3 (2007): 294.

84. Paula Clifford, “‘Where Were You When I Laid the Foundation of the Earth?’: Climate Change and a Theology of Development,” *The Expository Times* 121, no. 4 (2010): 176.

85. Possibly of eighteenth century origin and used in particular as the title of Stephen G. Cary and others, *Speak Truth to Power: A Quaker Search for an Alternative to Violence: A Study of International Conflict* (American Friends Service Committee, 1955).

significant creative contributions in ethics and religion to civilization.”⁸⁶ This may take us beyond the usually courteous intentions of public theology.

A fourth proposal is that: *in offering insight on climate change, public theology must be willing strongly to ‘speak truth to power’.*

Timely theology

A number of the writers cited in this essay mention a need for research, not so much on the ‘science’ of climate change as on the ‘affective’ dimensions—the human, emotional, psychological and spiritual. Sigurd Bergmann goes so far as to say that climate change “challenges and changes our images of God and the sacred and their corresponding sociocultural practices.” She then proposes coordinated long term research “as a multifaceted exploration of religious processes, traditions, ideologies and moralities in the context of dangerous environmental change.”⁸⁷ The difficulty here is that international action on climate change is essential *now*—and certainly not later than the 2015 Paris Conference. The usual academic processes of careful research and peer-reviewed publication are necessarily slow. Yes, research should continue apace, but somehow we must speak and act from what we know now. On 7 May 2014, Christiana Figueres, executive secretary of the UNFCCC, urged religious leaders worldwide to act *urgently*—especially between now and the 2015 conference.⁸⁸

A fifth proposal is that: *in offering insight on climate change, public theology must be willing to use whatever is known now to speak and act quickly.*

4. What can public theology offer?

In my first essay for this course, on “the nature and purpose of public theology”,⁸⁹ I agreed with Sebastian Kim, who says simply that ‘public’ in the term ‘public theology’ refers to “the openness of theology for any party to engage in debate.”⁹⁰ There are a variety of audiences for public theology on climate change, and it must be able to speak to each of them in accessible language. A valuable characterisation of public theology is as a gift to society at large of ideas, arguments, insights and wisdom, drawn from the resources of the Christian faith and tradition. This contribution is made through communicative, persuasive and

86. Rollo May, *The Courage to Create*. (New York: Norton, 1975), 35.

87. Sigurd Bergmann, “Climate Change Changes Religion Space, Spirit, Ritual, Technology—Through a Theological Lens,” *Studia Theologica—Nordic Journal of Theology* 33, no. 2 (2009): 98.

88. Christiana Figueres, “Faith Leaders Need to Find Their Voice on Climate Change,” *The Guardian*, 7 May 2014. <http://www.theguardian.com/environment/2014/may/07/faith-leaders-voice-climate-change>. See also Christiana Figueres, *St Paul’s Cathedral Floor Debate: Climate Change: Building the Will for Action. Statement by the Executive Secretary, United Nations Framework Convention on Climate Change*. London, 7 May 2014.

89. Brian McKinlay, *What is the Nature and Purpose of a Public Theology?* Essay for THL 540—Public Theology, Charles Sturt University, 2014.

90. Sebastian C. H. Kim, *Theology in the Public Sphere* (London: SCM Press, 2011), 10.

respectful conversation, neither insisting on nor ignoring responses to the claims of Christ. The practice of public theology is action—it is *doing* theology, not holding blindly to long-established dogmas, but working with (and within) the community to the mutual benefit.⁹¹

Environmentalism has long been motivated by religion.⁹² Ben Wisner argues that current religious concern with climate change is an extension of a much longer environmental activism by faith communities.⁹³

Most current scholarship on religion and climate change is theological, pastoral, or normative. Much has focussed on making the case for action on climate change as a duty of a particular faith tradition. Only recently has research sought to examine what the world's religions at large and their adherents are actually saying or doing about climate change.⁹⁴

The online *Philosophers' Mail*, overseen by Alain de Botton, modestly offers “advice for those who want to change the world.”⁹⁵ It says that—leaving aside the occasional work of genius—we have enough books. The urgent need is to connect good ideas with effective organisational tools.

The world as it currently stands isn't held together simply by ideas ... its muscles are made up of institutions ... Revolutions in consciousness cannot be made lasting and effective until legions of people start to work together in concert for a common aim and ... begin the unglamorous and deeply boring task of wrestling with issues of law, money, long-term mass communication, advocacy and administration.⁹⁶

Although “avowedly secular”, the *Philosophers' Mail* says that religious institutions are “distinctive and inspiring” in this context because of “their genius for getting organised.” They are “enormous agglomerations of people with a relentless appetite for administration and bureaucracy” that has enabled them to survive and flourish. “From a completely secular starting point, it can be worth studying religions to learn how to alter behaviour.”⁹⁷

In the light of this lauding of its capabilities, it is surprising how little impact religion seems to have had on climate change policy and national action. Many religious leaders have a broad audience that respects their authority and leadership—although this is less the case in the West and in China. Some religious institutions have significant resources. Religions also have the potential to provide the connection that fosters the achievement of collective goals. Local faith communities, for example, are often highly motivated to respond in situations of

91. McKinlay, *What is the Nature and Purpose of a Public Theology?* 10.

92. See: Joachim Radau, “Religion and Environmentalism,” in *A Companion to Global Environmental History*, edited by J. R. McNeill and Erin Stewart Mauldin. 493-512 (Malden: Wiley-Blackwell, 2012).

93. Ben Wisner, “Untapped Potential of the World's Religious Communities for Disaster Reduction in an Age of Accelerated Climate Change: An Epilogue & Prologue,” *Religion* 40 (2010): 128-131.

94. Randolph Haluza-DeLay, “Religion and Climate Change: Varieties in Viewpoints and Practices,” *Wiley Interdisciplinary Reviews: Climate Change* 5, no. 2 (2014): 261–279

95. “Advice for Those Who Want to Change the World,” *The Philosophers' Mail* (website) (London: The School of Life, 2014). <http://www.philosophersmail.com/utopia/advice-for-those-who-want-to-change-the-world/>.

96. *Ibid.*

97. *Ibid.*

need.⁹⁸ Many religious groupings have issued statements on climate change,⁹⁹ there is a plethora of journalism (sometimes by or quoting senior religious leaders), and a steady flow of academic material.¹⁰⁰ Conferences and gatherings of various kinds talk about religion and climate change¹⁰¹ and there is inter-faith consensus on the importance of action. The recent World Assembly of Religions for Peace, for example, declared climate change to be among the “common threats to peace” that all religions have a “shared calling to confront,” calling on all “religious leaders and people of faith to ... address issues of responsibility and accountability for the causes of climate change.”¹⁰²

Rather than promoting the dominance of humanity over nature and the rest of creation, the Catholic Church and the World Council of Churches (WCC)—the two largest international Christian bodies—promote the view that human beings are responsible for creation, that it is our task to care for, protect, nurture and be good stewards of the world around us. Science and rationality are not seen as the enemies of faith, but as gifts from God that enable us to make good and responsible decisions.¹⁰³ The WCC has long warned of the dangers of climate change and its advocacy has, for example, included statements to the Conference of Parties to the UNFCCC. At its 10th General Assembly in Pusan in 2013, the WCC adopted a Minute on Climate Justice that advocated action, but it seems to have been little noticed. The WCC has a small Working Group on Climate Change, which meets only

98. Robin Globus Veldman, Andrew Szasz and Randolph Haluza-DeLay, “Social Science, Religions and Climate Change,” In *How the World’s Religions are Responding to Climate Change: Social Scientific Investigations* (Abingdon: Routledge, 2014), 5.

99. Religious statements on climate change have been collated by the 8,000-member Forum on Religion and Ecology hosted by Yale University; see <http://fore.research.yale.edu/climate-change/statements-from-world-religions/>.

100. See the bibliography of recent English-language materials at <http://fore.research.yale.edu/climate-change/articles-on-religion-and-climate-change/>.

101. For example, a symposium on religion and climate held in Potsdam in 2010 included presentations on: global change and the need for new cosmologies; the social function of religion in the context of climate and development policy; religion and the future of climate research; climate justice from a Christian point of view; evangelicals and climate change; and climate change and the fate of religions—as well as religious perspectives on climate change from a variety of cultural and historical sitting settings. See: Dieter Gerten and Sigurd Bergmann, eds., *Religion in Environmental and Climate Change: Suffering, Values, Lifestyles* (London: Continuum, 2012).

102. Religions for Peace, 9th World Assembly, 22 November 2013, Vienna, *The Vienna Declaration: Welcoming the Other: A Multi-Religious Vision of Peace* (Vienna: 2013).

103. World Council of Churches, ‘Statement on Just Finance and the Economy of Life’, 2009. Available at <http://www.oikoumene.org/...sources/documents/centralcommittee/geneva-2009/reports-and-documents/report-on-public-issues/statement-on-just-finance-and-the-economy-of-life.html>.

World Council of Churches, *Alternative Globalization Addressing Peoples and the Earth (AGAPE)*. Geneva: World Council of Churches, 2005. Available at <http://www.oikoumene.org/fileadmin/files/wcc-main/documents/p3/agape-new.pdf>.

The Pontifical Academy of Sciences has sponsored conferences and the publications of serious scientific research, particularly on the impacts of climate change, for example: Marion Molina and Durwood Zaelke, “A Comprehensive Approach for Reducing Anthropogenic Climate Impacts Including Risk of Abrupt Climate Changes,” in *Fate of Mountain Glaciers in the Anthropocene* (Vatican City: Pontifical Academy of Sciences, 2013) (Scripta Varia 118)

<http://www.pas.va/content/dam/accademia/pdf/sv118/sv118-molina-zaelke.pdf>; and Peter H. Raven, *Global Climate Change and Biodiversity* (Vatican City: Pontifical Academy of Sciences, 2010) Extra Series; 35.

annually—most recently on 12-16 May 2014 in Wuppertal, Germany.¹⁰⁴ It has been poorly publicized and does not seem to have reached many outside its own sphere.

An Interfaith Summit on Climate Change will be held in New York on 23 September 2014 in conjunction with a Climate Change Summit 2014, which is an initiative by UN Secretary-General Ban Ki-moon to supplement the formal negotiating process with discussions between invited leaders in government, business and civil society.¹⁰⁵

The churches and Christian organisations have a commendable record in aid, social development and environmental action, including help to those most vulnerable to the effects of climate change. However my conclusion is that their efforts towards action specifically on climate change have been sporadic, slow and severely under resourced. Again in my view, these efforts will be effective only if well resourced and publicly, collectively, and frequently supported by the most senior Christian leaders. Local church action has often been valuable but may largely be ‘preaching to the converted’.

What, then, can public theology bring to the table?

Ethics, theology, and moral insight

At the New Delhi assembly of the World Council of Churches in 1961, Joseph Sittler called the ecumenical movement to the “care of the Earth, the realm of nature, as a theatre of grace.”¹⁰⁶ Peter Hetzel writes that Sittler’s call was heeded, but in the framework of an ethics of responsibility in which environmental problems became yet another task to manage in tandem with other ethical concerns.¹⁰⁷ In 2004, philosopher Stephen Gardiner was able to write that, “Very few moral philosophers have written on climate change.”¹⁰⁸ That is no longer the case; there is a steady stream of publications.¹⁰⁹

The moral challenges of climate change are considerable, a “perfect moral storm” as Gardiner describes it in a book title.¹¹⁰ In ethical debate on climate change, public theology engages with questions of justice, equity, freedom and peace. Equity is at issue, for example,

104. See: <http://www.veemission.org/en/home/news-detail-view/archive/13/may/2014/article/klimaexperten-intensiver-austausch-in-wuppertal.html>.

105. See: <http://www.un.org/climatechange/summit/>.

106. Joseph Sittler, “Called to Unity,” *Ecumenical Review* 14, no. 2 (1962): 186.

107. Hetzel, “The World House,” 40.

108. Stephen M. Gardiner, “Ethics and Global Climate Change,” *Ethics* 114, No. 3 (2004): 555-600.

109. See, for example: Stephen M. Gardiner, Simon Caney, Dale Jamieson, Dale and Henry Shue, editors, *Climate Ethics: Essential Readings* (New York: Oxford University Press, 2010); Eric A. Posner and David Weisbach, *Climate Change Justice* (Princeton: Princeton University Press, 2010); Simon Caney, “Justice and the Distribution of Greenhouse Gas Emissions,” *Journal of Global Ethics* 5, no. 2 (2009): 125-146; Lukas H. Meyer, and Dominic Roser, “Climate Justice and Historical Emissions,” *Critical Review of International Social and Political Philosophy* 13, no. 1 (2010): 229-253; Derek Bell, “Does Anthropogenic Climate Change Violate Human Rights?” *Critical Review of International Social and Political Philosophy* 14, no. 2 (2011): 99-124; Dennis G. Arnold, editor, *The Ethics of Global Climate Change* (New York: Cambridge University Press, 2011); Carol S. Robb, *Wind, Sun, Soil, Spirit: Biblical Ethics and Climate Change* (Minneapolis: Fortress Press, 2010).

110. Stephen M. Gardiner, *A Perfect Moral Storm: The Ethical Challenge of Climate Change* (Oxford: Oxford University Press, 2011).

because the countries and peoples now called on to restrain emissions are those who have emitted the least and still do so. Among them are some of the countries most vulnerable to climate change. Just one of the challenges to justice is the intergenerational character of climate change; the harm we do now will touch generations to come. Climate change raises questions about the moral value of nonhuman nature¹¹¹ and our obligations to other living things and the natural realm.¹¹² We have noted serious concern that climate change is a threat to security and peace. Rebecca Solnit argues persuasively that climate change *is* violence; its consequences make people subject to violence and lead others to perpetrate violence.¹¹³

Stefan Skrimshire argues that, “ethical bases for taking action must think beyond thresholds assumed by calculations or traditional probabilities of risk such as the precautionary principle or cost-benefit analysis. . . . For an ethics that places imperatives for faith in action prior to epistemic certainty (doing, in other words, comes before knowing) lies arguably at the root of many religious or otherwise utopian traditions.”¹¹⁴ Richard Wollin observes that religion may be the only other comprehensive belief system able to challenge the dominance of self-centred *laissez-faire* consumerism that contributes greatly to carbon emissions.

The religious values of love, community, and godliness help to offset the global dominance of competitiveness, acquisitiveness, and manipulation that predominate in the vocational sphere. Religious convictions encourage people to treat each other as ends in themselves rather than as mere means.¹¹⁵

Religion offers moral insight on climate change, by suggesting values to help determine who must act and how they should act. It helps us to think well about climate change and to respond well, suggesting ways for the experience and consequences of climate change to be more concrete and understandable for individuals and communities.

Scrimshire says that climate change discourse—especially the notion of tipping points in the Earth’s systems—draws deeply on metaphors of irretrievable and inevitable loss. We can feel that humanity’s time is running out. Stories of the end of life, Scrimshaw believes, can have as much power and influence on the moral imagination as the facts of climate

111. See: C. Palmer, “Does nature matter? The place of the nonhuman in the ethics of climate change,” *The Ethics of Global Climate Change*, ed. Denis G. Arnold, 272-291 (Cambridge: Cambridge University Press, 2011).

112. Stephen M. Gardiner and L. Hartzell-Nichols, “Ethics and Global Climate Change,” *Nature Education Knowledge* 3, no. 10 (2012).

113. Rebecca Solnit, “Call Climate Change What it is: Violence,” *The Guardian*, 7 April 2014, <http://www.theguardian.com/commentisfree/2014/apr/07/climate-change-violence-occupy-earth>.

114. Stefan Skrimshire, “Approaching the Tipping Point: Climate Risks, Faith and Political Action,” *European Journal of Science and Theology* 4, no. 2 (2008): 9-22.

115. Richard Wollin, “Jürgen Habermas and Post-Secular Societies,” *Chronicle of Higher Education* 52, no. 5 (2005): B16.

science. Religious narrative thus has an important role in thinking about future crises and the possibility of human extinction through climate change.¹¹⁶

In addition to theological ethics, there are many fields of theology that have a bearing on climate change—each an entire discipline in itself. Thus, for example, The Lincoln Theological Institute of the University of Manchester is undertaking a project in which an international group of theologians, convened by Peter Scott and Michael Northcott, is working on a multi-authored systematic theology that takes climate change as its “primary interlocutor”. The Institute says that the work of theology and the study of religions to explore the complexity of climate change has “barely begun” and is “daunting in its scope and complexity.”¹¹⁷ The extent to which such work can become public theology is difficult to say.

Northcott says that the church must offer a theological critique of the “preference for anonymous algorithms as managers of human affairs over face-to-face political communities and shared engagement of citizens and corporations in practices that promote the common good of a stable climate.” Northcott advocates a “spiritual theology of cooperative action ... in which love for near and distant neighbours, and creatures, is the key metaphor.”¹¹⁸

Celia Deane-Drummond argues that a broad vision of human goals, of the ‘good life’, is important for international negotiations on climate change.

The dilemma exists that as long as there are disparate visions of what the good might be, and what justice making requires, there is likely to be limited consensus. Yet achieving some sort of overlapping consensus is vital if international agreements are to have any meaning and the global commons of climate health is to be addressed.¹¹⁹

Attention to the “religious and natural ground for human flourishing” helps us understand why nations fail to come together and points us to a deeper sense of global responsibility.¹²⁰ To bring about a greater account of the religious dimension in discussion on climate change, Deane-Drummond suggests, is a task for public theology.¹²¹

Worldview

Religions can encourage climate change action through their worldviews or cosmologies, which explain our place in the world and give a context for ethics by

116. Stefan Scrimshire, “What Are We Waiting for? Climate Change and a Narrative of Apocalypse,” in *Religion and Dangerous Environmental Change: Transdisciplinary Perspectives*, edited by Sigurd Bergmann and Dieter Gerten, 205-226 (Berlin: Lit Verlag, 2010).

117. See <http://religionandcivilsociety.com/systematic-theology-for-a-chan/>.

118. Michael S. Northcott, “The Concealments of Carbon Markets and the Publicity of Love in a Time of Climate Change,” *International Journal of Public Theology* 4 (2010): 294.

119. Celia Deane-Drummond, “Public Theology as Contested Ground: Arguments for Climate Justice,” *Religion and Ecology in the Public Sphere*, edited by Celia Deane-Drummond and Heinrich Bedford-Strohm, 190-209 (London: T&T Clark, 2011), 200.

120. Deane-Drummond, “Public Theology,” 203.

121. Deane-Drummond, “Public Theology,” 202.

establishing what is sacred and to be preserved.¹²² Mike Hulme argues that climate change evokes fears and beliefs grounded in ancient Biblical myths that, taken together, have given us a misguided belief in our ability to control nature (although, I would add, not necessarily the weather and climate). “We have lost the sense of transcendent mystery and gratitude that once offered us conduits for defusing these fears.”¹²³ Climate change is “revealing the limits of our individual moral authority”¹²⁴ and the “limits of our science-saturated and spiritually impoverished wisdom.”¹²⁵ Thus, Hulme considers that the “idea of climate change can provoke new ethical and theological thinking about our relationship with the future”.¹²⁶

The affective dimension

As ethicist David Olsson Kronlid argues, climate change threatens not only the material dimensions of human wellbeing but also its qualitative dimensions and the abilities we need for a good life—such as appreciation of beauty, self-determination, transcendence, and compassion for non-human species.¹²⁷ Response to climate change should therefore include a wide range of vocations and occupations, including theologians, religious leaders and people of faith. Each has insights for both high-level policy and our more personal, intimate and lived connections. Religious teaching, reflection and practice can contribute to helping us develop climate change strategies at both levels.¹²⁸

Sheila Jasanoff says that facts arise from impersonal observation but meaning emerges from embedded experience. Science gives us knowledge of climate change but, for some, that knowledge is detached from meaning, seems to contradict common sense and undermines existing social institutions and ethical commitments. “When it comes to nature,” Jasanoff says, “human societies seem to demand not only objectively claimed matters of fact but also subjectively appreciated facts that matter. Environmental knowledge achieves robustness through continual interaction—or conversation—between fact-finding and meaning-making.”¹²⁹

Enhancing moral intuitions about climate change may motivate greater support for ameliorative actions and policies. But evidence suggests that the human moral judgement system is not well equipped to identify climate change—a complex, large-scale and

122. Veldman, Szasz and Haluza-DeLay, “Social Science,” 4-19.

123. Hulme, *Why We Disagree*, 360.

124. *Ibid.*

125. Hulme, *Why We Disagree*, 361.

126. Hulme, *Why We Disagree*, 362.

127. David Olsson Kronlid, “Mapping a Moral Landscape of the IPCC,” in *Religion and Dangerous Environmental Change: Transdisciplinary Perspectives*, edited by Sigurd Bergmann and Dieter Gerten (Berlin: Lit Verlag, 2010), 177-194.

128. Wilson, “Religion and Climate Change,” 24.

129. Sheila Jasanoff, “A New Climate for Society,” *Theory, Culture and Society* 27, no 2/3 (2010): 248.

unintentionally caused phenomenon—as an important moral imperative.¹³⁰ Consequently, climate change does not motivate us as do other moral imperatives. Markowitz and Shariff find a need for research to understand “how to connect the very global and abstract issue of climate change to our very local and human moral intuitions [to] play a critical role in rallying first our hearts, and then our hands, to action.”¹³¹ Australia’s National Climate Change Adaptation Research Facility also calls for more research on the ‘affective dimensions’ of climate change adaptation.¹³²

Research by Amy Luers to reassess climate advocacy strategies for the Skoll Global Threats Fund suggested increased focus on medium and longer-term goals, a focus on people, not carbon, a focus on values as much as science, and self-evaluation grounded in a culture of learning and knowledge sharing.¹³³

Hulme proposes that we think of climate change not as single solvable problem—or even as a ‘problem’ at all. The multidimensionality of climate change and its complex connections to social and economic concerns mean no single, comprehensive, course of action. Climate change is a state of affairs, a condition, “in which we are now embroiled ... not merely a physical boundary condition for human action ... [but a] more fluid, imaginative condition for human existence.”¹³⁴ We can use our response to climate change to “rethink how we take forward our political, social, economic, and personal projects over the decades to come.”¹³⁵ Climate change, Hulme says, “demands that we focus on the long-term implications of short-term choices, that we recognize the global reach of our actions, and that we are alert both to material realities and to cultural values.”¹³⁶

Change may be motivated by a need to believe that others will be born to follow us. Samuel Scheffler argues that in certain important respects, the future existence of our descendants matters more to us than our own survival and that of people we know. We have a need to take the fate of future generations into account.¹³⁷

Repentance through action

Repentance is an essential response by Christians to climate change. Senior UK church leaders, for example, made a call for such repentance when dedicating Operation Noah’s *Ash*

130. Ezra M. Markowitz and Azim F. Shariff, “Climate Change and Moral Judgement,” *Nature Climate Change* 2 (2010): 243-247.

131. Markowitz and Shariff, “Climate Change and Moral Judgement,” 246.

132. National Climate Change Adaptation Research Facility, *National Climate Change Adaptation Research Plan: Social, Economic and Institutional Dimensions* (Gold Coast: NCCARF, 2010).

133. Amy Luers, “Rethinking US Climate Advocacy,” *Climatic Change* 120 (2013): 13-19.

134. Hulme, *Why We Disagree*, 363.

135. *Ibid.*

136. Hulme, *Why We Disagree*, 362-3.

137. Samuel Scheffler, *Death and the Afterlife*, edited by Niko Kolodny (New York: Oxford University Press, 2013).

*Wednesday Declaration*¹³⁸ in 2012. It is well understood that ‘repentance’ (μετανοια) in the New Testament is a not simply sorrow, but a change of mind expressed in conversion and action.¹³⁹ A frequently used Anglican prayer of confession says, for example, “Merciful God ... we have sinned against you ... in what we have failed to do: ... we repent, and are sorry for all our sins ... strengthen us to love and obey you in newness of life.”¹⁴⁰ The clear intention is both a change of heart and mind *and* action in obedience to God.

Jewish commentator Jay Michaelson’s observations also apply to Christians in pointing to one avenue of repentant action:

Climate change is a sin, but it’s a special kind of sin. It’s not a personal failure but a societal one ... and if we are to repent, we must repent collectively. That means re-engaging with the people we can’t stand—including people who talk about “sin”—and finding ways to communicate with them, rather than preach to the already converted.¹⁴¹

5. Summation

Noting the urgent threat of harmful climate change, we surveyed causes of climate change denial and inaction. For public theology to respond to these and be effective in offering insights on climate change, we have proposed that:

we must strive toward a working consensus on the applicable theology;
we may need to look to our own manner of working;
we should be scientifically literate and reasonable;
we must be willing strongly to ‘speak truth to power’; and
we must be willing to use whatever is known now to speak and act quickly.

Public theology can offer moral and ethical insight on climate change, especially in the dimensions of justice, equity, freedom and peace. It can offer theological perspectives, not only to advocate action but also to contribute meaning and explanation. Some of this meaning comes from an exploration of cosmic worldviews.

Public theology may also contribute in the affective dimension of our response to climate change—human feelings and emotions, stories and images, our creativity and relationships.

Public theology calls the church to repentance through action.

138. Operation Noah, *Climate Change and the Purposes of God: a Call to the Church* (London: Operation Noah, 2012). See: <http://www.operationnoah.org/read-the-declaration>.

139. See: Gerhard Kittel and Gerhard Friederich, eds, *Theological Dictionary of the New Testament*, one-volume edition abridged by Geoffrey W. Bromiley (Grand Rapids: Eerdmans, 1985), 639; William Arndt and F. Wilbur Gingrich, *A Greek-English Lexicon of the New Testament and Other Christian Literature*, second edition, revised by F. Wilbur Gingrich and Frederick W. Danker from Walter Bauer’s fifth edition (Chicago: University of Chicago Press, 1979), 512.

140. Anglican Church of Australia, *A Prayer Book for Australia* (Alexandra, NSW: Broughton Books, 1995), 126.

141. Jay Michaelson, “Climate Change is a Sin—Here’s How to Repent For It,” *Religion Dispatches* (website) 15 January 2014. http://www.religiondispatches.org/archive/culture/7505/climate_change_is_a_sin_here_s_how_to_repent_for_it/

Whatever our theological response to climate change may be, it must surely be grounded in the incarnational presence of Christ. As John Boswell wrote (in a different context):

A life can be an argument; being can be a reason. An idea can be embodied in a person, and in human form it may break down barriers and soften hardness of heart that words could not. ... Christ was God's unanswerable 'argument.' His people had hardened their hearts against his spoken reasons, the arguments propounded—in *words*—for centuries by prophets and sages. So he sent an argument in the form of a human being, a life, a person. The argument became flesh and blood: so real that no one could refute or ignore it.¹⁴²

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142. John Boswell, "Logos and Biography," in *Theology and Sexuality: Classic and Contemporary Readings*, edited by Eugene F. Rogers, Jr., 356-60 (Oxford: Blackwell, 2002).

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