
SCIENCE, IDEOLOGY AND CLIMATE CHANGE

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ABSTRACT

The science of anthropogenic climate change (ACC) is not new, but has been built up like any science over the course of more than a century. Despite this, ACC has only been marked by controversy since the 1970s (Kellogg, 1987), when it became apparent that action must be taken to reduce emissions of greenhouse gasses. Subsequent debate has ensued not only around the type of action necessary to reduce humanity's impact on the climate, but around the accuracy of the theory itself. This thesis aims to explore this debate and the scientific, social and political nature of ACC using a mixed methods approach.

The first chapter of the thesis provides a review of the social science literature, to address the broad question: what contributes to the debate around the reality of ACC? I review literature examining the nature of ACC scepticism, contrarianism and denial, the range of positions existing with this alternative attitudinal and discursive space, the prevalence of such positions, and the connection such positions have with traditional conservative ideology. In addition, I review literature highlighting how collective views on ACC have changed over time, in line with the political and social events that naturally transpire, before reviewing literature focused on issues of morality and ethics around the ACC problem.

From here I highlight areas for further inquiry, and present five analytic chapters to address these areas. Chapter 3 uses a quantitative approach to explore an area of ACC research that has received little attention to date: differences in views about ACC between students enrolled in different academic disciplines, with a particular focus on the views of those enrolled in business

degrees. I conducted a comparative analysis on University students enrolled in business degrees, with those enrolled in the sciences, arts, humanities and social sciences, and environmental sciences, and find that those enrolled in business degrees, and particularly male students enrolled in business degrees, are significantly more likely to reject the human contribution to climate change and reject the science of climate change.

Chapter four furthers this analysis by using qualitative data collected simultaneously with the quantitative data, to examine the ideological influences on these students' views about ACC with a focus on the system-challenging rhetoric emerging from the student comments in response to the survey questions. This second phase of the study highlights the importance of utilizing both quantitative and qualitative data to capture the details of perceptions of ACC, providing a much richer view of the prevailing discourses people use to make sense of ACC.

Chapter five focuses on the theoretical and methodological bases of my rationale and aims for the following three analytic chapters. Social Representations Theory (SRT: Moscovici, 1984), the Information Deficit Model of science communication, and more recent psychological approaches such as Discursive Psychology (DP: Edwards & Potter, 1992; Potter & Edwards, 2001; Potter & Wetherell, 1987), and Rhetorical Psychology (Billig, 1987), are presented to explore the theoretical thinking on the ways in which science is constructed, contested, and mobilized to generate competing accounts of ACC. I highlight the importance of understanding ACC not just from a scientific

perspective, but also from a perspective that can help elucidate the complex ways in which meanings are constructed.

Chapter 6 explores the challenges posed when those within the scientific establishment itself publicly undermine scientific theories of political, social and environmental significance. Here, I analyse interviews with a well-known climate change sceptic and a leading Australian climate scientist, in addition to newspaper articles written by other prominent Australian scientists holding competing views about anthropogenic climate change (ACC). I demonstrate how the two competing sides of the debate draw from different constructions of science to argue their positions on ACC in the public sphere. This chapter demonstrates that competing constructions of science are not simply abstract ideas but are used as rhetorical resources deployed in concrete ways to construct problematic identities for scientists, the public, and science itself.

Chapter 7 presents extracts from the same data corpus presented in chapter 6. Here, the role played by distancing oneself from ideological bias is explored, in the discourse of two prominent Australian scientists – Ian Plimer and Barry Brook. Distancing oneself from ideological thinking, whilst simultaneously accusing one's opponent of ideological thinking, is a pervasive rhetorical technique used by these scientists. Drawing from the 'end of ideology' framework (see Weltman, 2004; Weltman & Billig, 2001), I argue that appeals to science to inform policy about ACC are undermined by the contentious nature of ACC science as it appears in popular culture. Such appeals to a non-ideological approach to ACC policy have stymied attempts to implement policy, and if we are

to generate effective policy to reduce GHG emissions, we must consider reframing ACC such that issues of morality and values are brought to the fore.

Chapter 8 extends the ideological conundrums inherent in the ACC debate by examining the political rhetoric used by Australia's political elites over the course of the development of market-based climate change policy. Here I explore the ways in which environmental imperatives are subordinate to economic ones, creating an ideological dilemma (Billig, Condor, Edwards, Gane, Middleton & Radley, 1988) that serves as a barrier to generating the support of a voting public whose immediate livelihoods may be threatened by economic action on ACC.

In conclusion, I argue that the ideological imperatives fuelling the ACC debate pit the environment against the economy, as if the two are incompatible. Paradoxically, however, such a move has resulted in a technocratic approach to climate change policy, whereby to deny one's position as ideological serves as a rhetorical mechanism for asserting the pragmatics of ACC action. Whilst this may work well as a rhetorical move for political purposes, it does little to generate a substantial ACC narrative that encompasses the moral reasons for action. As such, the conversations required to explain precisely why action is so important and in everyone's best interest, remain absent from public discourse. Given the power good rhetoric has over public opinion, and subsequent support for policy, the need for a strong and substantial narrative around the importance of ACC action is paramount. I argue therefore, that without a redrawing of the moral landscape that underpins this dilemma, and without a fundamental re-working

of the discourses that shape ACC in the public sphere, the possibilities for advocating structural action to reduce GHG emissions will continue to be compromised.

DECLARATION

I certify that this thesis contains no material which has been accepted for the award of any other degree or diploma in any university or other institution and, to the best of my knowledge and beliefs, contains no material previously published or written by another person, except where due reference is made in the text of the thesis. In addition, I certify that no part of this work will, in the future, be used in any university or other tertiary institution without the prior approval of the University of Adelaide.

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Signed.....

Peta Callaghan (Candidate)

Date.....

CONFERENCE PRESENTATIONS DURING CANDIDATURE

Callaghan, P. & Augoustinos, M. (2012). Discursive style as a rhetorical tool: Scientists' constructions of the climate change debate. Poster presentation at The University of Adelaide, Faculty of Health Sciences Postgraduate Research Conference, 31st August 2012. Adelaide, Australia.

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PUBLICATIONS

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AWARDS ARISING OUT OF THIS THESIS

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For Audrey

“I am beginning to believe that nothing can ever be proved. These are reasonable hypotheses which take the facts into account: but I am only too well aware that they come from me, that they are simply a way of unifying my own knowledge.”

- Jean-Paul Satre, *Nausea*