

The Crisis of Expertise ?

Continuities and Discontinuities.

- 2018 Conference Melbourne School of Government
February 2018
- DAVID MERCER
- Science and Technology Studies, School of History
and Social Inquiry, University of Wollongong,
Australia, 2522
- Email: dmercercer@uow.edu.au

Global Warming skepticism often seen as an exemplar of the current crisis in expertise

- Scientific Consensus ignored or significance for policy unrecognised
- Key role played by the machinations of interest groups manufacturing unfounded uncertainties in the scientific evidence
- Resistance of self interested politicians and lobby groups
- Public Ignorance of Science
- Cultural resistance to science
- EXPERTS AND EXPERTISE IS BEING REJECTED AND SCIENCE IS UNDER THREAT

Some propositions

- How new
- YES in terms of implications given the significance of Global Warming
- YES in terms of the degree of mismatch between scientific consensus and public and policy activity (although some prior examples such as tobacco some similarities)

Scientific Controversy/ Method Discourses and Uncertainty

- The scientific consensus on AGW has become controversial in public and regulatory settings
- Discussion about appropriate scientific methods which are normally back-staged and framed in terms of things like technical standards/ disciplinary conventions/ exemplars of good practices etc. often drift into big questions about 'the scientific method' framed in epistemologically general terms
- The arena's in which these discussions take place are not restricted to specialist settings but include regulatory, legal, political and 'public' arena's media/ internet etc.
- Specialist scientists often lack the capacity to control interpretations of science in these settings as their authority to make pronouncements on general questions, such as 'nature of the scientific method' and their policy preferences can be challenged by 'generalist-experts' or 'hyper-experts' and 'visible scientists'.
- Considering the points above STS studies of decision-making in controversial areas of science have often been pre-occupied with examining the way actors in these settings strategically draw on images of scientific method to further their interests
- Although the political efforts to undermine public trust in the AGW consensus have been especially intense and the level of scientific consensus extremely high, in respect to the points above, the AGW controversy is still fairly typical of many other scientific controversies

Manufacturing Doubt

- Some sociological/STS/ policy studies scholars have made valuable observations consistent with points above regarding the way 'images of sound science' with unreasonable demands of certainty etc have been exploited by some AGW skeptics, to help manufacture public/regulatory doubt in the AGW consensus. Eg: Exemplary account: Oreskes and Conway: *Merchants of Doubt*
- They also make important links with these strategic uses of images of 'sound science' and the efforts of politically conservative anti-regulation think tanks who refined their strategies via experiences with Tobacco litigation.
- Claims that these attempts can be interpreted as a conservative political attack on science and have been assisted by 'cultural acceptability' of soft/constructivist' ways of viewing the epistemology of science eg: Oreskes 'Science isn't a game'

Important studies but some gaps and problems with emphasis:

- (i) avoid looking at broader history of wider political interest groups using similar strategies in different scientific controversies and the strategic appeal to similar strategies by some supporters of the AGW consensus
- (ii) treat the efforts of climate skeptics as an example of anti-science rather than anti-AGW science.
- Politically conservative interest groups linked to climate skepticism have also used 'images of sound science' to bolster mainstream science when it has suited their interests in other scientific controversies
- Influential anti-regulation conservatives eg Koch Brothers avid fans of Popper, Innovation and 'Philosophy of Science'

Sample of relevant publications considering these points

- Edmond, G., and Mercer D (2004) '*Daubert and the Exclusionary Ethos*' *Law and Policy* .
- Yearley, S., Mercer, D., Pitman. A., Oreskes, O., and Conway, E. (2012): '*Perspectives on Global Warming*' (Symposium: Naomie Oreskes and Eric Conway, Merchants of Doubt). *Metascience* 21 (3): 531-559.
- Mercer, D., 'Why Popper can't resolve the debate over global warming: Problems with the uses of the philosophy of science in the media and public framing of the science of global warming' *Public Understanding of Science* (February 2018) online first 2016.
- A sketch of some points from these papers follows below

Pop Popper/ Folk Epistemology

- Pop versions of the philosophy of science of Sir Karl Popper represent an exemplary case of the use of pop philosophy of science to create unrealistic models of sound science in many scientific controversies.
- Popper have played an important role in a number of recent areas of scientific controversy, most notably creation science and US jurisprudence involving the admissibility of expert evidence.
- Popper has been a regular reference for US politically conservative think-tanks to restrict the role of novel health and safety and public health expertise in litigation and for politically liberal groups skeptical of creation science claims/ although some interesting 'blow- back' effects of creation science groups also appealing to Popper.
- Versions of Popper frequently used to build tough standards for 'science' to need to pass before being able to be classed as 'sound science' for purposes of litigation and regulation
- Normally put to use to attempt to thwart claims where there are issues surrounding testing: eg: models, correlations with uncertainty about mechanisms; novel claims not yet able to be tested; or when a small number of contrary results can be argued to suggest a whole body of knowledge has been falsified. Also quite often applied quite inconsistently.
- Unsurprisingly (consistent with the broader claims of Oreskes and Conway) Popper frequently cited in AGW commentaries appearing in popular media, web sites, blogs etc. as part of the rhetorical machinery of manufacturing doubt.
- But whilst more popular with Climate Change Skeptics also appeared in commentaries of eminent AGW supporters

Sample of uses of Popper for AGW Skeptics

- (i) AGW explains everything and is therefore unfalsifiable and can be ruled out of court as *apriori* unscientific;
- (ii) AGW science has in fact been falsified
- (iii) AGW relies on computer models which are too general to generate testable hypotheses and be exposed to 'severe' testing
- (iv) Popper's philosophy suggests consensus in science is unimportant
- (v) There has been a moral decay in the practice of AGW science with supporters of AGW adopting a form of religious belief in AGW
- (vi) The truth of AGW science needs to be consistent and timeless.

George F. Will . April 22 2016
Washington Post (Opinion)

- The party of science, busy protecting science from scrutiny, has forgotten Karl Popper (1902-1994), the philosopher whose “[The Open Society and Its Enemies](#)” warned against people incapable of distinguishing between certainty and certitude. In his essay “Science as Falsification,” Popper explains why “the criterion of a scientific status of a theory is its falsifiability, or refutability, or testability.” America’s party of science seems eager to insulate its scientific theories from the possibility of refutation.

Rupert Darwal 'An Unsettling Climate' 2014 City Magazine (Manhattan Institute)

- If they adhered to the standards established three centuries ago during the Scientific Revolution, the academies would not be able to make such definitive claims. Nineteenth-century astronomer and philosopher of science John Herschel demanded that the scientist assume the role of antagonist against his own theories; the merits of a theory were proved only by its ability to withstand such attacks. Einstein welcomed attempts to disprove the theory of general relativity. “No amount of experimentation can ever prove me right; a single experiment can prove me wrong,” he is said to have declared. Because in science, the philosopher Karl Popper reasoned, we cannot be sure what is true but we can know what is false, truth is approached by discarding what is shown to be false. Popper articulated the principle of falsifiability, distinguishing scientific theory from the pseudosciences of Marx and Freud, whose followers, he noted, found corroboration wherever they looked.

*Alan Reynolds 'Don't Blame Hurricanes Irma and Harvey on Climate Change' 9/8/17
Newsweek (Cato Institute)*

- In such cases, attributing today's extreme weather to "climate change" regardless of what happens (maybe droughts, maybe floods) is what the philosopher Karl Popper called "pseudoscience." If some theory explains everything, it can't be tested and it is therefore not science. (Popper's favorite examples of pseudoscience were communism and psychoanalysis.)

Sample of uses of Popper for AGW supporters

- (i) AGW is indeed falsifiable but has not been falsified
- (ii) The claims of AGW; and critics have been falsified
- (iii) Popper as an authority for the need to recognise the legitimacy of the scientific uncertainties involved in AGW science.

Lawson.R, (2015). 'Climate science and falsifiability: Richard Lawson shows how Karl Popper can help settle the climate debate, Philosophy Now: March.

Philosophers may not find this a particularly attractive arena to step into, but we have a moral duty to help unlock the truth about climate change if we can. And we do possess a key, in the form of the principle of falsifiability set out by Karl Popper in his book *The Logic of Scientific Discovery* (1934).

Pop philosophy of science as a fuel for scientific uncertainty

- The pop philosophy of science of Popper provides a 'rhetorical tool' useful for attempts to deconstruct and help manufacture doubt in scientific claims but it is also open to multiple interpretations and applications.
- Reluctance nevertheless to 'step-back' from rhetorical uses of pop-philosophy of science from all sides of debate
- Appeals to pop-philosophy of science demonstrate an obvious form of scientism rather than anti-science.
- What influence should this have on explanations for resistance to accept the AGW scientific consensus ? And strategies to address it?
- Do we need to put more effort into understanding the cultural importance of folk epistemologies of science rather than be quick to label climate skeptics as 'anti-science'?
- Do policy makers need to also think more carefully about the 'role' they imagine 'scientific method' plays in AGW debate?

Oldfield. F. & Stefffen.F.(2014). Anthropogenic climate change and the nature of earth system science. The Anthropocene Review, 1 (1) 70-75. January 7.

The classic Popperian approach to science, in which potentially refutable hypotheses are defined and tested is not well suited to the challenges posed by an Earth System that is characterised by high degrees of complexity, non- linearity and a lack of definable cause-consequence relationships.